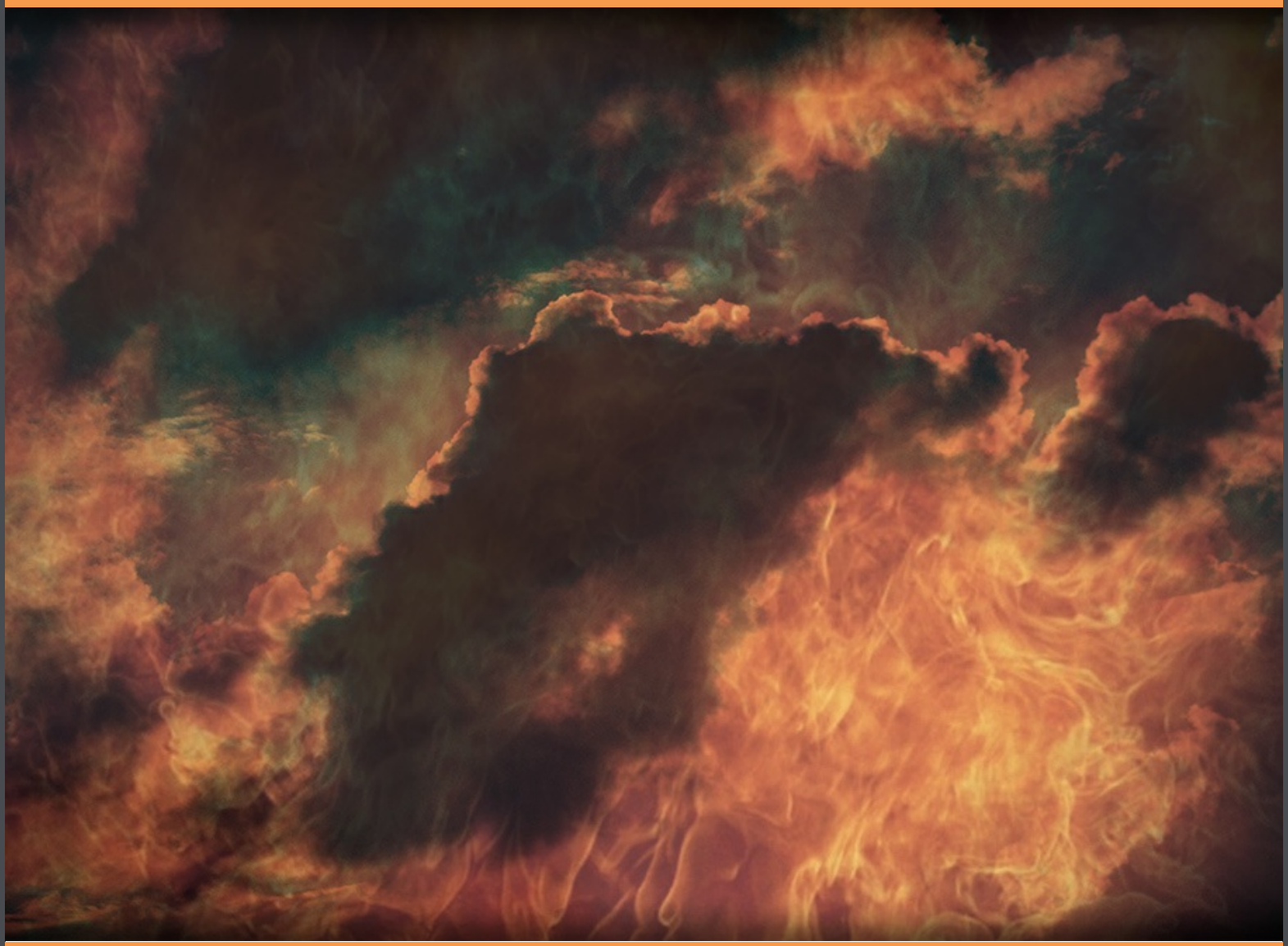
Glossary of Combustion

Maximilian Lackner



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2nd edition

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Contents

Preface

Dear Reader,

In this glossary, more than **2,500 terms** from combustion and related fields are described. Many of them come with a reference so that the interested reader can go deeper. The terms are translated into the **Hungarian, German, and Slovak** language, as Central and Eastern Europe is a growing community very much engaged in combustion activities.

Relevant expressions were selected, ranging from laboratory applications to large-scale boilers, from experimental research such as spectroscopy to computer simulations, and from fundamentals to novel developments such as CO_2 sequestration and polygeneration.

Thereby, students, scientists, technicians and engineers will benefit from this book, which can serve as a handy aid both for academic researchers and practitioners in the field.

> This book is the 2nd edition. The first edition was written by the author together with **Harald Holzapfel, Tomás Suchý, Pál Szentannai** and **Franz Winter** in 2009. The publisher was **ProcessEng Engineering GmbH** (ISBN: 978-3902655011). Their contribution is acknowledged.
>
> Recommended textbook on combustion:
> Maximilian Lackner, Árpád B. Palotás, Franz Winter, **Combustion: From Basics to Applications**, Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim, ISBN: 978-3527333516 (2013).

Maximilian Lackner Vienna, January 1, 2014

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1,3-cyclohexane-bis(methylamine) s. bromine number **de** 1,3-Cyclohexan-Bis(Methylamin), das / **hu** 1,3-ciklohexán-bis(metil-amin) / **sk** 1,3-cyklohexán-bis(metylamín)

2,5-dimethylaniline s. bromine number **de** 2,5-Dimethylanilin, das / **hu** 2,5-dimetil-anilin / **sk** 2,5-dimetylanilín

ab initio Starting a physical calculation only based on basic and established laws of nature without additional assumptions or special models. [*1-11*] **de** ab initio (vom Ursprung weg) / **sk** ab initio, neempirický

ABE-fermentation Anaerobic process utilizing bacterial fermentation to produce acetone, butanol and ethanol from starch. [*1-11*] (*s. a. biofuels*) **de** A.B.E. Prozess, der; A.B.E. Fermentation, die / **hu** ABE fermentáció / **sk** anaeróbna fermentácia

Abel heat test Routine test to demonstrate the absence of impurities in explosives. [*1-13*] (*s. a. detonation, explosives*) **de** Abel Test, der / **hu** Abel-teszt / **sk** Abelov test

abiogenic petroleum origin Alternative hypothesis to the biological origin theory of petroleum origins. [*2-37*] (*s. a. crude oil*) **de** abiotische Erdölentstehung, die / **hu** a kőolaj nem biogén keletkezése / **sk** abiogénny pôvod ropy

abnormal combustion s. engine knocking **de** abnormale Verbrennung, die / **hu** rendellenes égés / **sk** abnormálne spaľovanie (detonácia)

absolute viscosity s. kinematic viscosity **de** Aktivierungsenergie, die / **sk** absolútna viskozita

absorption oil Liquid hydrocarbon used to absorb heavier hydrocarbons. Syn.: wash oil. [*3-72*] (*s. a. natural gas*) **de** Absorptionsöl, das; Waschöl, das / **hu** elnyelőolaj, abszorbeáló olaj, mosóolaj / **sk** absorpčný olej, prací olej

absorption process Process to remove nitrogen from natural gas by using lean oil as absorbent. [*2-40*] (*s. a. natural gas, adsorption process, molecular sieve*) **de** Absorptionsprozess (Erdgasproduktion), der / **hu** abszorpciós eljárás / **sk** absorpčný proces (výroba zemného plynu)

acetone CH_3-CO-CH_3; The simplest ketone, also known as dimethyl ketone or 2-propanone. Flashpoint -17°C, autoignition temperature 465 °C. Used as gasoline additive with methanol to improve vaporization at engine start up. [*3-32*] (*s. a. flash point, gasoline*) **de** Aceton, das / **hu** aceton, propanon / **sk** acetón

acetylene C_2H_2; The simplest hydrocarbon alkyne. It is unsaturated compound because its two carbon atoms are bonded together with a triple bond. (*s. a. alkyne*) **de** Acetylen, das / **hu** acetilénszénhidrogének, alkinek / **sk** acetylén (etín)

acid gas removal Wet scrubbing air pollution control system. (*s. a. scrubber*) **de** Entfernen von sauren Gasen, das; Saure Gaswäsche, die / **sk** odstraňovanie kyslých plynov

acousto-optics Interaction of an acoustic wave and a laser beam an optical medium. [*1-116*] (*s. a. photoacoustic spectroscopy PAS*) **de** Akustikoptik, die

activated carbon Extremely porous carbon, i.e. a large surface area is available for adsorption. [*1-25*] **de** Aktivkohle, die / **hu** aktív szén / **sk** aktívny uhlík

activated charcoal s. activated carbon [*1-25*] (*s. a. detonation, explosives*) **de** Aktivkohle, die / **hu** aktív szén / **sk** aktívny uhlík

activated coal s. activated carbon [*1-25*] (*s. a. detonation, explosives*) **de** Aktivkohle, die / **hu** aktív szén / **sk** aktívne uhlie

activation energy EA, Ea, Energy that a molecule or atom needs to overcome until a chemical reaction can occur. [*1-31*] (*s. a. Arrhenius equation*) **de** Aktivierungsenergie, die / **hu** aktiválási energia (vö.: minimális gyulladási energia) / **sk** aktivačná energia

adiabatic compression Change in state with mechanical work only and no transfer of thermal energy. [1-11] **de** adiabatische Kompression, die / **hu** adiabatikus kompresszió/összenyomás / **sk** adiabatická kompresia

adiabatic flame temperature Temperature of a combustion if the energy of all reactions is used for heating the system (no heat losses), e.g. 1950°C for methane in air. [*1-2*] **de** adiabatische Flammentemperatur, die / hu elméleti égési hőmérséklet, adiabatikus égési hőmérséklet, elméleti lánghőmérséklet, adiabatikus lánghőmérséklet / **sk** adiabatická spaľovacia teplota

adiabatic process Thermodynamic process during which no thermal energy is transferred to or from the environment. [*1-68*] (*s. a. atmospheric dispersion models*) **de** ADMS 3 Modell, das / **sk** ADMS 3

adsorption process Process to remove nitrogen from natural gas using activated carbon or molecular sieves as adsorbent. [*2-40*] (*s. a. natural gas, adsorption process, molecular sieve*) **de** Absorptionsprozess (Erdgasproduktion), der / **hu** abszorpciós eljárás / **sk** absorpčný proces (výroba zemného plynu)

aerozin A hypergolic rocket propellant, consisting of 50% hydrazine and 50% unsymmetrical dimethylhydrazine. It was developed for Titan II engines. [*1-12, 3-8*] (*s. a. hydrazine, unsymmetrical dimethylhydrazine*) **de** Aerozin, das / **hu** aerozin / **sk** aerozín

AERMOD Atmospheric dispersion modeling system including a steady-state dispersion model (short-range), a meteorological data preprocessor and a terrain preprocessor. [*1-68*] (*atmospheric dispersion models*) **de** AERMOD-Modell, das / **sk** AERMOD

aerosol Airborne particle; Dispersion of small fluid droplets or fine solid particles in a gas, eg. fog or mist. [*1-74*] (*s. a. smog*) **de** Aerosol, das / **hu** aeroszol / **sk** aerosól

aethalometry Opto-analytical transmission method for black carbon. [*2-59*] (*s. a. soot*) **de** Ruß-Analyse, die / **sk** analýza sadzí

AFR sensor (air fuel ratio) New type of oxygen sensors which have a wider oxygen/fuel detection range. [*1-43*] (*s. a. lambda sensor*) **de** AFR-Sonde, die / **sk** AFR sonda, lambda sonda

after top dead center ATDC / Term in automotive engineering to describe the time (in degrees crank angle) after the piston has reached its top position. (*s. a. degrees crank angle, TDC, BTCD, internal combustion engine*) **de** nach dem oberen Totpunkt / **sk** ATDC

afterburner Device added to a jet engine that increases top speed by accelerating the exhaust. Fuel is injected to the jetwash and reheats the gases. The hot gases are ejected through the nozzle at a higher velocity and increase the thrust. [*1-76*] (*s. a. jetwash*) **de** Nachbrenner, der / **hu** utóégető/utánégető (kamra) / **sk** doplnkový horák, zariadenie na dodatočné spaľovanie

AFTOX Gaussian dispersion model. [*1-68*] (*s. a. atmospheric dispersion models*) **de** AFTOX-Modell, das / **sk** AFTOX

Agbami Crude oil product with API gravity of 47.2° and a sulphur content of 0.04%. The field is located in Nigeria. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) / **de** Agbami (Rohöl), das / **hu** Agbami olaj / **sk** Agbami-ropný product

air box with sharp-edged orifice plate Simple method for measuring the air flow rate. The air enters the box through a calibrated orifice plate. The mass flow can be calculated from the orifice area, the pressure drop, the air densitiy and the orifice discharge coefficient. [*1-43*] **de** Durchflussmessgerät für Luft auf Basis eines speziellen Windkastens, das / **hu** légszekrény élessarkú mérőperemmel / **sk** clona

air flow rate measurement Common measurement methods are: viscuous flow meter, air box with sharp-edged orifice plate, positive displacement flow meter, corona discharge flow meter, hot wire flow meter, Coriolis mass flow meter [*1-43*] **de** Luftdurchsatzmessung, die / **hu** légmennyiségmérés, levegőáram-mérés / **sk** meranie rýchlosti prúdenia vzduchu

air inlet system System that supplies oxidizer to the combustor. One can distinguish between: Naturally aspirated engines, Superchargers, Turbochargers, Pumped liquids [*1-29*] (*s. a. naturally aspirated engine, supercharger, turbocharger, pumped liquids*) **de** Ansaugsystem, das / **hu** szívó rendszer / **sk** prívod vzduchu

air number λ Reciprocal fuel equivalence ratio. **λ**=1/Φ. [*1-2*] (*s. a. equivalence ratio, fuel equivalence ratio Φ*) **de** Luftzahl, die / **hu** légfelesleg-tényező, levegőtényező, légviszony / **sk** prebytok vzduchu

air preheater A device to heat air before another process (e.g. flue gas cleaning) [*1-74*] **de** Luftvorwärmer, der / **hu** levegő előmelegítő / **sk** predhrievač vzduchu **air turbo impactor** Wet scrubbing air pollution control system. [*2-42, 2-43*] (*s. a. wet scrubber*) **de** Turbo-Impinger für Luft, der

airdox Blasting device based on compressed air, used e.g. for coal. [*1-13*] **de** Airdox / **hu** airdox / **sk** airdox

Aktobe Crude oil product with an API gravity of 41.6° and a sulphur content of 0.7%. The field is located in Kazakhstan. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Aktobe (Rohöl), das / **hu** Aktobe olaj / **sk** Aktobe-ropný produkt

Al Shaheen Crude oil product with an API gravity of 26.5° and of sulphur content of 2.5%. The field is located in Qatar. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Al Shaheen (Rohöl), das / **hu** Al Shaheen olaj / **sk** Al Shaheen-ropný produkt

Alaska North Slope Crude oil product with an API gravity of 31.9° and a sulphur content of 0.9%. The field is located in the United States. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Alaska North Slope (Rohöl), das / **hu** Alaska North Slope olaj / **sk** Alaska North Slope-ropný produkt

albedo The ratio of diffusely reflected to incident electromagnetic radiation. The range is from 0 to 1. It depends on the wavelength. [*1-44*] **de** Albedo, die / **hu** albedó, sugárzásvisszaverő-képesség / **sk** albedo

Alberta tar sands s. Athabasca oil sands (*s. a. tar sand*) **de** Alberta Teersande / **sk** roponosné, resp. ropné piesky v Alberte

alcohol fuels Alcohols such as methanol, ethanol, propanol, and butanol can be synthesized biologically and can be used as replacement for fossil fuels. [*3-15*] (*s. a. ethanol, methanol, butanol*) **de** alkoholische Treibstoffe, die / **hu** alkohol üzemanyagok / **sk** palivá na báze alkoholov

alcohol-resistant foam Used to prevent foam breakdown by alcohols in the burning material. [*1-71*] (*s. a. fire fighting foam*) **de** alkoholresistenter Löschraum, der / **hu** alkoholálló hab / **sk** alkoholrezistentná pena

aldehydes RCHO; Organic compounds with a terminal carbonyl group as functional group. [*1-24*] (*s. a. volate organic compounds, smog, photochemical smog*) **de** Aldehyde, die / **hu** aldehidek / **sk** aldehydy

algae fuel Biofuel made of algae. Algae can produce more energy per unit area than land crops. Algae are easy to grow and have high yields. However, algae oil is difficult to extract. [*3-15, 1-31*] (*s. a. bio fuels*) **de** aus Algen hergestellter Brennstoff, der / **hu** alga alapú üzemanyag / **sk** palivá vyrobené z rias

algaeoleum s. algae fuel **de** aus Algen hergestellter Brennstoff, der / **sk** palivá vyrobené z rias

algal fuel s. algae fuel **de** aus Algen hergestellter Brennstoff, der / **sk** palivá vyrobené z rias

alginates Salts of alginic acid, used as expanding agents in explosive mixture. [*1-12*] **de** Alginate, die / **hu** alginát / **sk** algináty

alkaline fuel cell AFC / Low temperature fuel cell. Anode and cathode are separated by a matrix saturated with an alkaline solution (usually potassium hydroxide, formerly also hydrazine was used). [*1-114*] (*s. a. fuel cell*) **de** Alkalische Brennstoffzelle, die / **hu** alkáli elektrolitos üzemanyagcella / **sk** alkalické palivové články

alkanes C_nH_{2n+2}; Molecules consisting of hydrogen and carbon with only single bonds. One can distinguish between linear, branched and cyclic alkanes. [*3-35, 1-24*] (*s. a. alkenes, alkynes, hydrocarbons*) **de** Alkane, die / **hu** alkánok, paraffinok / **sk** alkány

alkenes C_nH_{2n}; Molecules containing at least one carbon = carbon double bond. [*3-35, 1-24*] **de** Alkene, die / **hu** alkének / **sk** alkény

alkylamines s. antioxidants **de** Alkylamine, die / **hu** alkil-aminok / **sk** alkylamíny

alkylation Process to make branched molecules (having a high octane number) for fuel blendings. The alkylation takes place in the presence of a strong acid catalyst. Common alkylation units are an hydrofluoric alkylation unit (HFAU) and a sulfuric acid alkylation unit (SAAU). [*1-59*] (*s. a. process units* (*oil refinery*)*, octane number*) **de** Alkylierung, die / **hu** alkilezés / **sk** alkylácia

alkylenediamines s. antioxidants **de** Alkylendiamine, die / **hu** alkilén-diaminok / **sk** alkyléndiamíny

alkyne s. acetylene, s. alkynes **de** Acetylen, das; Alkin, das / **hu** alkin, acetilén-szénhidrogén / **sk** alkín

alkynes C_nH_{2n-2}; Molecules containing at least one carbon°carbon triple bond. [*3-35, 1-24*] **de** Alkine, die / **hu** alkinek, acetilénszénhidrogének / **sk** alkíny **all burnt** s. end of burning [*1-12*] **de** vollständig verbrannt / **hu** égésvég / **sk** úplne spálené

all-gas burner Burner that can be used with all types of gas provided by publich gas supply. [*1-30*] (*s. a. natural gas*) **de** Allgasbrenner, der / **hu** univerzális gázégő / **sk** allgas horák

alternating-current dynamometer Type of electrical dynamome ters. AC dynamometers can be reversed and used as electric motor. Unlike DC dynamometers, AC dynamometers can be used for fast changes in rotational speed. [*1-42, 1-43*] **de** Wechselstrom dynamometer, das / **hu** váltakozó áramú generátor / **sk** dynamometer striedavého prúdu

alternator An electromechanical device used to convert mechanical energy to alternating current electrical energy. **de** Wechselstromgenerator, der / **sk** alternátor

alumel™ Nickel-chromium-manganese-aluminium-silicon alloy, used e.g. for thermocouples. [*1-85*] **de** Alumel™, das / **hu** alumel / **sk** alumel™

aluminothermic reaction Intense exothermic reaction of aluminum and a metal oxide. It produces for short time a local high temperature burst. This can be used for welding or some synthesis processes. [*1-37*] (*s. a. pyrotechnic initiator*) **de** aluminothermische Reaktion, die / **hu** aluminitermikus reakció / **sk** aluminotermická reakcia

amatol Mixture of ammonium nitrate and trinitrotoluene (TNT). [*1-13*] (*s. a. TNT*) **de** Amatol, das / **hu** amatol / **sk** amatol

ambient temperature Term used to denote a certain temperature within domestic enclosed space. Syn.: room temperature. **de** Raumtemperatur, die / **hu** szobahőmérséklet / **sk** teplota okolia **Amenam blend** Crude oil product with an API gravity of 38.2° and a sulphur content of 0.1%. the Field is located in Nigeria. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Amenam Blend (Rohöl), das / **hu** Amenam Blend olaj / **sk** Amenam Blend-ropný produkt

American Petroleum Institute API is a national trade association that represents America's oil and natural gas industry. It currently has our 400 corporate members. **de** API (Amerikansiches Erdölinstitut / sk Americký ropný inštitút

Ameriven-Hamaca Crude oil product with an API gravity of 26.0° and a sulphur content of 1.6%. The field is located in Venezuela. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Ameriven-Hamaca (Rohöl), das / **hu** Ameriven-Hamaca olaj / **sk** Ameriven-Hamacaropný produkt

amidogen s. hydrazine **de** Amidogen, das / **sk** amidogén

amidogen-based Term for rocket fuels that contain hydrazine as main constituent. **de** auf Hydrazin basierend; Hydrazin-basierend / **sk** na báze amidogénu

amine gas treating Process to remove hydrogen sulfide, mercaptans and carbon dioxide from natural gas. Syn.: gas sweetening, sweetening process, acid gas removal [*1-59*] (*s. a. process units* (*oil refinery*), *sweet gas, sour gas, mercaptans*) **de** Aminwäsche, die / **hu** etanol-aminos gáztisztítás / **sk** amínová práčka

amine treating Removing H_2S from natural gas by a reaction with amines such as monoethanol amine and diethanol amine. [*2-40*] (*s. a. natural gas, hydrogen sulphide*) **de** Aminbehandlung, die / **hu** etanol-aminos gáztisztítás / **sk** spracovanie, čistenie pomocou amínov

ammon gelignite Nitroglycerine gelatine containing ammonium nitrate as main oxidizing component. [*1-13*] (*s. a. gelinite*) **de** Ammonium-Sprenggel, das; Ammonium-Gelignit, das / **hu** ammon gelignit / **sk** amonal gelignit

ammonal Explosive containing ammonium nitrate, TNT and aluminium powder. [*1-13*] **de** Ammonal, das / **hu** ammonal, ammóniumnitrát / **sk** amonal

ammonia slip Slip that occurs when too much ammonia is injected into the selective catalytic reaction process (SCR DeNOx). An additional slip catalyst can reduce such slip, or a TDLS based ammonia sensor can be installed. [*1-120*] (*s. a. selective catalystic reaction, TDLS, SCR, DeNOX*) **de** Ammoniakschlupf, der / **sk** uvoľňovanie amoniaku

ammonia synthesis gas Hydrogen-rich gas used for ammonia synthesis ($3H_2 + 1N_2$). [*1-30*] **de** Ammoniaksynthesegas, das / **hu** ammónia-szintézisgáz / **sk** plyn pre syntézu amoniaku

ammonium nitrate explosives Explosive mixture of ammonium nitrate and carbonaceous compounds such as coal, wood dust or oils. [*1-12*] (*chlorate explosives*) **de** Ammonsalpetersprengstoffe, die / **hu** ammónium-nitrát alapú robbanóanyagok / **sk** dusičnan amónny

ammonium perchlorate APC / NH_4ClO_4; Oxidizer used in rocket propellants. [*1-12*] (*s. a. bipropellants*) **de** Ammoniumperchlorat, das / **hu** ammónium-perklorát / **sk** chloristan amónny

ammonium phosphate Fire extinguishing powder. Used for solid (e.g. wood, paper, textiles, car tires, straw), liquid (e.g. petroleum, alkohols, wax, lac) and gaseous (e.g. natural gas, butane) combustible fires. It is not suitable for for fires of metals or cooking oils. Syn.: tri-class, multipurpose. [*1-71*] (*s. a. fire extinguishing powder*) **de** Ammoniumphosphat, das / **hu** ammónium-foszfát / **sk** fosforečnan amónny

ammonium picrate $C_6H_6N_4O_7$; Powerful explosive used in military applications (explosive charge). Detonation velocity about 7,150 m/s. Syn.: dunnite. [*1-12*] (*s. a. explosives*) **de** Ammoniumpicrat, das / **hu** ammónium-pikrát / **sk** pikrát amónny

Amonotons' law Amontons' law states that in an ideal gas, the volume and the number of moles being constant, the pressure and temperature of a gas are directly related ($P_1/T_1 = P_2/T_2$). [*1-86*] **de** Gesetz von Amontons, das / **sk** Amonton-ov zákon

amorce Paper coated with a mixture of potassium chlorate, red phosphorus and a binder. It ingites with a loud bang. Also used to imitate firearm noise in toys. [*3-57, 3-58*] (*s. a. match, red phosphorus, potassium chlorate*) **de** Zündplättchen, das / **hu** szalagpatron / **sk** kapsle

ampere SI basic unit of electric current. **de** Ampere, das

amperometry Electroanalytical method in which the working electrode is held at constant potential. The measured current is directly proportional to the concentration of the analyte. [*1-96*] (*s. a. coulometry*) **de** Amperometrie, die / **hu** amperometria / **sk** amperometria

analog to digital converter ADC / Instrument to convert an analog (continuous) signal to digital numbers. [*1-45*] (*s. a. metrology*) **de** Analog-Digital-Wandler, der / **hu** analóg-digitál(is) átalakító/ konverter, A/D átalakító, A/D konverter / **sk** analógovo číslicový prevodník

anemometer Device for measuring the velocity of gases. [*1-30*] **de** Anemometer, das / **hu** anemométer, légárammérő / **sk** anemometer

anergy Part of total energy that can not be transformed into other forms of energy (e.g. heat capacity of the environment). [*1-75*] **de** Anergie, die / **hu** anergia / **sk** anergia

anhydrous pyrolysis s. flash pyrolysis **de** wasserfreie Pyrolyse, die / **sk** bezvodá pyrolýza

Antan Blend Crude oil product with an API gravity of 26.4° and a sulphur content of 0.3%. The field is located in Nigeria. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Antan Blend Rohöl, das / **hu** Antan Blend olaj / **sk** Antan Blend-ropný produkt

anthracite Anthracite is the coal with the highest metamorphic rank, in which the carbon content is between 92% and 98%. Syn: blue coal, hard coal, stone coal [*1-11*] (*s. a. rank, coalfication*) **de** Anthrazit; Steinkohle, die; Glanzkohle, die / **hu** antracit / **sk** antracit

anthracite coal s. anthracite **de** Anthrazit; Steinkohle, die; Glanzkohle, die / **hu** antracit / **sk** antracitické uhlie

anti-knock agent Gasoline additive to increase the fuel's octane rating. Common anti-knock agents are tetra-ethyl lead (obsolete), methylcyclopentadienyl manganese tricarbonyl, ferrocene, iron pentacarbonyl, toluene, and isooctane. [*3-32*] (*s. a. tetra-ethyl lead, ferrocene, octane rating*) **de** Antiklopfmittel, das / **sk** antidetonátor, antidetonačná prísada, antidetonačné činidlo

Anti-Knock-Index AKI / s. Road Octane Number **de** Anti-KlopfIndex, der / **sk** antidetonačný index

antioxidant Chemical agent that can prevent oxidative degeneration. Common antioxidants are phenylenediamines, alkylenediami nes and alkylamines. [*3-29, 3-30*] **de** Antioxidants, das / **hu** antioxidáns, öregedésgátló, öxidációgátló / **sk** antioxidant

antistatic agent Increases the electrical conductivity and prevents sparking. [*3-48*] **de** Antistatikum, das / **hu** antisztatikum, feltöltődést gátló / feltöltődés ellen védett / antisztatikus anyag/szer / **sk** antistatický prvok **anti-Stokes-Line** s. Stokes-shift **de** Anti Stokes-Linie, die / **sk** dĺžka štartu, d. rozjazdu, d. rozbehu

aperture An opening (e.g. a hole, gap or slit) through wich light is admitted. [*1-44*] (*s. a. numerical aperture*) **de** Apertur, die; Blende, die / **sk** svetlosť

API s. American Petroleum Institute **de** API / **sk** API

API gravity A measure how heavy a petroleum liquid is compared to water. Typical values fall between 10° an 70°. [*3-62*] (*s. a. light crude oil, heavy crude oil, extra heavy crude oil, API*) **de** API-Grad, der / **hu** API fok / **sk** hodnota mernej hmotnosti vyjadrená metódou API

appraisal well s. oil well **de** Befundungsbohrung, die / **hu** (lehatároló) kutatófúrás / sk prieskumný vrt

approach section The required distance to reach the full detonation velocity of the explosive material. The distance is very small for initiating explosives. [*1-12*] (*s. a. initiating explosives*) **de** Anlaufstrecke, die / **sk** dĺžka štartu, d. rozjazdu, d. rozbehu

aqueous film-forming foam AFFF / Common foam type in portable foam extinguishers, based on sodium alkyl sulfate or perfluoro telomers. [*1-71*] (*s. a. fire fighting foam*) **de** wasserfilmbildende Schaummittel, die / **hu** vízfilmképző habanyag / **sk** penový hasiaci prístroj

Ar laser A common gas laser. Possible wavelengths are in the visible and ultraviolet spectrum: 351 nm, 454.6 nm, 457.9 nm, 465.8 nm, 476.5 nm, 488.0 nm, 496.5 nm, 501.7 nm, 514.5 nm, and 528.7 nm. An Ar-ion system is preferred were seeding density is low for Laser Doppler Anemometry. [*1-2, 2-8*] (*s. a. Laser Doppler Anemometry, LDA-scattering, Doppler effect, He-Ne-Laser*) **de** Ar-Laser, der / **hu** argonlézer / **sk** Ar-laser

Arab Light Crude oil product with an API gravity of 32.8° and a sulphur content of 2.0%. The field is located in Saudi Arabia. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Arab Light (Rohöl), das / **hu** Arab Light olaj / **sk** Arab Light-ropný produkt

Archimedes number Ar Ar / A dimensionless number that characterizes the motion of fluids due to density differences. [*1-72*] (*s. a. dimensioneless number*) **de** Archimedeszahl, die / **hu** Archimédesz-szám / **sk** Archimedovo kritérium

Ardeer double cartridge test ADC / Explosive cartridge test of the ability to propagate over air gaps. [*1-13*] **de** Ardeer Test, der / **hu** Ardeer-teszt / **sk** Ardeer-ov test

Are a / Unit of area. 100 m^2 **de** Ar, das; Ar, der / **sk** ár

area exposed to explosion hazards s. flame-proof enclosure (*s. a. explosion, dust explosion*) **de** explosionsgefährdeter Bereich, der / **hu** robbanásveszélyes tér / **sk** oblasť s nebezpečenstvom výbuchu

arenes s. aromatics **de** Aromatische Kohlenwasserstoffe, die / **hu** aromás szénhidrogének / **sk** arény

argon Noble gas used in fire-extinguishing systems. It is not toxic but there is a risk of suffocation. [*1-37*] (*s. a. fire extinguisher, inert gases* (*fire fighting*)) **de** Argon (Löschmittel), das / **hu** argon / **sk** argón

aromatics Molecules with a cycle of carbon atoms that are connected by delocalized electrons („alternating single and double covalent bonds"). [*3-35, 1-24*] **de** Aromaten, die / **hu** aromás vegyülete / **sk** aromáty

aromatisation Polycyclic aromatic hydrocarbons produced in fuelrich flames by reaction of CH and CH_2 with C_2H_2. [*1-2*] (*s. a. polycyclic aromatic hydrocarbons*) **de** Aromatisierung, die / **hu** aromásodás / **sk** aromatizácia

Arrhenius equation Describes the dependence of the rate constant r of a chemical reaction on the temperature T and activation energy E_a: $r = k^*\exp(-E_a/RT)$. [*1-31*] **de** Arrhenius Gleichung, die / **hu** Arrhenius-egyenlet, Arrhenius-összefüggés / **sk** Arrheniova rovnica

arsine AsH_3; Pyrophoric and highly toxic gas. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** Arsin, das; Arsenwasserstoff, der; Monoarsan, das / **hu** arzin, arzén-hidrogén / **sk** arzán

artificial lift Mechanical device (e.g. a pump) to increase the flow of crude oil in a well. [*1-55*] **de** könstliche Hebevorrichtung, die / **hu** mélyszivattyú / **sk** umelé zdvíhacie zariadenie

artificial neural network ANN / A mathematical or computational model based on biological neural networks, also called neural network (NN). [*1-75*] (*s. a. neural network*) **de** künstliches neuronales Netzwerk, das / **hu** (mesterséges) neurális háló(zat) / **sk** umelá nervová sieť

Asalouyeh gas field Major natural gas field in Iran. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Asalouyeh Gasfeld, das / **hu** asalouyeh-i (föld)gázmező / **sk** Asalouyeh-ložisko zemného plynu v Iráne

ASEAN agreement on transboundary haze pollution Environmental agreement signed by Malaysia, Singapore, Brunei, Myanmar, Vietnam, Thailand, Philippines, Cambodia and Laos to control haze pollution mainly caused by fire clearing. [*2-23*] (*s. a. environmental agreement, haze, fire cleaning*) **de** ASEAN Abkommen, das / **hu** ASEAN-országok egyezménye a határokon átterjedő ködszennyezés csökentéséről / **sk** dohoda ASEAN

Asgard Blend Crude oil product with an API gravity of 50.5° and a sulphur content of 0.1%. The field is located in Norway. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Asgard Blend (Rohöl), das / **hu** Asgard Blend olaj / **sk** Asgard Blend-ropný product

ash Solid fuel residue after combustion **de** Asche, die / **hu** hamu / **sk** popol

asphalt-base crude s. naphtene-base crude oil [*3-72*] **de** teerhaltiges Rohöl, das / **sk** asfaltová ropa

asphaltenes Substances that are found in crude oil. They consist primarily of carbon, hydrogen, nitrogen, oxygen, sulfur, and as trace amounts of vanadium and nickel. The C:H ratio is approximately 1:1.2. [*1-87*] **de** Asphaltene, die / **hu** keményaszfaltok, aszfaltének / **sk** asfaltény

asphyxia State of functional circulatory disorder and hypoventilation as a result of deficient supply of oxygen to the body. This can be caused e.g. by carbon monoxide inhalation. [*1-74*] (*s. a. carbon monoxide*) **de** Asphyxie, die; Erstickung, die; Erstickungstod, der / **sk** asfyxia

ASTM International ASTM / American Society for Testing and Materials. It is an organization that develops standards for materials, products and services. [*3-44*] **de** ASTM (Amerikanische Gesellschaft für Werkstoffprüfung) / **sk** ASTM-americké normy pre testovanie a materiály

asymmetric voltage Voltage (mV range) between two identical half-cells due to slightly different state of the electrodes. [*1-31*] (*s. a. galvanic cell*) **de** Unsymmetriespannung, die / **hu** aszimmetrikus feszültség / **sk** asymetrické napätie

Athabasca oil sands Large oil deposits of heavy crude oil in oil sands in Canada. [*1-57, 2-31*] **de** Athabasca-Ölsande, die / **hu** Athabasca olajhomok-lelőhely / **sk** roponosné,resp. ropné piesky -Athabasca

Athabasca tar sands s. Athabasca oil sands (*s. a. tar sand*) **de** Athabasca-Teersande, die / **sk** dechtové piesky -Athabasca

athodyd s. ramjet **de** Staustrahltriebwerk, das / **sk** náporová hnacia jednotka

atmosphere Gas layer surrounding the Earth. It contains about 78% nitrogen, 21% oxygen, 0.9% argon and 0.038% carbon dioxide. [*1-68*] (*s. a. atmospheric layers, troposhere, stratosphere, mesophere, planetary boundary layer*) **de** Atmosphäre, die / **hu** légkör, atmoszféra / **sk** atmosféra

atmospheric boundary layer ABL / s. planetary boundary layer **de** atmosphärische Grenzschicht, die / **sk** ABL

atmospheric dispersion modeling Computational simulation of the dispersion of air pollutants in the atmosphere. [*1-68*] **de** Ausbreitungsrechnung, die / **hu** légköri terjedésszámítás / **sk** atmosférický disperzný model

atmospheric distillation Distillation of crude oil in fractionating columns producing hydrocarbon fractions according to their boiling ranges. [*1-59*] (*s. a. process units* (*oil refinery*), *naphta cut, kero sene cut, diesel oil cut, long residue*) **de** Atmosphärische Rektifikation, die / **hu** atmoszferikus desztilláció/ desztillálás/lepárlás / **sk** atmosféricka rektifikácia

atmospheric layers The earth's atmosphere can be discribed by several layers varying with altitude. The lowest layer is the troposphere, followed by stratosphere and mesosphere. The other layers are not significant for doing atmospheric dispersion modeling of air pollutants. [*1-68*] (*s. a. troposphere, stratosphere, mesosphere*) **de** Atmosphärenschichten, die / **hu** a légkör rétegei / **sk** vrstvy atmosféry

atomic mass constant u, mu, Da / One twelfth of the mass of an unbound atom of the carbon-12 nuclide in its ground state. $1.66053886*10^{-27}$ kg. Syn.: Dalton [*3-38*] **de** Dalton, das / **hu** atomi tömegegység/ tömegállandó (dalton) / **sk** atómová hmotnost ná konštanta

atomization Reducing to tiny particles or a fine spray. Used, e.g. in internal combustions engines for an efficient combustion. [*1-11*] **de** Zerstäubung, die; Atomisierung, die / **sk** rozprašovanie

ATSTEP Gaussian puff dispersion model. [*1-68*] (*s. a. atmospheric dispersion models*) **de** ATSTEP-Modell, das / **sk** ATSTEP

atto a / SI-prefix, factor 10^{-18}. [*3-38*] **de** atto

attrition A wearing down by friction. [*1-74*] **de** Abrieb, der / **sk** oder, oter

Audibert-tube Method of testing the deflagration of explosives. [*1-12*] (*s. a. deflagration*) **de** Audibert-Rohr, das / **hu** Audibert-cső (vizsgálat) / **sk** Audibert-ove potrubie

Auer metal Alloy from iron and cerium that is used to produce sparks. (*s. a. ferrocerium*) **de** Auermetall, das / **hu** Auer-fém, tűzkő / **sk** Auer-ov kov

austenite Non-magnetic modification of iron (solid solution of carbon in gamma-iron). Used in stainless steel. Syn.: gamma phase iron. [*1-37*] (*s. a. corrosion*) **de** Austenit, der / **sk** austenit

auto ignition The ignition occurs without an external source of ignition. [*1-1*] (*s. a. auto ignition temperature*) **de** Selbstzündung, die / **hu** öngyulladás / **sk** samovznietenie

autocorrelation function ACF / Mathematical tool for finding a periodic signal which is hidden under noise. [*1-118*] **de** Autokorrelation, die / **hu** autokorrelációs függvény / **sk** autokorelácia

autothermal reforming ATR / s. reforming **de** autothermes Reformieren, das / **sk** autotermný reforming

auxiliary flame Small flame at the outlet of premixed burners to prevent flame extinguishing. [*1-29*] **de** Halteflamme, die / **hu** segédégő / **sk** bezpečnostný plameň, večný p.

auxiliary power unit APU / A device on a vehicle used to provide energy for functions other than propulsion. de Hilfstriebwerk, das

availability factor The amount of time that a power plant is able to produce electricity over a certain period, divided by the amount of the time. (*s. a. power plant*) **de** Verfügbarkeitsfaktor, der / **sk** časová využiteľnosť

average fuel consumption rate The average fuel consumption rate can be measured by the burette method (the time for the consumption of a calibrated volume is stopped). Another method is the gravimetrical fuel consumption measurement (the mass of the fuel using a load cell is measured). [*1-43*] (*s. a. mpg*) **de** durchschnittliche Treibstoffverbrauchsrate, die / **hu** átlagos üzemanyagfogyasztás / **sk** priemerná rýchlosť spotreby paliva

average surface temperature Mean temperature on the earth's surface. Actually this temperature is increasing (global warming). (*s. a. global warming, greenhouse gas*) **de** mittlere Oberflächentemperatur, die / **sk** priemerná teplota povrchu

avgas Aviation fuel with a high octane rating. Avgas is used for aircraft and racing cars. [*1-35*] **de** Flugbenzin, das / **hu** repülőbenzin / **sk** letecký benzín

aviation fuel High quality petroleum-based fuel used in civil and military aviation. [*3-48, 3-49*] (*s. a. avgas*) **de** Flugbenzin, das / **hu** repülőbenzin / **sk** letecký benzín

Avogadro constant NA / Number of atoms/molecules in one mole. NA= 6.022 141 79*10^{23} mol^{-1} [*1-31*] (*s. a. Loschmidt constant*) **de** Avogadro Konstante, die / **hu** Avogadró-állandó / **sk** Avogadrova konštanta

Bacharach method Semiquantitative measurement for soot emissions. [*1-33*] (*s. a. soot*) **de** Bacharach Methode, die / **hu** Bacharacheljárás / **sk** Bacharach-ova metóda

back pressure The pressure exerted on a moving fluid by obstructions vessel along which it is moving. **de** Abgasgegendruck, der / **sk** protitlak

backdraft Explosive combustion of fuel gases and smoke when a fire is starved of oxygen. [*1-69*] (*s. a. rollover, flashover*) **de** Rauch gasexplosion, die / **sk** explózia spalín

backmix reactor s. continuous stirred-tank reactor (*s. a. plug flow reactor*) **de** kontinuierlicher, idealer Rührkessel, der / **sk** prietokový dokonale miešaný reaktor

back-pressure turbine Steam turbine. The exhaust steam is used for heating. [*1-74*] (*s. a. steam*) **de** Gegendruckturbine, die / **hu** ellennyomású turbina / **sk** protitlaková turbína

baffle plate Used in dust collectors to change direction of the gas stream. Large-diameter particles do not follow this change of direction and settle down in a dead air space. [*1-74*] **de** Ablenkblech, das; Prallblech, das / **hu** terelő lemez/lap / **sk** vychyľovací plech

baffle spray scrubber Wet scrubbing system similar to spray towers, but using baffles in addition. [*2-42, 2-43*] (*s. a. wet scrubber*) **de** Spritzwäscher mit Einbauten, der / **sk** mokrý skrúber

Bajulaz six stroke engine Internal combustion engine with has two additional strokes compared to a four stroke Otto cycle. [*1-34*] **de** Bajulaz 6-Takt-Motor, der / **hu** Bajulaz-féle hatütemű motor / **sk** Bajulaz-ov 6-taktný motor

ballistic bomb Test method for the burning rate of explosives such as gunpowder. [*1-12*] (*s. a. lead block test, ballistic mortar*) **de** ballistische Bombe, die / **hu** ballisztikus bomba (vizsgálat) / **sk** balistická bomba

ballistic mortar Comparative test method for explosives. [*1-12*] (*s. a. lead block test, ballistic mortar*) **de** ballistischer Mörser, der / **hu** ballisztikus mozsár (vizsgálat) / **sk** balistický mažiar

Ballistite Smokeless powder invented by Alfred Nobel. It is similar to Cordite consisting of guncotton, nitroglycerine and diphenylamine. [*1-88*] (*s. a. smokeless powder, cordite, nitroglycerine*) **de** Ballistit, das / hu ballisztit / **sk** balistit, balistitový prach

bandwith Difference between the upper and lower cutoff frequencies of, for example, a filter or an amplifier. [*1-11*] **de** Bandbreite, die / **hu** sávszélesség / **sk** širokopásmový, šírka pásma

bang-gas s. oxyhydrogen **de** Knallgas, das / **hu** durranógáz / **sk** výbušný plyn

Bar bar / Unit of pressure. 100,000 Pa **de** Bar, das

bar burner Burner for gaseous fuels where the outlet nozzles are arranged on a tube. [*1-29*] **de** Rohrbrenner, der / **hu** csőégő / **sk** rúrový horák

baratol Explosive mixture of TNT and barium nitrate. Used as primary explosive. [*1-12*] (*s. a. barium salts, initial explosives*) **de** Baratol, das / **sk** baratol

barium salts Barium chlorate, -nitrate, and -perchlorate are used in some explosives and for green fire in pyrotechnics. [*1-12*] (*s. a. baratol, thermite, thermate TH3, flash powder*) **de** Bariumsalz, die / **hu** bárium sók / **sk** soli bária

barometric pressure The force per unit area exerted against a surface by the weight of atmosphere. The standard atmosphere is defined as being equal to 101.325 kPa (= 760 mmHg (torr), 14.696 PSI, 1013.25 millibars). [*1-44*] **de** Luftdruck, der / **hu** légköri nyomás / **sk** barometrický tlak

barrel Standard volume unit for trading crude oil. 1 US barrel = 158.987 l. [*3-38*] (*s. a. crude oil*) **de** Barrel, das / **hu** hordó, barrel / **sk** barel

barrel bomb Pyrotechnic salute containing about 25 g of flash powder. Illegal in many countries. [*1-89*] (*s. a. flash powder*)

Barrère-Borghi coordinates A coordinate system to visualize the regimes of turbulent burning. [*A9*] (*s. a. flamelet*) **de** Barrère-Borghi Koordinaten, die / **sk** Barrère-Borghi-ho koordináty

Barye bar / Unit of pressure.0.1 Pa **de** Barye, das

base metal thermocouple Economical thermocouples (type E, J, K, N, T). [*1-54*] (*s. a. thermocouple*) **de** Thermoelement aus Nichtedelmetallen, das / **hu** nem nemesfémből készült hőelem / **sk** termočlánok z neušľachtilých kovov

Basrah Light Crude oil product with an API gravity of 30.5° and a sulphur content of 2.9%. The field is located in Iraq. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Basrah Leichtöl, das / **hu** Basrah Light olaj / **sk** Basrah-ropný produkt

batch reactor Idealized reactor with perfect mixing, that means no temperature and concentration gradients in the total reactor volume. [*1-2*] **de** Satzreaktor, der; Diskontinuierlicher Reaktor, der / **hu** szakaszos reaktor / **sk** diskontinuálny izotermický dokonale miešaný reaktor

Batchelor scale A length scale which is smaller than the Kolmogorov scale [*A9*] (*s. a. Kolmogorov scale, turbulence*) **de** Batchelor (Längen)Skala, die / **sk** Batchelor-ova stupnica

bath gas Radical reactions can be studied in inert bath gases such as helium, argon, xenon, N_2, and CO_2. **de** Matrixgas, das; Trägergas, das

Bayu Undan Crude oil product with an API gravity of 55.9° and a sulphur content of 0.1%. The field is located in Australia. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Bayu Undan (Rohöl), das / **hu** Bayu Undan olaj / **sk** Bayu Undan-ropný produkt

Beale number Characterizes the performance of Stirling engines. A larger number indicates higher performance. [*1-90*] (*s. a. Stirling engine*) **de** Beale Zahl, die / **hu** Beale-szám / **sk** Beale-ovo číslo

beam divergence Measure of the increase in beam diameter with distance from the source of the electromagnetic beam. Lasers have a low beam divergence. [*1-44*] (*s. a. laser*) **de** Strahlendivergenz, die / **hu** sugárszéttartás, sugárdivergencia, sugárnyaláb-széttartás/ divergencia / **sk** divergencia lúča, rozbiehavosť l.

beam expander Telescopic or prismatic element used to increase the beam diameter. [*1-102*] (*s. a. laser*) **de** Strahlenaufweitsystem, das

beam pumps s. pump jack **de** Schwengelpumpe, die; Balkenpumpe, die / **hu** himbás olajszivattyú, himbaegység / **sk** ropná pumpa

beam splitter An optical element used to split a light beam into two parts: one is transmitted, while the other one is reflected. [*3-84*] **de** Strahlteiler, der / **hu** sugárosztó / **sk** štiepič zväzku

Bearden units of consistency Bc / Dimensionless quantity to define the pumpability of slurries. [*1-91*] (*s. a. slurry*) **de** Bearden-Einheiten der Konsistenz, die / **sk** Bearden-ove jednotky konzistencie

beat frequency Interference between two waves of slightly different frequencies. [*1-44*] **de** Schwebung, die / **sk** rázový kmitočet

Beatte-Bridgeman equation Equation of state for real gases. [*1-31*] (*s. a. ideal gas, fugacity*) **de** Beatte-Bridgeman Zustandsgleichung / **hu** Beatte–Bridgeman állapotegyenlet / **sk** Beatte-Bridgeman-ova rovnica

Beer-Lambert law s. Lambert-Beer law de Gesetz von Beer-Lambert, das / **sk** Lambert-Beer-ov zákon **before top dead center** BTDC / Term in automotive engineering to describe the time (in degrees crank angle) before the piston has reached its top position. (*s. a. degrees crank angle, TDC, ATDC, internal combustion engine*) **de** (Grad Kurbelwinkel) vor dem obe ren Totpunkt / **hu** a felső holtpont előtt / **sk** BTDC

Bell-Coleman cycle Thermodynamic heat pump cycle. Process 1 > 2: adiabatic process. Process 2 > 3: isobaric process. Process 3 > 4: adiabatic process. Process 4 > 1: isobaric process. [*1-31*] (*s. a. idealized cycle, standard cycle, Carnot cycle*) **de** Bell-Cole man Kreisprozess, der / **sk** Bell-Coleman-ov cyklus

Benedict-Webb-Rubin equation Equation of state for real gases. [*1-31*] (*s. a. ideal gas, fugacity*) **de** Benedict-Webb-Rubin Zustandsgleichung / **sk** Benedict-Webb-Rubin-ova rovnica

bengal firework Pyrotechnical effect that produces a brillant light flare. It can consist of sulfur, nitrates, chlorates and metal salts for colouring: Red: strontium, lithium or calcium salts; Green: barium salts or boric acid; Blue: copper salts; Yellow: sodium salts. [*1-12*] **de** Bengalisches Feuer, das / **hu** bengáli tűz / **sk** Bengálsky ohňostroj

bengal match Similar to storm matches but the coating includes a compound for coloring the flame green or red. [*1-38*] (*s. a. match, permanent match, storm match*) **de** Bengalisches Streichholz, das / **hu** bengáli gyufa / **sk** Bengálske zápalky

bentonite equivalent s. methylene blue test sk bentonit ekvivalent benzene C_6H_6; The simplest aromatic compound. The reduction of the benzene content in fuels is more important than the reduction of other aromatic compounds such as toluene and xylene, because they are less harmful to human health. [*3-35, 1-24*] (*s. a. aromatics*) **de** Benzen, das / **hu** benzol / **sk** benzén

Bergius process Method of producing liquid hydrocarbons. Coal (brown coal) is mixed with heavy oil and catalysts (e.g. tungsten sulfides, nickel oleate). The reaction occurs at 400 500 °C and >30 MPa. [*1-25*] (*s. a. nickel oleate*) **de** Bergius-Prozess, der / **hu** Bergius-eljárás / **sk** Bergiov proces

Bergius-Pier process Process to make hydrocarbons directly from coal and hydrogen using an exothermal reaction. [*1-11*] (*s. a. coalto-liquid, Fischer-Tropisch synthesis*) **de** Bergius-Verfahren, das / **sk** Bergiu-Pier-ov proces

Bergman-Junk test Test of the stability of explosives. [*1-13*] **de** Bergmann Junk Test, der / **hu** Bergman–Junk-teszt / **sk** Bergman-Junk-ov test

Bernoulli's equation In fluid dynamics, Bernoulli's equation states that for an inviscid flow, an increase in the speed of the fluid occurs simultaneously with a decrease in pressure. [*1-31*] **de** BernoulliGleichung, die / **hu** Bernoulli-egyenlet /**sk** Bernoulli-ho rovnica

Berthelot equation Equation of state for real gases.[*1-31*] (*s. a. ideal gas, fugacity*) **de** Berthelot Zustandsgleichung, die / **sk** Berthelotova rovnica

Big Smoke s. The Great Smog **de** Smog-Katastrophe, die / **sk** veľký smog

bi-gas process Pilot gasification process using very hot gases for the gasification of coal. The hot gases are generated by the reaction of partially gasified coal with oxygen. [*2-40*] (*s. a. coal, coal gasification*) **de** Bi-Gas Prozess, der / **sk** bi-plynový proces

bimolecular reaction In a reaction of this type: A+B=AB, the product AB is formed at the rate d[AB]/dt=k_1[A][B]. The brackets represent the species-concentration, k1 the equilibrium constant. [*1-1*] **de** Reaktion 2. Ordnung, die / **hu** bimolekuláris reakció / **sk** reakcia druhého poriadku

binding energy The molecular binding energy is the difference in energy between a molecule and its elements in their most stable state. It is also called enthalpy of formation. Binding energy of CH_4: -75 kJ/mol. [*1-2*] **de** Bindungsenergie, die / **hu** kötési energia / **sk** väzbová energia

bio dimethyl ether BioDME / Can be manufactured from lignocellulosic biomass and can be added to diesel fuel. [*3-15, 1-21*] (*s. a. ethanol fuels, butanol fuels*) **de** Bioalkohole, die / **hu** bioalkoholok / **sk** bioalkoholy

biobutanol Produced by ABE fermentation. It will produce more energy and is less corrosive than ethanol and can be burned in existing gasoline engines. [*3-15, 1-21*] (*s. a. bioalcohols, ABE-fermentation*) **de** Biobutanol, das / **hu** biobutanol / **sk** biobutanol

biochar Charcoal produced from biomass via pyrolysis. [*1-25*] (*s. a. pyrolysis, char*) **de** Biokohle, die / **hu** bioszén / **sk** biouhlie

biocide for fuels Chemical agent used to kill bacterial colonies inside a fuel system. [*3-48*] **de** Biozid für Treibstoffe, das / **hu** biocid üzemanyagokhoz / **sk** biocíd pre palivá

biodiesel Produced from fats and oils by transesterification. It is similar in composition to the fossil diesel. Main raw materials are animal fats, vegetable oils, soy, rapeseed, sunflower, palm oil and algae. [*3-15, 1-21*] (*s. a. first generation biofuels, transesterification*) **de** Biodiesel, der / **hu** biodízel / **sk** bionafta

BioDME s. bio dimethyl ether **de** Aus Biomasse dargestellter Dimethylether (DME), der

bioenergy Renewable energy obtained from materials of biological sources. [*3-13*] **de** Bioenergie, die / **hu** bioenergia / **sk** bioenergia **bioenergy crop** s. energy crop **de** Energiepflanze, die / **hu** energianövény / **sk** energetická plodina

bioethanol The most common biofuel worldwide, produced by fermentation of sugars (derived from wheat, corn, sugar beets, sugar cane, …). Ethanol can be mixed with gasoline. Most automobile petrol engines can with run up to 15% bioethanol in gasoline. [*1-21, 3-15*] (*s. a. bioalcohols*) **de** Bioethanol, das / **hu** bioetanol / **sk** bioetanol

bio-fuels Solid, liquid or gaseous fuel that is derived from biological material, e.g. biogas, bioethanol, wood. [*3-15*] (*s. a. biogas, bio ethanol, biomethanol*) **de** Biotreibstoffe, die / **hu** bio-tüzelőanyagok / **sk** biopalivá

biogas Gas produced from organic material under anaerobic conditions. It's main components are CH_4 and CO_2 (+ some H_2, H_2O, H_2S, N_2 and fatty acids) and is used as fuel for heating and producing electricity also as fuel for vehicles. Basic materials can be dung, slurry, leftovers, sludge or energy crops. [*3-13, 3-14*] **de** Biogas, das / **hu** biogáz / **sk** bioplyn

biogasoline Biofuel produced from biomass such as algae. It is different from bioalcohols, because it consists of hydrocarbons (6–12 carbon atoms). [*3-15, 1-21*] **de** Biotreibstoff, der / **hu** biobenzin / **sk** biobenzín

biohydrogen Hydrogen produced in in a biological process, e.g. dark fermentation or photofermentation. [*3-15, 1-21*] **de** Biowasserstoff, der / **hu** biohidrogén / **sk** biovodík

bioluminescence Bioluminescence is a form of luminescence, or "cold light" emission. **de** Biolumineszenz, die / **hu** biolumineszcen cia / **sk** bioluminiscencia

biomass Biological material that can be used for industrial production, e.g. to produce biofuel. [*3-15, 1-21*] **de** Biomasse, die / **hu** biomassza / **sk** biomasa

biomass to liquid BTL / Term to describe the generation of liquid fuels from (solid) biomass. There are different names for BTL-fuels such as sunfuel, sundiesel or biotrol. [*3-15, 1-21*] (*s. a. biomethanol*) **de** Biomasse zu Flüssigkeit / **hu** biomasszából üzemanyagot (termelő eljárás), biomassza-cseppfolyósítás (termelő eljárás) / **sk** biomasa na kvapalinu

biomethanol Produced of methane, it can also be produced by pyrolysis of organic material or Fischer-Tropsch synthesis. [*3-15, 1-21*] (*s. a. biomass to liquid*) **de** Biomethanol, das / **hu** biometanol / **sk** biometanol

biopetroleum s. green crude **de** Bioöl, das / **hu** biobenzin / **sk** bioolej

biotrol s. biomass to liquid **de** Biotrol, das / **hu** biotrol / **sk** biotrol

bipropellant Rocket propellants with a liquid oxidizer and a liquid fuel (except lithergoles). Common fuels are kerosene, hydrazine, UDMH, MMH, aerozin and liquid hydrogen. Liquid oxygen, hydrogen peroxide, nitric acid, N_2O_4 and fluorine are used as oxidizers. [*3-10, 3-11*] (s. a. hydrazine, liquid fuel rockets, monopropellant, tripropellent, hypergole) **de** Diergol, das / **hu** bipropellens, diergol, kétkomponensű rakéta-hajtóanyag / **sk** dvojzložková pohonná látka

bituminuous coal Bituminous coal contains bitumen. Its rank is between that of lignite coal and anthracite coal. The carbon content of bituminous coal is around 60–80%. (*s. a. rank, coalification*) **de** Fettkohle, die; Gaskohle, die; Flammkohle, die / **hu** bitumenes szén, gázszén, fényes (barna)kőszén / **sk** bitúmenové uhlie, čierne uhlie

bituminous rocks Sedimentary rocks containing tar, bitumen, asphalt, petroleum or other hydrocarbons. [*2-35*] (*s. a. oil shale*) **de** Ölschiefer, der / **hu** bitumenes kőzet / **sk** olejová bridlica

bituminous sands Large oil resrvoirs in a mixture of crude bitumen/ heavy crude oil, silica sand, clay minerals and water. Syn.: oil sands, tar sands [*1-57*] (*s. a. heavy crude oil, light crude oil, oil sands*) **de** Ölsand, der / **hu** olajhomok / **sk** bitúmenové piesky, roponosné piesky

BK7-crownglass Borosilicate glass used for optical windows in visible and near ultraviolet range. [*1-43*] **de** Borosilikatglas, das; Kronglas, das / **hu** bór-szilikát üveg, koronaüveg / **sk** borosilikátové sklo

black body Idealized object that absorbs all electromagnetic radiation on it. Because of its thermal Energy, a hot black body emits radiation. A cold black body emits only infrared radiation, with increasing temperature the emitted light turns to red, orange, yellow and so on. [*1-2, 1-31*] **de** schwarzer Strahler, der / **hu** (abszolút) feketetest, feketesugárzó / **sk** čierne teleso

black damp s. pit gas **de** Grubengas, das; Schlagendes Wetter, das / **hu** fojtólég, fojtógáz / **sk** banský plyn

black match Cotton fibers coated with a black powder slurry. A quick match (burning velocity about 40 s/m) is a black match coated with a paper tube (burning velocity about 10 m/s). [*1-14*] (*s. a. fuse, quick match, visco fuse, detonating cord*) **de** SchwarzpulverStreichholz, das / **hu** gyújtózsinór / **sk** čierne zápalky

black powder Mixture of potassium nitrate, sulfur and charcoal. It is used as a propellant in firearms an in pyrotechnics (fireworks). In modern firearms other mixtures are used. [*1-11*] (*s. a. smokeless powder*) **de** Schwarzpulver, das / **hu** fekete lőpor / **sk** čierny prášok

black smoke method Measurement of SO_2 and airborne particles by filtering a sample and analysis with a reflection photometer. [*1-33*] **de** Black Smoke Messverfahren, das / **hu** korom módszer / **sk** meracia metóda Black Smoke

black start The process of restoring a power station to operation independent on external energy sources. (*s. a. power plant*) **de** Schwarzstart, der / **sk** čierny štart

black-body irradiance The total energy radiated by a black body is directly proportional to the fourth power of the absolute temperature. [*1-31*] (*s. a. black body*) **de** Strahlungsleistung, die / **hu** feketetest (ki)sugárzási teljesítmény / **sk** výkon žiarenia

blackbody, black body an object that absorbs all electromagnetic radiation that falls on it. If the black body is hot, these properties make it an ideal source of thermal radiation. [*1-31*] **de** Schwarzer Körper, der; Schwarzkörper/ **hu** feketetest, feketesugárzó / **sk** čierne teleso

blank (cartridge) Cartridge for firearms It contains gunpowder but no bullet. [*1-13*] (*s. a. smokeless powder*) **de** Platzpatrone, die / **hu** vaktöltény / **sk** slepý náboj

blast effect Shattering effect of a detonation due to the abrupt gas emission. [*1-12*] (*s. a. detonation, brisance*) **de** Druckstosswirkung, die / **hu** nyomáslökés / **sk** účinok tlakovej vlny

blasting agents Explosives used for large-scale mining. Blasting agents are fairly shock-insensitive and require a explosive booster. [*1-12*] (*s. a. explosive booster*) **de** Sprengstoffe, die / **hu** robbanóa nyag / **sk** trhaviny

blasting gelatine Powerful commercial explosive. [*1-12*] **de** Spreng gelatine, die / **hu** robbanózselatin / **sk** výbušná želatína

blasting oil s. nitroglycerin (*s. a. TNT*) **de** Glycerintrinitrat, das / **hu** nitroglicerin / **sk** glycerol trinitrát

BLEVE s. boiling liquid expanding vapour explosion **de** Explosion einer verdampfenden und sich ausbreitenden Flüssigkeit (BLEVE), die / **sk** BLEVE

blind coal s. coal **de** magere Steinkohle, die / **sk** antracitické uhlie

block heat and power plant BHPP / In a BHPP, heat and power are produced simultaneous.y. With a block heat and power plant about 90% of the fuel energy can be converted into usable energy (with a conventional main power station only about 35%). [*1-29*] **de** Blockheizkraftwerk, das / **hu** kapcsolt energiatermelő erőmű, kapcsolt erőmű, kogenerációs erőmű / **sk** bloková tepláreň

blow out Uncontrolled gas or oil leakage from oil drillings. [*1-25*] **de** Ausbruch, der; Blow-Out, der / **hu** kitörés / **sk** prieval, únik

blow-off line Device for secure blowing off gases out of plant components, e.g. in case of a breakdown. [*1-30*] **de** Abblasesystem, das / **hu** szellőztető rendszer / **sk** poistný odfukovací, vypúšťací systém

blowout s. blow out **hu** kitörés / **sk** prieval, erupcia

blue 2N s. solvent blue 35 **de** "Blue 2 N" Farbstoff, der / **sk** blue 2N

blue coal s. anthracite **de** Anthrazit; Steinkohle, die / **sk** antracitické uhlie

blue water gas s. carburetted water gas **de** Blauwassergas, das / **sk** modrý-nekarburovaný plyn

bluff body A body that has a non-streamlined shape that produces resistance when immersed in a moving fluid. Can be used to redirect flows and to stabilize flames. [*1-75*] (*s. a. Kármán vortex street; flame holder*) **de** stumpfer Körper, der; Prallkörper, der / **sk** oblé teleso

bluff body stabilized flame Flames in gas turbines, etc. can be stabilized by bluff bodies (flame holders) which create zones of low vorticity. [*B15*] (*s. a. flame holder*) **de** durch einen Flammhalter stabilisierte Flamme, die

Bodenstein number Bo Bo / A dimensionless number that describes axial mixing. [*1-72*] **de** Bodenstein-Zahl, die / **hu** Bodensteinszám / **sk** Bodensteinovo kritérium

body forces External forece that acts in every part of a body. [*1-44*] **de** Volumenkraft, die / **sk** molekulárne sily

Bohr radius a0 / The smallest possible orbit for the electron. $5.291772108*10^{-11}$ m. [*3-38*] **de** Bohrscher Radius, der / **hu** Bohrsugár / **sk** Bohr-ov rádius

boiler efficiency Ratio of heat transferred to the heat transfer medium to the heat of combustion of the fuel. [*1-29*] (*s. a. boiler*) **de** Kesselwirkungsgrad, der / **hu** kazánhatásfok / **sk** účinnosť kotla

boiling liquid expanding vapour explosion BLEVE / A BLEVE is a type of explosion that can occur when a vessel containing a pressurized liquid is ruptured. Such explosions can be extremely hazardous. [*1-92*] **de** Explosion einer verdampfenden und sich ausbreitenden Flüssigkeit (BLEVE), die / **hu** forrásban lévő folyadék táguló gőzrobbanása / **sk** explózia vypyrujúcej a rozpínajúcej sa tekutiny

Boltzmann constant k / A physical constant relating energy at the particle level with temperature observed at the bulk level. $1.3806504*10^{-23}$ J K^{-1}. [*3-38*] **de** Boltzmann-Konstante, die / **hu** Boltzmann-állandó / **sk** Boltzmann-ova konštanta

Boltzmann statistics Statistics describing the thermal equilibrium of a statistical ensemble. [*1-105, 1-110*] **de** Boltzmann-Statistik, die / **hu** Maxwell—Boltzmann-féle statisztika / **sk** Boltzmann-ova štatistika

bomb calorimeter Instrument for examining the upper heating value. The sample is burnt under pressure and oxygen. The change of temperature can be used to calculate the heating value. [*1-31*] (*s. a. upper heating value, lower heating value, heating value*) **de** Bombenkalorimeter, das / **hu** kaloriméter(-bomba), bomba-kaloriméter / **sk** kalorimetrická bomba

Bonito Sour Crude oil product with an API gravity of 35.5° and a sulphur content of 1.0%. The field is located in the United States. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Bonito Sour (Rohöl), das / **hu** Bonito Sour olaj / **sk** Bonito Sour-ropný produkt

Bonn agreement Environmental agreement to conserve terrestrial, marine and avian migratory species throughout their range. Signed by Belgium, Denmark, the European Community, France, Germany, the Netherlands, Norway, Sweden, and the United Kingdom. [*3-60*] (*s. a. environmental agreement*) **de** Bonner Konvention, die / **hu** bonni egyezmény / **sk** Bonn-ská dohoda

booster Every kind of boost charges for explosive charges and rocket propellants. [*1-12*] (*s. a. buring chamber, end of burning, octane booster*) **de** Booster, der / **hu** töltő segédkompresszor / **sk** búster

borescope An optical device consisting of a rigid or flexible tube with an eyepiece on one end, an objective lens on the other linked together by a relay optical system in between. [*1-11*] (*s. a. endoscope*) **de** Industrieendoskop, das; Endoskop, das / **hu** endoszkóp / **sk** prístroj na kontrolu leteckých motorov, parných turbín, dieselových motorov

Borghi-diagramm Can explain the cumulative 3-dimensional structure of turbulent flames. [*1-2*] (*s. a. turbulent flames, Darmköhlernumber, Karlovitz-number, flamelet*) **de** Borghi-Diagramm, das / **hu** Borghi-diagram / **sk** Borghi-ho diagram

boron trichloride BCl_3; Metal fire extinguishing agent. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** Bortrichlorid / **hu** bór-triklorid / **sk** chlorid boritý

boron trifluoride BF_3; Metal fire extinguishing agent. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** Bortrifluorid / **hu** bór-trifluorid / **sk** fluorid boritý

Botryococcene A green, planktonic microalga. S. algae fuel [*3-15, 1-21*] **sk** botryococcus-druh rias

Boudouard equilibrium Chemical equilibrium between carbon monoxide and carbon/carbondioxide: $C + CO_2 \leftrightarrow 2CO$. It is an exothermic reaction. This means at lower temperatures, the equilibrium is more on the left side (soot formation). [*1-37*] (*s. a. Le Chatelier's Principle, carbon monoxide, carbon dioxide, soot*) **de** Boudouard Gleichgewicht, das / **hu** Bouduard-egyensúly / **sk** Boudouardova rovnováha, Boudouardova reakcia

boundary layer A layer of fluid in the immediate vicinity of a bounding surface. [*A8*] (*s. a. planetary boundary layer*) **de** Grenzschicht, die; Grenzlage, die / **hu** határréteg / **sk** medzná vrstva

Bourke Engine Two stroke engine. [*2-22*] **de** Kurbelschlaufenmotor, der / **hu** keresztkulisszás motor, Bourke-motor / **sk** Bourke-ho motor

bow drill Ancient tool to "make fire". (*s. a. lighter, match*) **de** Feuerbohrer, der / **hu** íjas tűzfúró / **sk** založenie ohňa trením driev

Bow River Crude oil product with an API gravity of 24.7° and a sulphur content of 2.1%. The field is located in Canada. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Bow River Rohöl / **hu** Bow River olaj / **sk** Bow River-ropný produkt

box model The simplest type of disperison models. It assumes that the volume of air is in the shape of a box and that the air pollutants inside the box are homogeneously distributed. [*1-68*] (*s. a. atmospheric dispersion models*) **de** Box-Modell, das / **sk** Box-model

boxcar function Function whose value is zero except for a single interval where it has a constant nonzero value. [*1-112*] **de** BoxcarFunktion, die / **sk** boxcar funkcia

Boyle-Mariotte law Boyle-Mariotte law (or Boyle's law) is an ideal gas law. Boyle's law describes the inversely proportional relationship between the absolute pressure and volume of a gas, if the temperature is kept constant within a closed system: p*V=const. [*1-31*] (*s. a. ideal gas*) **de** Gesetz von Boyle Mariotte, das / **hu** Boyle–Mariotte-törvény / **sk** Boyle-Mariott-ov zákon

Boyle's law s. Boyle Mariotte law **de** Gesetz von Boyle, das / **sk** Boyle-ov zákon

Bragg cell Modulator to diffract and shift the frequency of light. [*1-44*] (*s. a. laser*) **de** Bragg-Zelle, die / **hu** Bragg-cella / **sk** Braggov článok

Bragg condition s. Laser Doppler anemometry **de** Bragg-Bedingung, die / **sk** Bragg-ova podmienka

branched alkanes Non-linear (but non-cyclic) alkanes, the carbon chain splits off in at least one direction. General formula C_nH_{2n+2} (n>3). [*3-35, 1-24*] (*s. a. alkanes*) **de** verzweigte Alkane, die / **hu** elágazó (szénláncú) alkánok / **sk** rozvetvené uhľovodíky

Bray number A dimensionless number relevant to turbulence. **de** Bray-Zahl, die / **sk** Bray-ovo číslo

Bray-Moss-Libby model BML / Combustion modelling approach. (*s. a. flamelet*) **de** BML-Modell, das / **sk** Bray-Moss-Libby-ho model

Brayton Cycle Thermodynamic cycle used for gas turbine engines. Process 1 > 2: isentropic process. Process 2 > 3: isobaric process. Process 3 > 4: isentropic process. Process 4 > 1: isobaric process. [*1-93*] (*s. a. isentropic, isobaric*) **de** Bryton Kreisprozess, der / **hu** Joule-körfolyamat, Brayton-körfolyamat, Brayton–Joulekörfolyamat/ciklus / **sk** raytonov cyklus

break gallery Installation in coal mines to assess the hazards of explosives in the presence of breaks. [*1-13*] **de** Branddamm im Stollen, der / **sk** požiarna hrádza v štôlni

breaker triggered ignition Electronic ignition system which is controlled by a transitor circuit to controll the high primary current with a non-trigger current. [*1-34*] (*s. a. spark ignition, spark*) **de** plug kontaktgesteuerte Transistorzündung, die

breakerless transistorized ignition Fully electronic, contactless ignition system. [*1-34*] (*s. a. spark ignition, spark plug*) **de** kontaktlos gesteuerte Transistorzündung, die / **sk** bezdotykové tranzistorové zapaľovanie

break-up region Area where a spray is disintegrated. (*s. a. direct fuel injection, spray, atomisation*) **de** Bereich des Aufbruchs, der **brent crude** Most common crude oil used in Europe, sourced from the North Sea. API gravity 38.3°. [*3-63*] (*s. a. API gravity, heavy crude oil, extra heavy crude oil, Athabasca oil sands, Orinoco oil sands*) **de** Brent (Öl), das / **hu** Brent olaj / **sk** Brent-ropa

Briggs plume rise equations Dispersion model based on observations and data of plumes from several combustion sources. [*1-68*] (*s. a. atmospheric dispersion modeling*) **de** Briggs-Gleichungen, die / **hu** Briggs-modellel a járulékos kéménymagasság számítására / **sk** Briggs-ove rovnice

Brillouin scattering Same principle as Raman scattering, but with scattering accoustic phonons. [*1-31*] (*s. a. Raman scattering*) **de** Brillouin-Streuung, die / **hu** Brillouin szórás / sk Brillouin-ov rozptyl

Brinkman number Br Br / A dimensionless number that characterizes the heat transfer from a wall to a flowing fluid. [*1-72*] **de** Brinkmann-Zahl Br, die / **hu** Brinkman-szám / **sk** Brinkman-ovo kritérium

briquettes Compressed charcoal, sawdust, etc, for use in domestic stoves and ovens. [*1-25*] **de** Briketts, die / **hu** brikett / **sk** brikety

brisance Characterizes the shattering effect of explosives. It depends on gas yield, explosive velocity, heat of detonation and loading density. Brisant explosives like TNT, PETN, octanitrocubane, etc. have explosive velocities up to 10000 m/s. [*1-12*] (*s. a. loading density, explosive velocity, heat of detonation, TNT, PETN, octanitrocubane*) **de** Brisanz, die / **hu** brizancia, robbantóerő / **sk** brizancia

Briska detonator Detonator, executed by heavy pressing on the base charge. [*1-13*] **de** Sprengzünder/ Sprengkapsel nach Briska, der/die / **sk** Briskov detonátor

British thermal unit Btu / 1 BTU is approx. 1,057 J or $2.9*10^{-4}$ kWh. **de** englische Kalorie, die; britische Wärmeeinheit, die / **sk** Btu

broadband radiation thermometer Pyrometer that is sensitive to to a broad band of the radiation spectrum. [*1-43*] (*s. a. radiation thermometry, Planck's law, two-color method, total radiation thermometer, narrow band radiation thermometer*) **de** Bandstrahlungspyrometer, das / **hu** szélessávú pirométer / **sk** širokopásmový radiačný pyrometer

bromine number The amount of bromine (g) absorbed by 100 grams of a gasoline sample. It is used as a measure of aliphatic unsaturation in gasoline. The more unsaturated bonds there are in the sample, the higher the bromine number will be. [*3-29, 3-30*] **de** Bromzahl, die / **hu** brómszám / **sk** brómové číslo

bromochlorodifluoromethane Obsolete fire extinguishing agent. It is only permitted for military purposes. [*3-71*] (*s. a. halon* (*fire fighting*)) **de** Bromchlordifluormethan, das / **sk** bromo-chlorodifluorometán

bromotrifluoromethane Obsolete fire extinguishing agent. It is only permitted for military purposes. [*3-71*] (*s. a. halon* (*fire fighting*)) **de** Bromtrifluormetha, das / **sk** bromo-trifluorometán

brown coal Brown coal (or lignite) is a coal of low rank. The heat content of lignite ranges from 10 to 20 MJ/kg. [*1-25*] (*s. a. coal, rank*) **de** Braunkohle, die / **hu** barnaszén / **sk** hnedé uhlie

b-scission The C-C bond with the weakest bond in the alkyl radical will break first into two smaller radicals. [*1-1*] **de** Kettenspaltung, die; Beta-Spaltung, die / **sk** štiepenie reťazca

BTX process Process of extraction and distillation steps in catalytic reforming to produce benzene, toluene and xylenes. [*1-25*] **de** BTX Prozess, der / **hu** BTX-eljárás / **sk** BTX proces

bubble phase Region in a fluidized bed. (*s. a. fluidized bed combustion*) **de** Blasenphase, die / **sk** bublajúca fáza

bunker fuel Fuel oil used aboard ships (in general). [*3-27*] **de** Marinedieselöl, das / **hu** nehéz fűtőolaj / **sk** námornícka nafta, loďná n.

Bunsen burner Common laboratory equipment. The burning gas (natural gas) comes through a nozzle into the burning tube (air take-in through air holes). The heating flame consist of an inner core (reduction flame) and a case (oxidation flame). The temperature can reach 1000–1500°C. [*2-5, 1-11*] (*s. a. premixed flames, flame types, burner types, Méker burner, Teclu burner*) **de** Bunsenbrenner, der / **hu** bunzenégő / **sk** Bunsenov horák

buoyant line and point source model BLP / Gaussian dispersion model designed for modelling plume rise and downwash effects. [*168, 3-92*] (*s. a. atmospheric dispersion models*) **de** BLP Modell, das / **sk** BLP

buoyant plume Plume which is lighter (less dense) than air, e.g. emissions from flue gas stacks (warmer and less dense than the ambient air). [*1-68*] (*s. a. atmospheric dispersion models*) **de** Abgasfahne, die

burden (pyrotechnics) Shortest lateral distance between borehole and free face. [*1-13*] **de** Beladung, die / **hu** terhelés(előtét) / **sk** vsádzka

burn out s. end of burning [*1-12*] **de** Ausbrand, der / **hu** kiégés / **sk** dohorenie

burn rate modifier Gasoline additive, can increase the fuel burn time. [*3-32*] **de** Additiv zur Veränderung der Brenngeschwindigkeit, das / **hu** égési sebességet szabályozó adalék / **sk** aditívum k zmene spaľovacej rýchlosti

burn(ing) rate Measure of the linear combustion rate of a propellant. The burn(ing) rate depends on chemical composition, pressure, temperature, physical condition and design. [*1-12*] (*s. a. Charbonniers equation*) **de** Abbrandgeschwindigkeit, die / **hu** leégési sebesség / **sk** spaľovacia rýchlosť

burner types Burner designs are based on fuel, capacity and other requirments. [*1-10*] (*s. a. Bunsen burner, McKenna burner, Wolfhard Parker burner, Mékler burner, Teclu burner*) **de** Brennertypen, die / **hu** égőtípusok / **sk** typy horákov

burner types Burners can be classified according to how fuel and the oxidizer are mixed (premixed or non-premixed). The American Petroleum Institute gives some guidelines for burners used in fired heaters specification: specific type of fuels, specific range of fuel compositions, maximum/normal/minimum heat release rates, maximum fuel pressures available, fuel temperature, oxidant source, combustion air temperature, type of flame. [*1-10*] **de** Brennertypen, die / hu égőtípusok / sk typy horákov

burning chamber Chamber where combustion takes place. [*1-12*] **de** Brennkammer, die / **hu** tűztér, égéstér / **sk** spaľovacia komora

burn-off Combustion of granular combustibles, e.g. solid propellants in rocketry or fuelwood in a boiler. [*1-75*] **de** Abbrand, der / **hu** leégés / **sk** vyhorenie

burst In automatic firearms, burst mode or burst fire is a firing mode enabling the shooter to fire a predetermined number of rounds. **de** Ausbruch, der; Feuerstoss, der; Signalfolge, die / **sk** vzplanutie

bursting disc s. rupture disc **de** Berstscheibe, die; Bruchscheibe, die; Sprengscheibe, die

busbar Copper or aluminium strips which conduct electricity within a switchboard or other electrical apparatus. **de** Sammelschiene, die

butane Butane, also called n-butane, is the unbranched alkane with four carbon atoms, $CH_3CH_2CH_2CH_3$. Butane is also used as a collective term for n-butane together with its only other isomer, isobutane (also called methylpropane), $CH(CH_3)_3$. It is highly flammable, colorless, odorless and easily liquefied. [*3-35, 1-24*] **de** Butan, das / **hu** bután / **sk** bután

butanol fuels s. biobutanol **de** Butanoltreibstoffe, die / **sk** palivá na báze butanolu

Butler Volmer equation Equation that describes how the electrical current on an electrode depends on the electrode potential. [*1-31*] (*s. a. Nernst equation, Tafel equation*) **de** Butler-Volmer-Gleichung, die / **sk** Butler Volmer-ova rovnica

butterfly control valve Device used to regulate a fluid flowing through a pipe, e.g. for controlling the output power of Otto engines by regulating air and fuel flow. [*1-29*] **de** Drosselklappe, die / **hu** pillangószelep / **sk** regulačný škrtiaci ventil

Butyl rubber Gasoline additive used as detergent. [*3-32*] **de** Butylkautschuk, der / **hu** butilkaucsuk / **sk** butylkaučuk

C.I. 26120 s. solvent red 26 **de** C.I. 26120 Farbstoff, der

C.I. 61554 s. solvent blue 35 **de** C.I. 61554 Farbstoff, der

C/H ratio Ratio of carbon and hydrogen atoms of a hydrocarbon. [*1-29*] **de** C/H-Verhältnis, das / **hu** C/H arány / **sk** pomer C/H

C_2 radical An intermediate species in combustion. [*1-1*] (*s. a. radical*) **de** C_2 Radikal, das / **hu** C_2-gyök / **sk** radikál C_2

C_2-chemiluminescence Chemiluminescence at the flame front is a result of heat transfer due to chemical reactions. The presence of a species is detectable. C_2-radicals have some emission bands between 400 and 550 nm. [*1-31, 2-28*] (*s. a. chemiluminescense*) **de** C_2-Chemolumineszenz / **hu** C_2-kemilumineszcencia / **sk** C_2chemoluminiscencia

calcination The process of heating ores and minerals to remove water and carbon dioxide. [*1-11*] **de** Kalzination, die; Kalzinierung, die / **hu** kalcinálás, pörkölés, kiégetés / **sk** kalcinácia

calculated carbon aromaticity index CCAI / Characterizes the ignition quality of residual fuels. It is comparable to the octane rating for Otto-fuels or the cetane index for Diesel fuels. The CCAI value is normally between 800 and 880. Fuels with a lower CCAI value have a better ignition quality. **de** CCA-Index, der / **sk** CCAI

Calculated Ignition Index CII / Characterizes the ignition quality of residual fuels. It is comparable to the octane rating for Otto-fuels or the cetane index for Diesel fuels. It is like the CCAI an empirical index and can be calculated from density an kinematic viscosity. (*s. a. calculated carbon aromaticity index*) **de** CI-Index, der / **sk** CII

CALINE3 Gaussian dispersion model. [*1-68*] (*s. a. atmospheric dispersion models*) **de** CALINE3-Modell, das / **sk** CALINE3

Callendar-Van Dusen coefficients Coefficients, used in polynomial equations to calculate the temperature from resistance measurements in resistive temperature detectors. [*1-54*] **de** Callendar-Van Dusen Koeffizienten, die / **hu** Callendar – van Dusen-állandó / **sk** Callendar-Van Dusen-ove koeficienty

calorific value Also called heating value. Heat of combustion of a sample. One can distinguish between lower heating value and higher heating value. [*1-31*] (*s. a. lower heating value, higher heating value*) **de** Heizwert, der / **hu** lásd: égéshő, fűtőérték / **sk** energetická hodnota

calorimetry the science of measuring the heat of chemical reactions or physical changes. [*1-31*] **de** Kalorimetrie, die / **hu** kalorimetria, hőmennyiség-mérés / **sk** kalorimetria

CALPUFF Atmospheric dispersion model applied for long-range transport and for complex terrain. [*1-68*] (*s. a. atmospheric dispersion models*) **de** CALPUFF-Modell, das / **sk** CALPUFF

cam-in-block Engine design where the camshaft is placed within the cylinder block. **de** Cam-In-Block-Design, das

camphor $C_{10}H_{16}O$; Stabilizer for nitrocellulose and gunpowders. [*1-12*] (*s. a. gunpowder*) **de** Kampfer, der / **hu** kámfor / **sk** gáfor

camping fuel Gasoline with high purity for use in domestic (camping) stoves. **de** Campingbrennstoff, der; Leichtbenzin, das / **sk** campingový benzín

candela cd / SI base unit of luminous intensity. [*3-38*] **de** Candela, das

candle coal Cannel coal or candle coal, is a type of terrestrial type oil shale with a large amount of hydrogen, which burns easily with a bright light and leaves little ash. It has been used as a substitute for candles. (*s. a. cannel coal, coal*) **hu** gázszén, kannelszén, gázpala / **sk** sviečkové uhlie, kanelové uhlie

candoluminescence Describes the emitted light (at shorter wave lengths than would be expected for a typical blackbody radiator) from some heated materials. [*1-31*] **de** Kandolumineszenz, die / **hu** kandolumineszcencia / **sk** kandoluminiscencia

cannel coal s. candle coal [*1-25*] **de** Kannelkohle, die / **hu** gázszén, kannelszén, gázpala / **sk** sviečkové uhlie, kanelové uhlie

Cano Limon Crude oil product with an API gravity of 29.2° and a sulphur content of 0.5%. The field is located in Columbia. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Cano Limon (Rohöl), das / **hu** Cano Limon olaj / **sk** Cano Limon-ropný produkt

caput mortuum Iron (III) oxide powder used among other things for coloring explosives. Term from alchemy. [*1-12*] **de** Caput mortuum, das / **hu** caput mortuum / **sk** caput mortuum

carbamate -NH(CO)O-; Carbamates (urethanes) are esters of carbamic acid, NH_2COOH. [*1-13*] **de** Carbamat, das; Carbaminat, das; / **sk** karbamát

carbon capture and storage CCS / An approach to mitigate the contribution of fossil fuel emissions to global warming, based on capturing carbon dioxide (CO_2) from large point sources or the atmosphere, and permanently storing it away from the atmosphere, e.g. in deep geological formations. [*1-25*] **de** Kohlenstoff-Abscheidung und -Speicherung, die / **hu** szénleválasztás és -lerakás, széndioxid-leválasztás és -lerakás/(el)tárolás / **sk** zachytávanie a uskladňovanie uhlíka

carbon cloth Electrode material, heat pressed onto protone ex change membranes. [*2-57, 3-85*] (*s. a. fuel cell*) **de** Carbon Cloth (Textil), das

carbon composite s. Caron composites can be grouped into carbon-carbon composites (CCC) and carbon-metal composites (CMC). Carbon-carbon composites consist of semicrystalline carbon fibres embedded into a matrix of amorphous carbon. **de** Kohlefaserverbundwerkstoff, der / **sk** uhlíkový kompozit

carbon dioxide capture and storage CCS / s. carbon capture and storage **de** CO_2-Abscheidung und -Speicherung, die / **hu** szénleválasztás és -lerakás, széndioxid-leválasztás és -lerakás/(el)tárolás / **sk** zachytávanie a uskladňovanie uhlíka

carbon dioxide CO_2; Produced by the combustion of carbonaceous compounds. It is in equilibrium with CO and C (carbon). For the effects of CO_2 on the earth's atmosphere see global warming. In fire fighting, CO_2 can also be used in electrical installations. Magnetic storage units can be destroyed due to the chilling effect. [*1-37*] (*s. a. Le Chatelier's Principle, carbon monoxide, Boudouard equilibrium, soot, global warming*) **de** Kohlenstoffdioxid, das; Kohlendioxid, das / **hu** szén-dioxid / **sk** oxid uhličitý

carbon dioxide equivalent CDE / A quantity that describes, for a given mixture and amount of greenhouse gas, the amount of CO_2 that would have the same global warming potential (GWP). (*s. a. global warming potential* (*GWP*)) **de** Kohlendioxid-Äquivalent, das / **sk** CO_2 ekvivalent

carbon dioxide sensor Used to detect fire or fermentation gas. Chemical CO_2 sensors are based on sensitive polymer-layers. [*224*] (*s. a. carbon dioxide, carbon monoxide sensor*) CO_2-Sensor, der / **hu** széndioxid-érzékelő / **sk** CO_2 senzor

carbon fiber paper Electrode material, heat pressed onto protone exchange membranes (PEM). [*2-57, 3-85*] (*s. a. fuel cell*) **de** Kohlefaserpapier, das

carbon microspheres Metal fire extinguishing agent. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** Mikrokugeln aus Kohlenstoff, die

carbon monoxide CO; Produced in incomplete combustion of carbonaceous compounds. It is a colourless and odorless but highly toxic gas (about 1500 ppm can be lethal within 60 minutes). CO is in equilibrium with CO_2 and C. [*1-37, 1-46*] (*s. a. Le Chatelier's Principle, Boudouard equilibrium, carbon dioxide, soot*) **de** Kohlenstoffmonoxid, das; Kohlenmonoxid, das / **hu** szén-monoxid / **sk** oxid uhoľnatý

carbon monoxide sensor Sensor used to detect the presence of carbon monoxide. If it is detected, the device gives off an alarm. [*225*] (*s. a. carbon monoxide, carbon dioxide sensor*) **de** Brandmelder auf Basis von CO, der / **hu** szénmonoxid-érzékelő / **sk** CO senzor

carbon nanotubes CNT / Cylindrical carbon molecules with a nanostructure (typical diameter <1 50 nm, length up to a few centimeters). These materials have novel properties for many chemical, physical and technological applications. [*1-84, 3-79*] **de** Kohlenstoffnanoröhrchen, die / **sk** uhlíkové nanorúrky

carbon sequestration s. carbon capture and storage **de** Kohlenstoffbindung, die / **hu** szénleválasztás (és -lerakás), széndioxidleválasztás (és -lerakás/(el)tárolás) / **sk** sekvestrácia uhlíka

carbon steel An alloy consisting mostly of iron and carbon. [*1-74*] **de** Stahl, der / **hu** acél / **sk** uhlíková oceľ

carbonaceous Containing carbon. [*1-74*] **de** kohlenstoffhaltig, flöz führend / **hu** széntartalmú, szenes / **sk** uhoľný, uhlíkatý, uhlíkový **carbonation** Carbonation occurs when carbon dioxide is dissolved in water or an aqueous solution. [*1-11*] **de** Karbonisation, die; Karbonisierung, die / **hu** karbonizálás / **sk** karbonizácia

carbon-based life Life based on complex carbon molecuels bonded with elements such as oxygen, hydrogen and nitrogen. **de** Leben auf Kohlenstoffbasis, das / **sk** život na báze uhlíka

carbonic acid H_2CO_3; A weak, unstable acid. Present in solutions of water and carbon dioxide. [*1-11*] (*s. a. carbon dioxide*) **de** Kohlensäure, die / **sk** kyselina uhličitá

carbonization ranking A ranking of the forestry residues converted to charcoal and to liquid and gaseous products to characterize the suitability for charcoal production. [*2-62*] **de** Karbonisierungsgrad, der / **sk** stupeň karbonizácie

carbonyl sulfide COS; Component which appears in natural gases with a high H_2S concentration. [*2-40*] (*s. a. natural gas, hydrogen sulphide, mercaptans*) **de** Carbonylsulfid, das / **hu** karbonil-szulfid, szén-oxiszulfid / **sk** karbonyl sulfid

Carbo-V Process™ s. biomass to liquid [*3-93*] **de** Carbo-V-Verfahren™, das / **sk** Carbo-V technológia

carburation Pyrolysis process of gas oil to at 600°C 750°C. [*2-49*] (*s. a. cabruetted water gas*) **de** Karburation, die / **hu** karburálás / **sk** karburácia, splyňovanie

carburetor A device that blends air and fuel for an internal combustion engine. [*1-74*] **de** Vergaser, der / **hu** porlasztó, karburátor / **sk** karburátor

carburetted water gas Enriched (increased calorific value) water gas using a pyrolysis process of gas oil. [*2-49*] (*s. a. carburation*) **de** karburiertes Wassergas, das / **hu** dúsított/karburált vízgáz / **sk** karburovaný vodný plyn

Carnelley's Rule The molecular symmetry of organic compounds is associated with the melting point. (*s. a. melting point*) **de** Carnelley Regel, die / **sk** Carnelley-ho pravidlo

Carnot cylce Idealized thermodynamic cycle with the highest possible engine efficiency. Process 1 > 2: isentropic process. Process 2 > 3: isothermal process. Process 3 > 4: isentropic process. Process 4 > 1: isothermal process. [*1-31*] (*s. a. thermodynamic cycle, standard cycle, idealized cycle*) **de** Carnot Kreisprozess, der / **hu** Carnot-körfolyamat/ciklus / **sk** Carnot-ov cyklus

case bonding s. composite propellants [*1-12*] **de** Case Bonding, das

cast iron borings Metal fire extinguishing agent. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** Gußeisenspäne, die / **sk** liatinové triesky

cast iron swarf Provisional fire extinguishing agent. [*1-37*] (*s. a. fire extinguisher*) **de** Graugußspäne, die / **sk** liatinové triesky, l. piliny

catalyic combustion Combustion process occurring on a catalytic surface, characterized by low activation energy. [*1-2*] **de** katalytische Verbrennung, die / **hu** katalitikus égés / **sk** katalytické spaľovanie

catalyst additive Gasoline additive, can prolong engine life. [*3-32*] **de** Additiv für den Katalysator, das / **hu** katalizátor adalék / **sk** katalyzátor

catalytic oxidation s. steam reforming **de** katalytische Oxidation, die / **hu** katalitikus oxidáció / **sk** katalytická oxidácia

catalytic partial oxidation CPOX / Partial combustion of a substoichiometric fuel-air mixture in a reformer. A catalyst reduces the required temperature to around 800°C 900°C. Employed if the fuel has a low sulfur content (sulfur = catalyst poison). [*1-122*] (*s. a. thermal partial oxidation*) **de** katalytisch-partielle Oxidation, die / **sk** katalytická parciálna oxidácia

catalytic reforming s. steam reforming **de** Katalytisches Reforming, das / **hu** katalitikus reformálás / **sk** katalytický reforming

catalytic reforming Process to convert low octane naphthas, into high-octane fuels (reformates). Platinum/tin or rhenium/platinum catalysts are used at about 500°C and 5–40 bar. The produced hydrogen can be used for hydrotreating and hydrocracking processes. [*1-59*] (*s. a. process units* (*oil refinery*), *platforming* (*oil refinery*), *hydrotreating, hydrocracking*) **de** Katalytisches Reforming, das / **hu** katalitikus reformálás / **sk** katalytický reforming (ropná rafinéria)

caustic treating Removing H_2S from natural gas by passing the gas through a caustic soda solution. [*2-40*] (*s. a. natural gas, hydrogen sulphide*) **de** Laugenwäsche, die / **hu** lúgos kezelés / **sk** pranie lúhmi

Glossary of Combustion

cavitation The formation of a cavity between a moving body and a fluid (e.g. behind the blades of a marine propeller). Cavitation can lead to severe mechanical damage. [*1-74*] **de** Kavitation, die / **sk** kavitácia

cavity ringdown spectroscopy CRDS / Cavity ring down spectroscopy (CRDS) is a spectroscopic technique for measuring the absorbance of light through a sample to determine trace concentrations of gaseous materials in a special cavity. (*s. a. tunable diode laser spectroscopy* (*TDLS*)) **de** Cavity Ringdown-Spectroscopy, die / **sk** CRDS

Ceetol™ A biofuel produced from lignocellulose. S. cellulosic biofuels **de** Ethanol aus Zellulose, das / **sk** Ceetol

ceiling concentration An employee's exposure to a dangerous substance shall not exceed at any time during an 8-hour shift the acceptable ceiling concentration limit as specified in the MSDS. [*3-81*] (*s. a. MSDS*) **de** Höchstkonzentration, die / **sk** prípustná koncentrácia

cellular flame A flame with a wrinkled surface due to instabilities caused by gas expansion during combustion and the combined effects of thermal and species diffusion. Cellular flames appear for Lewis numbers < 1. (*s. a. Lewis number*) **de** zellulare Flamme, die

cellulolysis Production method for cellulosic biofuels. It is a five step process: pretreatment, cellulose hydrolysis, separation of the sugar solution, fermentation and distillation to produce 99.5% pure alcohol. [*3-15, 1-21, 3-17*] **de** Zellulolyse, die / **hu** cellulolízis / **sk** celulolýza

cellulosic biofuels (Ceetol) Biofuel produced from lignocellulose (the "woody" material of plants). Most important raw materials are wood, corn stover and grasses like switchgrass or miscanthus. [*315, 1-21, 3-17*] (*s. a. miscanthus*) **de** Biotreibstoffe aus Zellulose, die / **hu** cellulózalapú bio-üzemanyagok / **sk** celulózne biopalivá

Celsius-scale (centigrade) Temperature scale. The lower fix ed point is the melting point of water (0°C), and the upper fixed point is the boiling point of water (100°C). [*3-38*] (*s. a. temperature scale*) **de** Celsius-Skala, die / **sk** Celsiova stupnica

cement (fire fighting) Provisional fire extinguishing agent. [*1-37*] (*s. a. fire extinguisher*) **de** Zementpulver, das / **sk** cement

centi c / SI-prefix, factor 10-2. [*3-38*] **de** centi

centrifugal governor A type of governor that controls the speed of an engine by regulating the amount of fuel to maintain a near constant speed. **de** Fliehkraftregler, der

cermet Ceramic-metal composites with good thermal stability at high temperatures and excellent electrical conductivity. Used as inter connect in solid oxide fuel cells. [*1-114*] (*s. a. solid oxide fuel cell*) **de** Cermet, das / **sk** cermet

Cerro Negro Crude oil product with an API gravity of 16.0° and a sulphur content of 3.3%. The field is located in Venezuela. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Cerro Negro (Rohöl), das / **hu** Cerro Negro olaj / **sk** Cerro Negro-ropný produkt

cetane number (CN) CN / A measure for ignitability of Diesel fuels. It denotes the (vol.)percentage cetane (hexadecane) in a mixture of cetane and alpha-methyl naphthalene which has the same ignition characteristics as the diesel fuel being tested. Fuels with a higher CN have shorter ignition delays. In the EU the lower limit of cetane number is set at a minimum of 46. [*1-5, 3-6, 3-7*] (*s. a. octane rating, knock resitance, engine knocking*) **de** Cetanzahl, die / **hu** cetánszám / **sk** cetánové číslo

CFD see computational fluid dynamics **de** Numerische Strömungssimulation, die; Berechnung der Zustandsgrößen von Strömungen, die / **hu** áramlástani numerikus szimuláció, CFD / **sk** CFD

CH radical An intermediate species in combustion. [*1-1*] (*s. a. radical*) **de** CH Radikal, das / **hu** CH-gyök / **sk** CH radikál

chain branching Chain reaction with a net increase in reactive intermediates (radicals). [*1-2, 1-3*] **de** Kettenverzweigung, die / **hu** láncelágazás / **sk** rozvetvenie reťazca

chain initiation Process in a chain reaction that forms a chain carrier (e.g. free radical). [*1-2, 1-3*] **de** Kettenstart, der / **hu** láncindítás, lánckezdés, láncindítási/lánckezdő reakció / **sk** počiatok reťazenia

chain propagation Chemical process in which chain carriers (e.g. oxidizing radicals) are continuously regenerated. One chain carrier is converted into another in a unimolecular or bimolecular reaction. [*1-2, 1-3*] **de** Kettenwachstum, das / **hu** láncfolytatás, láncnövekedési reakció / **sk** nárast reťazca

chain termination Chemical reactions leading to the destruction of reactive intermediates in chain propagation reactions. [*1-2, 1-3*] **de** Kettenabbruch, der / **hu** lánczárás, lánczárási/lánczáró reakció, láncvégződés, láncvégződési reakció / **sk** terminácia reťazca

Chapman-Enskog theory Provides exacter values of thermal conductivity for gas mixtures than simple empiric calculations, but needs much more computing time. [*1-2, 1-17, 1-18*] (*s. a. Chapman-Jouget theory*) **de** Chapman-Enskog Theorie, die / **hu** Chapman – Enskog-elmélet / **sk** Chapman-Enskog-ova teória

Chapman-Jouget theory Calculates velocity of detonation, density and pressure of the burned gas. [*1-2, 1-17*] **de** Chapman-Jouget Theorie, die / **hu** Chapman – Jouget-elmélet / **sk** ChapmanJouget-ova teória

Chapman-Jouguet Velocity The velocity that an ideal detonation travels at as determined when the burned gas at the end of the reaction zone travels at sound speed relative to the detonation wave front. (*s. a. detonation*) **de** Chapman-Jouguet Geschwindigkeit, die / **sk** Chapman-Jouguet-ova rýchlosť

char Material that is left behind from biomass in a combustor after devolatilization is finished. [*1-11*] **de** Holzkohle, die / **hu** félkoksz, faszén / **sk** drevné uhlie

Charbonnier equation s. burning rate [*1-12*] **de** Charbonnier-Gleichung, die / **hu** Charbonnier-egyenlet / **sk** Charbonnier-ova rovnica

charcoal Solid fuel, produced from dry wood by pyrolysis. [*1-25*] (*s. a. pyrolysis*) **de** Holzkohle, die / **hu** faszén / **sk** drevné uhlie

charcoal phase When the output of flammable gases of the solid fuel is too low for constant presence of flame and the fuel just glows or smoulders. Syn.: solid phase. (*s. a. preheating phase, distillation phase, solid fuel*) **de** Verkohlungsphase, die / **sk** fáza zuhoľnatenia

charge coupled device CCD / Array of very small semiconductor junctions used to detect light with two-dimensional spatial resolution. [*1-102*] **de** CCD-Sensor, der / **hu** töltéscsatolású/töltéscsatoló eszköz / **sk** CCD

charge pump engine Internal combustion engine with six strokes. [*1-34*] (*s. a. Otto engine*) **de** CP-Motor, der

charge transfer resistance A characteristic quantity for an electrode reaction indicative of its inherent speed: a large charge-transfer resistance indicates a slow reaction. [*3-94*] **de** Durchtrittswiderstand, der

CH-chemiluminescence Chemiluminescence at the flame front is a result of heat transfer due to chemical reactions. The presence of a species is detectable. The CH-radical has an emission band at 421 nm. [*1-31, 2-28*] (*s. a. chemiluminescense*) **de** CH-Chemolumineszenz, die / **hu** CH-kemilimineszcencia / **sk** CH-chemiluminiscencia

chemical looping combustion CLC / Circulating fluidized bed combustion process. A metal oxide (bed material) provides the oxygen for the combustion of the fuel. In a second bed the reduced metal is re-oxidized and transferred to the first bed (fuel reactor). There are many applications, e.g. heat transfer material for solar energy systems and for hydrogen storage. [*3-80*] **de** Chemical Looping Combustion, die / **hu** hordozóhurkos tüzelés, chemical looping / **sk** spaľovanie chemical looping

chemiluminescence The emission of light as the result of a chemical reaction. [*1-31*] (*s. a. chemiluminescense*) **de** Chemolumineszenz, die / **hu** kemilumineszcencia / **sk** chemiluminiscencia

cherry bomb Pyrotechnic salute containing < 1 g flash powder. Illegal in many countries. (*s. a. flash powder*) **de** Cherrybombe, die / **hu** cseresznyebomba / **sk** cherry-bomba

Chicontepec field Major natural gas field in Mexico. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Chicontepec Gasfeld, das / **hu** chicontepeci (föld)gázmező / **sk** Chicontepec-hlavné ložisko zemného plynu v Mexiku

chilling point s. cloud point **de** Trübungspunkt, der / **hu** zavarosodási pont/hőmérséklet / **sk** bod zákalu

chimney A construction for moving hot flue gases from combustion engines such as boilers or furnaces out of a building. syn.: smokestack. (*s. a. stack-effect, induced draft*) **de** Schornstein, der / **hu** kémény / **sk** komín

chlorate explosives Explosive mixtures of earthy base and alkali metal chlorates (ClO_{3^-}) with carbonaceous compounds such as coal, wood dust or oils. [*1-12*] (*s. a. ammonium nitrate explosives*) **de** Chloratsprengstoffe, die / **hu** klorátos robbanóanyagok / **sk** chlorátové výbušniny

Chlorella single-celled green algae. S. algae fuel [*3-15, 1-21*] **de** Chlorella-Algen, die / **sk** chlorela

chlorotetrafluoroethane Halocarbon used as fire supression agent. It is not an ozone-depleting substance but it is a potent greenhouse gas. [*3-71*] (*s. a. halon* (*fire fighting*)) **de** Chlortetrafluorethan, das / **hu** kloro-tetrafluoro-etán / **sk** chloro-tetrafluoretán

choke damp s. pit gas **de** Grubengas, das / **hu** fojtólég, bányalég / **sk** banský plyn

choker valve s. throttling type valve [*1-29*] **de** Drosselventil, das / **hu** fojtószelep / **sk** škrtiaci ventil, škrtiaca klapka

chopped method (radiation thermometry) Pyrometer where a chopper switches between reference cell and measurement cell (where the gas temperature is to be measured). Syn.: emission/ absorption method [*1-43*] (*s. a. radiation thermometry, monochromatic radiation thermometer*) **de** Unterbrechnungsmethode, die / **sk** radiačná pyrometria

chromel™ Nickel-chromium alloy with a very good resistance to high-temperature corrosion. Used e.g. for thermocouples. [*1-85*] (*s. a. thermocouple*) **de** Chromel, das / **hu** kromel / **sk** chromel

chromel-gold/iron thermocouples Thermocouple that can be used for cryogenic applications and up to 300°C. [*1-51*] (*s. a. thermocouple*) **de** Chrome-Gold/Eisen Thermoelement, das / **hu** kromel- arany/ vas hőelemek / **sk** termočlánok chromel-zlato/železo

chromium-nickel steel An alloy consisting mostly of iron and carbon. Nickel in steel add to its tensile strength and more chemically stable. Chromium increases hardness and melting temperature. [*1-37*] **de** Chrom-Nickel-Stahl, der / **sk** chróm-niklová oceľ

chromophore Part of a molecule which is responsible for its color. [*B7*] **de** Chromophor, das / **hu** kromofor / **sk** chromofór

cigar burning Burning a cylindrical propellant charge from one end. [*1-13*] **de** Abbrandmodus "Zigarre", der / **sk** "cigaretové" horenie

cinematographic imaging Series of time-resolved images of a process. [*B7*] **de** cinematographische Abbildung, die

Cisco Springs field Major natural gas field in the United States. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Cisco Springs Gasfeld, das / **hu** cisco springsi olajmező / **sk** Cisco Springs-hlavné ložisko zemného plynu v USA

city gas s. water gas **de** Stadtgas, das / **hu** városi gáz / **sk** svietiplyn

Clair Crude oil product with an API gravity of 23.7° and a sulphur content of 0.4%. The field is located in the United Kingdom. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Clair (Rohöl), das / **hu** Clair olaj / **sk** Clair-ropný produkt

Claus process Desulfurizing process. Gases with a high H_2S content are suitable to recover sulfur. In the first (thermal) step, sulphur compounds are oxidized to SO_2. In the second (catalytic) step ele mental sulphur is produced by using titan dioxide as catalyst: $2H_2S + SO_2 > 3\ S + 2\ H_2O$ (Claus reaction). [*1-59*] (*s. a. amine gas treatening, process units* (*oil refinery*), *tail-gas treatment unit*) **de** Claus Prozess, der / **hu** Claus-eljárás / **sk** Claus-ov proces

Claus reaction s. Claus process **de** Claus-Reaktion, die / **hu** Clausreakció / **sk** Claus-ova reakcia

clean air act Pollution control to reduce smog and air pollution decided after The Great Smog of London. [*1-47*] (*s. a. smog, winter smog, The Great Smog, sulphur dioxide, inversions*) **de** Clean Air Act, der (Verordnung zur Luftreinhaltung, die) / **sk** Clean Air aktkontrola znečistenia za účelom redukcie smogu a znečistenia ovzdušia po tzv. Great Smog (1952) v Londýne

clean technology s. enviromental technology **de** Umwelttechnik, die / **sk** čistá technológia

CleanTech s. enviromental technology **de** Umwelttechnik, die / **sk** CleanTech

closed vessel s. ballistic bomb [*1-12*] **de** geschlossenes Gefäß, das / **hu** zárt tartály / **sk** uzavretá nádoba

closure problem A difficulty in turbulence theory caused by more unknowns than equations. **de** Closure-Problem, das; unterbestimmtes Gleichungssystem, das;

cloud point (CP) CP / Temperature (in degree Celsius) at which paraffin crystals first start to form a cloudy appearance in a crude oil or diesel. In crude oils, the cloud point is also called with wax appearance temperature or wax precipitation temperature. [*3-20, 3-21*] (*s. a. paraffin*) **de** Trübungspunkt, der; Kristallisationspunkt, der / **hu** zavarosodási pont/hőmérséklet / **sk** bod zákalu

CN-chemiluminescence Chemiluminescence at the flame front is a result of heat transfer due to chemical reactions. The presence of a species is detectable. CN-radicals have emission bands between 350 and 400 nm. [*1-31, 2-28*] (*s. a. chemiluminescense*) **de** CN-Chemolumineszenz, die / **hu** CN-kemilumineszcencia / **sk** CN-chemiluminiscencia

CO sensor s. carbon monoxide detector **de** Kohlenmonoxidsensor, der / **hu** CO-érzékelő, szénmonoxid-érzékelő / **sk** CO senzor

CO/CO_2-analyzer Carbon dioxide and monoxide can be detected by the absorption of infrared radiation. CO_2 absorbs at 4.2 μm, CO at 4.6 μm, and the concentration can be calculated by Lambert-Beer's law. [*1-43*] (*s. a. Lambert-Beer's law*) **de** CO/CO_2-Analysator, der / **hu** CO-, CO_2-érzékelő, szénmonoxid-, széndioxid-elemző/mérő/ szonda / **sk** CO/CO_2 analyzátor

CO_2 content (natural gas) Usually the CO_2 concentration in natural gas pipelines should not be higher than 2%. It is an acid gas in will be removed in the sweetening process. [*2-40*] (*s. a. natural gas, sweet gas, sour gas, sweetening process*) **de** Kohlendioxidgehalt, der / **hu** CO_2-tartalom, széndioxid-tartalom / **sk** obsah CO_2

CO_2 sensor s. carbon dioxide sensor **de** CO_2-Sensor, der / **hu** CO_2érzékelő, széndioxid-érzékelő / **sk** CO_2 senzor

coal Fossil fuel formed by carbonization of plants without oxygen. Some types of coal are: peat (precursor, sometimes used as fuel), lignite (brown coal, low-grade coal, used for electric power generation), fat coal (used for heating or making coke), forge coal (used for making coal), bituminous coal (used for electric power generation and making coke), anthracite (other names: blue coal, hard coal, stone coal, blind coal, Kilkenny coal, crow coal, used for heating s space). Other regionally used coal types are pitch coal (Upper Bavaria), shungit (Finland, Russia), and wealden coal (England). [*1-25*] (*s. a. rank, coalification*) **de** Kohle, die / **hu** szén / **sk** uhlie **coal bed methane extraction** s. coal bed methane recovery **de** Me thangewinnung aus Kohleflözen, die / **sk** extrakcia zemného plynu z uhoľných slojov

coal bed methane recovery The methane found in (old) coal beds can be extracted to burn it e.g. in gas engines to produce heat and/ or power. [*1-94*] **de** Methangewinnung aus Kohleflözen, die / **sk** získavanie zemného plynu z uhoľných slojov

coal oil Produced by destructive distillation of cannel coal or bitu minous shale. [*1-25*] **de** Öl aus Kohle, das / **hu** szénolaj / **sk** ropa z uhlia

coal rank Degree of coalification, s. coal. **de** Inkohlungsgrad, der / **hu** szénülés foka, szénfajta / **sk** stupeň preuhoľnatenia

coal reserves The worldwide recoverable coal reserves are estimated to exceed 800 or 900 gt. [*1-25*] **de** Kohlereserven, die / **hu** szénkészletek, szénvagyon / **sk** zásoby čierneho uhlia

coal slurry By-product of the coal mining. It is a solid and liquid waste of fine coal refuse and water. [*1-72*] **de** Kohleschlamm, der / **sk** uhoľný kal

coal tar By-product of carbonization or gasification of coal. Coal tar is a liquid of high viscosity and consists of phenols, polycyclic aromatics and heterocyclic compounds. It is used for heatin boilers. [*3-41*] **de** Steinkohleteer, der / **hu** (kő)szénkátrány / **sk** čiernouhoľný decht

coal to liquid CTL / Process to produce hydrocarbon from coal and hydrogen. Common techniques are Fischer-Tropsch systhesis and Bergius-Pier process. [*1-11*] (*s. a. Bergius-Pier process, FischerTropsch synthesis*) **de** Kohleverflüssigung, die / **hu** szénből üzemanyagot (termelő eljárás) / **sk** CTL

coalbed methane CBM / Methane found in coal seams. It is produced by microbiological or thermal processes. [*3-66*] (*s. a. natural gas, gas reserves, coal*) **de** Methan in Kohleflözen, das / **sk** Coal Bed Methane-zemný plyn získaný z uhoľných slojov

coalescence A process in which two phase domains of essentially identical composition come in contact with another and form a larger phase domain. [*3-36*] **de** Koaleszenz, die / **sk** koalescencia

coalification s. rank **de** Inkohlungsgrad, der / **hu** szénülés / **sk** stupeň preuhoľnatenia, zuhoľnatenie

Coandă effect The tendency of a fluid jet to stay attached to an adjoining curved surface. [*1-75*] **de** Coandă Effekt, der / **hu** Coanda-jelenség/hatás/effektus / **sk** Coandă efekt

coefficient of thermal expansion CTE / Describes the relation of volume to temperature change. [*1-29*] **de** Ausdehnungskoeffizient, der / **hu** hőtágulási együttható (lineáris / térfogati ~) / **sk** koeficient tepelnej rozťažnosti

Glossary of Combustion

co-firing The combustion of two different types of materials at the same time, often biomass together with coal. [*1-95*] **de** Co-Feuerung, die / **hu** együtt-tüzelés / **sk** spoluspaľovanie

co-gasification Combined gasification of fossil fuels and biomass. Important advantages are less investment cost (instead of small sized plants only for biomass) and no problems with seasonal availability of biomass. [*2-19*] **de** Co-Vergasung, die / **hu** együttes elgázosítás / **sk** spolusplyňovanie

cogeneration The use of a heat engines to simultaneously generate electricity and useful heat in order to increase the efficiency. [*1-11*] **de** Kraft-Wärme-Kopplung, die / **hu** kapcsolt energiatermelés, kogeneráció / **sk** kogenerácia

coherence The property of waves that allows temporally and spatially constant interference. Spatial coherence means that all the light along the surface of an emitter is in phase. Temporal coherence means that all the waves are perfectly in step at all times. Laser light is the best source of coherent light. [*1-44*] (*s. a. laser*) **de** Kohärenz, die / **sk** koherencia

coherent anti-stokes Raman scattering CARS / Non-linear, spectroscopic technique that uses multiple photon vibrational excitation. In the produced signal the emitted waves are coherent with one another. Therefore the magnitude is stronger than a spontaneous raman scattering signal. [*1-43*] (*s. a. Raman scattering*) **de** Coherent anti-Stokes Raman Streuung, die; CARS-Spektroskopie, die / **hu** CARS (koherens anti-Stokes–Raman-spektroszkópia) / **sk** koherentný anti-Stokes Raman-ov rozptyl

coke Black or dark-gray, combustible carbonaceous material produced by destructive distillation of bituminous coal. [*1-11*] (*s. a. petroleum coke*) **de** Koks, der / **hu** koksz / **sk** koks

coke dry quenching CDQ / Advanced method in coke production. The coke has to be cooled that it can be transported in the blast furnace. The traditional process is quenching with water. In this method the coke is quenched with air. The heat can be recovered, the emission of gas and airborne particles can be reduced. [*1-33*] **de** CDQ-Prozess, der / **hu** száraz kokszolás / **sk** suché hasenie koksu

coke oven gas Produced with coking bituminous coal. Main constituents CH_4, H_2, CO and N_2. Calorific value: 17000-18000 kJ/m³. [*1-4*] **de** Kokereigas, das / **hu** kamragáz, kokszkemencegáz, kokszolókemence-gáz / **sk** koksárenský plyn

coke-making s. coking **de** Koksherstellung, die / **hu** kokszolás / **sk** výroba koksu

coker unit Processing unit that converts the short residue (and sometime also the long residue) into low molecular weight hydro carbon gases, light and heavy gas oils and petroleum coke. [*1-59*] (*s. a. delayed coking, flexicoking, short residue, long residue*) **de** Koker, der / **hu** kokszoló / **sk** koksovacia jednotka

coking Volatile constituents of coal (water, coal-gas, coal-tar) are driven off by baking coal an furnace or oven at temperatures as high as 2,000°C without air. **de** Koksherstellung, die / **hu** kokszolás / **sk** koksovanie

cold filter plugging point CFPP / Temperature (in degree Celsius) at which paraffin crystals of fuel starts clogging a filtration device (standardized conditions). As a sample is cooled at a defined rate, small crystals (cloud point) can pass through the filter until the size of crystals becomes too large. This is important as at cold tempe rates the fuel with a to high CFPP can clog up vehicle engines. [*3-20, 3-21*] **de** Filtrierbarkeitsgrenze, die; Filterverstopfungspunkt, der / **hu** szűrhetőségi határhőmérséklet / **sk** hodnota CFPP-medz ná teplota filtrovateľnosti

cold heavy oil production with sand CHOPS / Simple method for extracting oil from oil sands when the oil is fluid enough. The oil is pumped out with cavity pumps [*1-55*] (*s. a. cavity pump*) **de** CHOPS-Methode, die / **hu** CHOPS-eljárás / **sk** CHOPS-metóda

Cold Lake Crude oil product with an API gravity of 21.2° and a sulphur content of 3.7%. The field is located in Canada. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Cold Lake (Rohöl), das / **hu** Cold Lake olaj / **sk** Cold Lake-ropný produkt

collinear A set of points (three or more) are on a single straight line. [*1-75*] **de** kollinear / **sk** kolineárny

collision frequency Average number of collisions between reacting particles (atoms, molecules) per volume and second. [*1-31*] **de** Stoßzahl, die / **hu** ütközési gyakoriság/szám/frekvencia / **sk** počet zrážok

collisional narrowing Narrowing of spectral lines caused by pressure. [*1-105*] **de** Linienverschmälerung durch Druck, die / **sk** zužovanie spektrálnych čiar účinkom tlaku

colorimetric enzymatic test Method to detect stale gasoline by detection of peroxides (produced by gasoline-oxidation). [*3-31*] **de** kolorimetrisch-enzymatischer Test, der / **hu** kalorimetriás enzimatikus analízis/vizsgálat / **sk** kolorimetrický enzymatický test

combined heat and power CHP / Combined heat and power (CHP, cogeneration) is the use of an engine or a power station to simultaneusly generate both electricity and useful heat, which increases the overall efficiency of the process. **de** Kraftwärmekopplung, die / **hu** kapcsolt energiatermelő erőmű, kapcsolt erőmű, kogenerációs erőmű / **sk** kombinovaná výroba tepla a elektriny

combined heat and power plant CHP / s. block heat and power plant **de** Blockheizkraftwerk, das / **hu** kapcsolt energiatermelő erőmű, kapcsolt erőmű, kogenerációs erőmű / **sk** kombinovaná výroba tepla a elektriny, tepláreň

combining tube The simplest type of premixed flame burners. It is cylindrical and open on both sides. The lower limit of mass current is determined by flame flash back. In industrial applications, the combining tubes is often not straight, but bend. Diffusers may be used. Also changes of the diameter are possible. [*1-10*] (*s. a. premixed flames, flame types*) **de** Mischrohr, das / **hu** keverőcső / **sk** zmiešavací horák

combustion A combustion of a reaction of a fuel with an oxidant, e.g. $CH_4+2O_2 > CO_2+2H_2O$. The fuel is being oxidized (electron loss, increase in oxidation number). Combustion processes are the basis for 80–90% of the worldwide primary energy production. A fire is an unwanted combustion. **de** Verbrennung, die / **hu** égés, égetés, tüzelés / **sk** spaľovanie

combustion catalyst Organo-metallic compound for decreasing the ignition point of fuel in the combustion chamber. [*3-32*] **de** Verbrennungskatalysator, der / **hu** égési katalizátor, égésgyorsító / **sk** katalyzátor spaľovania

combustion point The lowest temperature at which a flammable li quid, once ignited, continues to burn also when the source of ignition is removed. **de** Brennpunkt, der

combustion synthesis High temperature processes such as combustion can be used to obtain nanoparticles of various oxides. **de** Synthese in Verbrennungsprozessen, die / **sk** syntéza počas spaľovacích procesov

combustion triangle s. fire triangle **de** Verbrennungsdreieck, das / **sk** spaľovací trojuholník

combustion turbine s. gas turbine **de** Gasturbine, die / **sk** spaľovacia turbína, plynová t.

communal heating power station s. block heat and power plant **de** Blockheizkraftwerk, das / **hu** fűtőmű / **sk** tepláreň

complementary metal-oxide semiconductor CMOS / Integrated circuits, used in microprocessors, microcontrollers, and other digital logic circuits. [*1-44*] **de** CMOS-Baustein, der / **hu** CMOS, komplementer MOS tranzisztorpár / **sk** CMOS

composite propellants Solid rocket propellants consisting of oxygen-developing inorganic salts (e.g.. ammonium perchlorate) and cross-linked polymers (e.g.. polysulfide, polyurethane, polybutadiene). [*1-12, 3-9*] **de** Verbundtreibsätze, die / **hu** kompozit hajtóanyagok / **sk** heterogénna pohonná látka

compressed air foam system CAFS / Type of fire extinguishing foam. The foam is produced by mixing water with the foaming agent using compressed air (and not in the nozzle as in common foam systems). [*2-46*] (*s. a. fire fighting foam*) **de** Druckluftschaumverfahren, das / **sk** CAFS, penový systém na stlačený vzduch

compressed natural gas fueling pump Compressor station for fuelling vehicles with liquid gas. [*1-29*] (*s. a. CNG*) **de** CNG-Zapfsäule, die; Flüssiggaszapfsäule, die / **hu** CNG töltő(állomás) / **sk** čerpacia stanica CNG

compression ignition engine s. Diesel engine **de** Dieselmotor, der

compression ratio Ratio between the volume of the cylinder and the volume of the combustion chamber at TDC (top dead center). [*1-43*] (*s. a. TDC*) **de** Kompressionsverhältnis, das; Verdichtungsverhältnis, das / **hu** kompresszióviszony, kompresszióarány / **sk** kompresný pomer

computational fluid dynamics CFD / A branch of fluid mechanics that uses numerical methods and algorithms to solve and analyze problems about fluid flows. **de** Numerische Strömungssimulation, die; Berechnung der Zustandsgrößen von Strömungen, die / **hu** áramlástani numerikus szimuláció, CFD / **sk** CFD, numerická simulácia prúdenia

computational singular perturbation CSP / An iterative method to reduce the dimensionality of systems of ordinary differential equations with multiple time scales. **de** CSP-Methode, die / **sk** CSP

concentration measurement of gas species The concentration of gaseous species in hot temperature environments can be done by GC/MS (ex-situ) or by optical techniques such as laser spectroscopy (in-situ, ex-situ) [*1-96, 1-43*] (*s. a. Rayleigh scattering, Raman scattering, LIF, in-situ*) **de** Gaskonzentrationsmessung, die / **hu** gázkoncentráció-mérés / **sk** meranie koncentrácie plynov

Condeep Base structure for oil platforms (abbr. concrete deep water structure). [*2-52*] (*s. a. oil platform*) **de** Condeep, die / **sk** Condeep-betónová konštrukcia ropnej plošiny umiestnená vo vode

condensation particle counter CPC / Used to detect the classified particles (by a differential mobility analyzer) of exhaust gases in a scanning mobility particle sizer (SMPS). [*1-43*] **de** Teilchenzählern, der / **sk** CPC

con-di nozzle s. de Laval nozzle **de** Lavaldüse, die / **sk** con-di tryska

conditional moment closure CMC / Advanced computational models for turbulent combustion. [*1-10*] **sk** podmienený moment

conflagration Uncontrolled burning, accidental or intentionally created. [*1-69*] **de** Brand, der / **hu** tűz(vész) / **sk** požiar

congener Congeners are related chemicals. For example, there are 209 congeners of polychlorinated biphenyls (PCB) as well as 209 congeners of polybrominated diphenyl ethers (PBDE). [*1-72*] (*s. a. polychlorinated biphenyls* (*PCB*), *polybrominated diphenyl ethers* (*PBDE*)) **de** Kongener, das / **sk** kongenér

conservation equation A particular measurable property of an isolated physical system does not change over time (e.g. energy, charge, momentum). **de** Erhaltungssatz, der; Erhaltungsgleichung, die / **hu** tárolási egyenlet / **sk** rovnica zachovania

constant engine speed mode Testing or operating mode where the engine is run at different torque levels, but where the engine speed is always kept constant. [*1-43*] **de** Betrieb mit konstanter Drehzahl, der / **hu** állandó sebességű üzem / **sk** pohon s konštančným počtom otáčok

constant of gravitation g / Empirical physical constant. $6.67428*10^{-11}$ m^3 kg^{-1} s^{-2} [*3-38*] **de** Gravitationskonstante, die / **hu** gravitációs állandó, az általános tömegvonzás állandója / **sk** gravitačná konštanta

constant pressure cycle Thermodynamic cycle during which pres sure stays constant. [*1-31*] (*s. a. thermodynamic cycle, standard cycle, idealized cycle*) **de** Gleichdruckprozess, der / **hu** állandó nyomású folyamat / **sk** proces pri konštantnom tlaku

constant throttle opening mode Testing or operating mode where the engine is run at different torque/ engine speed combinations, but where the throttle opening is always kept constant. [*1-43*] **de** Betrieb bei konstanter Öffnung der Drosselklappe, der / **hu** állandó folytású üzem / **sk** pohon s konštantným otváraním škrtiaceho ventilu

constant torque mode Testing or operating mode where the engine is run at different throttle openings, but where the torque output is always kept constant. [*1-43*] **de** Betrieb bei konstantem Drehmoment, der / **hu** állandó nyomatékú üzem / **sk** pohon s konštantným krútiacim momentom

constant volume cycle Thermodynamic cycle during which the volume stays constant. [*1-31*] (*s. a. thermodynamic cycle, standard cycle, idealized cycle*) **de** Gleichraumprozess, der / **hu** állandó térfogatú folyamat / **sk** proces pri konštantnom objeme

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constant volume sampling CVS / An exhaust-emissions measuring technique in which the exhaust gases produced by a vehicle's engine are collected as it is driven through a test sequence of accelerations, decelerations, and cruise modes on a test bed. A quantity of air is added to the exhaust gases until a specific volume (the same for all cars) is obtained. Concentrations of pollutants in the total sample are then analyzed. **de** Probenahme für kontantes Volumen, die / **sk** CVS

constantan™ Copper-nickel alloy with a low temperature coefficient of resistance (only manganin (tm) has a similar low temperature coefficient). Used e.g. for thermocouples. [*1-85*] (*s. a. thermocouple, CTE*) **de** Konstantan, das / **hu** konstantán / **sk** koštantán

continuous distillation Distillation of crude oil in fractionating columns producing hydrocarbon fractions according to their boiling ranges. [*1-59*] (*s. a. process units* (*oil refinery*), *naphta cut, kerosene cut, diesel oil cut, long residue*) **de** kontinuierliche Destillation, die / **hu** folyamatos lepárlás/desztillálás / **sk** kontinuálna destilácia

continuous stirred-tank reactor CSTR / Idealized reactor type. The educts are supplied continuously and the products are discharged continuously. Perfect mixing is assumed. [*1-2*] (*s. a. plug flow reactor*) **de** kontinuierlicher, idealer Rührkessel, der / **hu** tökéletesen kevert folytonos reaktor / **sk** kontinuálny dokonale miešaný reaktor

continuous wave (cw) laser CW / As opposed to pulsed lasers, a cw laser emits light in a continuous mode. [*1-50*] **de** Dauerstrich laser, der / **hu** folyamatos/folytonos sugárzású/működésű lézer / **sk** laser s neprerušovaným vlnením

convection Mechanism to transfer thermal energy (other mechanisms: heat conduction and thermal radiation). It is always associated with the transport of particles. [*1-2*] **de** Konvektion, die / **hu** konvekció, hőszállítás, konvektív hőátadás / **sk** konvekcia

convention on long-range transboundary air pollution Environmental agreement for the prevention of air pollution between Europe, United States, Canada and Russia. [*3-60*] (*s. a. environmental agreement*) **de** Übereinkommen über weiträumige grenz überschreitende Luftverunreinigung, das / **hu** egyezmény a nagy hatótávolságú, határokon átterjedő légszennyezés korátozásáról / **sk** medzinárodná dohoda o medzihraničnom znečisťovaní životného prostredia

conventional coil ignition CI / Ignition process that is controlled by mechanical contact sections. [*1-34*] (*s. a. spark ignition, spark plug*) **de** konventionelle Spulenzündung, die

conventional oil Crude oil extracted by the traditional oil well method. [*2-33*] (*s. a. crude oil, EOR*) **de** konventionelles Erdöl, das; konventionell gefördertes Erdöl / **hu** hagyományos/konvencionális (módon előállított) (nyers/kő)olaj / **sk** konvenčná ropa, konvenčne získaná ropa

convergent-divergent nozzle CD / s. **de** Laval nozzle de Lavaldüse, die / **sk** Laval-ova dýza

conversion of fuel nitrogen NO_x can be formed from N_2 (Fenimore, Zeldovich-NO), from N_2O or from nitrogen in the fuel (via HCN/NH_3). [*1-2*] **de** Brennstickstoff-Konversion, die / **hu** a tüzelőanyag(ból származó) N átalakulása / **sk** konverzia palivového dusíka

cool flame Regions where the combustion takes place at low temperatures. [*1-1, 1-2*] (*s. a. degenerate chain branching, NTC, two-stage ignition*) **de** kalte Flamme, die / **hu** hideg lángok (vö. alacsonyhőmérsékletű oxidáció) / **sk** chladné plamene

cool light s. chemiluminescence **de** kaltes Licht, das / **sk** chladné svetlo

copper Chemical element used for boilers, electrical wiring, thermo couples and various alloys. [*1-37*] **de** Kupfer, das / **hu** réz / **sk** meď

copper powder Metal fire extinguishing agent used to extinguish lithium, magnesium and aluminium fires. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** Kupferpulver, das / **sk** medený prášok

copper strip corrosion test A polished copper strip is heated in a sample of fuel (100°C, 2 hours) and then compared with a reference sample. [*3-32*] **de** Kupferstreifen-Korrrosionstest, der / **hu** rézlemezpróba / **sk** korózny test pomocou medených pásikov

copper vapour laser A gas laser with copper atoms as active me dium. [*1-50*] **de** Kupferdampflaser, der / **hu** réz gőz lézer / **sk** laser pracujúci na báze pár medi

copperchromite Catalyst for rocket propellants. [*1-12*] (*s. a. bipropellants*) **de** Kupferchromit, das / **hu** réz-kromit / **sk** dichromičitan dimeďný

Cordite Double-base smokeless powder consisting of guncotton, nitroglycerine and vaseline. Used as a replacement for black pow der. [*1-11, 1-12*] (*s. a. smokeless powder*) **de** Kordit / **hu** kordit / **sk** kordit

corona discharge flow meter Accurate and fast responding method for measuring the air flow based on ionization of the air by a corona discharge. This causes an ion flow between the wire and collector electrodes. [*1-43*] **de** Koronaentladungsdurchflussmesser, der / **hu** koronakisüléses áramlásmérő / **sk** prietokomer na báze korónového výboja

corona ignition Ignition by a rapid plasma discharge (initial phase spark discharge < 100 ns). Alternative ignition system for engines, currently under investigation. [*2-18*] **de** Coronazündung, die / **sk** corona efekt

corrosion The slow wearing away of solids by chemical attack. [*1-74*] (*s. a. electrochemical corrosion, pitting, corrosiveness*) **de** Korrosion, die / **sk** korózia

corrosion inhibitor Decreases the corrosion rate of a metal (e.g. tank corrosion). [*3-32*] **de** Korrosionsschutzmittel, das / **hu** korróziógátló szer/anyag / **sk** inhibítor korózie

corrosiveness Property of a substance, commonly a strong acid or a strong base, to destroy another material such as metal. For instance, SO_2 in flue gas can lead to severe corrosion. [*3-32*] (*s. a. copper strip corrosion test*) **de** Korrosivität, die / **hu** korrozivitás / **sk** korozívny

coulomb SI unit of electric charge. One coulomb is the amount of electric charge transported in one second by a steady current of one ampere. [*3-38*] **de** Coulomb, das

coulometry An electro-analytical method for determining the amount of a substance transformed during an electrolysis reaction in which the consumed or produced amount of electricity (in coulombs) is measured. [*1-96*] (*s. a. amperometry*) **de** Coulometrie, die / **hu** elektrogravimetria, coulombmetria / **sk** koulometria

counter-gradient diffusion CGD / An anomalous heat transfer phenomenon. [*2-65*] (*s. a. computational fluid dynamics*) **de** CGDEffekt, der / **sk** CGD

covariance A measure of the variance of two random variables. [*1-121*] (*s. a. variance*) de Kovarianz, die / **hu** kovariancia / **sk** súčiniteľ vzájomnej korelácie

cow dung Cow dung produces about 0.45 m^3 of biogas per kg dry matter and has a calorific value of about 5 kWh/kg dry matter. [*3-12, 3-13*] (*s. a. Gober gas, biogas*) **de** Kuhdung, der / **hu** tehéntrágya / **sk** kravský hnoj

cow slurry Consists of urine and dung. Produces biogas by fermentation in a collecting basin. The CH_4 concentration is about 55%. Cow slurry produces about 0.28 m^3 biogas per kg (dry matter). [*3-13*] (*s. a. dung, biogas*) **de** Kuhgülle, die / **hu** tehén hígtrágya / **sk** kravská hnojovica

cracking Refinery process to slit hydrocarbons into smaller saturated and unsaturated ones. Naphta is an important cracker feed stock. FCC (fluidized catalytic cracking) is a common process. [*1-11*] **de** Cracking, das / **hu** krakkolás / **sk** krakovanie

crankshaft Translates linear piston motion into rotation. [*1-43*] **de** Kurbelwelle, die / **hu** forgattyús tengely, főtengely / **sk** kľukový hriadeľ

cranny corrosion localized corrosion in gaps and contact areas between parts, under gaskets, inside spaces filled with deposits. [*1-74*] (*s. a. corrosion, pitting*) **de** Spaltkorrosion, die

craw coal Earthy coal with little bitumen and high ash content. **de** aschereiche Kohle, die / **sk** uhlie s vysokým obsahom popola

Crawford bomb Research method to determine the burning rate of solid propellants. [*1-12*] **de** Crawford-Bombe, die / **hu** Crawfordbomba / **sk** Crawford-ova bomba

Critical Initiation Energy The smallest amount of energy deposition which will directly cause the initiation of a detonation wave. (*s. a. detonation*) **de** kritische Zündenergie / **sk** kritická energia vznietenia

critical speed Resonance of engine mounting. This dangerous situation can be prevented by adjusting the operating range. [*1-34*] **de** kritische Drehzahl, die / **hu** kritikus fordulatszám / **sk** kritické otáčky

critical tube diameter The minimum diameter of a tube which will allow a detonation to break up and continue into a larger volume as a self-sustained detonation wave. (*s. a. detonation*) **de** kritischer Röhrendurchmesser, der / **sk** kritický priemer potrubia

cross section s. Rayleigh scattering, cross section **de** Querschnitt, der / **hu** keresztmetszet, hatáskeresztmetszet / **sk** prierez

cross-correlation A measure in signal processing of similarity of two signals (waveforms) at different time-lags. **de** Kreuzkorrelation, die / **hu** keresztkorreláció / **sk** vzájomná korelácia

crossed laser beam s. Laser Doppler Anemometry **de** sich kreuzende Laserstrahlen, die / **hu** egymást metsző lézersugarak / **sk** križujúce sa laserové zväzky

crow coal s. craw coal **de** aschereiche Kohle, die / **sk** antracitické uhlie

Crower six-stroke engine Internal combustion engine with six strokes in one cycle. [*1-34*] (*s. a. Otto engine*) **de** Crower 6-Takt-Motor, der / **hu** Crower-féle hatütemű motor / **sk** Crower-ov 6-taktný motor

crude oil s. petroleum **de** (Rohöl), das / **hu** kőolaj, nyersolaj / **sk** ropa

crude oil reservoir Source of hydrocarbons contained in porous rock formations. [*1-60*] (*s. a. crude oil, conventional oil, non-conventional oil*) **de** Erdölreservoir, das / **hu** olajtartó kőzet, rezervoá, (olaj)tároló (kőzet) / **sk** zásoby ropy, ložiská ropy

cryogenic fuel Usually liquid hydrogen (LH2, fuel) and liquid oxygen (LOX, oxidizer). Cryogenics are used as fuel for rocket engines like the space shuttle (NASA), N1-rocket (Soviet space program) or the ariane 5 expendable launch system (ESA). Cooling (-253°C) and compressing hydrogen and oxygen increases their density, so it is possible to store larger quantities in the tanks. There are also liquid oxygen/ kerosene mixtures in use (e.g. F-1 engines in the Saturn V rocket). [*3-9*] (*s. a. hydrogen, liquid propellant rocket*) **de** kryogener Treibstoff, der / **hu** kriogén üzemanyag / **sk** kryogénne palivo

cryogenic process Process to remove nitrogen and helium from natural gas (low temperature distillation). [*2-40*] (*s. a. natural gas, molecular sieve*) **de** Kryogener Prozess (Erdgasproduktion), der / **hu** kriogén eljárás / **sk** kryogénny proces-výroba zemného plynu

c-stoff Methanol-hydrazine mixture used in rocket propellants. [*1-66*] (*s. a. rocket propellants*) **de** C-Stoff, der / **sk** c-látka

CTDMPLUS Dispersion model for complex terrains. [*1-68*] (*s. a. atmospheric dispersion models*) **de** CTDMPLUS-Modell, das / **sk** CTDMPLUS

cupola furnace Small blast furnace for melting pig iron and steel. [*1-33*] **de** Kupolofen, der; Kuppelofen, der / **hu** kupoló(kemence) / **sk** kuplová pec

cutoff s. end of burning [*1-12*] **hu** égésvég / **sk** prerušiť, zastaviť, vypnúť

cut-off frequency s. Nyquist frequency **de** Nyquist Frequenz, die / **hu** vágási (kör)frekvencia, határfrekvencia / **sk** medzný kmitočet

cyclic alkane s. cycloalkane **de** Cycloalkan, das / **hu** cikloalkán, cikloparaffin / **sk** cykloalkány

cyclic steam stimulation CSS / Steam injection method where steam is injected into an oil well to heat the oil to a temperature at which it flows. Then the oil is produced by natural flow by artificial lift. Syn.: Huff and Puff method [*1-55*] **de** CSS-Methode, die / **hu** szakaszos gőzbesajtolás / **sk** CCS metóda

cycloalkane The carbon chain is linked to form a ring. General formula C_nH_{2n} (n>2). [*3-35, 1-24*] **de** Cycloalkan, das / **hu** cikloalkán, cikloparaffin / **sk** cykloalkány

cyclohexylamine $C_6H_{13}N$; An amine derived from cyclohexane. The compound is flammable and has a flash point at 28.6 °C. [*3-29*], [*3-30*] (*s. a. bromine number*) **de** Cyclohexylamin, das; Aminocyclohexan, das / **hu** ciklohexil-amin / **sk** cyklohexylamín

cyclonite s. hexogen de Cyclonit, das / **hu** ciklonit / **sk** cyklonit

cyclotrimethylenetrinitramine s. hexogen **de** Cyclotrimethylentri nitramin, das / **hu** ciklo-trimetilén-trinitro-amin / **sk** cyklotrimetyléntrinitroamín

Cylindrical Energy Module CEM / A modified swash-plate pump with six cylinders in a rotating rotor assembly. (*s. a. swash-plate*) **de** Cylindrical Energy Modul, das / **sk** CEM

Dalton s. atomic mass constant **de** Dalton, das / **hu** atomi tömegegység/tömegállandó (dalton) / **sk** Dalton

Dalton's law Dalton's law (law of partial pressures) states that the total pressure of a gaseous mixture is equal to the sum of the partial pressures of each component. [*1-31*] **de** Gesetz von Dalton, das; Partialdruckgesetz, das / **hu** Dalton-törvény / **sk** Dalton-ov zákon

Damköhler numbers (Damkoehler numbers) Dimensionless numbers in process engineering. One can distinguish between first, second, third, fourth and turbulent Damköhler number. [*1-2, 1-19*] (*s. a. first Damköhler number, second Damköhler number, third Damköhler number, fourth Damköhler number, turbulent Damköhler number*) **de** Damköhler Zahlen, die / **hu** Damköhler-számok / **sk** Damköhler-ove čísla

damper Thermally or mechanically controlled device in the flue gas tract. [*1-30*] **de** Abgasklappe, die / **hu** füstgázszelep / **sk** spalinová klapka

Daqing Crude oil product with an API gravity of 32.2° and a sulphur content of 0.1%. The field is located in China. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Daqing (Rohöl), das / **hu** Daqing olaj / **sk** Daqing-ropný produkt

Darcy friction number A dimensionless number that describes fluid flow, e.g. in a pipeline. [*1-72*] **de** Darcy-Zahl, die / **hu** Darcy-szám / **sk** Darcy-ho číslo

Dautriche method Test method to determine the combustion velo city of explosives. [*1-12*] **de** Dautriche Methode, die / **hu** Dautricheeljárás / **sk** Dautriche-ho metóda

Davy lamp s. pit lamp **de** Minenlampe, die; Davy-Lampe, die

Dazhou gas field Major natural gas field in China. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Dazhou Gasfeld, das / **hu** dazhou-i (föld) gázmező / **sk** Dazhou-ložisko zemného plynu v Číne

de Laval nozzle Nozzle tube (pinched in the middle) used to accelerate a gas flow. It is used in some steam turbines, rocket engines and supersonic jet engines. [*1-43*] **de** Lavaldüse, die / **hu** Lavalfúvóka / **sk** Laval-ova dýza

dead oil Oil that contains no dissolved gases. [*3-72*] (*s. a. live oil*) **de** gasfreies Öl, das; entgastes Öl, das / **hu** holtolaj, gáztalan/gázmentesített olaj / **sk** olej neobsahujúci plyn

dead space The term "dead space" or "dead volume" refers to parts in a combustor or general device that cannot be used and where deposits can be formed easily. **de** Totraum, der / **hu** holttér

deci d / SI-prefix, factor 10^{-1}. [*3-38*] **de** deci

deflagration A subsonic combustion process (as opposed to a detonation). The heat of reaction ignites the next layer of unburnt material by thermal conductivity. A deflagration can develop into a detonation. [*1-12*] (*s. a. detonation*) **de** Deflagration, die / **hu** deflagráció, ellobbanás / **sk** deflagrácia

deflagration point Temperature when the chain reaction setting off deflagration starts. A characteristic parameter of explosive materials. [*1-12*] **de** Verpuffungstemperatur, die / **hu** deflagrációs/ellobbanási pont/hőmérséklet / **sk** výbušná teplota

Deflagration to Detonation Transition DDT / When a flame may accelerate to high velocities (> 1000 m/s) and rapidly become a detonation instead of a deflagration. (*s. a. detonation*) **de** Übergang von Deflagration zur Detonation, der

degasser A device to remove gases from drilling liquids. [*1-25*] **de** Entgasungseinrichtung, die / **hu** gáztalanító / **sk** degazér, odplyňovač

degassing Removing gases from solid or liquid materials by heating. This process can be aided by vacuum. [*1-25*] **de** Entgasung, die / **hu** gáztalanítás / **sk** odplynenie

degenerate chain branching Precursors of chain branching (built by oxygen-addition) can dissociate because of instability at higher temperatures, hence the branching process is virtually stopped. [*1-2*] (*s. a. chain branching, cool flames, NTC*) **de** degenerierte Kettenverzweigung, die / **hu** elfajult láncelágazás / **sk** degeneratívne rozvetvenie reťazca

degenerate four wave mixing DFWM / Third order effect in nonlinear optics. [*2-56*] (*s. a. non-linear spectroscopy*) **de** Vierwellenmisch-Prozess, der / **sk** DFWM

deka da / SI-prefix, factor 101. [3-38] de deka

delayed coking Thermally coking process to crack heavy hydrocarbons of the residual oil into coker gas oil and petroleum coke. [*1-59*] (*s. a. coker unit*) **de** Verzögertes Coken, das / **hu** késleltetett kokszolás / **sk** predĺžené koksovanie

Delbourg index A interchangeability index for fuel gases. [*1-29*] **de** Delbourg Zahl, die / **hu** Delbourg-szám / **sk** Delbourg-ovo číslo, Delbourg-ov index

Delisle-scale Obsolete temperature scale. The fixed point is the freezing point of water. The volume contraction of mercury is measured. [*1-31, 1-73, 3-38*] (*s. a. temperature scale*) **de** Delisle-Skala, die / **hu** Delisle-skála / **sk** Delisle-ho stupnica

delivery pressure Specification in the gas industry used to design pipeline systems. [*2-40*] (*s. a. natural gas*) **de** Auslegungsdruck, der / **hu** szállítási nyomás / **sk** predávací tlak

delivery temperature Specification in the gas industry used for consistent proportioning. [*2-40*] (*s. a. natural gas*) **de** Auslegungstemperatur, die / **hu** szállítási hőmérséklet / **sk** predávacia teplota

demulsifier s. stabilizer de Emulsionsspalter, der; Demulgator, der / **hu** demulgeátor / **sk** demulgátor

DeNOx Processes and installations to remove NO_x from exhaust gases. One can distinguish between selective non catalytic reduction (SNCR) and selective catalytic reduction (SCR). [*1-2, 2-12*] (*s. a. nitrogen oxide, SNCR, SCR*) **de** Rauchgasentstickung, die; DeNOx / **hu** DeNOx / **sk** DeNOx metódy

dense gas model Dispersion model used for dense gas pollution plumes. [*1-68*] (*s. a. atmospheric dispersion models*) **de** SchweresGas-Modell, das / **sk** Dense gas model

dense gas plume Plume which is heavier than air, e.g. a plume of carbon dioxide. [*1-68*] (*s. a. atmospheric dispersion models*) **de** Abgasfahne, die

desalting Removing salts from crude oil, carried out as one of the first operations in a petroleum refinery. When water is added to the crude oil, salts will be dissolved in the water/oil emulsion. [*1-59*] (*s. a. process units* (*oil refinery*)) **de** Erdölentsalzung, die / **hu** kőolaj sótalanítás / **sk** odsoľovanie

destructive distillation Pyrolysis process in a distillation retort. Destructive distillation is a chemical reaction (cracking macromolecules) and allows the volatile products to be collected. A similar process is dry distillation. [*1-25*] (*s. a. dry distillation*) **de** destruktive Destillation, die / **hu** szárazlepárlás, destruktív desztilláció / **sk** suchá destilácia

detergent Amongst other uses, these substances are added to gasoline fuel. [*3-32*] **de** Reinigungsmittel, das; Detergenz, das / **hu** mosószer, tisztítószer, tisztítóanyag, detergens / **sk** detergent, čistiaci prostriedok

detonating cord A coated cord with a highly explosive core. It detonates unlike fuses (wich are much slower) along its whole length with the velocity of detonation. Usually pentaerythritol tetra nitrate (PETN, explosive velocity: 8400 m/s) is used as explosive. [*112, 1-13, 1-14*] (*s. a. fuse, pentaerythritol tetra nitrate* (*PETN*)) **de** Sprengschnur, die / **hu** robbantózsinór, detonátorzsinór / **sk** zápalná šnúra

detonation A supersonic combustion process. A detonation propagates through shock compression coupled with the chemical reaction of the explosive. The explosive velocity can reach 1500–10000 m/s. [*1-12, 2-11*] (*s. a. deflagration, detonation rate, heat of deto nation, explosion velocity*) **de** Detonation, die / **hu** detonáció / **sk** detonácia

detonation rate The rate at which the detonation wave propagates through the explosive material. [*1-12*] (*s. a. detonation, detonation waves, Dautriche method*) **de** Detonationsrate, die / **hu** detonáció sebesség / **sk** detonačná rýchlosť

detonation wave A shock wave coupled to an exothermic reaction. The heat release drives the wave forward. The shock wave propagates supersonically from its point of origin. [*1-1*] (*s. a. reaction waves, detonation*) **de** Detonationswelle, die / **hu** detonációs hullámok / **sk** detonačná vlna

development well DEV / Oil well used to extend existing production fields. [*1-62*] **de** Entwicklungsbohrloch, das / **sk** DEV

dew point Saturation point of water in air. The temperature (constant pressure) at which vapor in the air condenses into water (dew). (*s. a. flue gas condensation, heat recovery*) **de** Taupunkt, der / **hu** harmatpont / **sk** rosný bod

diamagnetic A term associated with a substance that has a magnetic permeability less than that of vacuum, and which is repelled when placed near a magnet. [*1-37*] (*s. a. magnetic susceptibility, paramagnetic*) **de** diamagnetisch / **hu** diamágneses / **sk** diamagnetický

diaphragm gasmeter Volume measuring equipment. The volume can be measured by periodically filling and emptying one or more deformable measuring chambers. [*1-29*] **de** Balgengaszähler, der / **hu** membrános gázmérő / **sk** membránový plynomer

diazonitrophenol $C_6H_2N_4O_5$; Explosive compound used as primary explosive. [*1-12*] **de** Diazonitrophenol, das / **hu** diazo-nitro-fenol / **sk** diazo-nitrofenol

diborane B_2H_6; Pyrophoric and highly toxic gas. It can ignite in air at room temperature. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** Diboran, das / **hu** diborán (dibór-hexahidrid) / **sk** diborán

dibromoethane CH_2Br_2; Lead scavenger, added to leaded gasoline to avoid deposits of lead inside the engine. Lead compounds used to be added to gasoline fuels to increase the octane number, but due to the toxicity, they are now replaced by other compounds. [*332*] (*s. a. RON*) **de** Dibrommethan, das / **hu** dibróm-etán / **sk** dibrómetán

dichloroethane CH_2C_{l2}; Lead scavenger, added to leaded gasoline to avoid deposits of lead inside the engine. Lead compounds used to be added to gasoline fuels to increase the octane number, but due to the toxicity, they are now replaced by other compounds. [*332*] (*s. a. RON*) **de** Dichlormethan, das / **hu** diklór-etán / **sk** dichlóretán

dichroic mirror Mirror to selectively reflect light of a small range of colors while passing other colors. [*1-44*] **de** Dichroitischer Spiegel, der / **hu** szűrőtükör, színválasztó tükör, dikroikus szűrő / **sk** dichro ické zrkadlo

Dicke narrowing Under some conditions, different line broadening mechanisms can act in a coherent manner, resulting in a line narrowing. [*1-50*] (*s. a. Gaussian profile, Lorentzian profile, Voigt profile, Doppler broadening*) **de** Dicke-Narrowing, das; Dicke-Linienverschmälerung, die / **sk** Dicke narrowing

dielectric susceptibility see optical susceptibility **de** dielektrische Suszeptibilität, die / **hu** dielektromos szuszceptibilitás / **sk** dielektrická susceptibilita

diesel Fractional distillate (200°C–350°C at atmospheric pressure) of petroleum. Apart from fossil-fuel derived diesel, there is also biodiesel. Fossil diesel is composed of 75% saturated hydrocarbons, and 25% aromatic hydrocarbons. [*1-11, 1-23*] (*s. a. biodiesel*) **de** Dieselöl, das; Dieselmotor, der / **hu** dízel / **sk** dízel, nafta

Diesel cycle Thermodynamic cycle used for Diesel engines. Process 1 > 2: adiabatic process. Process 2 > 3: isobaric process. Process 3 > 4: adiabatic process. Process 4 > 1: isometric process. [*1-31*] (*s. a. idealized cycle, standard cycle, Carnot cycle*) **de** Diesel Kreisprozess, der / **hu** dízelkörfolyamat, dízelciklus / **sk** Diesel-ov cyklus

diesel engine Common type of engine, used e.g. in trucks. Diesel is used as fuel. In contrast to gasoline engines (=Otto engines), which use a spark plug, diesel engines rely on auto-ignition. [*1-23*] **de** Dieselmotor, der / **hu** dízelmotor / **sk** dieselový motor

diesel engine runaway Condition when a diesel engine consumes its own lubrication oil and overspeeds until self-destruction. **de** Durchgänger beim Dieselmotor, der

diesel oil cut Fraction of continuous distillation of crude oil with a boiling point range of approx. 180°C–315°C. [*1-59*] (*s. a. process units* (*oil refinery*), *continuous distillation*) **de** Gasölfraktion, die / **hu** gázolajfrakció / **sk** ropná frakcia

diesel oil surrogate DOS / To facilitate modelling of combustion processes, fuel surrogates are used. They are typically only 1 (or a limited number of) compound. Diesel oil surrogates are n-decane and α-methylnaphthalene. (*s. a. fuel surrogate*) **de** Ersatzbrennstoff, der / **sk** DOS

dieselization Increasing common use of diesel fuel in vehicles instead of gasoline, particularly passenger cars. This trend started to spread from Europe. [*3-82*] (*s. a. biofuel, diesel, gasoline*) **de** Dieselisierung, die / **hu** dízelesítés / **sk** dizelizácia

Dieterici equation Equation of state for real gases. [*1-31*] (*s. a. ideal gas, fugacity*) **de** Dieterici equation, die / **sk** Dieterici-ho rovnica **diethylamine** CH3CH2NHCH2CH3; s. antioxidants **de** Diethylamin, das / **hu** dietil-amin / **sk** dietylamín

diethylene glycol DEG / HO-CH_2-CH_2(-O-CH_2-CH_2)-OH; Dihydroxy alcohol, due to it's hygroscopic properties it is used to dehumify fluids (e.g. natural gas). [*1-24*] (*s. a. natural gas, glycol dehydration*) **de** Diethylenglykol, das / **hu** dietilén-glikol / **sk** dietylénglykol

diethylenetriamine s. antioxidants, s. bromine number **de** Diethylentriamin, das / **hu** dietilén-triamin / **sk** dietyléntriamín

diethylmethylamine DEMA / Used with fluorobenzene as exciplex tracer system. [*2-28*] **de** Diethylmethylamin, das / **hu** dietil-metil-amin / **sk** dietyl(metyl)amín

differential mobility analyzer DMA / Seperates charged and neutral particles based on their electrical mobility. The device is used in a scanning mobility particle sizer (SMPS). [*1-43*] (*s. a. scanning mobility particle sizer*) **de** Analysator für Teilchenmobilität, der / **hu** differenciális mozgékonyság analizátor / **sk** DMA analyzátor

differential Raman cross-section Physical quantity characterizing the strength of Raman scattering per unitary solid angle. It is species specific and depends on the vibrational and rotational transitions involved in the scattering process. [*1-105*] (*s. a. raman scattering*) **de** Raman-Wechselwirkungsquerschnitt, der

differential thermal analysis DTA / A thermoanalytic technique where the sample and an inert reference are exposed to identical thermal cycles. The temperature difference between sample and reference is plotted against time. Exothermic or endothermic changes of the sample (phase changes, reactions) can be detected. [*1-96*] (*s. a. endothermic, exothermic*) **de** Differenzial-Thermoanalyse, die / **hu** differenciális termikus elemzés, differenciál-termoanalízis, termikus differenciálanalízis / **sk** DTA, diferenčná termálna analýza

differentlial sticking Problem that may occur when drilling an oil well. The drill pipe is pressed against the wellbore wall and the pipe becomes stuck to the wall. [*3-72*] **de** Festsitzen eines Bohrgestänges an der Wand eines Bohrlochs, das

diffusion battery An aerosol sizing device for particles with diameters below 0.2 mm based on different diffusivities of the small particles and their deposition. [*3-36*] **de** Diffusionsbatterie, die / **hu** diffúziós telep / **sk** difúzna batéria

diffusion flame Also called mixing controlled flame. Fuel and oxidizer are not premixed prior to combustion. Examples are a candle flame and a diesel engine combustion process. s. laminar nonpre mixed flame. [*1-2*] **de** Diffusionsflamme, die / **hu** diffúziós láng / **sk** difúzny plameň

digital to analog converter DAC / Instrument to convert a signal of digital numbers to an analog signal. [*1-45*] **de** Digital-Analog Umsetzer, der / **hu** digitál(is)-analóg átalakító/konverter, D/A átalakító, D/A konverter / **sk** digitálno-číslicový prevodník

diisopropyl ether DIPE / C_3H_7-O-C_3H_7; Common solvent and oxy genate for fuels. Diisopropyl ether tends to form explosive peroxides upon standing in air for long periods (years). For this reason, methyl tert-butyl ether is often used as an alternative solvent. [*3-32*] (*s. a. oxygenate*) **de** Diisopropylether, der / **hu** di-izopropil-éter / **sk** diizopropyléter

dimensionless model Model based on dimensionless numbers. [*A8*] **de** dimensionsloses Modell, das / **hu** dimenzió nélküli szám / **sk** bezrozmerný model

dimensionless number A number representing a property of a physical system, but not measured on a scale of physical units (s. a. scale-up, Reynolds number, Damköhler number) de dimensionslose Kennzahl, die / hu dimenzió nélküli szám / sk kritérium **dimerization** Dimerization leads to the formation of higher hydro carbons in combustion chemistry, e.g. the formation of C_2H_6 from two CH_3 radicals. [*1-2, 1-3*] **de** Dimerisierung, die / **hu** dimerizálás, dimerizáció / **sk** dimerizácia

dimerization Process used to convert olefins into higher-octane hydrocarbons. [*1-59*] (*s. a. process units* (*oil refinery*)) **de** Dimerisierung (Erdölindustrie), die / **hu** dimerizálás, dimerizáció / **sk** dimerizácia

dimethyl ether DME / CH_3-O-CH_3; Produced by dehydration of methanol. Synthetic biofuel. It can be used as fuel in diesel engines and gas turbines. [*1-24, 3-15*] **de** Dimethylether, der / **hu** dimetiléter / **sk** dimetyléter

dimethylcarbonate DMC / $C_3H_6O_3$; A flammable clear liquid boiling at 90 °C. **de** Dimethylkarbonat, das; Kohlensäuredimethylester, der / **hu** dimetil-karbonát / **sk** dimetylkarbonát

dimethylfurane MDF / A biofuel which has an higher energy density than ethanol. It can be produced by conversion of fructose or glucose e.g. from fruits or root vegetables. [*3-15, 1-21*] **de** Dimethylfuran, das / **hu** dimetil-furán / **sk** dimetylfurán

diode laser A laser where the active medium is a semiconductor. The device is ubiquitously used, also in spectroscopy. [*2-27*] **de** Diodenlaser, der / **hu** diódás lézer / **sk** diódový laser

dioxine Persistent environmental pollutant. Produced by the combustion of carbonaceous material in the presence of chloride ions or by combusting organochlorine compounds. [*1-11*] **de** Dioxin, das / **hu** dioxin / **sk** dioxín

DIPE s. diisopropyl ether **de** Diisopropyether, der

dipol-scattering s. Rayleigh scattering [*1-2, 2-8*] **de** Rayleigh-Streuung, die

Glossary of Combustion

direct air/fuel ratio measurement by SRS Species like N_2, CO, H_2O, O_2 and CO_2 can be measured by spontaneous raman scattering. Unfortunately, Raman scattering is a weak-signal process, so a careful signal-to-noise consideration is required. [*1-43*] (*s. a. spontaneous Raman scattering*) **de** Direkte Messung des Äquivalenzverhältnisses mittels SRS, die / **hu** a levegő/tüzelőanyag arány közvetlen mérése SRS-sel / **sk** priame meranie pomeru vzduch/ palivo pomocou SRS

Direct injection (DI) DI / Modern gasoline engines use direct injection of the fuel rather than a carburettor. **de** Direkteinspritzung, die / **hu** közvetlen befecskendezés / **sk** priame vstrekovanie

direct liquid fuel cell DLFC / A proton-exchange fuel cells where the fuel (e.g. methanol) is fed directly to the fuel cell. [*1-114*] (*s. a. fuel cell, proton-exchange fuel cell*) **de** Direktflüssigbrennstoffzelle, die / **sk** tekutý palivový článok

direct numerical simulation DNS / Computational simulation of fluid dynamics using the Navier-Stokes equations. [*1-123*] (*s. a. Reynolds Averaged Navier-Stokes equations*) **de** direkte numerische Simulation, die / **sk** DNS

direct-current dynamometer Type of electrical dynamometers. A DC dynamometer can be reversed and used as electric motor. Due to their high inertia DC dynamometers can not be used for fast changes in rotational speed. [*1-42, 1-43*] **de** Gleichstromdynamometer, der / **hu** egyenáramú generátor, dinamó / **sk** dynamometer jednosmerného prúdu

directional drilling Practice of drilling wells not only in the vertical direction. **de** Richtbohren, das / **hu** irányított/ferde fúrás / **sk** metó da riadeného vŕtania

disexcitation The change in state of an excited state when loosing a quantum of energy. [*1-96*] (*s. a. laser*) **de** Deexcitation, die; Abregung, die; Relaxation, die / **sk** disexcitácia

dispersion The variation of the refractive index with the wavelength of light. [*1-11*] **de** Dispersion, die / **hu** diszperzió / **sk** disperzia

DISPERSION2.1 Atmospheric dispersion model including point, area and volume sources types; surface and elevated sources release; continuous or intermittent plumes; building effects; metorological datas and atmospheric chemistry reactions. [*1-68*] (*s. a. atmospheric dispersion models*) **de** Modell DISPERSION2.1, das / **sk** DISPERSION2.1

dissociation Separation of molecules into two (or more) entities, e.g. in a plasma or after absorption of highly energetic light. [*1-2, 1-3*] **de** Dissoziation, die / **hu** disszociáció / **sk** disociácia

distillation end point Temperature at which all volatile components have boiled off. [*3-32*] **de** Endpunkt der Destillation, der / **hu** a desztilláció végpontja / **sk** koniec destilácie

distillation phase When the mix of evolved flammable gases (produced by solid fuels in the preheating phase) with oxygen is ignited. Syn.: gaseous phase (*s. a. preheating phase, charcoal phase, solid fuel*) **de** Gasphase, die / **sk** plynová fáza

distributed combustion Mixing between combustion oxidizer (usually air) and product gases. This forms a hot, diluted oxidant prior to its mixing with the fuel to form a uniform thermal field. This concept has the potential for lower NO_x emissions. [*2-58*] (*s. a. exhaust gas recirculation, staged combustion*) **de** gestufte Verbrennung, die / **sk** stupňovité spaľovanie

district heating The heat is generated in a centralized location (e.g. by burning fossil fuels or biomass). The generated heat is distributed via a network of insulated pipes. (*s. a. heat recovery*) **de** Fernwärme, die / **hu** távfűtés, távhő / **sk** centrálne zásobovanie teplom

district heating central plant s. block heat and power plant **de** Fernwärmekraftwerk, das / **hu** fűtőmű / **sk** centrála diaľkového vykurovania

ditching dynamite Dynamite mixture used for ditching. The cartridges are plugged into the ground. Due to the sensitiveness of the mixture, the cartridges are ignited in series. [*1-12*] **de** Ditching Dynamite, das; Dynamit für Grabensprengungen, das / **sk** ditching dynamit

Döbereiner's lamp One of the first lighters in the 19th century. Hydrogen produced by zinc and sulphuric acid was ignited catalyzed by platinum. [*3-56, 3-57, 3-58, 1-39*] (*s. a. lighter, Fürstenberger lighter, Ikari lighter, Nainen lighter, galvanic lighter*) **de** Platinfeuerzeug, das / hu Döbereiner-féle gyújtó / **sk** Döbereiner-ov zapaľovač

Dobson unit Measurement of atmospheric ozone expressed in a vertical air column of total ozone which would be formed in a layer that has 760 Torr (1 bar) at 0°C. [*3-43*] **de** Dobsoneinheit, die / **hu** Dobson-féle műszer/spektrofotométer / **sk** Dobson-ove jednotly

dolomite A carbonate mineral ($CaMg(CO_3)_2$) used as metal fire extinguishing agent. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** Dolomit, der / **hu** dolomit / **sk** dolomit

domestic fuel oil s. fuel oil **de** Heizöl, das / **hu** (háztartási/könnyű) tüzelőolaj / **sk** topný olej, mazut

domestic gas s. natural gas **de** Erdgas, das / hu városi gáz / sk domový plyn, domáci plyn

Doppler broadening Broadening of spectral lines due to thermal movement of atoms or molecules (frequency shift). [*1-50*] (*s. a. Gaussian profile, Lorentzian profile, Voigt profile*) **de** Doppler-Verbreiterung, die / **hu** Doppler-kiszélesedés / **sk** Doppler-ovo rozšírenie

Doppler effect Frequency-shifts of radiation due to motion of emitter or receiver relative to each other. The effect is exploited e.g. in LDA. [*1-2, 2-8*] (*s. a. Laser Doppler Anemometry, LDA-scattering, geometrical optics*) **de** Doppler-Effekt, der / **hu** Doppler-hatás, Dopplereffektus / **sk** Doppler-ov jav

Doroud Crude oil product with an API gravity of 34.0° and a sulphur content of 2.5%. The field is located in Iran. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Doroud Erdöl, das / **hu** Doroud olaj / **sk** Doroud-ropný produkt

downsampling Reducing the sampling rate of a signal to reduce the size of the data. [*1-45*] **de** Downsampling, das / **hu** alulmintavételezés / **sk** downsampling, podvzorkovanie

Drag coefficient C_d / A dimensionless number that characterizes the flow resistance of an object in a fluid flow. [*1-72*] **de** Strömungswiderstandskoeffizient, der / **hu** ellenállástényező / **sk** koeficient odporu pri prúdení

drill stem test DST / Procedure for testing the surrounding geological formation. **de** Drillstem-Test, der; Schwerstangentest, der; Meißelstangentest, der / **hu** fúrószáras/teszteres formációvizsgálat / **sk** Drillstem test

drilling fluid Used to keep the drilling bit cool, to have minimum interaction with the formation, to bring out the cuttings and to prevent blow outs. Common drilling fluids are compressed air, air/ water, air/polymer, water and water based mud. [*3-72*] (*s. a. water based mud*) **de** Bohrschlamm, der / **hu** (fúrási) öblítőfolyadék / **sk** vrtný výplach

drilling mud Fluid used to drill boreholes into the earth such as oil wells. [*3-72*] (*s. a. drilling fluid*) **de** Bohrschlamm, der / **hu** fúróiszap / **sk** vrtný kal

drilling rig Device that creates boreholes in the ground. In the petroleum industry they are used to create holes to identify geologic reservoirs and also for the extraction of oil or natural gas from those reservoirs. [*3-72*] (*s. a. drilling fluid*) **de** Bohrturm, der / **hu** fúróberendezés, fúrótorony / **sk** vŕtna veža

drip gas Naturally occurring form of gasoline found near many oil and natural gas wells, in natural gas pipelines. It is also known as natural gasoline, casing head gas, and white gas. Drip gas consists of butane, pentane, and hexane. **de** Tröpfelbenzin, das; Dripbenzin, das

drop-back of a flame When one gradually decreases the flow velocity of the gases supporting a lifted flame, the lifted flame will eventuly drop back to the burner rim. **de** Zurückspringen der Flamme, das / **sk** prešľahnutie plameňa

Drummond light s. limelight **de** Drummondsches Licht, das / **hu** Drummond-fény, kalciumlámpa / **sk** Drummond-ovo svetlo

dry distillation Operation producing liquids or gases by heating solid materials. It is not a pyrolysis process like destructive distillation. [*1-25*] **de** trockene Destillation, die / **hu** száraz lepárlás/desztilláció / **sk** suchá destilácia

dry box treating Removing H_2S from natural gas by passing the gas through a iron oxide bed. The bed can be regenerated with air. [*240*] (*s. a. natural gas, hydrogen sulphide*) **de** Behandlung von Erdgas in einer trockenen Einheit zur Entfernung von Schwefelwasserstoff, die / **sk** odstraňovanie H_2S zo zemného plynu

dry combustion Combustion by injecting air into a geological formation. [*3-72*] **de** Trockene Verbrennung, die / **sk** suché spaľovanie **dry distillation** s. destructive distillation **de** trockene Destillation, die **dry flue gas volume** Total flue gas volume, reduced by the amount of water vapour. [*1-30*] **de** trockene Abgasmenge, die / **hu** száraz füstgázmennyiség / **sk** objem vlhkých spalín

dry gas Gas with a condensate concentration lower than a specified limit. [*2-40*] (*s. a. natural gas, water content*) **de** trockenes Gas, das / **hu** száraz/szárított gáz, sománygáz / **sk** suchý plyn

dry scrubber Scrubbing systems primary used to remove acid gases such as HCl or SO_2. Dry scrubbing systems can be categorized as dry sorbent injectors or as spray dryer absorbers. [*2-42, 2-43*] (*s. a. dry sorbent injection, spray dryer absorber, wet scrubber*) **de** Trockensorption, die / **sk** suché čistenie

dry sorbent injection DSI / Dry scrubbing system. [*2-42, 2-43*] (*s. a. dry scrubber*) **de** Trockensorption, die / **sk** injektáž suchého sorbentu

dry steam Unsaturated (unsuperheated) steam free from condensed water. Syn.: dry saturated steam. [*1-74*] (*s. a. steam*) **de** Trockendampf, der / **hu** száraz gőz / **sk** suchá para

dry vapor pressure equivalent DVPE / Reid vapor pressure at 38° C, used for gasoline (components). [*3-32*] **de** dem trockenen Dampfdruck entsprechender Druck, der / **hu** Reid gőznyomás, DVPE / **sk** DVPE

Dubai crude Most common crude oil used in Asia. [*3-63*] (*s. a. crude oil*) **de** Dubai Fateh (Öl), das / **hu** Dubai olaj / **sk** Dubai crude-ropa

Dukhan Crude oil product with an API gravity of 41.1° and a sulphur content of 1.2%. The field is located in Qatar. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Dukhan (Rohöl), das / **hu** Dukhan olaj / **sk** Dukhan-ropný produkt

dull coal Coal that absorbs the greater part of incident light instead of reflecting it. (*s. a. rank, coalification*) **de** Mattkohle, die / **hu** matt szén / **sk** mastné uhlie, žírne uhlie

Dunaliella tertiolecta s. algae fuel [*3-15, 1-21*] **de** Dunaliella tertiolecta / **sk** Dunaliella tertiolecta

dust explosion Explosive combustion of a dust suspended in air in an confined location. necessary conditions are: a combustible dust (e.g. coal, sawdust, flour or powdered metals), suspended dust in the air at a suitable concentration, presence of an oxidant, an igniti on source. (*s. a. detonation*) **de** Staubexplosion, die / **sk** prachová explózia

DVPE s. dry vapor pressure equivalent **de** dem trockenen Dampfdruck entsprechender Druck, der

dye laser A type of laser with a liquid solution of an organic dye used as optically active medium. It is tunable over a rather large range of wavelengths. [*1-108*] (*s. a. Laser*) **de** Farbstofflaser, der / **hu** festéklézer / **sk** farebný laser

dynamic light scattering DLS / Method where scattered laser light is used to determine the size distribution profile of small particles in a fluid. [*1-72*] (*s. a. laser, Mie scattering, Rayleigh scattering*) **de** dynamische Lichtstreuung, die / **sk** DLS

dynamic viscosity Describes the dynamics of an incompressible fluid. [*1-31*] (*s. a. viscosity*) **de** dynamische Viskosität, die / **hu** dinamikai viszkozitás / **sk** dynamická viskozita

dynamometer Small device that resists the rotation of an engine shaft and that can be used for force measurements of an engine. There are three possible test modes: constant torque, constant engine speed and constant throttle. [*1-41*] **de** Dynamometer, das / **hu** (fék)dinamométer / **sk** dynamometer

dynode An array of electrodes within a photomultiplier tube. [*1-96*] (*s. a. photomultiplier*) **de** Dynode, die / **hu** dinóda / **sk** dynóda

E70, E100, E150, E180 values Volume of condensate, collected at defined temperature. E70 value is defined as vol.-percentage of collected condensate at 70°C, E100 at 100°C and so on. [*3-32*] **de** E70-, E100-, E150-, E180-Wert, der / **sk** hodnoty E7, E1, E15, E18

East MS Mix Crude oil product with an API gravity of 30.9° and a sulphur content of 2.1%. The field is located in the United States. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** East MS Mix (Rohöl), das / **hu** East MS Mix olaj / **sk** East MS Mix-ropný produkt

East Texas Major oil and gas oil fields located in Texas/US. [*3-63*] (*s. a. crude oil, natural gas*) **de** Erdölvorkommen in Texas, das / **hu** East Texas / **sk** East Texas-ropa pochádzajúca z Texasu

Eckert number Ec / A dimensionless number that characterizes the convective heat transfer. [*1-72*] **de** Eckert-Zahl, die / **hu** Eckertszám / **sk** Eckert-ovo kritérium

economizer Heat exchanger to use additional heat, used in domestic applications and large power plants. [*1-30*] **de** Speisewasservorwärmer, der; Vorwärmer, der / **hu** tápvíz-előmelegítő / **sk** ekonomizér

Eddy Break Up model Empirical models used for ultra fast chemical reactions. [*1-2*] **de** Modell zum Aufbrechen von Wirbeln, das

eddy covariance A statistical method used in meteorology used to estimate vertical turbulent fluxes within atmospheric boundary layers. [*1-113*] **de** Eddy-Kovarianz, die / **sk** eddy kovariancia

eddy dissipation concept EDC / Simulation model that considers the effect of turbulence in complex chemical reaction kinetics. [*3-89*] **de** EDC-Modell, das / **sk** EDC

eddy-current A conductor in a changing magnetic field causes circulating eddies of current which induce electromagnets fields. [*1-44*] **de** Wirbelstrom, der / **hu** örvényáram / **sk** vírivý prúd

eddy-current dynamometer Type of electrical dynamometer. Eddy dynamometers can not used as electric motors, but they can be used for faster changes in rotational speed than DC/AC dynamometers. [*1-42, 1-43*] **de** Wirbelstromdynamometer, der / **hu** örvényáramú (fék)dinamométer / **sk** danymometer vírivého prúdu

edge-emitting laser Term used for diode lasers. In contrast to sur face emitting lasers such as a VCSEL, an edge emitting laser emits light perpendicularly to the pumping direction. Examples are DFB and DBR lasers. [*1-51*] **de** kantenemittierender Laser, der / **hu** élsugárzó lézerek / **sk** lasery emitujúce okrajom

ednatol s. ethylenedinitramine **de** Ethylendinitramin, das / **sk** ednatol

Einstein coefficient A measure of the probability for transitions in an atom or molecule. One can distinguish between spontaneous emission, induced emission and absorption. Each process is associated with a coefficient. [*1-44*] (*s. a. laser*) **de** Einstein-Koeffizient, der / **sk** Einsteinov koeficient

Eirik Raude Named after the viking "Erik the Red", the world's biggest moving offshore oil platform has a weight of 53,394 tons. It was put into service in 2002 and is designed for drilling depths down to 3000m. (*s. a. oil platform*) **de** Eirik Raude, die / **hu** Eirik Raude / **sk** Eirik Raude

ejector venturi scrubber Wet scrubbing air pollution control system. [*2-42, 2-43*] (*s. a. wet scrubber*) **de** Venturiwäscher, der / **sk** venturiho práčka

Ekofisk Blend Crude oil product with an API gravity of 37.2° and a sulphur content of 0.2%. The field is located in Norway and the United Kingdom. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Ekofisk Blend (Rohöl), das / **hu** Ekofisk Blend olaj / **sk** Ekofisk Blend-ropný produkt

elastic modulus A measure of stiffness. [*1-74*] **de** Elastizitätsmodul, der / **sk** modul pružnosti

electric match Tool using electric current to ignite a combustible material. [*3-59*] (*s. a. match, permanent match*) **de** elektrisches Zündmittel, das; elektrisches Streichholz, das / **hu** elektromos gyújtó / **sk** elektrický zapaľovač

electric wind Displacement of a candle flame (which contains ions) when approached by a charged needle. **de** elektrischer Wind, der / **hu** elektromos szél / **sk** elektrický vietor

electrical dynamometer The rotation of the shaft drives an electric motor/generator. [*1-42*] **de** Elektrodynamometer, der / **hu** mérlegdinamó, villamos dinamométer / **sk** elektrický dynamometer, elektrodynamometer

electrochemical corrosion The slow wearing away of metals by electrochemical mechanism. [*1-74*] (*s. a. corrosion, pitting*) **de** elektrochemische Korrosion, die / **sk** elektrochemická korózia

electromotive force EMF / Characterizes the force with which positive and negative charges voltaic cells could be separated. Electrochemical reactions (e.g. in fuel cells) or thermal energy (e.g. thermocouples or photodiodes) can produce electromotive force. [*1-44*] (*s. a. thermocouple*) **de** elektromotorische Kraft, die / **hu** elektromotoros erő / **sk** elektromotorická sila

electron mass me / The mass of a stationary electron is approximately $9.10938215*10^{-31}$ kg. [3-38] **de** Electronenmasse, die / **hu** az elektron tömege / **sk** hmotnosť elektrónu

electro-pyrotechnic initiator s. pyrotechnic initiator **de** elektro-pyrotechnischer Zünder, der / **sk** pyrotechnický iniciátor

electrostatic air cleaner s. electrostatic precipitator **de** elektrostatischer Luftreiniger, der / **sk** elektrostatický čistič vzduchu

electrostatic precipitator ESP / Efficient device that removes particles from a gas flow. The particles are collected using the principle of electrostatic attraction. [*2-42, 2-43*] **de** Elektroabscheider, der / **hu** elektrosztatikus porleválasztó / **sk** elektrofilter

elementary charge e / A fundamental physical constant. It is the negative of the electric charge carried by a single electron. $1.602176487*10^{-19}$ C. [*3-38*] **de** Elementarladung, die / **hu** elemi (elektromos) töltés / **sk** elementárny náboj

elko engine s. Elsbett engine **de** Elko-Motor, der / **sk** elko motor

Elsbett engine Diesel engine designed to run on vegetable oil. **de** Elsbett-Motor, der / **hu** Elsbett-motor / **sk** Elsbett-ov motor **Elsuort gas field** Major natural gas field in Canada. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Elsuort Gasfeld, das / **hu** elsourti (föld)gázmező / **sk** Elsuort-ložisko zemného plynu v Kanade

embodied energy The energy that was used in the work of making a product, expressed as (embodied) solar energy. **de** eingebettete Energie, die / **sk** skrytá energia

emergy s. embodied energy **de** Emergie, die / **sk** skrytá energia

emission/absorption pyrometer s. chopped method (radiation thermometry) **de** Pyrometer, das / **sk** emisno-absorpčný pyrometer

emissive power s. black-body irradiance **de** Strahlungsfluss, der / **hu** sugárzóképesség,emisszióképesség / **sk** tok žiarenia

emissivity ε / The ratio of energy radiated by an object to energy radiated by a black body at the same temperature. The emissivity of a black body is exactly 1, the emissivity of a real object is < 1. [*1-44*] (*s. a. black body*) **de** Emissionsvermögen, das / **hu** sugárzóképesség, fajlagos emisszió(képesség) / **sk** emisivita

emittance s. emissivity **de** Emissionsvermögen, das / **hu** fajlagos kisugárzás,emittancia / **sk** intenzita vyžarovania plošného zdroja žiarenia

emulsion phase A region in fluidized bed combustors. (*s. a. fluidized bed combustion*) **de** Emulsionsphase, die / **sk** fáza emulzie

encoder Device to change a signal into a code, using a programmed algorithm. [*1-118*] **de** Kodierer, der / **hu** kódoló / **sk** kódovač

end of burning Interruption time of the gas jet of a rocket. In a solid fuel rocket all propellant is burnt, a liquid fuel rocket may be ignited again. [*1-12*] (*s. a. burning chamber, booster*) **de** Brennschluss, der / **hu** égésvég, hajtómű leállítása / **sk** ukončenie horenia

end-burning velocity Velocity of the rocket at the end of burning [*1-12*] (*s. a. burning chamber, booster, end of burning*) **de** Brennschlussgeschwindigkeit, die / **hu** sebesség a hajtómű leállításakor rýchlosť / **sk** ukončenia horenia

endoscope A device to look inside an object in a situation where direct line-of-sight observation is not feasible. (*s. a. borescope*) **de** Endoskop, das / **hu** endoszkóp / **sk** endoskop

energy conservation The total amount of energy in a closed system remains constant. This means that energy cannot be created or destroyed. [*1-2*] **de** Energieerhaltung, die / **hu** energiamegmaradás / **sk** šetrenie energie

energy conversion efficiency Ratio between the useful power output and the total power input. [*1-31*] **de** Effizienz der Energieumwandlung, die / **hu** hatásfok / **sk** účinnosť premeny energie

energy crops Plants used to make biofuel. [*3-13*] **de** Energiepflanzen, die / **hu** energianövény / **sk** energetické plodiny

energy density The amount of energy stored/produced in a given system per unit volume. The term can refer to fuels and engines alike. **de** Energiedichte, die / **hu** energiasűrűség / **sk** hustota energie

energy flux density s. black-body irradiance / **de** Strahlungsflussdichte, die / **hu** energiafluxus-sűrűség / **sk** hustota žiarenia

engine efficiency / Relation of total energy (of the fuel) and the energy used to perform useful work. [*1-34*] **de** Wirkungsgrad des Motors, der / **hu** (belső) hatásfok / **sk** účinnosť motora

engine knocking Engine knocking can be observed in gasoline engines when combustion occurs too early. Unbranched hydrocarbons tend to spontaneous combustion whereas branched hydrocarbons are relatively knock resistant. [*1-2, 1-7*] (*s.a. RON*) **de** Klopfen, das / **hu** kopogás / **sk** klepanie motora

engine output Engine parameter that can be calculated from the mass flow of the fuel and the net calorific value. [*1-34*] **de** Brennstoffleistung, die / **sk** výkon motora

engine shutdown s. end of burning [*1-12*] **de** Abschalten der Motoren, das / **hu** hajtómű leállítása / **sk** vypnutie motora, zhasnutie motora

enhanced oil recovery EOR / Techniques for increasing the extractable amount of oil from an oil field, e.g. by pressurizing the oil field. [*1-55*] **de** Techniken zur erweiterten Ölförderung, sekundäre Ölfördertechniken / **hu** kőolajkihozatal-növelő/fokozó eljárás / **sk** využívanie vyťažených ropných ložísk

enriched water gas s. carburetted water gas **de** angereichertes Wassergas, das / **hu** dúsított/karburált vízgáz / **sk** obohatený vodný plyn

enthalpy of condensation Released energy by the condensation of one mole of a gaseous substance (isothermal and isobaric). Numerically it bears the same value as the enthalpy of vaporization. [*131*] (*s. a. enthalpy of vaporization*) **de** Kondensationsenthalpie, die / **hu** (fajlagos) kondenzációs/lecsapódási hő/ entalpia / **sk** entalpia kondenzácia

enthalpy of formation s. binding energy **de** Bildungsenthalpie, die / **hu** köpződési entalpia / **sk** tvorná entalpia, zlučovacia e.

enthalpy of vaporization Required energy to evaporate one mole of a liquid substance (isothermal and isobaric). [*1-31*] (*s. a. enthalpy of condensation*) **de** Verdampfungsenthalpie, die / **hu** párolgáshő, forráshő, (fajlagos) párolgási entalpia / **sk** entalpia vyparovania

entrainment General term for the entrapment of one substance by another substance. Examples: The entrapment of liquid droplets or solid particulates in a flowing gas, as in smoke. The entrapment of gas bubbles or solid particulates in a flowing liquid, as in aeration. Common term for pulverized coal combustion. **de** Mitreißen, das; Aufströmen, das / **hu** elragadás / **sk** únos, unášanie

enviromental technology Part of enviromental science with the aim to conserve natural environment and resources. Syn.: EnviroTech, green technology (GreenTech), clean technology (CleanTech). [*367*] **de** Umwelttechnik, die / **hu** környezettechnika / **sk** environmentálna technológia

Glossary of Combustion

environmental agreement Bilateral and multilateral agreements for environmental protection. [*3-60*] (*s. a. convention on long-range transboundary air pollution*) **de** Umweltschutzabkommen, das / **hu** környezetvédelmi megállapodás/egyezmény / **sk** environmentálna dohoda

EnviroTech s. enviromental technology **de** Umwelttechnik, die / **sk** EnviroTech

equilibrium constant K / Relation of the activity of the species involved in a chemical reaction. In a gas phase equilibrium, the activity is the product of the partial pressure of the species and the fugacity coefficient. In solution, the activity is the product of concentration and the activity coefficient. It depends on temperature and pressure or volume. [*1-31*] (*s. a. van't Hoff equation*) **de** Gleichgewichtskonstante, die / **hu** egyensúlyi állandó / **sk** rovnovážna konštanta

equivalence ratio Φ Ratio of the fuel/oxidizer ratio to the stoichiometric fuel/oxidizer ratio. $\Phi=1/\lambda$. [*1-2*] (*s. a. lambda* (*air/fuel ratio*)) **de** Äquivalenzverhältnis, das / **hu** ekvivalenciaarány (a légfeleslegtényező/levegőtényező/légviszony reciproka / **sk** ekvivaletný pomer

Ericsson cycle Thermodynamic cycle designed for heat engines. Process 1 > 2: Isothermal compression. Process 2 > 3: Isobaric heat-addition. Process 3 > 4: Isothermal expansion. Process 4 > 1: Isobaric heat removal. **de** Ericsson-Prozess, der / **hu** Ericssonkörfolyamat / **sk** Ericsson-ov cyklus

erosive burning Abnormal increase of the burning rate in solid-fuel rockets. [*1-12*] (*s. a. burning rate*) **de** erosiver Abbrand, der / **hu** erozív égés / **sk** erozívne horenie

ethane Aliphatic hydrocarbon with two carbon atoms, C_2H_6. Natural gas has an ethane content from about 1% to 6% by volume. Ethane can be directly used for combustion or processed by steam cracking to ethylene. Calorific value: 64000 kJ/m^3. [*1-4, 1-11*] **de** Ethan, das / **hu** etán / **sk** etán

ethanethiol C_2H_5-SH. s. ethyl mercaptane. **de** Ethylmercaptan, das / **hu** etántiol / **sk** etántiol

ethanol (EtOH) EtOH / C_2H_5OH. Ethanol can be produced by fermentation of sugar. It is a common oxygenate for fuel additivation. [*3-32*] (*s. a. bioethanol*) **de** Ethanol, das; Ethylalkohol, der / **hu** etanol / **sk** etanol

ethanol fuels s. bioethanol **de** Bioethanol, das; Ethanoltreibstoff, der / **hu** bioetanol / **sk** palivá na báze etanolu

ethyl mercaptane C_2H_5-SH; Component used as gas odorant in small concentrations. CH_4 is odorless, so the substance is used for safety reasons. [*2-40*] (*s. a. natural gas, hydrogen sulphide*) **de** Ethylmercaptan, das / **hu** etil-merkaptán, etántiol / **sk** etylmerkaptán

ethyl tertiary butyl ether ETBE / Common oxygenate for fuels. [*332*] **de** Ethyl-Tertiärbutyl-Ether, der / **hu** etil-terc-butil-éter / **sk** etyltercbutyléter

ethylamine Colorless gas, $CH_3CH_2NH_2$. Strong odour like ammonia. s. antioxidants **de** Ethylamin, das / **hu** etil-amin / **sk** etylamín **ethylene** Unsaturated hydrocabon, C_2H_4. Calorific value 59500 kJ/ m^3. [*1-4, 1-11*] **de** Ethylen, das / **hu** etilén, etén / **sk** etylén, etén

ethylene diamine dinitrate $C_2H_{10}N_4O_6$; Explosive, used in ammonium mixtures. Detonation velocity about 6800 m/s. [*1-12*] **de** Ethylendiaminnitrat, das / **hu** etilén-diamin-dinitrát / **sk** etyléndiamín-dinitrát

ethylene glycol MEG / HO-CH_2-CH_2-OH; Dihydroxy alcohol, due to it's hygroscopic properties it is used to dehumify fluids (e.g. natural gas). MEG = monoethylene glycol [*1-24*] (*s. a. natural gas, glycol dehydration*) **de** Ethylenglykol, das / **hu** etilén-glikol, glikol / **sk** etylénglykol

ethylene glycol monomethyl ether Used as fuel system icing inhibitor. [*3-48*] **de** Ethylenglykol-Monoethylether, der / **hu** etilén-glikolmonometil-éter / **sk** etylénglykol-metyléter

ethylenedinitramine $C2H_6N_4O_4$; Highly explosive material used in military applications. Detonation velocity about 7500 m/s. [*1-12*] **de** Ethylendinitramin, das / **hu** etilén-dinitro-amin / **sk** etyléndinitroamín

ethylphenylurethane $C_{11}H_{15}NO_2$; Stabilizer used for gunpowders. [*1-12*] **de** Ethylphenyluretan, das / **hu** etil-fenil-uretán

Eugene Island Crude oil product with an API gravity of 34.3° and a sulphur content of 1.2%. The field is located in the United States. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Eugene Island (Rohöl), das / **hu** Eugene Island olaj / **sk** Eugene Island-ropa

Eulerian model Dispersion model similar to a Lagrangian air dispersion model. [*1-68*] (*s. a. atmospheric dispersion models*) **de** EulerModell, das / **hu** Euler-modell / **sk** Euler-ov model

euromarker s. solvent yellow 124 **de** Euromarker / **sk** euromarker

eutectic mixture A particular composition where the melting point is as low as possible and all the components crystallize simultaneously at this temperature from molten liquid solution. The temperature at which it takes place is the eutectic temperature. [*1-11*] **de** eutektische Mischung, die / **sk** eutektická zmes

evaporation Phase change from liquid to gaseous state. The enthalpy of vaporization is essential for this phase change. [*1-31*] **de** Verdunstung, die / **hu** párolgás, elgőzölgés / **sk** vyparovanie

evaporation enthalpy s. enthalpy of vaporization **de** Verdunstungsenthalpie, die / **hu** párolgáshő, forráshő, (fajlagos) párolgási hő/ entalpia / **sk** entalpia vyparovania

exa E / SI-prefix, factor 10^{18}. [*3-38*] **de** exa

excitation lag The excitation lag in O_2 is greater than in N_2. (*s. a. Lewis, von Elbe*) **de** Zeitverzögerung bei der Anregung, die

exergy Part of total energy that can be used for doing work during a process that brings the system into equilibrium. [*1-30*] **de** Exergie, die / **hu** exergia / **sk** exergia

exhaust cap s. damper **de** Abgasklappe, die / **sk** ventilačná hlavica s mriežkou

exhaust fan Part of the exhaust-gas system which is blowing off flue gases. [*1-30*] **de** Abgasgebläse, das / **hu** füstgázventilátor (szívó ventilátor) / **sk** spalinový ventilátor

exhaust flap s. damper **de** Abgasklappe, die / **sk** spalinová klapka

exhaust gas Flue gas produced by combustion of fuels. [*1-2*] (*s. a. combustion, diesel, fuel, gasoline, natural gas, petrol, coal*) **de** Abgas, das / **hu** füstgáz, kipufogógáz / **sk** spaliny

exhaust gas analysis Analytical determination of gas components. This mainly includes carbon monoxide, carbon dioxide, oxygen, un burned hydrocarbons, nitrogen oxides, sulphur dioxide and particles (from diesel engines). [*1-30, 1-43*] (*s. a. carbon monoxide, carbon dioxide, oxygen, unburned hydrocarbons, nitrogen oxides, sulphur dioxide, particles*) **de** Abgasanalyse, die / **hu** füstgázanalízis / **sk** analýza spalín

exhaust gas recirculation EGR / s. flue gas recirculation **de** Abgasrückführung, die / **hu** füstgáz-recirkuláció, füstgázvisszavezetés / **sk** recirkulácia spalín

exhaust velocity The velocity of burning gases when leaving the combustion chamber through the outlet nozzle. The thrust of a rocket can be calculated from exhaust velocity and flow rate. [*112*] **de** Ausströmgeschwindigkeit, die / **hu** kiömlési sebesség / **sk** rýchlosť spalín

exploration well s. oil well **de** Erkundungsbohrung, die / **hu** kutatófúrás, feltáró fúrás / **sk** preiskumný vrt

explosion range s. flammability range **de** Explosionsgrenzen, die **explosion temperature** Calculated temperature of the explosion fumes (theoretically adiabatic and with constant volume). [*1-12*] (*s. a. detonation*) **de** Explosionstemperatur, die / **hu** robbanási hőmérséklet / **sk** teplota explózie, výbušná teplota

explosion, thermal theory Homogeneous ignition is decribed by the theory of Semenov. By homogeneity, it is to be understood that ehre are neither temperature nor concentration gradients. Temperature gradients are condidered in inhomogeneous ignition as described by the theory of Frank Kamenetzkii. [*1-2*] **de** thermische Theorie der Explosion, die / **sk** tepelná teória explózie

explosion-proof enclosure s. flame-proof enclosure **de** explosions geschützte Ausführung, die; explosionsgeschützte Einhausung, die / **hu** robbanásbiztos tokozat / **sk** chránený proti výbuchu **explosive bolt** s. pyrotechnic fastener **de** Pyrobolzen, der / **sk** zápalka

exposed junction s. thermocouple exposed junction **de** Thermoelement mit freiliegender Messstelle, das / **sk** nechránený spoj

exsudation The loss of oleaginous matters from explosive charges as a result of long storing. [*1-12*] **de** Ausschwitzen, das / **hu** izzadás(i veszteség) / **sk** exsudácia

extended Zeldovich mechanism s. Zeldovich mechanism **de** erweiterter Zeldovich-Mechanismus, der

extensive variable Defines physical properties of a system which depend on the system size or the amount of material in the system. Examples are mass, volume, mol, internal energy, enthalpy and entropy. [*1-31*] (*s. a. intensive variable*) **de** extensive Größe, die / **hu** extenzív állapotjelző / **sk** extenzívna veličina

extinction Describes the loss of intensity of a light beam transmitted through a medium. Extinction is caused by absorption and scattering. [*1-2*] **de** Extinktion, die / **hu** (sugárzás)kioltás, extinkció / **sk** extinkcia, zhasnutie, uhasenie

extra heavy crude oil Liquid petroleum with an API gravity of less than 10°. It contains asphaltenes. Resources are oil sands in Canada and Venezuela. [*1-58, 3-62*] (*s. a. API gravity, heavy crude oil, light crude oil, Athabasca oil sands, Orinoco oil sands*) **de** Extra-Schweröl, das; unkonventionelles Öl, das / **hu** nehéz olaj, nem konvencionális nyersolaj / **sk** extra ťažká ropa

extraction turbine Steam turbine with two (or more) steam sources. [*1-74*] (*s. a. steam*) **de** Entnahmeturbine, die / **hu** elvételes/megcsapolásos (gőz)turbina / **sk** odberová turbína

extruded charcoal Extrudate made from ground wood or carbonized wood. [*1-25*] **de** extrudierter Koks, der / **sk** pretlačované drevné uhlie

eyepiece A part of a borescope. **de** Sichtstück, das / **hu** szemlencse, okulár / **sk** okulár

Fabry-Pérot interferometer Transparent plate with two highly reflecting surfaces. Used in lasers and spectroscopy. [*1-102*] (*s. a. laser*) **de** Fabry-Pérot-Interferometer, das / **hu** Fabry–Perot interferométer / **sk** Fabry-Perót-ov interferometer

face burning A propellant configuration in rocketry when the combustion is limited to the cross-section of the burning chamber. Long burning times with constant thrust can be obtained. [*1-12*] (*s. a. solid propellant rocket*) **de** Stirnabbrand, der / **sk** čelový opal

Fahrenheit-scale Temperature scale. The lower fixed point is the temperature of a cooling bath (ice, water, ammonium chloride), the upper fixed point is the human body temperature. Mainly used in North America. [*1-31, 1-73, 3-38*] (*s. a. temperature scale*) **de** Fahrenheit-Skala, die / **hu** Fahrenheit-skála / **sk** Fahrenheit-ova stupnica

fall hammer test Test of the sensitiveness of explosives. [*1-13*] **de** Fallhammertest, der / **hu** ejtőkalapácsos vizsgálat / **sk** Fall hammer test

fall off curve Describes the reaction rate as a function of the pressure for different temperatures (unimolecular reaction). [*1-2*] **de** Abfallkurve, die

Fanning friction number A dimensionless number that characterizes the fluid flow (shear strain at the wall). [*1-72*] **de** Fanning-Zahl, die / **hu** Fanning-féle súrlódási tényező / **sk** trecie Fanning-ovo číslo

farad SI unit of capacitance. [*3-38*] **de** Farad, das

Faraday constant F / The absolute value of electric charge per mol of electrons. F = 96 485.339 9 C/mol. [*1-31*] **de** Faraday Konstante, die / **hu** Faraday-állandó / **sk** Faraday-ova konštanta

far-field diffraction s. Fraunhofer diffraction **de** Brechung im Fernfeld, die / **sk** difrakcia vzdialeného poľa

Fast Fourier Transform FFT / Mathematical algorithm to compute the discrete Fourier transform. (*s. a. spectroscopy*) **de** schnelle Fouriertransformation, die / **hu** gyors Fourier transzformáció, FFT / **sk** FFT

fast ion conductor s. solid electrolyte **de** rascher Ionenleiter, der / **sk** tuhý elektrolyt

fat coal s. coal **de** Fettkohle, die / **hu** zsíros szén / **sk** mastné uhlie, žírne uhlie

Fateh Crude oil product with an API gravity of 30.4° and a sulphur content of 2.1%. The field is located in Dubai. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Fateh (Rohöl), das / **hu** Fateh olaj / **sk** Fateh-ropný produkt

fatty acid methyl (or ethyl) ester (FAME) FAME / Biodiesel primarily contains fatty acid methyl (or ethyl) esters. FAMEs can be obtained from vegetable oils by transesterification. (*s. a. transesterification*) **de** Fettsäure-methyl (od. ethyl)-ester, der / **hu** zsírsav-metilészter / **sk** metyl(etyl)ester mastných kyselín

faujasite Synthetic zeolite used as a catalyst in fluid catalytic cracking. [*1-64*] (*s. a. fluid catalytic cracking*) **de** Faujasit, der / **hu** faujasit / **sk** faujasit

feed NO_x NO_x formed with the feed material of cement rotary kilns. [*1-2, 3-16*] (*s. a. Zeldovich mechanism, fuel NO_x, prompt NO_x, thermal NO_x, NO_x formation*) **de** Brennstoff-NO_x, das / **hu** a bevitt anyagból származó NO_x / **sk** palivové NO_x, NO_x zo vsádzkového materiálu

feed water Water, treated to remove air and impurities, which is supplied to a process unit such as a boiler for evaporation. [*1-74*] (*s. a. feed water heater*) **de** Speisewasser, das / **hu** tápvíz / **sk** prítoková voda

feed water heater Device for heating boiler feed water using steam which has done work in an engine. Syn.: economizer. [*1-74*] (*s. a. feed water*) **de** Speisewasservorwärmer, der / **hu** tápvízelőmelegítő / **sk** ohrievač prítokovej vody

femto f / SI-prefix, factor 10-15. [*3-38*] **de** femto

Fenimore NO s. prompt NO_x **de** nach dem Fenimore-Mechanismus gebildetes NO, das / **sk** Fenimore NO

ferrocene Gasoline additive to increase the fuel's octane rating. In diesel engines, ferrocene reduces the production of soot. [*3-32*] (*s. a. Auer metal*) **de** Auermetall, das / **hu** ferrocén / **sk** ferocén

ferrocerium Pyrophoric alloy containing iron, cerium, lanthanum and some other metals. It has the ability to produce numerous sparks when scraped against a rough surface. Therefore it is in common as a "flint" in lighters. (*s. a. flint, lighter, match, Fürstenberger lighter, Döbereiner's lamp, Ikari lighter, Nainen lighter, galvanic lighter*) **de** Ferrocerium, das / **hu** ferrocérium / **sk** ferocér

ferrous picrate Gasoline additive used to improve combustion. [*3-32*] (*s. a. picrate*) **de** Eisenpikrat, das / **hu** vas-pikrát / **sk** pikrát železa

F-head engine Specification of a one valve arrangement for an Otto combustion engine. [*1-34, 1-29*] **de** F-Kopf-Motor, der / **hu** oldalszelepelt motor / **sk** motor s F-hlavou, m. s jedným visutým a jedným stojatým ventilom

Fick's law of diffusion The first law relates the diffusive flux to the concentration gradient. The second law describes how diffusion causes the concentration gradient to change in time (the flux in the first law is constant in time). [*1-2, 1-31*] **de** Ficksches Gesetz, das / **hu** Fick-törvények / **sk** Fickov zákon

film forming fluoroprotein Heat resistant foam used commonly in fire fighting in motorsports. [*1-71*] (*s. a. fire fighting foam*) **de** filmbildende Fluorproteinschaummittel, die / **hu** filmképző fluoroprotein / **hu** fluorozott filmképző hab / **sk** penový hasiaci prístroj tvoriaci fluoroproteínovú penu

Fine-structure constant α / Dimensionless fundamental physical constant. It characterizes the strength of the electromagnetic interaction. $7.2973525376*10^{-3}$. [*3-38*] **de** Feinstrukturkonstante / **hu** finomszerkezeti állandó / **sk** konštanta jemnej mikroštruktúry

fingerprint In the IR spectrum of organic compounds, the "finger print region" can be used to identify them. **de** Fingerprint, der / **hu** ujjlenyomat

fire Unwanted combustion is termed "fire". **de** Feuer, das / **hu** tűz, égés / **sk** oheň

fire classes Classification of fires according to their combustible materials, necessary for the proper selection of a fire extinguisher. [*3-69*] **de** Brandklassen, die / **sk** stupne požiaru

fire clearing Removal of biomass from a piece of land by burning it down, often to obtain arable land or to get rid of organic matter after harvesting. [*1-75*] **de** Brandrodung, die / **sk** vypaľovanie lesov

fire compartment Concept of fire protection in buildings; a fire in one fire compartment does not spread over to adjacent fire compartments. **de** Brandabschnitt, der

fire damp Flammable gas mixtures (e.g. containing CH_4) in concentrations around 10% from (coal) mines. [*1-12*] **de** Schlagwetter, das / **hu** sújtólég / **sk** banský plyn, výbušné plyny

fire extinguisher Device, usually a hand held pressure vessel, used to extinguish small fires. It is not designed for use on an out-ofcontrol fire. [*1-71*] (*s. a. fire fighting foam, fire extingushing powder, inert gases, fire classes*) **de** Feuerlöscher, der / **hu** tűzoltó készülék, poroltó / **sk** hasiaci prístroj

fire extinguishing powder Powder based agent used to extinguish fires. Common powders are: ammonium phosphate, sodium bi carbonate, potassium bicarbonate, and potassium chloride. [*1-71*] (*s. a. fire extinguisher, ammonium phosphate* (*fire fighting*), *sodium bicarbonate* (*fire fighting*), *potassium bicarbonate* (*fire fighting*), *potassium chloride* (*fire fighting*)) **de** Löschpulver, das / **hu** tűzoltópor / **sk** hasiaci prášok

fire fighting foam Foam used for fire fighting n by cooling and coating the burning material. [*1-71*] (*s. a. fire extinguisher, fluoroprotein foam, aqueous film-formin foam, compressed air foam system*) **de** Löschschaum, der / **hu** tűzoltó hab / **sk** hasiaca pena

fire piston Rapid compression of air is used to ignite a piece of tinder. Sometimes called fire syringe. [*3-57, 3-58*] (*s. a. flintlock, wheellock, matchlock, snaphance*) **de** Feuerpumpe, die / **sk** pneumatický zapaľovač

fire syringe s. fire piston **de** Abfackeln, das / **sk** pneumatický zapaľovač

fire triangle Simple model of firefighting. Sufficient heat, fuel, and oxygen are needed for a fire to beginn or continue. (*s. a. fire extinguisher*) **de** Verbrennungsdreieck, das / **sk** spaľovací trojuholník

firecracker Small explosive body to produce a loud bang. (*s. a. flash powder*) **de** Böller, der / **hu** durranó cukorka / **sk** petarda

firedamp s. pit gas **de** Schlagwetter, das; schlagendes Wetter, das / **sk** banský plyn, výbušné plyny

firefly Fireflies are capable of producing "cold light" by bioluminescence (chemiluminescence). **de** Leuchtkäfer, der; Glühwürmchen, das / **hu** szentjánosbogár / **sk** svätojánska muška

firing pin Mechanism for igniting/firing firearms and some types of mines and grenades. (*s. a. fire piston, wheellock, matchlock, snaphance*) **de** Schlagbolzen, der / **hu** ütőszeg, gyúszeg / **sk** úderník

first Damköhler number DaI DaI / Dimensionless number, provides the ratio of the rate constant of the reaction to the rate constant of convective mass transport. [*1-2, 1-19*] (*s. a. second Damköhler number, third Damköhler number, fourth Damköhler number, turbulent Damköhler number*) **de** Damköhler Zahl erster Ordnung, die / **hu** első Damköhler-szám / **sk** Damköhler-ovo číslo prvého poriadku

first generation biofuels Biofuels made from sugar, starch, vegetable oil, or animal fats. Common first generation biofuels are vegetable oil, biodiesel, bioalcohols, syngas. [*3-13, 3-15*] (*s. a. vegetable oil, biodiesel, bioalcohols, sysngas, biogas, solid biofuels, second generation bio fuels, third generation bio fuels, fourth generation biofuels*) **de** Biokraftstoffe der 1. Generation, die / **hu** elsőgenerációs bio-üzemanyagok / **sk** biopalivá prvej generácie

first law of thermodynamics The total amount of energy in a closed system remains constant. This means that energy cannot be created or destroyed. [*1-31*] **de** erster Hauptsatz der Thermodynamik, der / **hu** a termodinamika első főtétele, első főtétel / **sk** 1. Zákon temodynamiky

Fischer-Tropsch diesel Diesel produced from coal by FischerTropsch synsthesis. [*1-11*] (*s. a. Fischer-Tropsch process, coal-toliquid*) **de** Fischer-Tropsch Diesel, der / **hu** Fischer-Tropsch-dízel / **sk** Fischer-Tropsch nafta

Fischer-Tropsch process Coal-to-liquid process. Coal and vapor are converted to sysnthesis gas and thereafter into liquid hydrocarbons and water by using a catalytic reaction. [*1-11*] (*s. a. coal-toliquid, Bergius-Pier process*) **de** Fischer-Tropsch Synthese, die / **hu** Fischer–Tropsch-eljárás, Fischer-Tropsch-szintézis, CO hidrogénezés / **sk** Fischer-Tropsch-ov proces

fizz zone Zone in which a solid propellant is converted into gaseous intermediates. [*1-13*] **de** Brausezone, die

Flame acceleration The rapid increase in flame-speed due to the generation of eddies. **de** Flammenbeschleunigung, die / **sk** zrýchlenie plameňa

flame cone Conical outline of a premixed flame. [*1-29*] **de** Flammenkegel, der / **hu** lángkúp / **sk** kužeľ plameňa

flame front Outer limit of the combustion zone in the gas phase. [*12*] **de** Flammenfront, die / **hu** lángfront / **sk** fronta plameňa

flame front thickness Characteristic parameter of laminar flames. [*1-2*] **de** Flammenfrontdicke, die / **sk** hrúbka fronty plameňa

flame inner core Inner region of a premixed flame where the combustion process is not finished. [*1-29*] **de** Flammenkern, der / **hu** lángmag / **sk** jadro plameňa, vnútro p.

flame ionisation detector FID / Gas detector based on the conductivity of a oxyhydrogen flame between two electrodes. The sample substances (e.g. unburned hydrocarbons) will be thermally ionized. [*1-96*] (*s. a. unburned hydrocarbon measurement*) **de** Flammenionisationsdetektor, der / **hu** lángionizációs detektor / **sk** plameňovoionizačný detektor

flame jet igniter Ignition device that uses a pre-chamber for generating and injecting a jet of flames into the main chamber. [*1-134*] **de** Anzünder mittels Flammenstrahl, der / **sk** zapaľovanie pomocou sálavého plameňa

flame length Characteristic parameter of laminar flames. [*1-2*] **de** Flammenlänge, die / **sk** dĺžka plameňa

flame lift-off Laminar flame speed is lower than tip velocity of the unburnt gas. [*1-2, 1-36*] **de** Abheben der Flamme, das / **sk** odtrhnutie plameňa

flame polishing Polishing method of material such as glass by exposing it to a flame or heat. **de** Feuerpolitur, die / **sk** leštenie ohňom

flame propagation (Zeldovich model) The basic assumptions are:
1) a static flame with a one-step-reaction fuel > products; 2) thermal conductivity, heat capacity and the product of density and diffusion coefficient are independent of location; 3) simplification of some other terms to get a solvable system of differential equations. The solution to the system of differential equations is possible under specific conditions to individual regions of the flamefront. Another approach are numerical simulations. [*1-2*] (*s. a. numerical simulations*) **de** Flammenfortpflanzung, die / **hu** lángterjedés / **sk** šírenie plameňa

flame quenching Flame quenching occurs when a flame impinges on the wall, leading to a stop of the reaction (and possibly pollutant formation). [*1-2*] (*s. a. flamable limit*) **de** Flammenlöschung, die / **hu** lángkialvás / **sk** hasnutie plameňa

flame signal amplifier Device for controlling the formation of a flame. These can be a UV-photodiode or measuring the electric conductivity with a simple tungsten wire. [*1-29*] **de** Flammenwächter, der / **hu** lángőr / **sk** senzor plameňa

flame size Can be determined from the temperature profile. It describes the size of the preheating zone in the flame structure. It is also a measure for the quenching distance. [*1-2*] **de** Flammendicke, die / **sk** hrúbka plameňa

flame temperature measurement s. temperature measurement **de** Messung der Flammentemperatur, die / **hu** lánghőmérsékletmérés / **sk** meranie teploty plameňa

flame types Flames can be divided into the categories premixed and non premixed. Each of these types can be further subdivided based on whether the flow is laminar or turbulent. [*1-2*] **de** Flammentypen, die / **hu** lángtípusok / **sk** typy plameňa

flame velocity Characterizes the propagation of the flame front into the unburned mixture. [*1-2*] (*s. a. laminar flame velocity*) **de** Flammengeschwindigkeit, die / **hu** lángterjedési sebesség, lángsebesség, égési sebesség / **sk** rýchlosť plameňa

flame, yellow tip Soot radiation of a flame. [*1-29*] **de** gelbe Flammenspitze, die / **hu** sárga lángszél/ lángcsúcs / **sk** žltá špička plameňa

flamelet Turbulent flames will be described as ensemble of laminar individual flames. [*1-2*] **de** Flamelet, das; Flämmchen, das / **sk** plamienok

flame-out s. end of burning [*1-12*] **de** Ende der Verbrennung, das

flameover s. rollover **de** Rauchdurchzündung, die

flame-proof enclosure Construction of electrical devices for explosion-hazardous areas. [*1-29*] **de** flammensichere Einhausung, die / **hu** robbanásbiztos tokozat / **sk** nevýbušný kryt

flammability limit The proportion of combustible gases in a mixture, between which limits the mixture is flammable. [*1-1*] (*s. a. upper flammability limit, lower flammability limit*) **de** Explosionsgrenze, die / **sk** hranica výbušnosti

flammability range The mixing ratio between fuel and oxidiser, typically air, where ignition can occur, is termed flammability range. It streches from lower flammability limit to upper flammability limit. **de** Zündgrenzen, die / **sk** hranica zápalnosti

flammable Materials that can be set on fire are said to be flammable (=inflammable). Those that do not burn are termed non-flammable. **de** entflammbar / **hu** gyúlékony / **sk** horľavý

flammable limit s. ignition limit, s. explosion limit (upper, lower) [*1-1*] **de** Entflammbarkeitsgrenzwert / **hu** gyulladási határ / **sk** hraničná medza zápalnosti

flare Burning off unwanted or inefficient amounts of gas. [*1-30*] **de** Abfackeln, das / **hu** fáklyázás / **sk** sviečka, fakľa

flare match s. storm match **de** Sturmfeuerzeug, das

flare stack s. flare **de** Fackel, die / **hu** fáklyakémény, fáklyatorony / **sk** komín, sviečka

flash oil Kerosene-made product used in etching inks. **de** Flash-Öl, das / **hu** gyors/villám/flash pirolízis / **sk** forma kerozínu

flash point The lowest temperature at which a flammable liquid can form an ignitable mixture in air. At this temperature the vapour may cease to burn when the source of ignition is removed. (*s. a. burn point*) **de** Flammpunkt, der / **hu** gyulladási hőmérséklet, lobbanáspont / **sk** teplota vzplanutia, bod vzplanutia

flash pyrolysis s. biomass to liquid **de** Flash-Pyrolyse, die / **hu** flash pirolízis / **sk** flash pyrolýza

flashback If the gas velocity in premixed combustion is lower than the laminar flame speed, the flame can travel backwards into the device. (*s. a. backdraft*) **de** Flammenrückschlag, der / **hu** belobbanás, visszalobbanás, lángvisszacsapás / **sk** prešľahnutie plameňa

flashover F/O / Simultaneous ignition of fire gases and all combustible material in an enclosed area. [*1-69*] (*s. a. rollover, backdraft*) **de** Flashover, der / **sk** preskok

flat flame The assumption of a flat flame is that the concentration of a particular molecule at a particular height is constant everywhere at that height above the burner. The larger the diameter of the burner the better the assumption will be. [*3-5, 2-8*] (*s. a. premixed flame, laminar flame, burner types, flat flame burner*) **de** flache Flamme, die / **sk** plochý plameň

flat flame burner A burner that creates a "one dimensional" flame, that means the concentration of a particular molecule at a particular height is constant everywhere at that height above the burner. This burner type is used as a model-burner for the investigation of combustion processes. [*3-5, 2-8*] (*s. a. premixed flame, laminar flame, burner types, flat flame, McKenna burner*) **de** Flachbrenner, der / **hu** lapos lángú égő / **sk** plochý horák

flathead engine Four-stroke internal combustion engine with valves placed beside the piston. [*1-34, 1-29*] **de** Seitenventilmotor, der / **hu** oldalszelepelt motor / **sk** motor s bočnými stojatými ventilmi

flatty s. flathead engine **de** Seitenventilmotor, der / **sk** motor s bočnými stojatými ventilmi

flexible volatility index FVI / Calculated from the reid vapour pres sure and the E70 value. It is specifies the tendency for vapour lock (hot running performance). [*3-32*] (*s. a. vapour lock*) **de** FV-Index, der / **sk** FVI

flexicoking Thermal cracking process used to convert crudes into fuels [*1-59*] (*s. a. coker unit*) **de** Flexicoking, das / **sk** flexikoksovanie

flint(stone) Cryptocrystalline quartz mineral. Strucking pyrite or marcasite against flint produces sparks. Striking flint against high carbon steel produces also sparks, this was used as lighter. Today the term "flint" is often used for ferrocerium. (*s. a. lighter, match, ferrocerium*) **de** Feuerstein, der / **hu** tűzkő, kovakő / **sk** forma kremeňa

flintlock Obsolete escapement used for firearms (muzzleloader, breechloader, smoothbore). A flint struck against a metal pan. (*s. a. fire piston, wheellock, matchlock, snaphance*) **de** Steinschloss, das / **sk** mušketa

flow tagging A technique to visualize flows by adding tracers and observing them as a proxy for flow movement. [*B7*] (*s. a. PIV, LDA, tracer*) **de** Flow Tagging, das (Strömungsvisualisierung durch Zugabe von Partikeln)

flue gas analysis s. exhaust gas analysis **de** Abgasanalyse, die / **hu** füstgázelemzés / **sk** analýza spalín

flue gas condensation The flue gas is cooled below the dew point of water. The heat is released by the condensation of water directly with a heat exchanger or indirectly via a condensing scrubber. (*s. a. district heating, heat recovery, dew point*) **de** Abgaskondensation, die (Kondensation von Wasser, um die Verdampfungsenthalpie zurückzugewinnen) / **sk** kondenzácia spalín

flue gas desulfurization FGD / Methods for removing sulfur dioxide from flue gases (e.g. from plants which are burning fossil fuels). Sulfur dioxide can be removed by wet scrubbing and by dry scrubbing. Usually a limestone slurry is used as solvent (producing calcium sulfite which can be easily oxidized to gypsum). [*2-44*] (*s. a. wet scrubber, dry scrubber*) **de** Rauchgasentschwefelung, die / **hu** füstgáz-kéntelenítés / **sk** odsírenie spalín

flue gas heat Enthalpy contained in the flue gas. [*1-30*] **de** Abgaswärme, die / **hu** füstgázhő / **sk** teplo spalín

flue gas recirculation Flue gas is fed back to the combustion chamber, e.g. for NO_x reduction (lower combustion temperatures) or CO_2 enrichment. [*1-30*] (*s. a. exhaust gas recirculation*) **de** Abgasrezirkulation, die; Abgasrückführung, die / **hu** füstgáz-recirkuláció, füstgáz-visszavezetés / **sk** recirkulácia spalín

flue loss Enthalpy contained in the flue gas. [*1-30*] **de** Abgasverlust, der / **hu** füstgázveszteség / **sk** spalinová strata, komínová s.

fluence The number of particles that pass over a unit area (= integrated flux). [*1-44*] **de** Fluenz, die / **sk** hustota prejdených častíc

fluid catalytic cracking FCC / Conversion process used to convert the high-boiling crude oil fractions to gasoline and other light hydrocarbon products. Catalytic cracking produces fuels with an higher octane rating than thermal cracking. Zeolithes (faujasite) are used as catalyst. [*1-59*] (*s. a. faujastite, thermal cracking, process units* (*oil refinery*)) **de** Fluid Catalytic Cracking, das / **hu** fluidizációs katalitikus krakkolás, lebegő katalizátoros hőbontás / **sk** fluidné katalytické krakovanie

fluidized bed A fluid is passed upwards through a lumpy bulk solid material and suspends solid particles. There are stationary fluidized beds, circulating fluidized beds and pressurized fluidized beds. [*1-80*] (*s. a. fluidized bed combustion*) **de** Wirbelschicht, die / **hu** fluidágy, örvényágy, fluidizált réteg / **sk** fluidná vrstva

fluidized bed combustion FCB / Combustion of solid fuels in reactors with upward-blowing air (turbulent mixing) on a bed during the combustion process. [*1-80*] (*s. a. fluidized bed*) **de** Wirbelschichtfeuerung, die / **hu** fluidágyas/fluidizációs/örvényágyas tüzelés / **sk** fluidné spaľovanie, spaľovanie vo fluidnej vrstve

fluidized bed membrane reactor FBMBR / Varation of a fluidized bed reactor e.g. for gasification. **de** Wirbelschichtmembranreaktor, der / **sk** fluidný membránový reaktor

fluidyne engine Stirling engine with one or more liquid pistons. [*134, 1-29*] **de** Fluidyne-Motor, der / **sk** beta alebo gama typ Stirlingov-ého motora

fluorescence efficiency Ratio of the emitted photons to the number of absorbed photons (quantum yield) [*1-96, 1-49*] **de** Fluoreszenzquantenausbeute, die / **sk** účinnosť fluorescencie

fluorescence quantum yield FQY / Efficiency of the fluorescence process. FQY is defined as the ratio of the number of photons emitted to the number of photons absorbed. [*B7*] **de** Fluoreszenzquantenausbeute, die / **hu** fluoreszcens (quantum)hozam / **sk** FQY

fluorescence thermometry Method to measure temperature in 1 or 2 dimensions. This method is not limited to major species of large concentration. Due to the large cross section, also twodimensional thermometry is possible. [*1-43*] (*s. a. monochromatic fluorescence thermometry, two dimensional thermometry, two line fluorescence thermometry*) **de** Fluoreszenz Thermometrie, die / **hu** fluoreszcenciás hőmérsékletmérés / **sk** fluorescenčná termometria

fluoroform Halocarbon used as fire supression agent. It is not an ozone-depleting substance but it is a potent greenhouse gas. [*3-71*] (*s. a. halon* (*fire fighting*)) **de** Trifluormethan, das / **hu** fluoroform, trifluormetán / **sk** fluoroform

fluoroprotein foam Biodegradable and heat resistant foam containing natural proteins. [*1-71*] (*s. a. fire fighting foam*) **de** Fluorproteinschaummittel, die / **sk** fluoroproteínová pena

fly ash Solid, fine disperse residue generated by the combustion of coal. [*1-11*] (*s. a. coal, bottom ash*) **de** Flugasche, die / **hu** szállópernye, szállóhamu / sk popolček

foam zone The beginning stage of gasification when burning propellants. [*1-13*] **de** Schäumungszone, die / **sk** "penová" zóna

fog nozzle (fire fighting) Firefighting equipment. A nozzle disperses water into small droplets. [*1-70*] (*s. a. impulse fire extinguishing system*) **de** Löschlanze, die / **hu** vízködsugárcső / **sk** hasiaca striekačka

folding frequency s. Nyquist frequency **de** Nyquist-Frequenz, die / **sk** Nyquist-ova frekvencia

foot ft / Unit of length.0.30480 m **de** Fuß (Einheit), der / **hu** láb, foot / **sk** stopa

forge coal s. coal **de** Esskohle, die / **sk** kováčske uhlie

Foroozan Blend Crude oil product with an API gravity of 29.7° and a sulphur content of 2.3%. The field is located in Iran. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Foroozan Blend (Rohöl), das / **hu** Foroozan Blend olaj / **sk** Foroozan Blend-ropný produkt

fossil fuels Hydrocarbons (oil, gas, coal) formed from the preserved remains of plants and animals. **de** fossile Brennstoffe, die / **hu** fosszilis tüzelőanyagok / **sk** fosílne palivá

Foucault-current s. eddy-current **de** Foucault-Strom, der / **hu** örvényáram, Foucault-áram / **sk** Foucault-ove prúdy

fouling Deposition or incrustation of foreign matter, e.g. carbon in an engine cylinder. [*1-74*] **de** Ablagerung, die / **hu** lerakódás, elszennyeződés, elkormozódás / **sk** znečisťovanie, nečistota

foundry flux Metal fire extinguishing agents, containing metal chlorides and fluorides. The fluxes are excluding air on the surface of combustible metals. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** Flussmittel, das / **sk** fluxovadlo

four stroke principle Engine cycle consisting of suction (or induction), compression, expansion and exhaust. [*1-34*] (*s. a. Otto cycle*) **de** Viertaktverfahren, das / **hu** négyütemű működés(i elv) / **sk** štvortakt

Fourier number Fo Fo / A dimensionless number that characterizes the ratio of the carried heat (conduction) to the stored heat. [*1-72*] **de** Fourier Zahl, die / **hu** Fourier-szám / **sk** Fourier-ovo kritérium

Fourier transform infrared emission analyzer FTIR / Infrared spectroscopic measurement method using a Michelson interferometer to get a interferogram. The spectra can be calculated by doing Fourier transformation. [*1-96*] (*s. a. Michelson interferometer*) **de** Fourier-Transformations Infrarotspektrometer, der / **hu** Fouriertranszformációs infravörös spektrométer / **sk** FTIR, infračervená spektroskópia s Fourier-ovou transformáciou

fourth Damköhler number DaIV DaIV / Dimensionless number which is used to estimate operating conditions of polytropic processes. [*1-2, 1-19*] (*s. a. first Damköhler number, second Damköhler number, third Damköhler number, turbulent Damköhler number, polytrophic*) **de** Damköhler Zahl vierter Ordnung, die / **hu** negyedik Damköhler-szám / **sk** Damköhler-ovo číslo štvrtého poriadku

fourth generation biofuels Fourth generation biofuels are obtained by converting vegetable oils and biodiesel into gasoline. [*3-15, 1-21*] **de** Biokraftstoffe der 4. Generation, die / **hu** negyedik generációs bio-üzemanyagok / **sk** biopalivá štvrtej generácie

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Fourth Law of Thermodynamics s. Onsager reciprocal relations **de** vierter Hauptsatz der Thermodynamik, der / **sk** štvrtý zákon termo dynamiky

four-wire RTD configuration Two wire leads are terminated at each end of the RTD. [*1-54*] (*s. a. resistive temperature detectors*) **de** 4-Draht-Konfiguration, die / **hu** négyhuzalos ellenállás-hőmérő/ hőellenállás elrendezés / **sk** termoodporové senzory

fractal dimension A statistical quantity how completely a fractal appears to fill space. [*1-116*] **de** fraktale Dimension, die / **sk** fraktálna dimenzia, fraktálny rozmer

fractional distilation Distillation of more than two components. [*174*] **de** fraktionierte Destillation, die / **hu** szakaszos lepárlás, frakcionált desztilláció / **sk** frakčná destilácia

Frank-Kamenetskii model s. inhomogeneous ignition **de** Modell von Frank-Kamenetskii, das / **sk** Frank-Kamenetskii-ho model

Fraunhofer diffraction Diffraction that occurs if the light is parallel and monochromatic, the image is plane at a distance large compared to the diffracting object (Fresnel-number << 1). The diffraction pattern is independent of the distance to the screen, it depends on the angle to the screen from the aperture. Syn.: far-field diffraction [*1-53*] (*s. a. Fresnel number, liquid droplet sizing by Fraunhofer diffraction*) **de** Fraunhofer-Beugung, die / **hu** Fraunhofer-diffrakció, Fraunhofer-féle elhajlás / **sk** Fraunhofer-ova difrakcia

free face Face of rock parallel to the line of boreholes. [*1-13*] **de** Free Face, das / **hu** szabad feltárási felület

freeboard A section in a fluidized bed combustor. (*s. a. fluidized bed combustion*) **de** Freeboard, das / **hu** (fluid)ágy/(fluid)réteg fölötti tér / **sk** freeboard

freezing point FRP / A cold temperature property of jet fuels (similar to the cloud point for diesel fuels). A sample will be cooled until paraffin crystals first start to form a cloudy appearance. Afterwards the sample will be heated, the temperature at which the fuel appears clearly is defined as the freezing point. [*3-20, 3-21, 3-22*] **de** Gefrierpunkt, der / **hu** kristályosodási pont / **sk** bod mrznutia

Fresnel number Dimensionless number occuring in diffraction theory, defined as the square of the characteristic size divided by the product of distance and wavelength. Fraunhofer diffraction occurs when the number is << 1. [*1-53*] (*s. a. Fraunhofer diffraction*) **de** Fresnel-Zahl, die / **hu** Fresnel-szám / **sk** Fresnel-ovo kritérium

fuel A material that is burned or altered to obtain energy and to heat or to move an object. [*1-11*] (*s. a. fossil fuel, fuel cell*) **de** Treibstoff, der / **hu** tüzelőanyag, üzemanyag, hajtóanyag / **sk** palivo

fuel cell Electricity-producing electrochemical cell which consumes fuel (anode side) and an oxidant (cathode side) from an external source. [*1-114*] (*s. a. polymer electrolyte membrane fuel cell, solid oxide fuel cell, alkaline fuel cell, phosphoric acid fuel cell, molten carbonate fuel cell*) **de** Brennstoffzelle, die / **hu** üzemanyagcella, tüzelőanyag-cella / **sk** palivové články

fuel cell vehicle FCV / Vehicle that uses a fuel cell to produce electricity for its movement power. [*1-114*] **de** Brennstoffzellenfahrzeug, das / **sk** automobily na palivové články

fuel crossover Permeation of fuel (e.g. methanol) through the membrane materials of a fuel cell. This decreases the efficiency. [*1-114*] (*s. a. fuel cell*) **de** Brennstoffdurchtritt, der / **sk** prenikanie paliva

fuel deposition Process of formation of fuel residues and fuel product residues in an engine or combustor. **de** Brennstoffablagerung, die; Ablagerung von Brennstoff(rückständen), die / **sk** sedimentácia paliva

fuel dumping Used in emergency situations to lighten the weight of the aircraft. [*3-53*] **de** Fuel Dumping, das; Ablassen von Treibstoff, das / **hu** üzemanyag ürítés, üzemanyag eldobás, az üzemanyag kiengedése / **sk** rýchlovýpust paliva

fuel dyes Can be added for to fuels for various purposes, e.g. for fiscal reasons (diesel/heating oil) or to avoid mistakes. Common fuel dyes are: solvent yellow 124 and solvent yellow 56 (EU), solvent red 26 and solvent red 164 (USA). [*1-11, 3-32, 3-33, 3-34, 2-20*] **de** Treibstoff-Farbstoffe, die / **hu** üzemanyag színezékek, üzemanyag festék / **sk** farbenie paliva

fuel fraction f / The weight of the aircraft fuel divided by the gross take-off weight of the aircraft. Syn.: fuel mass fraction, propellant fraction. [*1-76*] **de** Kraftstoffmassenanteil, der / **sk** hmotnostný podiel paliva

fuel jettison s. fuel dumping **de** Fuel Dumping, das; Ablassen von Treibstoff, das / **sk** rýchlovýpust paliva

fuel laundering Illegal process of removing the fuel dye for fiscal reasons. [*1-11, 3-32, 3-33, 3-34, 2-20*] **de** Kraftstoffdiebstahl, der / **hu** üzemanyag színezékének eltávolítása, pl olajszőkítés / **sk** krádež paliva

fuel mass fraction s. fuel fraction **de** Kraftstoffmassenanteil, der / **sk** hmotnostný podiel paliva

fuel NOx NOx production from fuels bearing nitrogen. There are two ways nitrogen release, homogeneous (fumiginationwith volatile components) and heterogeneous (nitrogen contained in the char matrix). [*1-2, 3-16*] (*s. a. Zeldovich mechanism, thermal NO_x, prompt NO_x, feed NOx*) **de** Brennstoff-NO_x, das / **hu** tüzelőanyag(ból származó) NO_x / **sk** palivové NO_x

fuel oil Product from petrol refining. Fuel oil is classified into six classes (No. 1–No. 6) spanning a boiling point range from 175 °C to 600 °C. No. 1 fuel oil is similar to kerosene, No. 5 and No. 6 are heavy oils (residual fuel oil). [*3-27*] **de** Schweröl, das / **hu** fűtőolaj, tüzelőolaj, dízelmotorolaj / **sk** topný olej

fuel poverty A term is mainly used in the UK, Ireland and New Zealand used for a household that cannot afford to keep adequately warm at reasonable cost. [*1-135*] (*s. a. fuel, petroleum, natural gas*) **de** Brennstoffmangel, der / **sk** nedostatok paliva

fuel processor A device used to generate hydrogen from fuels such as natural gas for use in fuel cells. (*s. a. fuel cell*) **de** Treibstoffverarbeitungseinheit, die / **sk** zariadenie na spracovanie pohonných hmôt

fuel reforming s. reforming **de** Reformieren von Treibstoffen, das

fuel rich combustion In fuel rich combustion, the ratio of fuel/air is higher than that required for stoichiometric combustion. Lambda < 1 (F>1). [*1-2*] **de** fette Verbrennung, die / **hu** (tüzelőanyagban) gazdag égés / **sk** bohaté spaľovanie

fuel spill-back In some types of engines not all of the supplied fuel is used by the engine, a part of the fuel returns back to the tank. [*1-43*] **de** Treibstoffrücklauf, der / **hu** üzemanyag-visszavezetés/recirkuláció / **sk** vrátne palivo

fuel surrogate To facilitate modelling of combustion processes, fuel surrogates are used. They typically contain only a few (often 1) compounds. **de** Ersatzbrennstoff, der / **sk** náhradné palivo

Fuel System Icing Inhibitor FSII / Additive to prevent the formation of ice in aviation fuels. A common FSII is ethylene glycol monomethyl ether. [*3-48*] **de** Inhibitor gegen das Vereisen des Treibstoffsystems, der / **sk** FSII-aditívum na ochranu pred tvorbou ľadu v palivách

fuel-air-ratio-LIF AFR-LIF / The fluorescence-quenching effect of oxygen is used to obtain the air/fuel-ratio from the fluorescence intensity. [*1-43*] (*s. a. concentration measurement of gas species*) **de** Messung des Kraftstoff/Luft-Verhältnisses mittels laserinduzierter Fluoreszenz, die / **hu** az üzemanyag/levegő arány mérése LIF (lézer indukálta fluoreszcencia) segítségével / **sk** meranie pomeru palivo-vzduch pomocou LIF

Fürstenberger lighter Forerunner of the Döbereiner's lamp but ignited by an electrical spark. [*3-57, 3-58, 1-39*] (*s. a. lighter, Döbereiner's lamp, Ikari lighter, Nainen lighter, galvanic lighter*) **de** Fürstenberger Feuerzeug, das / **sk** Fürsteberger-ova lampa

fugacity f / A measure of the chemical potential of real gases. [*1-31*] (*s. a. ideal gas, real gas*) **de** Fugazität, die / **hu** fugacitás / **sk** fugacita

fullbore spinner A flowmeter type. **de** Durchflussmesser, der / **hu** teljes szelvényű áramlásmérő / **sk** merač prietoku

fully premixed burner Types of burners where oxidizer and fuel gas are fully mixed before combustion takes place. [*1-29*] **de** vollautomatischer Brenner, der / **sk** predzmiešavací horák, zmiešavací h. **furnace black** s. carbon black [*B15*] **de** Ofenruß, der / **hu** gázkorom, olajkorom, kemencekorom

furnace fuel oil FFO / Bunker fuel, No. 5 and No. 6 fuel oils. [*3-27*] **de** Marinedieselöl, das / **sk** FFO

furnace gas Gas produced in a blast-furnace when reducing iron ore with coke to iron. The main constituents are CO, CO_2, H_2 and N_2. Calorific value: 2500–3400 kJ/m^3. [*1-4*] **de** Gichtgas, das; Hochofengas, das / **hu** kemencegáz / **sk** vysokopecný plyn

furnace rating Thermal energy that can be produced in the combustion chamber in a span of time by combustion. [*1-29*] **de** Feuerraumbelastung, die / **hu** tűztérterhelés / **sk** tepelná záťaž spaľovacieho priestoru

fuse (or fuze) Device for ignition, e.g. for explosives. [*1-12, 1-13, 1-14*] (*s. a. black match, quick match, visco fuse, detonating cord*) **de** Zündschnur, die; Anzündschnur, die / **hu** gyújtózsinór, gyutacs / **sk** zapaľovacia šnúra, zápalnica

fused quartz glass Glass used for optical windows in visible and ultraviolet range. Fused silica has better optical properties and is made using high purity silica sand in an electric furnace. [*1-43*] **de** Quarzglas, das / **hu** kvarcüveg / **sk** kremeňové sklo

fused silica s. fused quartz glass **de** Quarzglas, das / **sk** vysokočistý syntetický amorfný oxid kremičitý

fusehead Device for ignition, e.g. for explosives. **de** Zündpille, die / **hu** gyutacs, gyújtófej / **sk** zápalná kapsľa

fuze s. fuse **de** Zündschnur, die; Anzündschnur, die / **sk** rozbuška

G-1 powder Composition of screened graphitized foundry coke and organic phosphate used as a metal fire extinguishing agent. The graphite acts as heat conductor (to lower the metal temperature). The organic compounds develops smoky gases which are excluding air. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** G-1 Pulver, das / **sk** G-1prášok

Galeota Mix Crude oil product with an API gravity of 37.8° and a sulphur content of 0.2%. The field is located in Trinidad. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Galeota Mix-(Rohöl), das / **hu** Galeota Mix olaj / **sk** Galeota Mix-ropný produkt

Galerkin method Method to simulate soot formation and oxidation. [*1-2, 2-13*] **de** Galerkin Methode, die / **sk** Galerkin-ova metóda

galvanic lighter Galvanic elements used to heat a Pt-wire which ignites a naphtha soaked wick. [*3-57, 3-58*] (*s. a. lighter, Fürstenberger lighter, Ikari lighter, Nainen lighter*) **de** galvanisches Feuerzeug, das / **sk** námornícka nafta

galvanic oxygen sensor A current is generated when oxygen diffuses through a gold-coated membrane (cathode) in a potassium chloride gel as electrolyte. [1-43] (s. a. air fuel ratio) **de** O_2-Gaswarnanlage, die / **sk** galvanický zapaľovač

gamma phase iron s. austenite **de** Austenit, der

Garrett gas train GGT / Measuring instrument to analyze the sulfideand carbonate concentration. **de** GGT-Sensor, der / **sk** Garrettov prístroj

gas cap gas Natural gas found in a "cap" over the crude oil in an oil well. [*1-30*] (*s. a. crude oil, natural gas, oil well*) **de** Gaskappengas, das

gas coal s. coal **de** Gaskohle, die / **hu** gázszén / **sk** plynové uhlie

gas constant R / The product of Boltzmann constant and Avogadro constant. It has the same value for all ideal gases. R = 8.314 472 J K^{-1} mol^{-1}. [*1-31*] (*s. a. ideal gas, ideal gas law*) **de** Gaskonstante, die / **hu** (moláris/univerzális/általános) gázállandó / **sk** plynová konštanta

gas depletion Decreasing production rate of a gas field after the maximum rate is reached. [*1-63*] (*s. a. peak oil, peak gas, Hubbert peak theory*) **de** Abnahme der Gasproduktion, die; Erschöpfung des Gasfelds, die / **hu** a (föld)gáz(ki)termelés csökkenése / **sk** úbytok výroby plynu

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gas detection system Device that detects specific gases, e.g. to give an alarm. [*1-29*] **de** Gasdetektor, der / **hu** gázjelző, gázérzékelő / **sk** detekčný systém plynu

gas diffusion layer GDL / This compontent of a fuel cell is a thin layer between catalyst and bipolar plates. It provides a pathway for reactant gases and produced water. [*1-115*] (*s. a. fuel cell*) **de** Gasdiffusionsschicht, die / **sk** plynová difúzna vrstva

gas flame coal s. gas coal **de** Gaskohle, die / **sk** plynové uhlie

gas flare s. flare **de** Gasfackel, die / **sk** plynová fakľa

gas in solution Dissolved gas in a solution such as oil. [*3-72*] (*s. a. live oil, dead oil*) **de** gelöstes Gas, das / **hu** oldott gáz / **sk** rozpustený plyn

gas lift Artificial lift used in oil wells. Gas is injected and aerates the fluid. Because of the reduced density, the crude oil can be lifted by the formation pressure. [*1-59*] (*s. a. crude oil, pump jack, artificial lift*) **de** Auftrieb durch Gas, der / **hu** gázlift, segédgázas olajkitermelés / **sk** plynový výťah

gas mantle Device for emitting white light when heated by a flame (e.g. gauze soaked with thorium/ cerium nitrate or yttrium/cerium oxide). [*3-47, 1-37*] **de** Glühstrumpf, der / **hu** gázharisnya / **sk** plynová pančucha

gas oil ratio GOR / Ratio of the volume of natural gas that comes out of solution when oil is extracted to surface, to the volume of oil. [*1-59*] **de** Gas-Öl Verhältnis, das / **hu** gáz-olaj viszony / **sk** pomer plyn ropa

gas potentiometric flame analysis GPFA / Study of combustion processes using gas potentiometric techniques. **de** Gaspotentiometrie, die / **sk** GPFA

gas potentiometric oxygen probe GOP / In-situ measurement method of the partial pressure of oxygen and the redox ratio in gases. [*3-78*] **de** gaspotentiometrische Sauerstoffsonde, die / **sk** GOP

gas potentiometry Technique to measure species concentrations in the gas phase at elevated pressures. **de** Gaspotentiometrie, die; gaspotentiometrische Analyse, die / **sk** plynová potenciometria

gas reinjection Reinjection of natural gas into a crude oil/ gas reservoir to increase the pressure of the reservoir. **de** Wiederholte Gasinjektion, die / **hu** gázvisszanyomás / **sk** reinjektáž zemného plynu

gas reserves Estimated quantities of recoverable natural gas under economic and operating conditions. [*1-63*] (*s. a. peak gas, Hubbert peak theory*) **de** Erdgasreserven, die / **hu** (föld)gázkészletek, (föld) gázvagyon / **sk** zásoby zemného plynu

gas sweetening s. amine gas treating **de** Gasentschwefelung, die / **hu** gázkéntelenítés / **sk** zbavovanie merkaptánov

gas to liquid GTL / Process to convert gaseous hydrocarbons (e.g. natural gas) into liquid hydrocarbon fuels by syngas production and Fischer-Tropsch synthesis. [*1-21*] (*s. a. syngas, Fischer Tropsch, synfuel*) **de** Gas-zu-Flüssig-Prozess, der / **sk** GTL-proces premeny plynných uhľovodíkov na tekuté uhľovodíky

gas turbine A machine consisting of a combustion chamber and a turbine. The chamber is supplied with air by a compressor and heated with fuel. Hot gases expand and do work in the turbine. [*1-77*] **de** Gasturbine, die / **hu** gázturbina / **sk** plynová turbína

gaseous image velocimetry GIV / Flow measurement method for two-dimensional flow distribution. [*2-28*] **de** GIV / **sk** GIV metódametóda na meranie prietoku pre dvojrozmernú distribúciu toku

gaseous phase s. distillation phase **de** Gasphase, die

gasification A process converting biomass (or other carbonaceous materials like coal or petroleum) into carbon monoxide and hydrogen. [*1-11*] **de** Vergasung, die / **hu** elgázosítás / **sk** splyňovanie

gasohol Ethanol/gasoline fuel mixture. [*1-97*] (*s. a. biofuel, ethanol*) **de** Ethanol/Benzin-Kraftstoff, der / **sk** gasohol

gasoline Is produced in oil refineries by fractional distillation and cracking of crude oil. Possible additives are antioxidants, anti-knock agents, fuel dyes, metal deactivators, and some others. The additive blending is manufacturer-specific. The quality can be defined by: octane rating, dry vapor pressure equivalent, distillation and volatility parameters, density, colour, vapour lock index, residue and existent gum, corrosiveness, sulphur content, oxidation stability, oxygenates and total aromatics. Synthetic gasoline can be produced by coal hydrogenation (obsolete) or bioconversion. [*1-72, 3-32*] (*s. a. oil refineries, fractional distillation, cracking, crude oil, gasoline additives, antoxidants, anti-knock agents, fuel dyes, metal deactivators, octane rating, dry vapor pressure equivalent, distillation and volatility parameters, density, colour, vapour lock index, residue and existent gum, corrosiveness, sulphur, oxidation stability, oxigenates, total aromatics*) **de** Benzin, das / **hu** benzin / **sk** benzín

gasoline additives Gasoline additives can increase octane rating, act as corrosive inhibitor, antioxidants, lubricators or oxygenates. [*3-32*] **de** Benzinzusatzstoffe, die / **hu** benzinadalék / **sk** aditívum do benzínu

gasoline direct injection GDI / Engine concept were, instead of using a carburettor, the fuel is injected directly into the combustion chamber. [*B7*] (*s. a. carburettor*) **de** Benzindirekteinspritzung, die / **sk** priame vstrekovanie benzínu

gasoline grade t-butanol GTBA / Common oxygenate for fuels. [*3-32*] **de** T-Butanol in Benzin-Qualität, die / **sk** GTBA

gaspotentiometric analysis s. gas potentiometry **de** Gaspotentiometrie, die; gaspotentiometrische Analyse, die / **sk** plynová potenciometria **gassy coal mine** Coal mines with presence of methane. [*1-13*] **de** explosionsgefährdete Kohlenmine, die / **hu** gázos szénbánya / **sk** uhoľná baňa s nebezpečenstvom výbuchu

gating time In order to avoid detector saturation, the gating time for an experiment needs to be chosen accordingly, e.g. to avoid capturing some of the excitation light. [*B15*] **de** Ausblendzeit, die

gaussian air pollutant dispersion equation [*1-68*] (*s. a. atmospheric dispersion modeling*) **de** Gauß'sche Verteilung von Luftschadstoffen, die / **sk** Gauss-ove rozloženie škodlivín v ovzduší

Gaussian model One of the oldest dispersion models. It assumes that the air pollutant dispersion has a Gaussian distribution. [*1-68*] (*s. a. atmospheric dispersion models*) **de** Gauß-Modell, das / **hu** Gauss-modell / **sk** Gauss-ov model

Gaussian profile Line broadening effect of spectral lines described by the Gaussian function. It is caused by the thermal motion of the atoms (Doppler broadening). [*1-50*] (*s. a. Lorentzian profile, Voigt profile, Doppler broadening*) **de** Gauß-Profil, das / **sk** Gauss-ov profil

gelignite Gelignite (blasting gelatin) is an explosive that consists of collodion-cotton (nitrocellulose or gun cotton) dissolved in nitroglycerine and mixed with wood pulp and sodium nitrate or potassium nitrate. **de** Sprenggelatine, die / **hu** gelignit / **sk** gelignit

geosteering Process of adjusting the borehole position on the fly based on geological information logged while drilling. [*3-72*] **de** Geosteering, das / **sk** geosteering

Ghawar field Major natural gas field in Saudi Arabia. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Ghawar Gasfeld, das / **hu** ghawari (föld) gázmező / **sk** Ghawar-ožisko zemného plynu v Saudskej Arábii

Giammaro-Vetrecoke process Process to remove acid gases from coke oven gas and synthesis gas. [*2-40*] (*s. a. natural gas, hydrogen sulphide*) **de** Giammaro-Vetrecoke Prozess, der / **hu** Giammaro–Vetrecoke-eljárás / **sk** Giammaro-Vetrcoke proces

Gibbs free energy The maximum amount of work that can be extracted from a closed system (reversible process). [*1-2, 1-31*] **de** Gibbs Energie, die / **hu** Gibbs-féle szabad entalpia, Gibbs potenciál / **sk** Voľná Gibbs-ova energia

Gibbs-Helmholtz equation Used for calculating changes in the Gibbs free energy as a function of temperature. [*1-31*] **de** GibbsHelmholtz Gleichung, die / **hu** Gibbs−-Helmholtz-egyenlet / **sk** Gibbs-Helmholtz-ova rovnica

giga G / SI-prefix, factor 10^9. [*3-38*] **de** giga

Glan polarizer Optical device made from two birefringent prisms that are assembled with an air space in between. **de** Glan Polarisator, der / **sk** Glan-ov polarizátor

Glan-Thompson polarizer A polarizing prism made from cemented calcite prisms. It is similar to a Nicol prism. [*1-111*] (*s. a. Nicol prism*) **de** Glan-Thompson-Prisma, das / **sk** Glan-Thompson-ov polarizátor

Glitne Crude oil product with an API gravity of 32.9° and a sulphur content of 0.5%. The field is located in Norway. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Glitne (Rohöl), das / **hu** Glitne olaj / **sk** Glitne-ropný produkt

global distillation Accumulation of persistent organic pollutants (POPs) at colder regions of the Earth (Poles and mountain tops). [*2-45*] (*s. a. atmospheric dispersion models, POP*) **de** Kaltphasenanreicherung, die / **sk** globálna destilácia

global warming Temperature increase in the atmosphere due to anthropogenic climate gas release, mostly CO_2. **de** globale Erwärmung, die / **hu** globális felmelegedés / **sk** globálne otepľovanie

global warming potential GWP / A measure of how much a given mass of greenhouse gas is estimated to contribute to global warming. It is a relative scale which compares the gas in question to that of the same mass of CO_2 (GWP = 1). For example, GWP of CH_4 = 72 (20 years). **de** relatives Treibhauspotential, das / **sk** skleníkový potenciál

glow ignition Hot sources (e.g. spark plug electrodes or glowing deposits) can cause ignition. [*1-34*] (*s. a. additives, spark plug*) **de** Glühzündung, die / **sk** zapálenie zážihovou sviečkou, žiarové zapálenie

glycol dehydration Removal of water from natural gas using the hygroscopic properties of glycols. Typically triethylene glycol is used. More rarely, diethylene glycol, ethylene glycol, and tetraethylene glycol are deployed. [*2-40*] (*s. a. natural gas, triethylene glycol*) **de** Absorptionstrocknung mit Glykol, die / **sk** absorbčné sušenie glykolom

Gober gas Biogas generated from cow dung (named in India and Pakistan). Also spelled "Gobar gas". Gober is the Hindi name for cow dung. It consists of 55–65% CH_4, 30–35% CO_2, and some H_2, N_2. Cow dung produces 0.15–0.53 m3 biogas per kg dry matter and has a calorific value of about 5 kWh/kg dry matter. [*3-12*] (*s. a. cow dung, biogas*) **de** Gobergas, das / **sk** Gober plyn

Gracilaria s. algae fuel [*3-15, 1-21*] **de** Gracilaria / **sk** gracilaria

Graetz number Gz Gz / A dimensionless number that characterizes laminar heat flow. [*1-72*] **de** Graetz-Zahl, die / **hu** Graetz-szám / **sk** Graetz-ovo kritérium

grain Defined as the mass of 64.79891 milligrams. [*2-40*] **de** Gran, das / **hu** grain / **sk** závažie

grashopper-effect s. global distillation **de** Heuschreckeneffekt, der; Grashüpfereffekt, der / **sk** grashopper-ov efekt, globálna destilácia

grasshopper pump s. pump jack **de** Pferdekopfpumpe, die / **sk** pumpa

gravitational constant s. constant of gravitation **de** Gravitationskonstante, die

green crude A new source of petroleum, produced from algae and identical in composition to fossil fuels. [*3-18*] **de** Grünes Öl, das / **hu** algaolaj / **sk** zelená ropa-vyrobená z rias

green technology s. enviromental technology **de** Umwelttechnik, die / **hu** zöld technológia / **sk** zelená technológia

greenhouse gases Gases contributing to global warming such as CH_4 and CO_2. (*s. a. greenhouse warming potential,t carbon capture and storage*) **de** Treibhausgase, die / **hu** üvegházhatású gázok / **sk** skleníkové plyny

GreenTech s. enviromental technology **de** Umwelttechnik, die / **sk** GreenTech

GRI Mechanism Detailed chemical reaction mechanism of natural gas flames and ignition (GRI = gas research institute). [*2-2, 3-1*] **de** GRI Mechanismus, der / **sk** GRI mechanizmus

Griffin six stroke engine Internal combustion engine with has added two strokes compared to a four stroke Otto cycle. [*1-34*] **de** Griffin 6-Takt-Motor, der / **hu** Griffin-féle hatütemű motor / **sk** Griffin-ov šesť-taktový motor

gross calorific value s. higher heating value **de** oberer Heizwert, der / **hu** égéshő, égésmeleg / **sk** spalné, resp. spaľovacie teplo

gross energy s. higher heating value **de** oberer Heizwert, der / **hu** égéshő, égésmeleg / **sk** spalné, resp. spaľovacie teplo

grounded junction s. thermocouple grounded junction **de** geerdete Verbindung, die / **sk** uzemnený spoj

ground-level ozone Ozone which is formed from pollutants under the action of sunlight close to Earth's surface. (*s. a. smog*) **de** bodennahes Ozon, das / **hu** földközeli ózon / **sk** prízemný ozón

Gulf of Mexico Major conventional oil and gas oil fields extracted by offshore drilling rigs. [*3-63*] (*s. a. crude oil, natural gas*) **de** Erdölvorkommen am Golf von Mexiko, das / **hu** Gulf of Mexico / **sk** Gulf of Mexico-ložiská ropy a zemného plynu

Gulf petrochemicals & chemicals association GPCA / Non-profit association provide its members with a variety of data, technical assistance and resources required by the petrochemicals and chemicals industry. [*3-73*] **de** GPCA, die / **sk** GPCA

Gullfaks C Offshore oil platform in the North Sea. (*s. a. oil platform*) **de** Gullfalks, die / **hu** Gullfaks C / **sk** Gullfaks C-ropná plošina v Severnom mori

guncotton A highly flammable compound formed by nitrating cellulose through exposure to nitric acid. Syn: nitrocellulose, cellulose nitrate, flash paper **de** Schießbaumwolle, die / **hu** lőgyapot / **sk** strelná bavlna

gunpowder Explosive mixture of sulfur used as a propellant in firearms. Also the terms blackpowder and gunpowder often used interchangeably, in modern firearms smokeless powder is used instead of black powder [*1-11*] (*s. a. black powder, smokeless powder*) **de** Schießpulver, das / **hu** puskapor / **sk** strelný prach

H_2S content s. hydrogen sulphide **de** Schwefelwasserstoffgehalt, der / **sk** obsah H_2S

H3 explosive Mixture of potassium chlorate (75%), charcoal (25%) and some binder. Used as burst charge. [*1-12*] (*s. a. flash powder, Sprengel explosives*) **de** H3 Sprengstoff, der / **sk** výbušnina H3

half stick Pyrotechnic salute containing about 35 g flash powder. In many countries illegal. [*1-98*] (*s. a. flash powder*) **de** Böller, der / **sk** petarda

halon Halocarbon compounds with one or more halogen atoms. Due to the chemical stability, halocarbon compounds were used inter alia as fire supression agents. Some halons can accumulate in the upper atmosphere and destroy the protective ozone layer. By the Montreal protocol, these substances are phased out of production. Some newer halons have no ozone destroying effect and are permitted in the EU. [*3-71*] (*s. a. inert gases* (*fire fighting*)*, Montreal protocol*) **de** Halon, das / **hu** halon / **sk** halón

Handil Mix Crude oil product with an API gravity of 43.9° and a sulphur content of 0.05%. The field is located in Indonesia. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Handil Mix (Rohöl), das / **hu** Handil Mix olaj / **sk** Handil Mix-ropný produkt

hard coal s. anthracite [*1-25*] **de** Steinkohle, die / **hu** (fekete)kőszén, antracit / **sk** čierne uhlie

Hassi R'mel gas field Major natural gas field in Algeria. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Hassi R'mel Gasfeld, das / **hu** Hassi R'meli (föld)gázmező / **sk** Hassi R'mel-ložisko zemného plynu v Alžírsku

Hatta number Ha / A dimensionless number that compares the rate of absorption in a reactive system to the rate of absorption regarding physical absorption. [*1-81*] **de** Hatta-Zahl, die / **hu** Hatta-szám / **sk** Hatta-ovo kritérium

Haynesville Shale gas field Major natural gas field in the United States. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Haynesville Shale Gasfeld, das / **hu** Haynesville shale-i (föld)gázmező / **sk** Haynesville Shale-ložisko zemného plynu v USA

haze An atmospheric phenomenon where dust, smoke and other dry particles obscure the clarity of the sky. **de** Dunstglocke, die; Dunst, der / **hu** zavarosodás / **sk** zákal, kal, hmla, opar

H-curve s. Hugoniot curve **de** H-Kurve, die / **sk** H-krivka

heat Q / Transfer of energy from one body to another due to a temperature difference. [*1-44*] (*s. a. laws of thermodynamics*) **de** Wärme, die / **hu** hő / **sk** teplo

heat of detonation The heat of reaction of a detonation. [*1-12*] (*s. a. detonation*) **de** Detonationswärme, die / **hu** robbanáshő / **sk** detonačné teplo

heat of evaporation s. enthalpy of vaporization **de** Verdampfungswärme, die / **hu** párolgáshő / **sk** výparné teplo

heat of formation standard enthalpy of formation [*1-12*] **de** Bildungsenergie, die / **hu** képződéshő / **sk** zlučovacia energia

heat recovery Wet scrubbers can be used to recover heat from hot flue gases by flue gas condensation. (*s. a. district heating, flue gas condensation, dew point*) de Abwärmerückgewinnung, die / **hu** hővisszanyerés, hőhasznosítás / **sk** využívanie tepla

heat transfer The transfer of thermal energy from a material with higher temperature to a cooler material. [*1-31*] **de** Wärmeübergang, der / **hu** hőátadás, hőközlés, hőátbocsátás / **sk** prenos, resp. výmena tepla

heat transfer coefficient Proportionality factor that characterizes the heat transfer at a boundary layer. [*1-2, 1-31*] **de** Wärmeübertragungskoeffizient, der / **hu** hőátadási tényező / **sk** koeficient prenosu, k. výmeny tepla

heating value s. calorific value **de** Brennwert, der; oberer Heizwert, der / **hu** lásd: égéshő, fűtőérték / **sk** energetická hodnota

Glossary of Combustion

heavy crude oil Liquid petroleum with an API gravity of less than 22°. It contains asphaltenes. Resources are oil sands in Canada and Venezuela. [1-58, 3-62] (s. a. API gravity, light crude oil, Athabasca oil sands, Orinoco oil sands **de** unkonventionelles Öl, das / **hu** nehéz nyersolaj / **sk** nekonvenčná ropa

heavy fuel oil HFO / Residual oil, similar to No. 6 fuel oil. [*3-28*] **de** Schweröl, das / **hu** nehéz fűtőolaj / **sk** ťažký topný olej

Heavy Louisiana Sweet Crude oil product with an API gravity of 32.9° and a sulphur content of 0.4%. The field is located in the United States. [*3-63*] (*s.crude oil, API grade, oil reserves*) **de** Heavy Louisiana Sweet (Rohöl), das / **hu** Heavy Louisiana Sweet olaj / **sk** Heavy Louisiana Sweet-ropný produkt **hecto** h / SI-prefix, factor 102. [*3-38*] **de** hecto

hectorite A mineral similar to bentonite, used as additive in oil-base drilling mud. (*s. a. bentonite, drilling fluid*) **de** Hectorit, der / **hu** hektorit / **sk** hektorit

hematite Iron (III) oxide mineral. [*1-74*] **de** Hämatit, der / **hu** hematit / **sk** hematit

Hencken burner Non-premixed flat flame diffusion burner (MEDB, multi element diffusion flame burner). It consists of an array of hypodermic needles. The fuel flows through sealed tubes, the oxidizer flows through the surrounding channels in the matrix. The risk of flashback is eliminated because the fuel/air mixing occurs external to the body of the burner. [*2-9, 2-10*] (*s. a. non-premixed flame, laminar flame, burner types, flat flame burner*) **de** Hencken-Brenner, der / **hu** Hencken égő / **sk** Hencken-ov horák

He-Ne-Laser A gas laser emitting at 3.39 µm. [*1-2, 2-8*] (*s. a. Laser Doppler Anemometry, LDA-scattering, Doppler effect, Ar-Laser*) **de** Helium-Neon-Laser, der / **hu** He-Ne lézer / **sk** He-Ne laser

heptafluoropentane Halocarbon used as fire supression agent. It is not an ozone-depleting substance but it is a potent greenhouse gas. [*3-71*] (*s. a. halon* (*fire fighting*)) **de** Heptafluorpentan, das / **hu** heptafluoropentán / **sk** heptafluoropentán

Herman-Wallis correction Temperature correction for CARS thermometry which quantifies the centrifugal distortion in the linestrength of rotating molecules. [*2-54*] (*s. a. CARS, Q branch*) **de** Herman-Wallis-Korrektur, die / **sk** Herman-Wallis-ova korekcia

Hertz Hz SI base unit. It is a measure of frequency per unit of time. [*3-38*] **de** Hertz, das

Hess test Test for the brisance of explosives. [*1-13*] **de** Hess Test, der / **hu** Hess-ov test

heterodyne Process of generation of new frequencies by multiplying oscillating waveforms. [*1-44*] **de** Überlagerung, die / **hu** heterodin / **sk** heterodín

hexafluoropropane Halocarbon used as fire supression agent. It is not an ozone-depleting substance but it is a potent greenhouse gas. [*3-71*] (*s. a. halon* (*fire fighting*)) **de** Hexafluorpropan, das / **hu** hexafluoropentán / **sk** hexafluoropropán

hexane C_6H_{14}; Hexane isomeres are common constituents of gasoline. [*1-11*] (*s. a. natural gas, liquefied gas*) **de** Hexan, das / **hu** hexán / **sk** hexán

hexogen $\mathbf{C_3H_6N_6O_6}$ Explosive, used for controlled demolition and military applications. Detonation velocity about 8750 m/s. Syn.: cyclotrimethylenetrinitramine, cyclonite, RDX. [*1-12*] **de** Hexogen, das / **hu** hexogén / **sk** hexogén

high speed diesel Used for automobile engines, mean piston speed about 14 m/s. (*s. a. mean piston speed*) **de** Hochgeschwindigkeitsdiesel (Treibstoff), der / **sk** nafta

high speed petrol Used for motor cycles and race cars, mean piston speed about 20–25 m/s. (*s. a. mean piston speed*) **de** Hochgeschwindigkeitsbenzin, das / **sk** benzín

high temperature corrosion There are several mechanisms of corrosion at high temperatures: oxidation, sulfidation and carbonization. Sulfate-induced hot corrosion occurs above the melting point of sodium sulfate (or below in the presence of small amounts of SO_3). The protective oxide scale is dissolved by the molten salt. Molten vanadates or lead can flux the protecting oxide scale. [*1-72*] **de** Hochtemperaturkorrosion, die / **sk** vysokoteplotná korózia

high test peroxide HTP / Hydrogen peroxide solution (85–98%) used in propellants for rockets and torpedos. [*1-66*] (*s. a. rocket propellants*) **de** Wasserstoffperoxid (85–98%), das / **hu** hidrogénperoxid (85–98%) / **sk** peroxid vodíka

high-dust-SCR DeNOx process (SCR) takes place between economizer and air preheater. The advantages are that the gas already has the required temperature for the catalytic reaction and this method has the best potential for removing quicksilver. Disadvantages are the heavy dust load which decreases the durability of the catalyst. (*s. a. DeNOx, selective catalytic reduction, TurboNOx*) **de** SCR-Verfahren unter hoher Staubbeladung, das / **hu** eco/tápvízelőmelegítő és levegő-előmelegítő közötti SCR (szelektív katalitikus redukáló berendezés), poros SCR / **sk** selektívna katalytická redukcia pred odstránením prachu

higher heating value HHV / Heat quantity produced from the combustion of 1 m^3 of gas (at standard conditions) if the combustion products where brought to initial temperature conditions and the produced water is condensed. [*1-31*] **de** oberer Heizwert, der / **hu** égéshő, égésmeleg / **sk** spalné, resp. spaľovacie teplo

high-expansion foam Used for quick filling of enclosed spaces. [*1-71*] (*s. a. fire fighting foam*) **de** Leichtschaum, der / **hu** nagy terjedési tényezőjű hab / **sk** ľahká pena

HITRAN High-resolution transmission molecular absorption database. [*2-4, 3-3*] **de** HITRAN-Datenbank, die / **sk** HITRAN

homogeneous charge compression ignition HCCI / Internal combustion engine concept that uses a homogeneous premixed charge of fuel and air. It is compressed until autoignition occurs. It is a hybrid between SI engine (premixed charge) and CI engine (autoignition). [*1-2*] (*s. a. autoignition, SI engine, CI engine*) **de** homogene Kompressionszündung, die; Raumzündverfahren, das / **sk** HCCI

homogeneous ignition Model by Semenov used when the heat transfer in the reaction system is fast in comparison to the heat transfer of the environment. [*1-2*] (*s. a. ignition, inhomogeneous ignition*) **de** homogene Zündung, die / **hu** homogén gyújtás / **sk** homogénne vznitenie, h. zapaľovanie

Hornsby-Akroyd oil engine Internal combustion engine for heavy oils. [*1-34, 1-29*] (*s. a. Hot bulb engine*) **de** Hornsby-Akroyd Motor, der / **sk** Hornsby-Akroyd-ov olejový motor

horse dung Horse dung produces about 0.40 m^3 biogas per kg of dry matter. [*3-13*] **de** Pferdedung, der / **hu** lótrágya / **sk** konský hnoj, k. trus

horsehead pump s. pump jack **de** Pferdekopfpumpe, die / **sk** pumpa (ťažba ropy)

hot band transition A transition between two states of a single normal mode of vibration, and neither of which is the ground state. [*1-129*] **de** Übergang bei hoher Temperatur, der / **sk** prechod pri vysokej teplote

hot bulb engine Internal combustion engine, ignited by bringing fuel into contact with a red hot metal surface inside a bulb. Was used on historic farming equipment. [*1-34, 1-29*] **de** Glühkopfmotor, der / **hu** izzófejes motor / **sk** žiarový motor

hot oiling Dissolving paraffin deposits with circulating hot oil (*s.a. paraffin control*) **de** Heißölbehandlung, die / **sk** horúce olejovanie **hot potassium carbonate treating** Removing H_2S from natural gas by passing the gas through a hot potassium carbonate solution. [*240*] (*s. a. natural gas, hydrogen sulphide*) **de** Behandlung mit heißem Kaliumkarbonat, die / **sk** úprava pomocou uhličitanu draselného

hot wire anemometry The electrical resistance of a heated platinum-wire changes with the flow velocity. [*1-2*] (*s. a. particle tracing, laser-Doppler-anemometry, particle image velocitmetry*) **de** Hitzdrahtanemometrie, die / **sk** snímač prietoku na princípe vyhrievaného drôtu

hot wire flow meter Method for measuring the air flow based on the heat loss rate of a hot wire (temperature kept higher than the air temperature). [*1-43*] **de** Hitzedrahtdurchflussmesser, der / **hu** hődrótos áramlásmérő / **sk** snímač prietoku na princípe vyhrievaného drôtu

Hottel-Broughton equation Correlation of the emissivity of soot particles to the wavelength [*2-29*] (*s. a. radiation thermometry, two color-method*) **de** Hottel-Broughton-Gleichung, die / **sk** HottelBroughtonova rovnica

Housdorf relation Relation of non-premixedness and NO_x formation in fuel-lean combustion. [*1-2*] **de** Housdorf Relation, die / **hu** Housdorf reláció / **sk** Housdorf-ova závislosť

Hubbert peak theory Theory that the whole rate of petroleum production tends to follow a bell-shaped curve. [*2-38*] (*s. a. peak oil*) **de** Hubbert-Theorie, die / **sk** Hubbert-ova teória

huff and puff method s. cyclic steam stimulation **de** CCS-Methode, die / **hu** szakaszos gőzbesajtolás

Hugoniot curve Pressure vs. volume diagram for calculating wave parameters. Syn.: H-curve. [*1-1*] (*s. a. Hugoniot equation*) **de** Hugomiot-Kurve, die / **sk** Hugoniot-ova krivka

Hugoniot equation Equation of isentropic compression used in the theory of shock and detonation waves. [*1-1*] **de** Hugomiot-Gleichung, die / **sk** Hugoniot-ova rovnica

Hugoton natural gas area Major natural gas field in the United States. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Hugoton Natural Gasfeld, das / **hu** hugotoni (föld)gázmező / **sk** Hugoton-ložisko zemného plynu v USA

hybrid rocket Rocket propelled by lithergoles. [*1-12, 3-10*] (*s. a. lithergoles*) **de** Hybridrakete, die / **hu** hibrid rakéta / **sk** hybridná raketa

hybrid vehicle Vehicle with conventional and alternative power supply, e.g. gasoline combustion engine and electrical engine. **de** Hyridfahrzeug, das / **hu** hibrid jármű / **sk** hybridné vozidlo **hydrazine** N_2H_4; Highly toxic and unstable liquid, used as rocket fuel, for organic and pharmaceutical synthesis also in fuel cells as alternative to hydrogen. [*1-12, 3-8, 3-9, 1-16, 3-10*] (*s. a. rocket propellant, hypergole, liquid propellant rocket, unsymmetrical dimethylhydrazine, monomethylhydrazine*) **de** Hydrazin, das / **hu** hidrazin / **sk** hydrazín

hydro retorting A process to treat oil shales. **de** Hydro-Retorting, das

hydrocarbon exploration s. petroleum exploration **de** Erkundung v von Kohlenwasserstoffen, die ; Exploration von Kohlenwasserstoffen, die / **hu** szénhidrogén-kutatás / **sk** výskum uhľovodíkov

hydrocarbons Compounds consisting of carbon and hydrogen atoms. One can distinguish between saturated (alkanes), unsaturated (alkenes, alkynes), cycloalkanes and aromatic hydrocarbons. [*1-24*] **de** Kohlenwasserstoffe, die / **hu** szénhidrogének / **sk** uhľovodíky

hydrocracking Catalytic cracking process with hydrogen. The reaction is similar to the hydrotreating process. The major products are diesel and jet fuels. [*1-59*] (*s. a. hydrotreating, fluid catalytic cracking, process units* (*oil refinery*)) **de** Hydrocracken, das / **hu** hidrokrakkolás / **sk** hydrokrakovanie

hydrodynamics The study of liquids in motion, sub-discipline of fluid mechanics. [*1-74*] **de** Hydrodynamik, die / **sk** hydrodynamika

hydrofluoric alkylation unit HFAU / Alkylation process unit using hydrofluoric acid as catalyst. [*1-59*] (*s. a. alkylation* (*oil refinery*)) **de** HF-Alkylierungsanlage, die / **sk** alkylácia využívajúca HF

hydroformylation An important industrial process for the production of aldehydes from alkenes. Also called oxo synthesis. **de** Hydroformylierung, die / **hu** hidroformilezés(i eljárás), oxoszintézis / **sk** hydroformylácia

hydrogen H_2; Calorific value: 10785 kJ/m^3 = 119952 kJ/kg [*1-4*] **de** Wasserstoff, der / **hu** hidrogén / **sk** vodík

hydrogen purification Device to remove contaminants from hydrogen gas. Ultra-highly purified hydrogen is needed e.g. for fuel cells. [*1-114*] (*s. a. fuel cell*) **de** Wasserstoffreinigung, die / **sk** čistenie vodíka

hydrogen purity A term to describe the absence of impurities in hydrogen as a fuel gas. (*s. a. hydrogen, fuel cell*) **de** WasserstoffReinheitsgrad, der / **sk** čistota vodíka

hydrogen reforming s. steam reforming **de** Dampfreformierung, die / **sk** vodíkový reforming

hydrogen sulphide H_2S; Highly toxic natural gas component. Removal is done in the sweetening process. [*2-40*] (*s. a. natural gas, sweet gas, sour gas*) **de** Schwefelwasserstoff, der / **hu** hidrogén-szulfid, kén-hidrogén / **sk** sulfán, hydrogénsulfid

hydrogenation The addition of hydrogen to reduce organic compounds. High temperatures or a catalyst are required for this reaction. An Example is the production of liquid hydrocarbons of highvolatile bituminous coal at high temperature and pressure. [*1-11*] **de** Hydrogenierung, die / **hu** hidrogénezés / **sk** hydrogenácia

hydrothermal flames Flames in supercritical water (supercritical water oxidation). At supercritical conditions water becomes a fluid with properties that can be used for the destruction of hazardous waste. [*2-16*] **de** hydrothermale Flammen, die; überkritische Nassoxidation, die / **sk** hydrotermálne pramene

hydrotreating Hydrogen is used to desulphurize the crude oil fractions. [*1-59*] (*s. a. process units* (*oil refinery*)) **de** Hydrodesulfurierung, die / **sk** hydrorafinácia

hydroxyl-terminated polybutadiene HTPB / Used in solid rockets to bind the fuel. [*1-12, 3-10*] (*s. a. lithergoles, solid propellant rocket*) **de** Hydroxyl-terminiertes Polybutadien, das / **hu** hidroxivégződésű polibutadién (HTPB) / **sk** hydroxy-polybutadién

hygas process Pilot gasification process. The primary reaction is the hydro gasification of a coal/oil slurry. [*2-40*] (*s. a. coal, coal gasification*) **de** Hygas Prozess, der / **sk** hygas proces

hypergole Rocket propellants which components spontaneously ignite when fuel and oxidizer come in contact with each other. There's no ignition source needed. Common hypergols are nitrogen tetroxide (N_2O_4) as oxidizer and several types of hydrazins as fuel. [*1-12, 1-16, 3-10*] (*s. a. monergol, cryogenic fuel, liquid propellant rocket*) **de** Hypergol, das / **hu** hipergol / **sk** hydroxy-polybutadién **hypergolic propellant** s. hypergole **de** Hypergol, das **ICSU** s. International Council for Science **de** ICSU

ideal gas Ideal theoretical model with the following assumptions: the kinetic energy of the atoms/ molecules is much higher their their potential energy, the atoms/molecules are point masses, and there are no interactions between the atoms/molecules. [*1-31*] **de** ideales Gas, das / **hu** ideális gáz / **sk** ideálny plyn

ideal gas constant s. gas constant **de** Gaskonstante, die / **hu** (moláris/univerzális/általános) gázállandó / **sk** konštanta ideálneho plynu

ideal gas law Describes the state of an ideal gas by its pressure, volume, and temperature. pV = nRT (p=pressure, V=volume, n=number of moles, R=gas constant, T=temperature). [*1-2, 1-31*] **de** ideales Gasgesetz, das / **hu** egyesített/egyetemes/ gáztörvény / **sk** zákon ideálneho plynu

idealized cycle Thermodynamic cycle with the following assumptions: the working fluid can be described as ideal gas, the heat input occurs without change of the chemical or physical state of the working fluid, and compression and expansion are isentropic. [*1-31*] (*s. a. thermodynamic cycle, ideal gas, isentropic*) **de** idealisierter Kreisprozess, der / **sk** ideálny cyklus

ignite To set something on fire; to catch fire [*1-25*] **de** zünden; anzünden / **hu** gyújt / **sk** zapáliť

igniter cord A black powder fuse wrapped around copper a conductor. It burns with an external, visible flame. There are two types, a yellow igniter cord (burning life: 18–28 s/m) and a red type (burning life: 8–12 s/m). [*1-12, 1-14*] **de** Anzündlitze, die / **hu** gyújtózsinór / **sk** zapaľovacia šnúra

ignition The process of starting combustion/radical reactions until a self-sustaining flame has developed. One can distinguish between auto ignition, induced ignition and photo-ignition. [*1-1*] (*s. a. induced ignition, auto ignition, homogeneous ignition, inhomogeneous ignition*) **de** Zündung, die / **hu** gyulladás, gyújtás / **sk** zapálenie, zapaľovanie, vznietenie

ignition delay Time period between extraneous ignition (e.g. ignition spark) and inflammation, defined. e.g. as 5% of fuel burnt or 10% of maximum pressure increase reached. [*1-2*] (*s. a. cetane number*) **de** Zündverzugszeit, die / **hu** gyulladási késedelem / **sk** spozdenie zapálenia

ignition source There are 13 ignition sources: (1) hot surfaces (2) flames and hot gases (3) mechanically generated sparks (4) electrical equipment (5) leaking currents, cathodic protection (6) static electricity (7) flash of ligthening (8) electromagnetic fields (9kHz–300 GHz) (9) electromagnetic radiation (300–3*10^6 GHz, 0.1–1000 μm) (10) ionising radiation (11) ultrasound (12) adiabatic compression, shock waves (13) chemical reactions [*1-2*] **de** Zündquelle, die / **sk** zdroj vznietenia

ignition timing Time when a spark ignites the mixture in the combustion chamber, often measured in ° CA (degrees crank angle). **de** Zündzeitpunkt, der / **hu** gyújtási idő(pont) / **sk** okamih vznietenia

Ikari lighter Gas lighter with a fine long flame. It can also be used for simple soldering works. [*3-58*] (*s. a. lighter, Fürstenberger lighter, Nainen lighter, galvanic lighter*) **de** Ikari Brenner, der / **sk** Ikari horák

illuminating gas s. water gas **de** Stadtgas, das / **hu** világítógáz / **sk** svietiplyn

impactor An instrument which samples liquid and solid particles suspended in the atmosphere by impaction. [*1-74*] **de** Stoßkörper, der / **sk** impaktor

impeller a rotor inside a tube or conduit to increase the pressure and flow of a fluid. **de** Impeller, der / **hu** járókerék / **sk** obežné koleso

impulse fire extinguishing system Ifex™ / Firefighting equipment. Water droplets are shot in vaporous bursts. [*3-68*] (*s. a. fog nozzle*) **de** Ifex(tm), das / **sk** Ifex

incandescence Emission of light from hot materials. [*1-31*] **de** Lichtausstrahlung, die; Inkandeszenz, die / **hu** (fehér)izzás / **sk** tepelné žiarenie

inch in / Unit of length.0.0254 m **de** Zoll, der; Zoll, das / **hu** hüvelyk, inch / **sk** palec

InChI s. International Chemical Identifier **de** InChI

induced draft Device that exhausts the flue gases using the stackeffect. In large plants a blower is necessary to intensify the stackeffect. (*s. a. stack-effect, chimney*) **de** Saugzug, der / **hu** (el)szívás / **sk** umelý ťah

induced ignition Ignition of a mixture by a local ignition source. For example an Otto engine needs induced ignition, a Diesel engine uses self-ignition. [*1-2*] **de** Fremdzündung, die / **hu** indukált gyújtás / **sk** indukované vznietenie, i. zapálenie

inert gases (fire fighting) Fire extinguishing agents based on displacing oxygen. Halons, nitrogen, carbon dioxide and argon are used. [*1-71*] (*s. a. fire extinguisher, halon* (*fire fighting*), *nitrogen* (*fire fighting*), *argon* (*fire fighting*), *carbon dioxide* (*fire fighting*)) **de** Inertgase, die / **hu** inert/semleges gáz (tűzoltás, tűzvédelem) / **sk** inertné plyny

inertite-rich coal Coal that contains a high fraction of minerals, resulting in a high ash formation. **de** an taubem Gestein reiche Kohle, die / **sk** uhlie s vysokým obsahom inertinitu

inflame to set something on fire; [1-12] (s. a. ignition, deflagration) **de** anzünden / **hu** lángra lobban(t), meggyullad, meggyújt / **sk** zapálenie

inflammable s. flammable **de** brennbar / **hu** gyúlékony / **sk** horľavý

inflammable s. flammable **de** brennbar / **hu** éghető, gyúlékony / **sk** horľavý, zápalný

infrared radiant heater Radiant heater with a heating surface lower than 500°C. [*1-29*] **de** Dunkelstrahler, der / **hu** (infra)hősugárzó, infrasugárzó, infravörös-hősugárzó / **sk** infračervený žiarič

inhomogeneous ignition Model by Frank-Kamenetskii used for when the heat transfer oo the environment is faster than the heat transfer in the reaction system. [*2-1*] (*s. a. ignition, homogeneous ignition*) **de** inhomogene Zündung, die / **sk** nehomogénne vznietenie, n. zapálenie

initiating explosive Very sensitive (heat, electrostatic, friction or impact) explosives (e.g. mercury fulminate, lead azide etc.). Used to initiate larger charges of less sensitive explosives (secondary explosives). [*1-12*] **de** Initialsprengstoff, der / **hu** iniciáló robbanóanyag / **sk** traskavina

injector needle lift The movement of the needle helps to determine the fuel delivery to the combustion chamber of the engine. [*1-43*] (*s. a. air fuel ratio*) **de** Düsennadelhubsensor, der / **sk** ihla vstrekovacej dýzy

inlet pressure Pressure at the inlet valve of a compressor. [*1-29*] **de** Ansaugdruck, der / **hu** szívóoldali nyomás, belépő nyomás / **sk** nasávací tlak, vstupný t.

in-situ referencing Reference is generated at the current measurement location. [*1-11*] **de** in-situ-Abgleichung, die **sk** vyrovnanie insitu

instaneous fuel consumption rate This method needs a rapid response. This can be measured through a orifice with a reference flow, the pressure difference is proportional to the mass flow. [*1-43*] **de** momentaner Brennstoffverbrauch, der / **hu** pillanatnyi üzemanyag-fogyasztás / **sk** okamžitá spotreba paliva

instaneous water heater Tanklesse heater. The water will be heated when the water flows through the pipes in the device. [*1-29*] **de** Durchlauferhitzer, der / **hu** átfolyó vízmelegítő / **sk** prietokový ohrievač vody

Institute for Reference Materials and Measurements IRMM / Promotes a European measurement system (Reference materials, food analysis, bioanalysis, chemical reference measurements, radionuclide metrology, neutron physics). [*3-39*] **de** IRMM / **sk** IRMM-Inštitút pre referenčné materiály a merania

intensified CCD ICCD / CCD chip with signal amplification [*B7*] **de** verstärkter CCD-Chip, der / **sk** zosilnený CCD

intensive variable Defines physical properties of a system which do not depend on the system size or the amount of material in the sys tem. Examples are temperature, density, viscosity, velocity, specific energy, specific heat capacity and chemical potential. [*1-31*] (*s. a. extensive variable*) **de** intensive Größe, die / **sk** intenzívna veličina

intercooler By cooling the intake air to an engine, more fuel and air can be burnt in a small combustion chamber (increase of power density) **de** Ladeluftkühler, der / **sk** medzistupňový chladič

intermediate fuel oil IFO / Mixture of heavy fuel oil and gas oil, more heavy fuel oil than marine diesel oil. [3-28] **de** IFO / **sk** IFO

internal combustion engine ICE / engine where combustion takes place inside the equipment (unlike with an external combustion engine such as a steam engine). (*s. a. gas turbine, reciprocating engine, Otto engine, diesel engine*) **de** Motor mit innerer Verbrennung, der / **hu** belsőégésű motor / **sk** motor s vnútorným spaľovaním

International Chemical Identifier InChI / A non-proprietary textual identifier for chemical substances. [*3-40*] **de** InChI / **sk** InChI-identifikátor chemických látok

International Council for Science ISCU / International non-governmental organization, acts as a focus for the exchange of scientific information and the development of standards. [*3-37*] **de** ISCU / **sk** ICSU-medzinárodná mimovládna organizácia zameraná na výmenu vedeckých informácií a vývoj štandardov

International Union of Pure and Applied Chemistry IUPAC / International non-governmental organization, developing standards for the naming of the chemical elements and their compounds. [*3-35, 3-36*] **de** IUPAC / **sk** IUPAC-medzinárodná mimovládna organizácia vyvýjajúca štandardy pre pomenovanie chemických prvkov a ich zlúčenín

inversion Atmospheric condition caused by an inversion of the vertical temperature gradient. The upper atmospheric layer act as a cap for the lower air layer, could result in smog being trapped close to the ground. (*s. a. smog*) **de** Inversionswetterlage, die / **hu** (hőmérsékleti) inverzió/visszásság / **sk** inverzia

inviscid If a fluid that has no viscosity (ideal fluid flow). [*1-44*] **de** reibungsfrei / **sk** neviskózne

inward-opening valve Usually inward-opening needle valves are used which can have smaller tip diameters (than poppet valves). This is used by difficult access to the combustion chamber and can also reduce gas-flow disturbances. [1-43] (s. a. outward-opening valve) **de** nach innen öffnendes Nadelventil, das / **sk** ihlový ventil

Iolotan gas field Major natural gas field in Turkmenistan. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Iolotan Gasfeld, das / **hu** iolotani (föld)gázmező / **sk** Iolotan-ložisko zemného plynu v Turkmenistane

ionic liquid Liquid that contains essentially only ions („molten salts"). Features of this class of substances are electrically conductivity, low combustibility, excellent thermal stability and good solvating properties. [*2-51*] (*s. a. hydrogen*) **de** ionische Flüssigkeit, die / **hu** ionos folyadék / **sk** iónová tekutina

Iran Major oil and gas oil fields located between Iran and the Arabian Peninsula (Iran, Oman, United Arab Emirates, Saudi Arabia, Qatar, Bahrain, Kuwait and Iraq). [*3-63*] (*s. a. crude oil, natural gas*) **de** Erdölvorkommen im Iran, das / **hu** Irán / **sk** Iran-ložiská ropy a zem ného plynu situované medzi Iránom a Arábskym polostrovom **Iraq** Major oil and gas oil fields located between Iran and the Arabian Peninsula (Iran, Oman, United Arab Emirates, Saudi Arabia, Qatar, Bahrain, Kuwait and Iraq). [*3-63*] (*s. a. crude oil, natural gas*) **de** Erdölvorkommen im Irak, das / **hu** Irak / **sk** Iraq-ložiská ropy a zem ného plynu situované medzi Iránom a Arábskym polostrovom

IRMM s. Institute for Reference Materials and Measurements **de** IRMM

iron Fe; Chemical element, mainly used as steel for engines, boilers, valves etc. Iron wires are also used for thermocouples. **de** Eisen, das / **hu** vas / **sk** železo

iron acetylacetonate $C_{15}H_{21}O_6Fe$; Moderating additive for bipropellants. [*1-12*] (*s. a. bipropellants*) **de** Eisen-Acetylacetonat, das / **hu** vas-acetil-acetonát / **sk** acetyl-acetonát železa

iron pentacarbonyl $Fe(CO)_5$; Gasoline additive to increase the fuel's octane rating. Formerly used in Europe as anti-knock agent. It is also precursor for various iron-based nanoparticles. [*3-32*] **de** Eisenpentacarbonyl, das / **hu** vas-pentakarbonil / **sk** pentakarbonyl železa

iron steel An alloy consisting mostly of iron and carbon. [*1-74*] **de** Stahl, der / **sk** oceľ

ISC3 Gaussian dispersion model. [*1-68*] (*s. a. atmospheric dispersion models*) **de** ISC3-Modell, das / **sk** ISC3

isentropic process Thermodynamic process during which the entropy of the system stays constant. [*1-31*] **de** isentropischer Prozess, der / **sk** izoentropický proces

isobaric process Thermodynamic process during which pressure stays constant. [*1-31*] **de** isobarer Prozess, der / **hu** izobár folyamat/állapotváltozás / **sk** izobarický proces

isocaloric process s. adiabatic process **de** adiabater Prozess, der / **sk** adiabatický proces

isochoric process Thermodynamic process during which the volume stays constant. [*1-31*] **de** isochorer Prozess, der / **hu** izochor folyamat/állapotváltozás / **sk** izochorický proces

isochronal test Well test in which flow rates are estimated for fixed and equal flow periods. [*2-40*] **de** Isochronaltest, der / **sk** izochrónny test

isokinetic sampling Sampling at the same flow speed, often used for sampling aerosols and particulates so that the particle size distribution is not changed. **de** isokinetische Probenahme, die / **hu** izokinetikus mintavétel / **sk** izokinetické vzorkovanie

isoline A curve on a map or graph connecting points of equal value. Syn.: isogram. [*1-128*] **de** Isolinie, die / **sk** izočiara

isomer Molecules with the same molecular formula but a different structural formula. They chemical and physical properties can be different. Stereoisomers differ in the 3D orientation of their atoms. In structural isomers the atoms bonded together in different ways (e.g. a functional group changes position). Structural isomers can spontaneously interconvert with each other (tautomerization). [*3-35*] **de** Isomer, das / **hu** izomer / **sk** izoméry

isomerisation Chemical reaction that involves breaking and making of bonds. The product is isomeric with the reactant. [*1-2, 1-3*] **de** Isomerisierung, die / **hu** izomerizálás, izomerizáció / **sk** izomerizácia

isomerization Used to convert linear molecules to higher-octane branched molecules. [*1-59*] (*s. a. process units* (*oil refinery*)) **de** Isomerisierung (Erdölindustrie), die / **hu** izomerizálás, izomerizáció / **sk** izomerizácia

isooctane C_8H_{18}; Gasoline additive to increase the fuel's octane rating. [*3-32, 3-35*] **de** Isooktan, das; 2,2,4-Trimethylpentan, das / **hu** izooktán / **sk** izooktán

isoparaffin Common term in petrochemical industry for branched alkanes. [*3-35, 1-24*] **de** Isoparaffin, das / **hu** izoparaffin / **sk** izoparafín

isopropyl alcohol IPA / C_3H_8O; 2-propanol; Common oxygenate for fuels. [*3-32*] **de** Isopropanol, das / **hu** izopropil-alkohol / **sk** izopropylalkohol

isothermal process Thermodynamic process during which the temperature of the system stays constant. [*1-31*] **de** isothermer Prozess, der / **hu** izoterm(ikus) folyamat/állapotváltozás / **sk** izotermický proces

isovolumetric process s. isochoric process **de** isochorer Prozess, der / **sk** izochorický proces

IUPAC s. International Union of Pure and Applied Chemistry **de** IUPAC

Jablonski diagram Diagram that illustrates the transitions between the electronic states of a molecule. [*1-31*] (*s. a. Raman scattering*) **de** Jablonski Diagramm, das / **sk** Jablonského diagram

jet fuel Fuel used in aircraft gas-turbine engines. It is a blend of numerous hydrocarbons. Two common used jet fuels are Jet A-1 and Jet B. [*3-48, 3-49*] **de** Düsentreibstoff, der / **hu** sugárhajtóműves repölő(gépe) k üzemanyaga/hajtóanyaga / **sk** letecký benzín

Jet A fuel Similar to Jet A-1, but it has a higher freezing point (-40° C). It is only available in the United States and Canada. [*3-48, 3-49*] **de** Jet A / **sk** palivo Jet A

Jet A-1 fuel Common kerosene-oil based jet fuel. It contains additives such as antioxidants, antistatic agents, corrosion inhibitors and biocides. The freezing point is -47° C, the flash point 38° C and the energy density 43.15 MJ/kg. It is used for civil aviation outside USA. [*3-48, 3-49*] **de** Jet A-1 / **sk** palivo Jet A-1

Jet B fuel Common naphtha-kerosene based jet fuel. It contains additives such as antioxidants, antistatic agents, corrosion inhibitors and biocides. It is used for civil aviation in colder regions such as Canada, Alaska or Siberia. The freezing point is -60° C. [*3-48, 3-49*] **de** Jet B / **sk** palivo Jet B

jet biofuels Algae oil is tested to replace existing jet fuels or as a blending. Also babassu oil is used as a blending with existing jet fuels. [*3-55*] **de** Biotreibstoffe für Strahltriebwerke, die / **hu** sugárhajtóműves repölő(gépe)k bio-üzemanyaga/hajtóanyaga / **sk** biopalivá pre liatadlá

jet engine Gas turbine that ejects a fast moving jet of fluid to produce thrust. Used as aircraft engine. [*1-77*] (*s. a. motorjet, turbojet, turbofan, ramjet, pulsejet*) **de** Strahltriebwerk, das; Düsentriebwerk, das / **hu** sugárhajtómű / **sk** prúdový motor

Johnson-Mehl-Avrami-Kolmogorow-Gleichung Describes the transformation of solids from one phase into another one. [*1-31*] **de** Johnson-Mehl-Avrami-Kolmogorow-Gleichung, die / **sk** Johnson-Mehl-Avrami-Kolmogorw-ova rovnica

Joule J SI derived unit of energy. [*3-38*] **de** Joule, das

Joule Thompson effect A temperature decrease of a gas during expansion. It is used for the liquification of gases with the Lindeprocess. [*1-11*] **de** Joule-Thompson Effekt, der / **sk** Joule-Thompson-ov efekt

JP-1 fuel Jet fuel for military aviation (obsolete). Freezing point -60° C. Developed 1944. [*3-48, 3-49, 3-50*] **de** JP-1 / **sk** palivo JP-1

JP-2 fuel Jet fuel for military aviation (obsolete). Freezing point -60° C. Developed 1945. [*3-48, 3-49, 3-50*] **de** JP-2 / **sk** palivo JP-2

JP-3 fuel Jet fuel for military aviation (obsolete). Freezing point -60° C. Developed 1947. [*3-48, 3-49, 3-50*] **de** JP-3 / **sk** palivo JP-3

JP-4 fuel Jet fuel for military aviation used in cold regions such as Canada, Alaska or Siberia. Freezing point -72° C. Developed 1951. Replaced in 1996 by JP-8. [*3-48, 3-49, 3-50*] **de** JP-4 / **sk** palivo JP-4

JP-5 fuel Jet fuel for military aviation used on aircraft-carriers because of its high flash point. Freezing point -46° C. [*3-48, 3-49, 3-50*] **de** JP-5 / **sk** palivo JP-5

JP-6 fuel Jet fuel for military aviation (obsolete). Freezing point -54° C. Similar to JP-5. [*3-48, 3-49, 3-50*] **de** JP-6 / **sk** palivo JP-6

JP-7 fuel Jet fuel for military aviation used for supersonic transport. Freezing point -43° C, flashpoint 60° C. [*3-48, 3-49, 3-50, 3-51*] **de** JP-7 / **sk** palivo JP-7

JP-8 fuel Jet fuel for military aviation. Freezing point -47° C, flashpoint 38° C. NATO code: F-34. Also used in the US Army to fuel modern burner units. [*3-48, 3-49, 3-50, 3-52*] **de** JP-8 / **sk** palivo JP-8

JP-8+100 fuel Further development of Jet-8 fuel. Additives increases the thermal stability. [*3-48, 3-49, 3-50, 3-52*] **de** JP-8+100 / **sk** palivo JP-8+1

JPTS fuel Jet fuel for military aviation (obsolete). Freezing point -53° C. Used only for the Lockheed U-2 Dragon Lady. [*3-48, 3-49, 3-50*] **de** JPTS / **sk** palivo JPTS

Jupiter gas field Major natural gas field in Brazil. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Jupiter Gasfeld, das / **hu** Jupiter (föld) gázmező / **sk** Jupiter-ložisko zemného plynu v Brazílii

Kamlet-Jacobs-equations Emperical equations to calculate the detonation speed of explosives from loading density, molecular formula and enthalpy of formation. [*2-41*] (*s. a. load density, detonation speed*) **de** Kamlet-Jacobs-Gleichungen, die / **sk** Kamel-Jacobsova rovnica

Karachaganak Condensate Crude oil product with an API gravity of 44.7° and a sulphur content of 0.8%. The field is located in Kazakhstan. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Karachaganak Condensate (Rohöl), das / **hu** Karachaganak (Condensate) olaj / **sk** Karachaganak Condensate-ropný produkt

Karachaganak field Major natural gas field in Kazakhstan. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Karachaganak Gasfeld, das / **hu** karachaganaki (föld)gázmező / **sk** Karachaganak-ložisko zemného plynu v Kazachstane

Karlovitz number Describes the ratio of the timescale of the turbulent flame to the Kolmogorov-timescale. [*1-1, 1-2*] (*s. a. Kolmogorov-timescale*) **de** Karlovitz-Zahl, die / **hu** Karlovitz-szám / **sk** Karlovitz-ovo číslo

Kármán vortex street Pattern of swirling vortices caused by the unstable separation of flow of a fluid over a bluff body. [1-75] (s. a. bluff body) **de** Kármánsche Wirbelstraße, die / **hu** Kármán-féle örvénysor / **sk** Kármán-ska vírová ulica

Karrick process Carbonization process of carbonaceous materials such as coal at low temperatures. [*1-25*] **de** Karrick Prozess, der / **sk** Karrick-ov proces

Kast test Test for the brisance of expolosives. [*1-13*] **de** Kast Test, der / **sk** Kast-ov test

Kelvin-Helmholtz instability An instability that occurs at the interface between two fluid layers when there is sufficient velocity difference across the interface. [*1-132*] **de** Kelvin-Helmholtz-Instabilität, die / **sk** Kelvin-Helmholtz-ova instabilita

Kelvin-scale Temperature scale and SI unit. The lower fixed point is absolute zero, the upper fixed point is the triple point of water. (*s. a. temperature scale*) **de** Kelvin-Skala, die / **hu** Kelvin-skála / **sk** Kelvin-ova stupnica

kerogen A deposit of a mixture of organic chemical compounds in sedimentary rocks. Some types of kerogen release crude oil or natural gas. [*1-11, 2-35*] (*s. a. bitumen, crude oil, fossil fuels, natural gas*) **de** Kerogen, das / **hu** kerogén / **sk** kerogén

kerosene Combustible hydrocarbon liquid (mixture of hydrocarbons with chains containing 12 to 15 carbon atoms). It is produced by fractional distillation of petroleum between 150°C and 275°C. **de** Kerosin, das / **hu** petróleum / **sk** kerozín

kerosene cut Fraction of continuous distillation of crude oil. The initial boiling point is about 150°C, the final boiling point is about 270°C. [*1-59*] (*s. a. process units* (*oil refinery*)*, continuous distillation*) **de** Kerosinfraktion, die / **hu** petróleum-frakció / **sk** frakcia kerozínu

kilkenny coal s. coal **de** Kilkenny Kohle, die / **sk** uhlie Kilkenny

kilo k / SI-prefix, factor 10^3. [*3-38*] **de** kilo

kilogram SI basic unit of mass. **de** Kilogramm, das

kinematic viscosity Dynamic viscosity divided by the fluid density. Syn.: absolute viscosity. [*1-31*] (*s. a. viscosity*) **de** kinematische Viskosität, die / **hu** kinematikai viszkozitás / **sk** kinematická viskozita

King Kristian gas field Major natural gas field in Canada. [*3-63*] (*s. a. natural gas, gas reserves*) **de** King Kristian Gasfeld, das / **hu** King Kristiani (föld)gázmező / **sk** King Kristian-ložisko zemného plynu v Kanade

Kish Gas field Major natural gas field in Iran. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Kish Gasfeld, das / **hu** kish-i (föld)gázmező / **sk** Kish-ložisko zemného plynu v Iráne

KL-factor The product of the absorption coefficient (K) and the geometric thickness (L) is proportional to the soot concentration. [*1-43*] (*s. a. soot*) **de** KL-Faktor, der / **sk** KL-faktor

Knallgas-bacteria Bacteria which oxidize hydrogen, e.g. Hydrogenobacter thermophilus [*1-78*] **de** Knallgasbakterien, die / **sk** Knallgas baktéria, b. oxidujúca vodík

knock resistance Every fuel for an Otto engine has an octane rating which characterizes its ability to resist knocking. [*1-2, 3-4*] (*s. a. octane rating, research octane number, road octane number, engine knocking*) **de** Klopffestigkeit, die / **hu** kopogásállóság, kompresszótűrés / **sk** odolnosť proti klepaniu

knocking s. engine knocking **de** Klopfen, das; Motorklopfen, das / **hu** kopogás / **sk** klepanie

Knudsen number Kn / Dimensionless number. The ratio of the molecular mean free path length to a geometric length scale (e.g. radius of a body in a fluid). [*1-72*] **de** Knudsen-Zahl, die / **hu** Knudsen-szám / **sk** Knudesn-ovo číslo

Kolmogorov length scale Defined by (ν^3/ε)^0.25, where v is the kinematic viscosity and ε is the average rate of energy dissipation. [*1-2*] (*s. a. Kolmogorov microscale, numerical simulations*) **de** dt. Kolmogorov-Längenmaß /**sk** Kolmogorov-ova stupnica dĺžky

Kolmogorov microscale Smallest scales of turbulence, defined by Kolmogorov length scale, time scale and velocity scale. [*1-2*] (*s. a. numerical simulations*) **de** Kolmogorov Mikroskala, die / **sk** Kolmogorov-ova mikrostupnica

Kolmogorov time scale Defined by (ν/ε)^0.5, where v is the kcinematic viscosity and ε is the average rate of energy dissipation. [*1-2*] (*s. a. Kolmogorov microscale, numerical simulations*) **de** dt. Kolmogorov-Zeitskala / **sk** Kolmogorov-ova časová stupnica

Kolmogorov velocity scale Defined by (ν*ε)^0.25, where v is the kinematic viscosity and ε is the average rate of energy dissipation. [*1-2*] (*s. a. Kolmogorov microscale, numerical simulations*) **de** Kolmogorov Geschwindigkeitsskala, die / **sk** Kolmogorov-ova stupnica rýchlosti

Kopanoar gas field Major natural gas field in Canada. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Kopanoar Gasfeld, das / **hu** ittt / **sk** Kopanoar-ložisko zemného plynu v Kanade

Kovykta field Major natural gas field in Russia. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Kovykta Gasfeld, das / **hu** kovykta-i (föld) gázmező / **sk** Kovykta-ložisko zemného plynu v Rusku

Kremser-Brown method Method of finding the number of tray for absorption. **[2-40] de** Kremser-Brown Methode, die / **sk** KremserBrown-ova metóda

Kröger-Vink Notation Conventions used to describe electrical charge and position for point-defect species in crystals. **de** Kröger-Vink Notation, die

Kronecker delta function Mathematical function of two variables, which is 1 if they are equal, otherwise it is 0. [*1-99*] **de** Kronecker Delta, das / **sk** Kronecker-ova funkcia delta

kukersite Oil shale (marine type) found in the Baltic Sea (Estonia, Russia). [*2-35*] (*s. a. oil shale*) **de** Kukersit / **sk** kukerzit

Kuwait Major oil and gas oil fields located between Iran and the Arabian Peninsula (Iran, Oman, United Arab Emirates, Saudi Arabia, Qatar, Bahrain, Kuwait and Iraq). [*3-63*] (*s. a. crude oil, natural gas*) **de** Erdölvorkommen in Kuwait, das / **hu** Kuvait / **sk** Kuwait-ložiská ropy a zemného plynu situované medzi Iránom a Arábskym polostrovom

Kuwait Blend Crude oil product with an API gravity of 30.2° and a sulphur content of 2.7%. The field is located in Kuwait. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Kuwait Blend (Rohöl), das / **hu** Kuwait Blend olaj / **sk** Kuwait-ropný produkt

Kværner-process Method to produce hydrogen from hydrocarbons (C_nH_m). Carbon and hydrogen are separated in a plasma burner. [*1-25*] **de** Kværner-Prozeß, der / **sk** Kværner proces

Kyoto protocol United Nations framework convention on climate change protocol, for stabilizing greenhouse gas concentrations to prevent dangerous interference with the climate system. [*3-60*] (*s. a. environmental agreement*) **de** Kyoto-Protokoll, das / **hu** kyotói jegyzőkönyv / **sk** Kjótsky protokol

LA Mississippi Sweet Crude oil product with an API gravity of 40.7° and a sulphur content of 0.3%. The field is located in the United States. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** LA Mississippi Sweet (Rohöl), das / **hu** LA Mississippi Sweet olaj / **sk** LA Mississippi Sweet-ropný produkt

Lacq gas field Major natural gas field in France. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Lacq Gasfeld, das / **hu** lacq-i (föld)gázmező / **sk** Lacq-ložisko zemného plynu vo Francúzsku

ladder pilot Array of flames used as auxiliary ignition device. [*1-29*] **de** Kletterflamme, die / **sk** lampáš

ladle A vessel consisting of a heat resistant an insulating material used to transport molten metals. [*1-74*] **de** Gießpfanne, die / **hu** (kezelő/öntő)üst, öntőkanál / **sk** pánva

Lagrangian model Atmospheric dispersion model. It also tracks the movement of pollution plume parcels. [*1-68*] (*s. a. atmospheric dispersion models*) **de** Lagrange-Modell, das / **hu** lagrange-i (szemléletű) modell, Lagrange-modell / **sk** Langrange-ov model

lambda probe s. lambda sensor **de** Lambdasonde, die / **sk** lambda sonda

lambda sensor Sensor that can be used to measure the air/fuel ratio. There are two measuring principles, the voltage on a solidstate electrochemical fuel cell (Nernst cell) or changes in electrical resistance of a ceramic element. The partial pressure of oxygen in the exhaust gas stream is measured. [*1-43*] (*s. a. air fuel ratio*) **de** Lambdasonde, die / **hu** lambda szonda / **sk** lambda sonda

Lambert-Beer law Empirical relationship of the light absorption to the properties of the material where the light passed through. [*1-2, 1-31*] (*s. a. extinction, transmission*) **de** Lambert-Beersches Gesetz / **hu** Lamber–Beer-törvény / **sk** Lambert-Beer-ov zákon

lamella burner A premixed methane-air burner. It consists of lamellae and cooling tubes and is used in boilers for central heating systems. [*2-6*] (*s. a. premixed flames, flame types, burner types*) **de** Lamellenbrenner, der / **hu** lamellás égő / **sk** lamelový horák

laminar flame This type of flame can be premixed or non-premixed and is characterized by a laminar flow. [*1-2*] (*s. a. laminar premixed flame, laminar non-premixed flame*) **de** laminare Flamme, die / **hu** lamináris láng / **sk** laminárny plameň

laminar flow Fluid flow that is characterized by a flow in parallel layers with no disruption between the layers. Syn.: streamline flow (*s. a. turbulent flow, Reynolds number*) **de** Laminare Strömung, die / **hu** lamináris áramlás / **sk** laminárne prúdenie

laminar nonpremixed flame Fuel gas and air are mixed after the gas outlet by diffusion (example: candle flame). The flame is sooting. [1-2] (s. a. diffusing flame) de laminare nichtvorgemischte Flamme, die / **hu** lamináris nem előkevert láng / **sk** laminárny nepredmiešaný plameň

laminar premixed flame Fuel gas and air are mixed after the gas outlet by diffusion, e.g. Bunsen burner flame. [*1-2*] **de** laminare vorgemischte Flamme, die / **sk** laminárny predmiešaný plameň

lamp black s. soot **de** Russ, der / **sk** lampová čerň, lampové sadze

landfill gas LFG / Gases forming by chemical and bacteriological decomposition of organic components of waste. The main components are CH_4 and CO_2. [*1-29*] **de** Deponiegas, das / **hu** depóniagáz / **sk** skládkový plyn

Langmuir probe A device used to determine the electron temperature, electron density, and electric potential of a plasma. **de** Langmuir-Sonde, die / **hu** Langmuir-szonda / **sk** Langmuir-ova skúška

lanthanum carbonate $La_2(CO_3)_3$; Used as lanthanum source for solid oxide fuel cell applications. (*s. a. fuel cell*) **de** Lanthancarbonat, das / **sk** uhličitan lantanitý

Large Eddy Simulation LES / Numerical method to calculate turbulent fluid flow. [*2-53*] (*s. a. turbulent flow*) **de** Large Eddy Simulation, die (eddy = Wirbel) / **hu** LES, nagy örvény szimuláció / **sk** LES

laser An optical system capable of highly directional and quasimonochromatic emission of light. The term is the acronym of "Light Amplification by Stimulated Emission of Radiation" [*1-101*] **de** Laser, der / **hu** lézer / **sk** laser

Laser Doppler Anemometry LDA / Technique to measure fluid velocities based on the Doppler effect. Tracer particles are normally used. [*1-2, 2-8*] (*s. a. Doppler effect, LDA-scattering, LDA-scattering, Mie scattering, Rayleigh scattering, geometrical optics, HeNe Laser, Ar-Laser*) **de** Laser Doppler Anemometrie, die / **hu** lézer Doppler anemometria (LDA) / **sk** LDA Laser Doppler-ova anemometria

laser extinction/absorption LEA / Method to detect liquid droplets and fuel vapor simultaneously. [*1-43*] **de** Laser Extinktions/Absorptions-Methode, die / **sk** laserova extinkcia/absorpcia

laser ignition Alternative ignition method for internal combustion engines, currently under investigation. The main mechanism is nonresonant breakdown. [*2-66*] (*s. a. spark plug*) **de** Laserzündung, die / **sk** laserové vznietenie

laser induced exciplex fluorescence LIEF / Method to detect liquid droplets and fuel vapor in a spray using two tracers. The exciplex of these two tracers decreases by the emission of a photon. Vapor (LIF-signal) and fluid phase can be distinguished, because the exciplex forms mainly in the fluid phase. [*1-43, 2-28*] **de** laserinduzierte Exciplex Fluoreszenz, die / **sk** laserom indukovaná exciplex fluorescencia

laser induced fluorescence LIF / Spectroscopic technique to measure species concentrations (qualitatively). The species will be exited with a laser at a defined wavelength (this is usually the wavelength with the largest cross section of the species). After a short period, the species de-exites and sends out photons with a larger wavelength than the incident photons. This fluorescence light is measured. Also, temperature measurements are possible. [*1-96, 1-43*] (*s. a. planar laser induced fluorescence, concentration mea surement of gas species, PLIF*) **de** laserinduzierte Fluoreszenz, die / **hu** lézer indukálta fluoreszcencia / **sk** laserom indukovaná fluorescencia

laser induced incandescence LII / Method to measure the soot concentration. A laser pulse heats eoot particles almost to the sublimation point. The maximum emission wavelength will be shifted to shorter wavelengths. [*2-28*] **de** laserinduzierte Inkadeszenz, die / **sk** laserom indukovaná inkadescencia

laser induced predissociative fluorescence LIPF / Optical concentration measurement method (e.g. for OH distribution in a flame) based on a radiationless junction of a vibrational state. [*2-28*] **de** laserinduzierte Prädissoziations Fluoreszenz, die / **sk** laserom indukovaná predisociatívna fluorescencia

laser Rayleigh scattering It is an non-species specific method due to the elastic scattering process. It can be used for temperature measurement and also density measurement at low gas density. The enviroment has to be particle-free (dust, liquid droplets) because Mie scattering is much strongen than Rayleigh scattering. **de** Laser Rayleigh Streuung, die / **hu** Rayleigh-szór(ód)ás / **sk** mikrospaľovanie

laser-induced grating spectroscopy LIGS / A non-linear, spectroscopic technique. (*s. a. DFWM*) **de** LIGS / **sk** LIGS

laser-induced thermal grating spectroscopy LIGS / see laserinduced grating spectroscopy (*s. a. DFWM*) **de** LIGS / **sk** LIGS

laws of thermodynamics Describing the principles of thermodynamics. There are the zeroth (thermodynamic equilibrium), first (conservation of energy), second (entropy), third (absolute zero temperature) law of thermodynamics and Onsager reciprocal relations. [*1-2*] **de** Hauptsätze der Thermodynamik, die / **hu** a termodinamika főtételei / **sk** zákony termodynamiky

LDA-scattering LASER light is sent in the moving fluid and is scattered by small particles (the use of inert tracer particles such as Al_2O_3 or TiO_2 is necessary). The LDA particle act as a moving receiver relating to Laser and the particle act as a moving emitter of the scattered light, which will be detected by the stationary receiver. [*1-2, 2-8*] (*s. a. Laser Doppler Anemometry, Doppler effect. LDA-scattering, Mie scattering, Rayleigh scattering, geometrical optics, He-Ne Laser, Ar-Laser*) **de** LDA-Streuung, die / **sk** rozptyl LDA

Le Chatelier's principle If a chemical system at equilibrium is disturbed by changing the conditions (concentration, temperature, volume, or total pressure), the position of equilibrium moves to counteract the change. [*1-31*] **de** Prinzip von Le Chatelier, die / **hu** Le Chatelier–Brown-elv / **sk** Le Chatelier-ov princíp

leaching The extraction of a soluble compound from an ore by dissolving in a solvent. [*1-74*] **de** Auslaugung, die / **sk** lúhovanie, extrakcia

lead azide Explosive salt used as primary explosive. [*1-12*] (*s. a. primary explosive*) **de** Bleiazid, das / **hu** ólom-azid / **sk** azid olovnatý

lead block test Test method for the comparative determination of the capability of explosives. [*1-12*] (*s. a. ballistic mortar, ballistic bomb*) **de** Bleiblockausbauchung, die / **hu** ólomtömb-öblösödési vizsgálat / **sk** Trauzl-ova skúška

lead scavengers Added to leaded gasoline to avoid deposits of lead inside the engine. Common lead scavengers are Tricresylphosphate, 1,2-dibromoethane, 1,2-dichloroethane. [*3-32*] **de** Bleifänger, der / **hu** ólommentesítő anyag / **sk** zachytávač radkálov

leak detection Identification of the location of leaks in piplines. [*3-72*] (*s. a. oil refinery*) **de** Lecksuche, die; Erkennen von Lecks, das / **hu** szivárgásfelderítés, lyukeresés / **sk** detekcia netesnosti

lean combustion Combustion with excess air. [*1-2*] **de** magere Verbrennung, die / **hu** tüzeőanyagban szegény égés / **sk** chudobné spaľovanie

lean flashover s. rollover **de** Rauchdurchzündung, die

lean premixed prevaporized combustion LPP / combustion Liquid biofuels (e.g. biodiesel and ethanol) are converted into a synthetic natural gas. This LPP Gas can then be burned with low emissions in a combustion device instead of natural gas. [*3-88*] **de** magere Verbrennung mit Vormischung/ Vorverdampfung, die / **sk** LPP spaľovanie

Leeds methane oxidation mechanism Detailed methane oxidation mechanism, extended by NO_x and SO_x reactions. [*2-3, 3-2*] **de** Leeds-Mechanismus der Methanoxidation, der / **hu** leedsi metán oxidációs mechanizmus (LMOM) / **sk** Leed-sky mechanizmus oxidácie metánu

Lemen Bank gas field Major natural gas field in the North Sea. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Lemen Bank Gasfeld, das / **hu** lemen banki (föld)gázmező / **sk** Lemen Bank-ložisko zemného plynu v Severnom mori

Lennard-Jones Potential Mathematical model that represents attraction forces at long distances and repulsive forces at short distances for a pair of atoms/molecules. [*1-31*] **de** Lennard-JonesPotential, das / **hu** Lennard-Jones-potenciál / **sk** Lennard-Jones-ov potenciál

Lenoir cycle Thermodynamic cycle used to model a pulse jet engine. Process 1 > 2: isobaric process. Process 2 > 3: isometric process. Process 3 > 4: adiabatic process. Process 4 > 1: isobaric process. [*1-31*] (*s. a. idealized cycle, standard cycle, Carnot cycle*) **de** Lenoir Kreisprozess, der / **sk** Lenoir-ov cyklus

Lewis number Le Le / A dimensionless number that characterizes the ratio of heat transfer to mass diffusivity. [*1-72*] **de** Lewiszahl, die / **hu** Lewis-szám / **sk** Lewis-ovo kritérium

LFG s. landfill gas **de** Deponiegas, das

lifeboat match s. storm match **de** Sturmfeuerzeug, das / **sk** zápalky

lift-off flame Laminar flame speed is lower than tip velocity of the unburnt gas. [*1-2*] **de** abgehobene Flamme, die / **sk** odtrhnutie plameňa

light crude oil Crude oil with an API gravity higher than 31.1 °API. It has a low wax content. [*1-58, 3-62*] (*s. a. API gravity, heavy crude oil, extra heavy crude oil, Athabasca oil sands, Orinoco oil sands*) **de** konventionelles Öl, das / **hu** könnyű nyersolaj / **sk** konvenčná ropa

lighter Portable tool to create a flame. [*1-39, 1-40*] (*s. a. match, Fürstenberger lighter, Döbereiner's lamp, Ikari lighter, Nainen lighter, galvanic lighter*) **de** Feuerzeug, das / **hu** gyújtó, öngyújtó / **sk** zapaľovač

light-off performance Characteristics of a vehicle-catalyst during warm up. [*1-33*] **de** Anspringverhalten, das

lignite brown coal. (*s. a. coal, rank, coalification*) **de** Lignit; Braunkohle, die / **hu** barnaszén, barnakőszén, lignit / **sk** lignit

lignocellulose s. cellulosic biofuels **de** Lignozellulose, die / **hu** lignocellulóz /**sk** lignocelulóza

lignocellulosic ethanol s. cellulosic fuels [*3-15, 1-21*] **de** Ethanol aus Lignozellulose, das / **hu** lignocellulóz-alapú etanol / **sk** lignocelulózový etanol

lignosulfonate LS / An anionic polymer used to deflocculate drilling muds. [*3-72*] (*s. a. drilling fluid*) **de** Lignosulfonat, das / **sk** lignosulfonát

limelight Intense lighting source created by a oxyhydrogen flame which is heating a piece of calcium oxide (incandescence and candoluminescence). [*3-47, 1-37*] **de** Rampenlicht, das / **hu** reflektorfény, Drummond-féle (mész)fény / **sk** svetlo reflektora, javiskové osvetlenie

line absorption thermometry The spectra of radiation, passed through a gas volume, is recorded and appears as an absorption spectra. Usually iodine seeding is be used for this method. [*1-43*] **de** Thermometrie durch Absorptionsspektroskopie, die / **hu** vonalas abszorpciós hőmérsékletmérés / **sk** čiarová absorpčná termometria

line reversal method Temperature measuring method where Nacompounds are added. Na-atoms are able to absorb yellow light, and to emit light by high temperatures. At high temperatures, more light will be emitted, at lower temperatures, more light will be absorbed. [*1-43*] **de** Line-Reversal-Methode, die / **sk** Line-Reversal metóda

linear alkanes Straight chain alkanes such as methane, ethane, propane, butane, pentane, hexane and so on. The prefix nis used when non-linear isomers exits (e.g. n-hexane, a straight chain of 6 carbon atoms). General formula C_nH_{2n+2}. [*3-35, 1-24*] **de** lineare Alkane, die / **hu** nyílt láncú / nyíltláncú alkánok / **sk** lineárne alkány

Glossary of Combustion

linear fluorescence equation The fluorescence depends on the Einstein probabiltiy of stimulated and spontaneous emission, population in the lower state, gas number density, spectral power of the laser light, the detection efficiency, the colletion solid angle, mole fraction and the sampling volume. It is lineary proportional to the laser intensity. [*1-96, 1-43*] **de** lineare Fluoreszenzgleichung, die / **sk** rovnica lineárnej fluorescencie

liquefied gas LPG, GPL / Consists of propane and butane. Calorific value: 93000 kJ/m^3 [*1-4*] **de** Flüssiggas, das / **hu** propánbután, PB / **sk** skvapalnený plyn

liquid air cycle engine LACE / Spacecraft propulsion engine using part of its oxidizer from the atmosphere. [*3-10*] (*s. a. jet engine*) **de** LACE, das / **sk** LACE

liquid droplet sizing by Fraunhofer diffraction The diffraction can be observed on a screen, the pattern (characterized as a series of rings) is independent of the distance to the screen, but it is for the particle size or the particle collection of different particle sizes. [*143*] (*s. a. Fraunhofer diffraction*) **de** Bestimmung der Tröpfchengröße nach der Fraunhofer Beugungsmethode, die / **sk** kvapková Fraunhoferova difrakcia

liquid fuel Combustion of a liquid fuel happens in the gas phase. Therefore, a liquid can usually catch fire only above its flash point. **de** flüssiger Brennstoff, der / **sk** kvapalné palivo

liquid fuel reforming s. reforming **de** Reformieren von flüssigen Treibstoffen, das / **sk** reforming kvapalného paliva

liquid propellant rocket Rockets using liquid propellants, e.g. Monopropellants, bipropellants or tripropellants. [*1-12*] (*s. a. monopropellant, bipropellant, tripropellant*) **de** Flüssigtreibstoffrakete, die / **hu** folyékony hajtóanyagú rakéta / **sk** raketa na kavapalné pohonné látky

lithergole Rocket propellant with a solid fuel (e.g.. Hydroxyl-terminated polybutadiene or lithium hydride) and a fluid oxidizer (e.g. nitric acid, fluid oxygen, FLOX). [*1-12, 3-10*] (*s. a. hybrid rocket*) **de** Hybridtreibstoff, der / **hu** litergol / **sk** hybridná pohonná látka

lithium perchlorate $LiClO_4$ Very effective oxidizer used for bipropellants. [*1-12*] (*s. a. bipropellants*) **de** Lithiumperchlorat, das / **hu** lítium-perklorát / **sk** chloristan lítny

Lith-X powder™ Metal fire extinguishing agent. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** Lith-X Pulver™, das / **sk** Lith-X prášok

live oil Oil that contains dissolved gases. [*3-72*] (*s. a. dead oil*) **de** gashaltiges Öl, das / **hu** gázos/gáztartalmú olaj / **sk** olej obsahujúci plyn

Liverpool Bay Crude oil product with an API gravity of 45.0° and a sulphur content of 0.2%. The field is located in the United Kingdom. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Liverpool Bay (Rohöl), das / **hu** Liverpool Bay olaj / **sk** Liverpool Bay-ropný produkt

loading density The rate of mass of explosive to the explosion volume. [*1-12*] (*s. a. brisance*) **de** Ladedichte, die / **sk** náplňová hustota

lobed impeller flow meter Gas meter used by volumetric measurement. [*1-29*] **de** Drehkolbengaszähler, der / **hu** szárnykerekes áramlásmérő / **sk** plynomer s rotačnými piestami

Lockhart-Martinelli parameter A dimensionless number that characterizes the flow of gases with a liquid fraction. [*1-72*] **de** Lockhart-Martinelli Parameter, der / **sk** Lockhart-Martinelli-ho parameter

London-smog s. winter-smog **de** London-Smog, der / **hu** Londontípusú füstköd/szmog / **sk** Londýnsky smog

long residue LR / Residue of continuous distillation at atmospheric pressure. The next process unit is the vacuum distillation. [*1-59*] (*s. a. process units* (*oil refinery*), *continuous distillation, vacuum distillation*) **de** atmosphärischer Rückstand, der / **hu** hosszú kőolajmaradvány / **sk** atmosférický zvyšok

long ton L/T / Unit of mass.1016.04691 kg **de** Britische Tonne, die / **sk** dlhá tona

long-distance-microscope LDM / Characterizes the injection process and provides information which are required for numerical simulations. [*1-43*] **de** LD-Mikroskop, das / **sk** LDM

Lorentzian profile Line broadening effect of spectral lines described by the Lorentz function. This natural broadening effect is caused by the uncertainty principle (lifetime of an excited state) and can not be reduced. [*1-50*] (*s. a. Gaussian profile, Voigt profile, Doppler broadening*) **de** Lorentz-Profil, das / **sk** Lorentz-ov profil

Lorenz-Mie scattering s. Mie scattering **de** Lorenz-Mie Streuung, die / **sk** Lorenz-Mie-ho rozptyl

Los Angeles-smog s. summer-smog **de** Los Angeles Smog, der / **hu** Los Angeles-típusú füstköd/szmog / **sk** Los Angeles-ký smog

Loschmidt constant Number of atoms/molecules of an ideal gas in a given volume at standard conditions for temperature and pressure. [*1-31*] (*s. a. Avogadro constant*) **de** Loschmidt Konstante / **hu** Loschmidt-szám (Loschmidt-állandó) / **sk** Loschmidt-ova konštanta

loss of containment LOC / LoC means an accidental spill of liquid or gaseous hydrocarbons in a petrochemical process, leading to a potential explosion. **de** Austritt von Kohlenwasserstoffen, der / **sk** strata kontroly

low speed diesel Used for power generation, mean piston speed about 8,5 m/s [*1-34, 1-29*] (*s. a. mean piston speed*) **de** Langsamlaufdiesel, der

low temperature combustion LTC / New combustion concept which lowers the NO_x emission. The isobaric combustion process of the ideal diesel engine cycle is replaced with an isothermal process during the power stroke. This lowers the peak cylinder temperature. [*3-87*] **de** Niedrigtemperaturverbrennung, die / **hu** alacsony hőmérsékletű égés / **sk** nízkoteplotné spaľovanie

low-dust-SCR DeNOx process (SCR) takes place after the dust collector which increases the durability of the catalyst. (*s. a. DeNOx, selective catalytic reduction, TurboNOx*) **de** SCR-Prozess mit geringer Staubbeladung, der / **hu** porleválasztó utáni SCR (szelektív katalitikus redukáló berendezés), pormentes SCR / **sk** selektívna katalytická redukcia po odstránení prachu

lower explosive limit LEL / s. lower flammability limit [*1-1*] **de** untere Explosionsgrenze, die / **sk** dolná medza výbušnosti

lower flammability limit LFL / Lowest concentration limit at which, under defined conditions, a flammable gas/air mixture can be ignited. The range between LFL und UFL is termed explosion range or flammability range. [*1-1*] **de** untere Zündgrenze, die / **hu** alsó gyulladási határ / **sk** dolná medza výbušnosti

lower heating value LHV / Heat quantity produced from the combustion of 1 m^3 of gas (at standard conditions) if the combustion products where brought to initial temperature conditions and the produced water is vaporous. [*1-31*] **de** Verbrennungswärme, die; unterer Heizwert, der / **hu** fűtőérték / **sk** výhrevnosť

low-expansion foam Used for tast covering of large areas. [*1-71*] (*s. a. fire fighting foam*) **de** Schwerschaum, der / **sk** ťažká pena

low-temperature carbonization LTC / s. Karrick process **de** Karrick Prozess, der / **hu** félkokszolás, alacsony hőmérsékletű szénlepárlás / **sk** nízkoteplotná karbonizácia

luminosity Measure of the amount of light. The SI-unit is candela per square meter. [*1-44*] (*s. a. luminous flame*) **de** Lichtstärke, die / **hu** (szubjektív) fényesség, felületi fényerősség / **sk** svietivosť, svetlosť, jasnosť, svetelná účinnosť

luminous flame A fuel-rich or non-premixed methane air flame will be luminous due to the glowing of soot particles. **de** leuchtende Flamme, die / **hu** világító láng / **sk** svietivý plameň

lump charcoal Charcoal made directly from wood material. [*1-25*] **de** stückige Holzkohle, die / **hu** darabis faszén / **sk** kusové drevné uhlie

Lurgi process Coal gasification process. The main reactions are: $C + O_2 > CO_2$ (providing heat); $C + H_2O > CO + H_2$ (synthesis gas); $C + 2\ H_2 > CH_4$ (methane). [*2-40*] (*s. a. coal, coal gasification*) **de** Lurgi Prozess, der / **hu** Lurgi-eljárás / **sk** Lurgi proces

lustre (BE) The way light interacts with the surface of a crystal, rock, or mineral. For example, a diamond is said to have an adamantine lustre and pyrite is said to have a metallic lustre. [*1-74*] **de** Glanz, der; schimmernder Glanz, der / **hu** fény, ragyogás / **sk** lesk

M-100 explosive Pyrotechnic salute containing 7–12 g flash powder. In many countries illegal. (*s. a. flash powder*) **de** M-100 Böller, der / **sk** výbušnina M-1

M-1000 explosive Pyrotechnic salute containing 50–100 g flash powder. In many countries illegal. (*s. a. flash powder*) **de** M-1000 Böller, der / **sk** výbušnina M-1

M-80 explosive Pyrotechnic salute containing 2.5–3 g flash powder. In many countries illegal. Some consumer fireworks sold as "M-80 Firecracker" contains not more than 50 mg flash powder. (*s. a. flash powder*) **de** M-80 Böller, der / **sk** výbušnina M-8

maceral coal s. coal **de** Maceralkohle, die / **sk** macerálové uhlie

Mach number A dimensionless number that characterizes the ratio of inertial force to compression force. [*1-72*] **de** Machzahl, die / **hu** Mach-szám / **sk** Machove číslo

Magnetic constant μ0 / A fundamental physical constant. It relates mechanical and electromagnetic units of measurement. $12.566370614*10^{-7}$ N A^{-2} [*3-38*] **de** magnetische Feldkonstante, die / **hu** a vákuum permeabilitása, mágneses állandó / **sk** magnetická konštanta

magnetic susceptibility The ratio of the magnetization of a material to the magnetic field strength. It describes the magnetic response of a substance to an applied magnetic field. [*1-37*] (*s. a. diamagnetic, paramagnetic*) **de** magnetische Suszeptibilität, die / **hu** mágneses szuszceptibilitás / **sk** magnetická susceptibilita

magneto ignition Ignition system using a spinning magnet inside a coil. Interrupting the current causes the voltage to be increased sufficiently to jump over a small gap. Used in gasoline-fuelled internal combustion engines (Otto engines). [*1-34*] (*s. a. spark ignition, spark plug*) **de** Magnetzündung, die / **hu** mágnesgyújtás / **sk** megnetovznietenie

Makó gas field Major natural gas field in Hungary. [*3-63*] (*s. a. atural gas, gas reserves*) **de** Makó Gasfeld, das / **hu** makói (föld)gázmező / **sk** Makó-ložisko zemného plynu v Maďarsku

manganin™ Copper-manganese-nickel alloy with a low temperature coefficient of resistance, similar to constantan™. [*1-85*] **de** Manganin, das / **hu** manganin / **sk** manganin

Manning roughness coefficient A empirically dimensionless number that characterizes a flow driven by gravity. [*1-72*] **de** ManningKoeffizient, der / **hu** Manning-féle érdességi tényező/szám/együttható / **sk** Manning-ov stupeň drsnosti

mannitol hexanitrate $C_6H_8N_6O_{18}$ Powerful explosive, used in the US for percussion caps. Detonation velocity about 8260 m/s. [*1-12*] (*s. a. percussion cap*) **de** Nitromannit, das / **hu** mannit-hexanitrát, nitromannit / **sk** hexanitrát-hexán-1,2,3,4,5,6-hexol

MAPP® gas Liquefied gas (LPG) mixed with methylacetylene-propadiene. [*1-11*] **de** MAPP®, das / **sk** MAPP® gas

marcasite s. flint de Markasit / **hu** markazit, vas-diszulfid / **sk** markazit

Marcellus shale gas field Major natural gas field in the United States. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Marcellus shale Gasfeld, das / **hu** Marcellus shale-i (föld)gázmező / **sk** Marcellusložisko zemného plynu v USA

marching method Numerical method for solving boundary value problems. [*3-90*] **de** Marching-Methode, die / **sk** marching metóda

Marib Light Crude oil product with an API gravity of 48.9° and a sulphur content of 0.1%. The field is located in Yemen. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Marib Light (Rohöl), das / **hu** Marib Light olaj / **sk** Marib Light-ropný produkt

marine diesel oil Mixture of gas oil and heavy fuel oil. Commonly used fuel oil distillate. DMX: Gasoil primarily used by emergency engines. It has the lowest cloud point of all the distillates. DMA, MGO: Commonly used fuel oil distillate, free from traces of residual fuel. DMB, MDO: Commonly used fuel oil distillate, contains traces of residual fuel. DMC: Rarely used marine fuel, has a higher residue than DMB. [*3-28*] **de** Marinedieselöl, das / **hu** hajózási/tengerészeti gázolaj, nehézolaj / **sk** námornícka nafta

marine gasoil MGO, DMA / Common used fuel oil distillate, free from traces of residual fuel. Similar to fuel oil No. 2. [*3-28*] **de** Marinegasöl, das

marinite Oil shale (marine type) found in USA and Canada. [*2-35*] (*s. a. oil shale*) **de** Marinit, das / **sk** marinit

Markstein length A length that measures the effect of curvature on a flame. The higher the Markstein length, the greater the effect of curvature on burning velocity. [*1-2*] (*s. a. Markstein number*) **de** Marksteinlänge, die / **sk** Markstein-ova dĺžka

Markstein number The Markstein length divided by the flame thickness. [*1-2*] (*s. a. Markstein length*) **de** Markstein-Zahl, die / **sk** Markstein-ovo číslo

marsh gas s. pit gas **de** Grubengas, das / **hu** mocsárgáz, sújtólég / **sk** bahenný plyn

mass flux Amount that flows through a unit area per unit time. [*1-2*] **de** Massenstromdichte, die / **hu** tömegáram fluxus, tömegáramsűrűség / **sk** hustota hmotnostného toku

match Small wood stick, coated at one end, to lighten a fire. The coating is a material which will ignite if rubbed. [*1-38, 1-40*] (*s. a. permantent match, safty match, strike anywhere match, storm match, bengal match*) **de** Streichholz, das / **hu** gyufa / **sk** zápalky

matchlock Obsolete mechanism for igniting/firing firearms. (*s. a. fire piston, wheellock, matchlock, snaphance*) **de** Luntenschloss, das / **sk** mušketa, luntová zámka

material safety data sheet The MSDS, which is provided by the producer of any chemical, contains all important information that needs to be known prior to handling that chemical. The MSDS covers, inter alia, physical data, toxicity, fire fighting and disposal. **de** Sicherheitsdatenblatt, das / **sk** bezpečnostný hárok materiálu

Max Power Propylene s. MAPP® gas [*1-11*] **de** MAPP®, das / **sk** Max Power propylén

maximum entropy method MEM / Probability distribution method of data analysis in statistical physics. [*2-55*] **de** Maximum-EntropieMethode, die / **sk** MEM, metóda maximálne entrópie

mazut Heavy, low quality fuel oil. [*1-79*] **de** Gasöl, das / **hu** mazut, (nehéz) fűtőolaj / **sk** mazut

McCabe-Thiele method Method to find the ideal number of stages for the distillation of a two component system. [*2-40*] **de** McCabeThiele Methode, die / **hu** McCabe-Thiele-módszer / **sk** McCabe_ Thiele-ova metóda

McKenna burner s. flat flame burner **de** McKenna Brenner, der (Flachbrenner) / **sk** McKenna-ov horák

mean effective pressure MEP / Average pressure that the gas exerts on the piston (or pistons) through one complete operating cycle. [*1-34, 1-29*] **de** mittlerer Nutzdruck, der / hu efektív/közepes nyomás / **sk** stredný účinný tlak

mean free path The average distance between two similar events, such as elastic collisions of atoms or molecules in a gas. **de** mittlere freie Weglänge, die / **hu** közepes szabad úthossz / **sk** stredná voľná dráha

mean piston speed Average speed of the piston in a reciprocating engine. [*1-34, 1-29*] **de** mittlere Kolbengeschwindigkeit, die / **hu** átlagos/közepes dugattyúsebesség / **sk** stredná rýchlosť piestu

mechanical efficiency Engine parameter. Relationship of work out put and work input. Always below 100%. [*1-34*] (*s. a. engine efficiency*) **de** mechanischer Wirkungsgrad, der / **hu** mechanikai hatásfok / **sk** mechanická účinnosť

mechanically aided scrubber Wet scrubbing air pollution control system. [*2-42, 2-43*] (*s. a. wet scrubber*) **de** mechanischer Gaswäscher, der / **sk** mokrý skrúber

medium fuel oil MFO / Mixture of heavy fuel oil and gas oil, more heavy fuel oil than intermediate fuel oil. [*3-28*] **de** Heizöl, das / **sk** MFO

medium speed diesels Used for trains and trucks, mean piston speed about 11 m/s. (*s. a. mean piston speed*) **de** Medium-Speed Diesel, der

medium speed petrol Used for automobile engines, mean piston speed about 16 m/s. (*s. a. mean piston speed*) **de** Medium-Speed Benzin, das

mega M / SI-prefix, factor 10^6. [*3-38*] **de** mega

Méker burner s. Bunsen burner **de** Mekerbrenner, der / **hu** Mékerégő / **sk** Méker-ov horák

mercaptan content (natural gas) s. mercaptans **de** Mercaptangehalt, der / **hu** merkatán tartalom / **sk** obsah merkaptánu

mercaptan oxidation s. merox **de** Merox-Verfahren, das; Verfahren zur Oxidation von Mercaptanen, das / **sk** oxidácia merkaptánu

mercaptans Components used as gas odorant in small concentrations. [*2-40*] (*s. a. natural gas, hydrogen sulphide*) **de** Mercaptane, die / **hu** merkaptánok / **sk** merkaptány

MERCURE Amospheric dispersion model including buoyant or dense plum types; continuous or intermittent pollution sources and can be used for simulating of the deposition and decay of pollutants. [*1-68*] (*s. a. atmospheric dispersion models*) **de** MERCURE-Modell, das / **sk** MERCURE

mercury removal Because elemental merury (Hg^0) is not soluble, it has to be oxidized by a catalytic reaction to Hg^{2+} which is more soluble. [*2-42, 2-43*] (*s. a. wet scrubber*) **de** Quecksilberentfernung, die / **hu** higanykivonás, higanyleválasztás / **sk** odstránenie ortuti

merox Catalytic chemical process used to remove mercaptans from natural gas, kerosene and jet fuels. Syn.: mercaptan oxidation [*240*] (*s. a. natural gas, kerosene, jet fuel*) **de** Merox-Verfahren, das / **hu** merox eljárás / **sk** merox

mesosphere Third atmospheric layer. It extends from 50 80 km over sea-level. [*1-68*] (*s. a. atmosphere, troposhere, stratosphere, planetary boundary layer*) **de** Mesosphäre, die / **hu** mezoszféra, középső légkör / **sk** mezosféra

Messoyakha gas field Major natural gas field in Russia. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Messoyakha Gasfeld, das / **hu** messoyakhai (föld)gázmező / **sk** Messoyakha-ložisko zemného plynu v Rusku

metal deactivators Can depress catalytic activity of metals, e.g. copper. [*3-48*] **de** Metalldesaktivatoren, die / **hu** fémdezaktiváló (szer), fémdezaktivátor / **sk** deaktivátory kovu

meter SI basic unit of length. **de** Meter, das; Meter, der / **hu** méter / **sk** meter

methanation The catalytic conversion of hydrogen and carbon monoxide to methane. **de** Methanation, die / **hu** metánosítás, metanizálás / **sk** metanizácia

methane The simplest hydrocarbon with one carbon atom, CH_4. It is the main component of natural gas (>90% by volume). Methane can also be obtained by fermentation, Sabatier process, FischerTropsch process, coal bed methane extraction or coal bed methane recovery. Calorific value: 36000 kJ/m^3. [*1-4, 1-11*] (*s. a. natural gas*) **de** Methan, das / **hu** metán / **sk** metán

methane number A measure for knock resistance of gas mixtures. It it denotes the (vol.)percentage of methane (methane number = 100) and of hydrogen (methane number = 0) which has the same knock resistance as the gas being tested. Gas mixtures with a lower methane number are less knock resistant and the danger of spontaneous combustion increases. [*1-2, 1-5*] (*s. a. octane rating, knock resitance, engine knocking*) **de** Methanzahl, die / **hu** metánszám / **sk** metánové číslo

methanol MeOH; Common oxygenate for fuels. [*3-32*] **de** Methanol, das / **hu** metanol / **sk** metanol

methyl mercaptan CH_3-SH; Component used as gas odorant in small concentrations. [*2-40*] (*s. a. natural gas, hydrogen sulphide*) **de** Methylmercaptan, das / **hu** metil-merkaptán, metán-tiol / **sk** metylmerkaptán

methyl oleate $CH_3(CH_2)_7CH=CH(CH_2)_7COOCH_3$; Oleic acid methyl ester. **de** Methyloleat, das / **hu** metil-oleát / **sk** metyloleát

methyl tert-butyl ether MTBE / Common oxygenate for fuels. [*3-32*] **de** Methyltertiärbutylether, der / **hu** metil-terc-butil-éter / **sk** metyltercbutyléter

methylaziridinphosphinoxide MAPO / $C_9H_{18}N_3OP$; Binding agent used for bipropellants. [*1-12*] (*s. a. bipropellants*) **de** MAPO, das / **hu** metil-aziridin-foszfin-oxid / **sk** metyl-aziridín-fosfínoxid

methylbenzene s. toluol **de** Methylbenzen, das; Toluol, das / **sk** metylbenzén

Methylcyclopentadienyl manganese tricarbonyl MMT / Gasoline additive to increase the fuel's octane rating. Is still in use although it is highly neurotoxic to humans. [*3-32*] **de** MMT, das / **hu** metil-ciklopenta-dienil

methyldiphenylurea $C_{14}H_{14}N_2O$; Stabilizer used for gunpowders. [*1-12*] **de** Methyldiphenylharnstoff, der / **hu** metil-difenil-karbamid

methylene blue test MBT / A measurement method to estimate the amount of clay-materials in a drilling mud. **de** Methylenblautest, der / **hu** metilénkék-teszt / **sk** test metylénovej modrej

MET-L-KYL Fire extinguishing agent. Designed for pyrophoric liquid fires. [*1-71*] (*s. a. fire extinguishing powder*) **de** MET-L-KYL, das / **sk** MET-L-KYL

MET-L-X s. sodium chloride (fire fighting) [*1-71*] (*s. a. fire extinguisher*) **de** MET-L-X, das / **sk** MET-L-X

Met-L-X powder Non-combustible powder used as metal fire extinguishing agent. [3-45, 3-46] (s. a. pyrophoricity) **de** MET-L-X-Pulver, das / **sk** Met-L-X prášok

metric ton t / Unit of mass.1000 kg **de** metrische Tonne, die / **sk** metrická tona

Michelson interferometer A light beam is split into two paths with different length. A interference pattern is produced due to the optical path difference. [*1-96*] (*s. a. Fourier transform infrared emission analyzer*) **de** Michelson Interferometrer, das / **hu** Michelson-féle interferométer / **sk** Michelson-ov interferometer

micro μ / SI-prefix, factor 10^{-6}. [3-38] **de** micro

Micro Pilot Injection Natural Gas MPING / Diesel-natural gas combustion. Diesel is the ignition source. Only small amounts of Diesel are required. This can reduce soot particle production and less CO_2/NO_x emission. [*3-19*] **de** MPING, das / **sk** MPING

micro(scale) combustion Combustion process occurring in small flames. It is different from conventional flames in power generation. The flame dimension is smaller than the quenching distance and the Reynolds number is to small to be turbulent. [*1-22*] **de** Mikroverbrennung, die / **sk** mikrospaľovanie

micro-g environment s. microgravity environment **de** Mikrogravitation, die / **sk** mikrogravitácia

microgravity environment Environment where the acceleration induced by gravity has prctically no measurable effect. Microgravity combustion research helps to understand spacecraft fire safety and some aspects of combustion physics. Syn.: micro-g environment. **de** Mikrogravitation, die / **sk** mikrogravitácia

midnight energy s. activation energy **de** Aktivierungsenergie, die / **hu** aktiválási energia (vö.: minimális gyulladási energia) / **sk** aktivačná energia

Mie scattering The scatter intensity of small particles (the particle size is about the light wavelength). The calculation was first done by MIE (1908) according to Maxwell's Equations. This is the fundamental scattering range used for Laser Doppler Anemometry. [*1-2, 2-8*] (*s. a. Laser Doppler Anemometry, LDA-scattering, LDAscattering, Mie scattering, Rayleigh scattering, geometrical optics*) **de** Mie-Streuung, die / **hu** Mie-szór(ód)ás / **sk** Mie-ho rozptyl

Mie scattering method Simple Method for 2D imaging of liquid fuel droplets, based on Mie scattering by the droplets. [*1-43*] **de** MieStreuungsmethode, die / **hu** Mie-szór(ód)ásos módszer / **sk** Mie-ho rozptylová metóda

mile mi / Unit of length. 1609.344 m **de** Meile, die / **hu** mérföld / **sk** míľa

miles per gallon mpg / Fuel consumption in miles per gallon. (s. a. gallon) **de** Meilen pro Gallone (Einheit), die / **sk** mpg

milli m / SI-prefix, factor 10^{-3}. [*3-38*] **de** milli

Minami Kanto gas field Major natural gas field in Japan. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Minami Kanto Gasfeld, das / **hu** minami kantói (föld)gázmező / **sk** Minami Kanto-ložisko zemného plynu v Japonsku

mine damp s. pit gas **de** Grubengas, das / **sk** banská výsypka

mine gas s. pit gas **de** Grubengas, das / **sk** banský plyn

mineral wax s. ozokerite **de** Grubengas, das / **sk** minerálny vosk

mini powerstation with gas engine s. block heat and power plant [*1-29*] **de** Blockheizwerk, das / **hu** gázmotoros kiserőmű / **sk** malá elektráreň s plynovým motorom

miscanthus Various species of grasses with a high biomass content. Used for the production of biofuels. Miscanthus x giganteus is the most-used species. [*1-82*] (*s. a. biofuels, energy crop*) **de** Miscanthusgras, das; Elefantengras, das / **sk** miscanthus

mixed-pressure turbine Steam turbine. [*1-74*] (*s. a. steam*) **de** Dampfturbine, die / **hu** frissés fáradtgőzzel táplált/dolgozó (gőz) turbina / **sk** dvojtlaká turbína

MMBtu s. british thermal unit **de** British Thermal Unit, die / **sk** MMBtu

MMH s. monomethylhydrazine **de** Monomethylhydrazin, das

model fuel Fuels used as reference in standardized tests. **de** Referenztreibstoof, der / **sk** referenčná pohonná látka

modern burner unit Fueling system for field feeding equipment used in the US. Amy. [*3-54*] **de** Modern Burner Unit, die / **sk** moderná horáková jednotka

molar absorptivity s. molar extinction coefficient **de** molarer Extinktionskoeffizient, der / **hu** moláris (fajlagos) abszorpcióképesség, moláris extinkciós együttható/koefficiens / **sk** molárna pohltivosť

molar extinction coefficient Measurement of the degree that a chemical species absorbs light at a given wavelength. [*1-31*] **de** molarer Extinktionskoeffizient, der / **hu** moláris (fajlagos) abszorpcióképesség, moláris extinkciós együttható/koefficiens / **sk** molárny extinkčný koeficient

molar gas constant s. gas constant **de** Gaskonstante, die / **hu** (moláris/univerzális/általános) gázállandó / **sk** molárna plynová konštanta

molar heat capacity The thermal energy required to increase the temperature of a molar unit of a substance by a defined temperature unit. [*1-31*] **de** molare Wärmekapazität, die / **hu** mólhő, moláris hőkapacitás, moláris fajhő / **sk** molárna tepelná kapacita

molecular sieve (natural gas processing) Porous material used as an adsorbent for gases and liquids (e.g. removing water and mercury from natural gas). [*2-40*] (*s. a. natural gas, glycol dehydration*) **de** Molekularsieb, das / **hu** molekulaszita, molekuláris szűrő / **sk** molekulárne sito

molten carbonate fuel cell MCFC / High temperature fuel cell. Molten lithium/potassium carbonate is used as electrolyte. The fuel gas on the anode side is a mixture of hydrogen and carbon monoxide (reforming of natural gas or biogas). [*1-114*] (*s. a. fuel cell, natural gas, biogas, reforming*) **de** Schmelzkarbonatbrennstoffzelle, die / **hu** olvadt karbonátos üzemanyagcella / **sk** palivový článok s uhličitanovou taveninou

moment The product of a quantity and its vertical distance from a reference point. [*1-44*] **de** Moment, das / **sk** moment

monnex s. potassium bicarbonate (fire fighting) **de** Monnex, das / **sk** monnex

monochromatic fluorescence thermometry The Method is based on the temperature dependence of the fluorescence signal. The signal is measured over a small bandwith. [*1-43*] (*s. a. fluorescence thermometry*) **de** monochromatische Fluoreszenz Thermometrie, die / **hu** monokromatikus fluoreszcenciás hőmérsékletmérés / **sk** monochromatická fluorescenčná pyrometria

monochromatic radiation thermometer s. narrow band radiation thermometer **de** monochromatischer Strahlungsthermometer, der / **hu** monokromatikus pirométer/sugárzáshőmérő / **sk** monochromatický radiačný pyrometer

monochromaticity Term to describe electromagnetic radiation of a single wavelength. Due to fundamental physical principles, even monochromatic sources (e.g. lasers) have some narrow range of wavelengths. [*1-96*] (*s. a. laser*) **de** Monochromatismus, der / **hu** egyszínűség, monokromatizmus / **sk** monochromaticita

monochromator A piece of equipment that selects a single wavelength (based on diffraction). [*1-102*] **de** Monochromator, der / **hu** monokromátor / **sk** monochromátor

monodisperse Term used to discribe a set of particles whicl all have the same size, shape and mass. [*1-11*] **de** monodispers / **hu** egyenletes eloszlású, monodiszperz / **sk** monodisperzný

monoethanolamine s. bromine number **de** Monoethanolamin, das / **hu** monoetanol-amin / **sk** monoetanolamín

monomethylhydrazine MMH / Rocket propellant with a good storability. MMH has a higher density (=more efficiency) then UDMH. It is a volatile, toxic and carcinogen liquid. [*3-8, 3-9, 1-16, 3-10*] (*s. a. hydrazine, rocket propellant, hypergole, liquid propellant rocket*) **de** Monomethylhydrazin, das / **hu** monometil-hidrazin / **sk** monometylhydrazín

monomolecular reaction A reaction only involving a single molecule (e.g.. collisional deactivation, decomposition) [*1-1*] **de** Reaktion 1. Ordnung, die / **hu** monomolekuláris/egymolekulás reakció / **sk** reakcia prvého poriadku

monopropellant Liquid propellant, decomposition will be triggert by adding a catalyst. Examples are hydrazine (aluminum oxide as catalyst) and hydrogen peroxide (catalyst: calcium permanganate). [*1-12, 3-10*] (*s. a. hydrazine, liquid fuel rockets, bipropellants, tri propellents, hypergole*) **de** Monergole, die / **hu** egynemű/egyalkotós rakéta-hajtóanyag / **sk** monergol, jednozložková pohonná hmota

Montreal protocol Environmental agreement to protect the ozone layer by phasing out the production of substances that are responsible for ozone depletion. At present, 193 nations have signed this protocol. [*3-60*] (*s. a. environmental agreement, Vienna convention for the protection of the ozone layer*) **de** Montreal-Protokoll, das / **hu** montreáli jegyzőkönyv / **sk** Montreal-ský protokol

Motor Octane Number MON / MON testing is similar to RON testing, but with a higher engine speed (900 rpm), variable ignition timings and a preheated fuel mixture (intake air heating 159°C). MON is about 8 to 10 points lower than the RON of the same fuel. [*1-2, 3-4*] (*s. a. octane rating, Research Octane Number, Road Octane Number*) **de** Motor-Oktanzahl, die / **hu** motor oktánszám / **sk** motorové oktánové číslo

motorjet Simple type of an airbreathing jet engine. Syn.: thermojet. [*1-77*] (*s. a. jet engine*) **de** Motorstrahltriebwerk, das

MSDS s. material safety data sheet **de** Sicherheitsdatenblatt, das / **sk** bezpečnostný hárok materiálu

multipurpose s. ammonium phosphate **de** Ammoniumphosphatlöschmittel, das / **sk** viacúčelový

multistage ignition Regions where ignition starts not until several sparks. The ignition can be aborted when by chemical reaction if precursors of chain branching are instable at higher temperatures (degenerate branching). [*1-2*] (*s. a. degenerate chain branching*) **de** Mehrstufenzündung, die / **hu** többlépcsős gyulladás / **sk** viacstupňové vznietenie

mushroom heater s. patio heater **de** Terrassenstrahler, der / **sk** terasový sálač patio

muzzle flash The visible light seen at the muzzle when discharged combustible gases (like CO or CH_4) and unburned gunpowder mix with the ambient air after firing of a shot. [*1-12*] **de** Mündungsfeuer, das / **hu** torkolattűz / **sk** plameň na ústí

myco diesel New production method for biofuels. A special fungus has the unique capability of converting cellulose into hydrocarbons like those found in fossil diesel. [*3-15, 1-21*] **de** Mycodiesel, der / **hu** myco-dízel / **sk** myco nafta

N-(2-aminoethyl)piperazine s. antioxidants, s. bromine number **de** N-(2-Aminoethyl)Piperazin, das / **hu** N-(2-amino-etil)-piperazin / **sk** N-(2-amino-etyl)-piperazín

N,N-diethylhydroxylamine s. antioxidants, s. organo-amines **de** N,N-Diethylhydroxylamin, das / **hu** N,N-dietil-hidroxil-amin / **sk** N,N-dietyl-hydroxylamín

N,N-diethyl-p-(phenylazo)aniline s. solvent yellow 56 **de** N,Ndiethyl-p-(phenylazo)Anilin, das / **hu** N,N-dietil-p-(fenilazo)-anilin / **sk** N,N-dietyl-p-(fenylazo)-anilín

Nainen lighter Gas lighter. The flame is stabilized by a ring-shaped metal grid. [*3-58*] (*s. a. lighter, Fürstenberger lighter, Ikari lighter, galvanic lighter*) **de** Nainen Brenner, der / **sk** Nainen-ov horák

NAME Atmospheric dispersion model developed after the Chernobyl accident. [*1-68*] (*s. a. atmospheric dispersion models*) **de** NAMEModell, das / **sk** NAME (dispersion model)

nano n / SI-prefix, factor 10^{-9}. [*3-38*] **de** nano

nano iron powder Iron powder with particle sizes ranging on the nanoscale. Used as catalyst in fuel cell applications. (*s. a. fuel cell*) **de** Nano-Eisenpulver, das / **sk** nano železný prášok

naphta Mixture of flammable liquids (hydrocarbons distilled from petroleum or coal). **de** Naphta, das / **hu** benzin / **sk** ťažký benzín **naphta cut** Fraction of continuous distillation of crude oil. The initial boiling point is about 35°C, the final boiling point is about 200°C. [*1-59*] (*s. a. process units* (*oil refinery*), *continuous distillation*) **de** Leichtbenzinfraktion, die / **hu** nehézbenzin frakció / **sk** ľahký benzín

naphthene-base crude oil Crude oil containing asphaltic materials but no wax. Used for gasoline and asphalt production. Syn.: asphalt-base crude [*3-72*] (*s. a. paraffin–base crude oil*) **de** naphthenisches Erdöl, das / **hu** nafténbázisú nyersolaj/kőolaj / **sk** nafté nová ropa

naphthenes s. cycloalkanes [*3-35, 1-24*] **de** Naphthene / **hu** naftének / **sk** naftény

naphthenic acids s. organo-amines **de** Naphtensäure, die / **sk** kyselina nafténová

naphthenic hydrocarbon Organic compound that contains at least one saturated cyclic structure. [*3-72*] (*s. a. hydrocarbon, paraffinic hydrocarbon*) **de** naphthenisches Erdöl, das / **hu** cikloalkán, naftaszénhidrogén / **sk** naftény

Naptha Koch Crude oil product with an API gravity of 57.8° and a sulphur content of 0.1%. The field is located in the United States. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Naptha Koch (Rohöl), das / **hu** Naptha Koch olaj / **sk** Naphta Koch-ropný produkt

narrow band radiation thermometer Pyrometer that is sensitive to to a single small band of the radiation spectrum using an optical filter. Syn.: monochromatic radiation pyrometer [*1-43*] (*s. a. radiation thermometry, Planck's law, two-color method, total radiation thermometerbroad band radiation thermometer*) **de** Schmalbandpyrometer, der / **hu** keskenysávú/spektrális pirométer/ sugárzáshőmérő / **sk** úzkopásmový rariačný pyrometer

National Institute of Standards and Technology (NIST) NIST / International non-governmental organization, acts as a measurement standards laboratory. [3-38] de NIST, das / **sk** NIST-medzinárodná mimovládna organizácia činná ako laboratórium meracích štandardov

natural aspirated engines s. air inlet system **de** Ansaugssystem, das / **sk** motor s prirodzeným nasávaním

natural draught burner Types of burners where the oxidizer-intake occurs by the flow of the fuel gas and by thermal lifting. [*1-29*] **de** Brenner ohne Gebläse, der / **sk** horák bez ventilátora

natural gas Fossil natural gas primarily consists of methane including some ethane, propane and butane. Calorific value: 32000–44000 kJ/m^3. [*1-4*] **de** Erdgas, das / **hu** földgáz / **sk** zemný plyn

natural gas liquids Condensate carried along by gas gathering, mainly C_5-C_8 hydrocarbons. [*1-29*] **de** Erdgaskondensat, das / **hu** gázcsapadék, földgáz/szénhidrogén kondenzátum / **sk** ťažšie plynné uhľovodíky

Glossary of Combustion

naturally aspirated engine A reciprocating internal combustion engine. It depends only on atmospheric pressure to draw in combustion air. **de** Saugmotor, der / **hu** természetes szellőzésű motor / **sk** motor bez preplňovania

Nautical mile nmi / Unit of length.1852.0 m **de** nautische Meile, die / **hu** tengeri mérföld / **sk** nautická míľa

Navier-Stokes equations Equations, based on Newtons second law, which describe the motion of viscous fluid substances. [*1-44*] (*s. a. turbulent flow, laminar flow, Reynolds number*) **de** NavierStokes Gleichungen, die / **hu** Navier–Stokes-egyenlet(ek) / **sk** Navier-Stokes-ova rovnica

navy special fuel oil Bunker fuel, No. 5 fuel oil. [*3-27, 3-28*] **de** Marinedieselöl, das

Na-X powder Non-combustible powder used as metal fire extinguishing agent. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** Na-X Pulver, das / **sk** Na-X prášok

n-butanol (BuOH) Common oxygenate for fuels. [*3-32*] **de** n-Butanol, das / **hu** n-butanol / **sk** n-butanol

Nd:YAG laser A type of solid-state laser with fundamental wavelength at 1064 nm. [*1-107*] (*s. a. Laser*) **de** Nd:YAG Laser, der / **sk** Nd:YAG laser

needle valve s. inward-opening valve **de** Nadelventil, das / **hu** tűszelepek / **sk** ihlový ventil

negative temperature coefficient NTC / In this type of thermistors, the resistance decreases as ist temperature increases. More common than PTC thermistors. [*1-54*] (*s. a. thermistor*) **de** negativer Temperaturkoeffizient, der / **hu** ntc/ntk ellenállás(-hőmérő), negatív hőfok-karakterisztikájú termisztor/ ellenállás-hőmérő / **sk** NTC

negative temperature coefficient behaviour NTC behaviour / Occurs when the thermal conductivity of a material increases with increasing temperature. [*1-44*] (*s. a. thermocouple*) **de** NTC-Verhalten, das / **hu** negatív hőfok-karakterisztikájú viselkedés / **sk** NTC

Nernst cell Lambda sensor based on the voltage on a solid-state electrochemical fuel cell [*1-43*] (*s. a. lambda sensor*) **de** Nernst Sonde, die / **hu** Nernst-szonda/cella / **sk** Nernst-ova sonda

Nernst equation Equation used to calculate the electrochemical equilibrium reduction potential of a half-cell in an electrochemical cell. [*1-31*] **de** Nernst-Gleichung, die / **hu** Nernst-egyenlet / **sk** Nernst-ova rovnica

net heating value Heat quantity produced from the complete combustion of 1 m^3 of gas (at operating conditions) when the combustion products reduced to initial conditions and the produced water is vaporous. [*1-29, 1-31*] **de** Betriebsheizwert, der / **hu** a fűtőérték üzemi viszonyokra átszámított értéke / **sk** výhrevnosť

N-Ethyl-N-(2-(1-(2-methylpropoxy)ethoxy)ethyl)-4-(phenylazo) anilin s. solvent yellow 124 **de** N-Ethyl-N-(2-(1-(2-Methylpropoxy) Ethoxy)Ethyl)-4-(Phenylazo)Anilin, das

neural network A population of interconnected neurons whose inputs define a recognizable circuit. (*s. a. artificial neural network*) **de** neuronales Netzwerk, das / **hu** neurális háló(zat) / **sk** nervová sieť

new field wildcat NFW / Oil well far from other producing fields. [*1-62*] **de** Aufschlußbohrung, die / **hu** kutató (próba)fúrás új (olaj) mezőn / **sk** NFW

new pool wildcat NPW / New oil well on already producing fields. [*1-62*] **de** Aufschlußbohrung, die / **hu** kutató (próba)fúrás már termelő (olaj)mezőn / **sk** NPW

New Zafiro Blend Crude oil product with an API gravity of 29.5° and a sulphur content of 0.3%. The field is located in Equatorial Guinea. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** New Zafiro Blend (Rohöl), das / **hu** New Zafiro Blend olaj / **sk** New Zafiro Blend-ropný produkt

Newcomen steam engine One of the first steam engines to produce mechanical work. [*1-34, 1-29*] **de** Newcomen Dampfmaschine, die / **hu** Newcomen-féle gőzgép / **sk** Newcomen-ov parný motor

Newton's constant s. constant of gravitation **de** Gravitationskonstante, die

Newton-scale Obsolete temperature scale. The reference-points are defined as in the Celsius scale but it uses other intervals. [*1-31*], [*1-73, 3-38*] (*s. a. temperature scale*) **de** Newton-Skala, die / **hu** Newton-skála / **sk** Newton-ova stupnica

next generation biomass-to-liquid (NExBTL™) Vegetable oil refining process which is very flexible in raw materials. [*3-26*] **de** NExBTL™

NH-chemiluminescence Chemiluminescence at the flame front is a result of heat transfer due to chemical reactions. The presence of a species is detectable. NH-radicals have emission bands between 300 and 350 nm. [*1-31, 2-28*] (*s. a. chemiluminescense*) **de** NHChemolumineszenz, die / **hu** NH-kemilumineszcencia / **sk** NH-chemiluminiscencia

n-heptane C_7H_{16}; Straight-chain alkane, it is the zero point of the octane rating scale. **de** n-Heptan, das / **hu** n-heptán / **sk** n-heptán

nicrosil Nickel-chromium alloy, used e.g. for thermocouples. **de** Nicrosil, das / **hu** nicrosil, NiCrosil / **sk** nicrosil

Niger Delta (oil industry) Major oil field in Nigeria, who is the biggest oil producer in Africa. [*3-63*] (*s. a. crude oil, natural gas*) **de** Erdölvorkommen am Niger Delta, das / **hu** Niger Delta / **sk** Niger Delta-ropné ložisko v Nigérii **nisil** Nickel-silicon alloy, used e.g. for thermocouples. **de** Nisil, das / **hu** nisil, Nisil / **sk** nisil

NIST s. National Institute of Standards and Technology **de** NIST

nitrogen (fire fighting) Used in fire-extinguishing systems. It is not toxic but it there is a risk of suffocation. [*1-37*] (*s. a. fire extinguisher, inert gases* (*fire fighting*)) **de** Stickstoff (Löschmittel), der / **hu** nitrogén / **sk** dusík

nitrogen oxide analyzer Device to detect nitrogen oxides in combustion environments. The method is based on the chemoluminescence of the reaction of nitrogen oxides with ozone and the resulting decomposition reaction. Syn. NO_x sensor **de** Stickoxid-Sensor, der / **hu** nitrogénoxid-elemző/mérő/szonda / **sk** NO_x analyzátor

nitrogen oxide protocol Protocol to the 1979 convention on longrange transboundary air pollution concerning the control of emissions of nitrogen oxides or their tTransboundary fluxes. [*3-60*] (*s. a. environmental agreement*) **de** Luftreinhalteabkommen zur Verringerung der Emission von Stickoxiden, das / **hu** nitrogénoxid/NOxjegyzőkönyv, göteborgi jegyzőkönyv / **sk** protokol o znížení emisií oxidov dusíka

nitrogen oxides Compounds of oxygen and nitrogen. Common nitrogen oxides in atmospheric chemistry are nitric oxide (NO) and nitrogen dioxide (NO_2). Mononitrogen oxides are usually abbreviated with NO_x. [*1-47*] (*s. a. smog, ozone production, prompt NO_x, thermal NO_x, fuel NO_x*) **de** Stickoxide, die / **hu** nitrogén-oxidok / **sk** oxidy dusíka

nitroglycerine $C_3H_5H_3O_9$; Most common explosive component. Also used for solid rocket propellants. [*1-12*] (*s. a. rocket propellant*) **de** Nitroglycerin, das / **hu** nitroglicerin / **sk** nitroglycerín

nitromethane Additive to increase engine power. [*3-32*] **de** Nitromethan, das / **hu** nitrometán / **sk** nitrometán

nitropenta s. pentaerytritol tetranitrate **de** Nitropenta, das / **sk** nitropenta, pentrit

noble metal black Fine powder of noble metals (e.g. platinum) with catalytic properties. Used for coating of electrodes, e.g. in PEMFC fuel cells. [*1-114*] (*s. a. polymer electrolyte membrane fuel cell*) **de** Edelmetallschwarz, das / **sk** čerň

noble metal thermocouple Thermocouples (type R, S, B) made of platinum and rhodium, more accurate than base metal thermocouples. [*1-54*] (*s. a. thermocouple*) **de** Edelmetall-Thermoelement, das / **hu** nemesfém-hőelem / **sk** termočlánok na báze Pt a Rh

NO-chemiluminescence Chemiluminescence at the flame front is a result of heat transfer due to chemical reactions. The presence of a species is detectable. NO-radicals have some emission bands between 250 and 300 nm. [*1-31, 2-28*] (*s. a. chemiluminescense*) **de** NO-Chemolumineszenz, die / **hu** NO-kemilumineszcencia / **sk** NO-chemiluminiscencia

nodding donkeys s. pump jack **de** Pferdekopfpumpe, die / **sk** ropná pumpa

non baking coal s. coal **de** nicht backende Kohle, die / **sk** antracit

non-conventional oil Crude oil extracted with other techniques than the oil well method. This includes e.g. extracting from oil sands, oil shales and biofuels. [*2-33*] (*s. a. crude oil, oil sands*) **de** konventionelles Öl, das / **hu** nem konvencionális olaj / **sk** nekonvenčná ropa

nondispersive infrared detector (NDIR) An infrared source lights trough the sample, a filter eliminates al of the radiation except the selected wavelength, a detector measures the transmitted light. [*196*] (*s. a. unburned hydrocarbon measurement*) **de** Nichtdispersive Infrarotphotometer, der / **hu** nem diszperzív infravörös detektor / **sk** NDIR-nedisperzný infračervený detektor

non-flammable Unable of being easily ignited or of rapid burning when lighted. **de** nicht entzündbar / **hu** nem gyúlékony/éghető, éghetetlen / **sk** nehorľavý

non-food crops The use of agricultural crop for uses other than human or animal food, e.g. for biofuels. [*3-15, 1-21*] **de** Agrargüter, die nicht für den Verzehr angebaut werden, die / **hu** nem élelmiszer (vagy takarmány) (alapú) termény/biomassza / **sk** poľnohospodárske plodiny pre iné ako potravinárske účely

nonhydrocarbon contaminants Compounds such as hydrogen sulfide, carbon dioxide, nitrogen, and water, which are conaminants in oil and gas production. [*3-72*] (*s. a. hydrocarbon, hydrogen sulfide, carbon dioxide*) **de** nicht-Kohlenwasserstoff-Verunreinigung, die / **sk** neuhľovodíkaté kontaminanty

non-linear spectroscopy Collective term for spectroscopic techniques where the interaction of electromagnetic radiation and matter that can be described by a non-linear relation. DFWM or twophoton absorption are two examples of non-linear techniques. Usually, high light intensities are required to observe non-linear effects. **de** nichtlineare Spektroskopie, die / **sk** DFWM

nonluminous flame A premixed, fuel-lean methane air flame will be slightly blue, hence constituting an almost non-luminous flame. **de** nichtleuchtende Flamme, die / **hu** nem világító láng, Bunsenláng / **sk** nesvietivý plameň

Non-Methane Hydrocarbons (NMHC) NMHC / s. volatile organic compounds **hu** nem metán szénhidrogének / **sk** nemetánové uhľovodíky

Non-Methane Organic Gases (NMOG) NMOG / s. volatile organic compounds **hu** nem metán szerves gázok / **sk** nemetánové organické plyny

Non-Methane Volatile Organic Compounds (NMVOC) NMVOC / s. volatile organic compounds **hu** nem metán illó/illékony szerves vegyületek / **sk** nemetánové prchavé organické látky

non-premixed flame Combustion and mixing of fuel and oxidizer occur simultaneously. [*1-2*] **de** nicht-vorgemischte Flamme, die / **hu** nem előkevert láng / **sk** nepredzmiešaný plameň

non-resonant breakdown A mechanism of laser-induced ignition. A focused laser beam creates a high intensity field in the focal region. This results in localized plasma used fpr ignition. [*2-64*] (*s. a. resonant breakdown, laser ignition*) **de** nicht resonanter Durchbruch, der

non-sooting fuels Collective term for fuels that do not exhibit soot formation (H_2) or very little sooting. **de** nicht-russende Brennstoffe, die / **sk** palivá netvoriace sadze

normal combustion s. engine knocking. **de** reguläre Verbrennung, die (im Motor) / **hu** ormál égés, kopogásmentes égés/üzem / **sk** normálne spaľovanie

North Sea (oil industry) Major oil and gas reservoir located in the North Sea (Norway, United Kingdom, Denmark, Germany and Netherlands). [*3-63*] (*s. a. crude oil, natural gas*) **de** Erdölvorkommen in der Nordsee, das / **hu** Északi-tenger / **sk** North Sea-ložisko ropy a zemného plynu v Severnom mori

North West Shelf Venture gas field Major natural gas field in Australia. [*3-63*] (*s. a. natural gas, gas reserves*) **de** North West Shelf Venture Gasfeld, das / **hu** North West Shelf Venture-i (föld) gázmező / **sk** North West Shelf Venture-ložisko zemného plynu v Austrálii

NO_x analyzer s. nitrogen oxide sensor **de** Stickoxid-Sensor, der / **hu** NO_x-érzékelő/mérő/szonda/elemző / **sk** NO_x analyzátor

NO_x formation There are four sources of NO_x in combustion processes: thermal NO_x, fuel NO_x, prompt NO_x and feed NO_x. Thermal NOx the main source when combusting natural gas. Fuel NO_x is the main source when combusting fuels with a high nitrogen content (e.g. coal). The other mechanisms are generally less important. [*1-2, 3-16*] (*s. a. Zeldovich mechanism, fuel NO_x, prompt NO_x, thermal NO_x, feed NO_x*) **de** NO_x Bildung, die / **hu** NO_x-képződés, nitrogénoxid-képződés / **sk** tvorba NO_x

nozzle Open or controlled through which a fluid passes. [*1-74*] **de** Düse, die / **hu** fúvóka / **sk** tryska

nozzle coefficient Dimensionless number that characterizes form, cross-section and surface properties of a nozzle. [*1-29*] **de** Düsenbeiwert, der / **hu** ellenállás-tényező, szerkezeti tényező (fúvókáé) / **sk** koeficient trysky

nozzle mixing burner with parallel jets Burner type with compressor where air and fuel gas flow in the same direction from the burner outlet. Mixing occurs by diffusion. [*1-29*] **de** Parallelstrahlbren ner, der / **sk** paralelný sálavý horák

N-substituted alkylaminophenols s. antioxidants **de** N-substituierte Alkylaminophenole, die

null method Pyrometer which gives the temperature time history from different cycles. [*1-43*] (*s. a. radiation thermometry, monochromatic radiation thermometer*) **de** Nullmethode, die / **hu** nullamódszer, nullázó/kompemzációs módszer / **sk** radiačná termometria

Nusselt number Nu A dimensionless number that characterizes the ratio of convective to conductive heat transfer. [*1-72*] **de** Nusseltzahl, die / **hu** Nusselt-szám / **sk** Nusselt-ovo kritérium

Nyquist frequency Half frequency of a non-continuous signal processing system. Syn.: folding frequency, cut-off frequency. [*1-45*] **de** Nyquist Frequenz, die / **hu** Nyquist-frekvencia / **sk** Nyquist-ova frekvencia

Oberth-effect Effect, empirically observed by Hermann Oberth, that the velocity of exit in hydrogen/oxygen propellants can be increased by increasing the proportion of hydrogen. [*3-10*] (*s. a. bipropellants, liquid propellant rocket*) **de** Oberth-Effekt, der / **hu** Oberth-hatás / **sk** Obeth-ov efekt

OCD Gaussian dispersion model designed for coastal and offshore emission. [*1-68*] (*s. a. atmospheric dispersion models*) **de** OCDModell, das / **sk** OCD

octane booster Chemical compounds that increase the octane rating of gasoline fuels. Examples are tetra-ethyl-lead (obsolete), ferrocene and aromatics. [*3-32*] **de** Oktanzahlerhöher, die / **hu** kopogásgátló/oktánszámnövelő adalék / **sk** octane booster

octane number s. octane rating **de** Oktanzahl, die / **hu** oktánszám / **sk** oktánové číslo

octane rating The octane rating is a measure of the resistance of fuels to engine knock and is defined by comparison with a mixture of iso-octane (C_8H_{18}, ROZ = 100) and n-heptane (C_7H_{16}, ROZ = 0) which has the same knock resistance. For example, a fuel with the same knock resistance as a mixture of 90% iso-octane and 10% n-heptane has an octane rating of 90. [*1-2, 1-6, 3-4*] (*s. a. Research Octane Number, Road Octane Number, engine knocking, pre-ignition*) **de** Oktanzahl, die / **hu** oktánszám / **sk** oktánové číslo

octogen $C_4H_8N_8O_8$; One of the most powerful explosives, used e.g. in percussion caps and detonating cords. Detonation velocity about 9100 m/s. [*1-12*] (*s. a. pentaerytritol tetranitrate*) **de** Oktogen, das / **hu** oktogén / **sk** oktogén

odor detection threshold The lowest odorant concentration that is perceivable for humans. It depends on the respective compound. **de** Wahrnehmungschwelle, die / **hu** szagérzékelési határ/küszöb, szagérzékelés határértéke / **sk** prípustná hranica

odorant Aroma compound that is added to natural gas to enable easy leakage detection of gas pipes and devices. [*1-29*] **de** Odoriermittel, das / **hu** szagosító anyag, szagosító gáz / **sk** odorant

odorant concentration Concentration of the aroma compounds, typically a few mg/m^3. [*1-29*] **de** Odorierkonzentration, die / **hu** szagosítóanyag-koncentráció / **sk** koncentrácia odorantu

OH radical An intermediate species in combustion. [*1-1*] (*s. a. radical*) **de** OH-Radikal, das / **hu** OH-gyök / **sk** OH radikál

OH-chemiluminescence Chemiluminescence at the flame front is a result of heat transfer due to chemical reactions. The OH-radical has an emission band at 308 nm and can be probed by chemiluminescence to yield information on the flame front. [*1-31, 2-28*] (*s. a. chemiluminescense*) **de** OH-Chemolumineszenz, die / **hu** OH-kemilumineszcencia / **sk** OH-chemiluminiscencia

Ohm Ω SI unit of electrical resistance. [*3-38*] **de** Ohm, das

Ohnesorge number Oh, Z / Dimensionless number in fluid dynamics. It relates viscous and surface tension force. [*1-72*] **de** Ohnesorge-Zahl, die / **sk** Ohnesorge-ovo kritérium

oil blue 35 s. solvent blue 35 **sk** oil blue 35

oil blue B s. solvent blue 35 **sk** oil blue B

oil depletion Decreasing production rate of a gas field after the maximum rate is reached. [*1-63*] (*s. a. peak oil, peak gas, Hubbert peak, theory*) **de** Abnahme der Ölproduktion, die; Erschöpfung des Erdöls, die / **hu** az olaj(ki)termelés csökkenése / **sk** úbytok produkcie ropy

oil formation volume factor Volume of Oil and gas at reservoir conditions divided by the volume of oil at standard conditions. Usually greater than 1 because of the dissolved gas in the oil in the formation. [*3-72*] (*s. a. crude oil, oil refinery*) **de** Öl-Volumensfaktor, der / **sk** objemový faktor

oil gusher Uncapped oil well to a petroleum reservoir that is under high pressure. **de** Ölspringquelle, die / **sk** silný výron ropy

oil red B s. solvent red 164 **sk** oil red B

oil refinery Process plant to refine crude oil into petroleum products, such as gasoline, diesel fuel, kerosene, and liquefied petroleum gas. [*1-59*] **de** Erdölraffinerie, die / **hu** olajfinomító / **sk** ropná rafinéria

oil reserves Estimated quantities of recoverable crude oil under economic and operating conditions. [*1-63*] (*s. a. peak oil, Hubbert peak theory*) **de** Ölreserven, die / **hu** (kő/nyers)olajkészletek, (kő/nyers) olajvagyon / **sk** zásoby ropy

oil sand Large oil resrvoirs in a mixture of crude bitumen/heavy crude oil, silica sand, clay minerals and water. Syn.: tar sands, bituminous sands [*2-33*] (*s. a. crude oil, conventional oil, non-conventio nal oil*) **de** Ölsand, der / **hu** olajhomok / **sk** roponosný piesok, ropný piesok

oil shale Sedimentary rock containing significant amounts of kerogen. [*1-56, 2-32*] (*s. a. kerogen*) **de** Ölschiefer, der / **hu** olajpala / **sk** naftonosná bridlica, olejová b.

oil spill A form of pollution, the release of petroleum into the environment, e.g. from an oil tanker. [*1-47*] **de** Ölpest, die / **hu** olajkiömlés / **sk** ropná škvrna

oil well Borehole used to find and extract both petroleum oil and natural gas. They can be classified in production wells (primarily used to extract oil and gas), appraisal wells (used to estimate characteristics like flow rate), exploration wells (used for gathering information of new areas), and wildcat wells (drilled "hit or miss"). [*1-62*] **de** Ölquelle, die / **hu** olajkút / **sk** ropný vrt

oil yellow DE s. solvent yellow 56 **sk** oil yellow DE

olefins s. alkenes **de** Olefine, die; ungesättigte Kohlenwasserstoffe, die / **hu** olefinek, etilén-szénhidrogének / **sk** olivíny

Olmeca Crude oil product with an API gravity of 37.3° and a sulphur content of 0.8%. The field is located in Mexico. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Olmeca-Rohöl / **hu** Olmeca olaj / **sk** Olmeca-ropný produkt

on-board fuel processing s. on-board fuel reforming **de** Treibstoffaufbereitung direkt an Bord, die / **sk** priama príprava paliva

on-board fuel reforming Fuel reforming on-board a vehicle, e.g. to optimize the fuel composition to the current load of the engine. **de** Treibstoffaufbereitung direkt an Bord, die / **sk** priamy reforming paliva

Onsager reciprocal relations Relations between flows and forces in thermodynamic systems near the equilibrium. Sometimes called fourth law of thermodynamics. [*1-31*] **de** Onsager Relation, die / **hu** Onsager-reláció, Onsager-féle reciprocitási reláció / **sk** Onsager-ov vzťah

OPEC basket s. OPEC reference basket **de** OPEC Basket / **sk** OPEC kôš

OPEC reference basket ORB / Weighted average of petroleum blends prices produced by OPEC countries, used as an benchmark for crude oil prices. [*3-64*] **de** OPEC Basket / **hu** OPEC-kosár / **sk** OPEC referenčný kôš

opencast mining Mining near the surface by removing the first soil layer. [*1-13*] **de** Open-Cast-Mining, das / **hu** külfejtés, külszíni fejtés / **sk** povrchová ťažba

optical susceptibility Function that measures the polarizing action of electric fields when they traverse matter. [*1-103, 1-104*] **de** optische Suszeptibilität, die / **hu** optikai szuszceptibilitás / **sk** optická susceptibilita

organic peroxides R-O-O-R‘; In the context of combustion engines, they can be produced by the inadvertent oxidation of gasoline. They are an indicator of gasoline quality, as they can be used to detect stale gasoline (colorimetric enzymatic test). [*3-31*] **de** Organische Peroxide, die / **hu** szerves peroxidok / **sk** organické peroxidy

organo-amines Strongly basic organo-amines, as additive in hydrocarbons containing acids (e.g. naphthenic acids), can prevent metal corrosion and breakdown of other antioxidant. [*3-29, 3-30*] **de** Organo-amine, die / **sk** organo-amíny

Orinoco oil sands Large oil deposits of extra heavy crude oil in oil sands in Venezuela. One of the largest petroleum reserves in the world. [*2-30*] **de** Orinoco-Ölsande, die / **hu** orinocói olajhomoklelőhely / **sk** Orinoco-roponsné piesky

Otto cycle Thermodynamic cycle for a four-stroke engine (Otto engine). Process 1 > 2: adiabatic process. Process 2 > 3: isometric process. Process 3 > 4: adiabatic process. Process 4 > 1: isometric process. [*1-31*] (*s. a. idealized cycle, standard cycle, Carnot cycle*) **de** Otto Kreisprozess, der / **hu** Otto-körfolyamat/ ciklus / **sk** Ottov cyklus

ounce oz / Unit of mass. 0.02834952 kg **de** Unze, die / **hu** uncia, ounce / **sk** unca

over fire air OFA / Secondary air which is fed into a furnace above the grate to complete the combustion process and to increase the efficiency by producing turbulence. [1-119] **de** Oberluft, die / **sk** technológia OFA

overhead luminous radiant heater Radiant heater with a heating surface higher than 500°C. [*1-29*] **de** Hellstrahler, der / **sk** stropný sálavý ohrievač

oversampling To sample a signal with a higher sampling frequency than the highest signal frequency. [*1-45*] **de** Überabtastung, die / **hu** túlmintavételezés / **sk** nadvzorkovanie

oxidant Oxidizer; A substance that supplies electrons in a chemical redox-reaction or a substance that transfers transfers oxygen atoms. [*1-11*] **de** Oxidationsmittel, das / **sk** oxidant, oxidačné médium

oxidation stability A measure of the stability of petrol during storage. [*3-32*] (*s. a. stale gasoline, organic peroxides*) **de** Stabilität gegen Oxidation, die / **hu** oxidációs stabilitás / **sk** stabilita voči oxidácii

oxidation zone s. flame inner core **de** Oxidationszone, die / **hu** oxidációs zóna / **sk** oxidačná zóna

oxo synthesis s. hydroformylation **de** Hydroformylierung, die / **sk** hydroformylácia, oxosyntéza

oxyf see oxyfuel combustion **de** Oxyfuel, das

oxyfuel combustion A technology that burns oxygen with gaseous fuels. Higher temperatures can be reached than in a combustion with air (20.95% oxygen). **de** Oxyfuel-verbrennung, die / **hu** (dús)oxigénes tüzelés, oxyfuel tüzelés / **sk** spaľovanie s kylsíkom

oxygen sensor s. lambda sensor **de** Sauerstoffsensor, der / **hu** oxigén érzékelő / **sk** kyslíkový senzor

oxygenate In general, oxygenated chemical compounds contain oxygen as a part of their chemical structure. The term usually refers to oxygenated fuels. Oxygenates are gasoline additives to reduce carbon monoxide that is created during the burning of the fuel. [*1-11*] **de** oxidieren; mit Sauerstoff anreichern; Oxygenat (eine Sauerstoff enthaltende Verbindung) / **sk** oxygenát

oxygenated hydrocarbons s. oxygenates **de** Sauerstoffhaltige (Kohlenwasserstoff-)Verbindungen, die; Additive zur Sauerstoffanreicherung, die / **hu** oxigénnel telített szénhidrogének / **sk** oxygenátové uhľovodíky

oxygenates Gasoline additives to reduce the formation of carbon monoxide (created by combustion of the fuel). They also can increase the octane number. Common oxygenates are alcohols (e.g. ethanol, methanol) and ethers (e.g., methyl tertiary-butyl ether). [*3-32*] **de** Sauerstoffhaltige (Kohlenwasserstoff-) Verbindungen, die; Additive zur Sauerstoffanreicherung, die / **hu** oxigénnel telített szénhidrogének / **sk** oxygenáty

oxyhydrogen Highly explosive mixture of hydrogen and oxygen. The controlled combustion is called oxyhydrogen flame. [*1-2, 1-37*] **de** Knallgas, das / **hu** durranógáz / **sk** kyslík-vodík

oxyhydrogen flame Occurs by the combustion of hydrogen and oxygen. The flame has a high temperature and can be used e.g. for welding and H2-fuelled cars. [*1-2, 1-37*] **de** Knallgasflamme, die / **hu** durranógáz láng / **sk** kyslíko-vodíkový plameň

oxyhydrogen torch Torch buring a mixture of H_2 and O_2 (oxyhydrogen). Used for welding, cutting and fire polishing. [*1-2, 1-37*] **de** Knallgasfackel, die / **hu** durranógáz-vágópisztoly / **sk** horák na zmes kyslík-vodík

oxyliquit Sprengel explosive mixture of liquid oxygen and a fuel such as a soot/naphthalene mixture or aluminum. **de** Sprengel explosives / **hu** Oxyliquit / **sk** oxylikvit

ozokerite Odoriferous mineral wax **de** Ozokerit, das; Bergwachs, das / **hu** ozokerit, földviasz / **sk** ozokerit

ozone s. tropospheric ozone [*1-37*] **de** Ozon, das / **hu** ózon / **sk** ozón

ozone depletion Decline of total volume of ozone in the stratosphere (ozone layer) since the late 1970s, caused by ozone-depleting substances [*1-47*] (*s. a. halon* (*fire fighting*), *montreal protocol*) **de** Ozonabbau, der / hu ózonlyuk / **sk** úbytok ozónu

ozone production Nitrogen dioxide (NO_2, from exhaust gases) can be photolysed to atomic oxygen and nitric oxide (NO). Atomic oxygen reacts with oxygen from the air to ozone. Also, ozone can be removed with nitric oxide forming nitrogen dioxide and molecular oxygen. The ozone production is the dominant reaction if the ratio between nitric oxide and nitrogen dioxide is greater than 3. [*1-47*] (*s. a. smog, photochemical smog, peroxyacetylnitrate production, winter smog, The Great Smog, sulphur dioxide, inversions*) **de** Ozonbildung, die / **hu** ózonképződés / **sk** tvorba ozónu

ozone-depleting substances ODS / Substances which can accumulate in the upper atmosphere and destroy the protective ozone layer. [*1-47*] (*s. a. halon* (*fire fighting*), *montreal protocol*) **de** ozonschädigende Substanzen, die / **sk** látky ničiace ozón

ozone-smog s. summer-smog **de** Sommersmog, der / **sk** ozónový smog

panclastite Sprengel explosive consisting of liquid dinitrogen tetroxide carbon disulfide as oxidizer and nitrobenzene or nitrotoluene as common fuels. (*s. a. Sprengel explosives*) **de** Panclastit / **hu** panklasztit / **sk** panklastit

paraffin Paraffins have the formula C_nH_{2n+2} (alkanes). Paraffin wax refers to the solids with n=20-40. **de** Paraffin, das / **hu** paraffin, alkán / **sk** parafín

paraffin control Methodes reduce the deposition of paraffin in the oil production process. [*3-72*] (*s. a. hot oiling*) **de** Paraffin-controlling, das / **sk** kontrola parafínov

paraffin inhibitor Substances to prevent paraffin deposition in the wellbore. [*3-72*] (*s. a. paraffin control*) **de** Paraffinhemmstoff, der / **sk** inhibítor parafínov

paraffin-base crude oil Crude oil containing paraffin-wax but no asphaltic materials. Used for kerosene production. [*3-72*] (*s. a. naphthene-base crude oil*) **de** paraffinisches Erdöl, das / **hu** paraffinbázisú nyerolaj/ kőolaj / **sk** parafínová ropa

paraffinic hydrocarbon Wax-like hydrocarbons (linear hydrocarbins with more than 18 carbon atoms), general formula C_nH_{2n+2}. (*s. a. paraffin control, hot oiling, paraffin-base crude oil*) **de** Paraffin, das / **hu** alkán, paraffin-szénhidrogén, telített nyíltláncú szénhidrogén / **sk** parafíny

paraffins s. alkanes **de** Paraffine, die / **hu** alkánok, paraffinok / **sk** parafíny

paramagnertic oxygen analyzer Since oxygen is one of the few gases that are paramagnetic, it can be detected by sending the gas sample through a magnetic field which creates a force, related to the oxygen content, that can be measured. This analyzing method is most accurate for oxygen. Gas potentiometry is another commonly deployed technique. [*1-43*] (*s. a. air fuel ratio*) **de** paramagnetischer Sauerstoffsensor, der / **hu** paramágneses oxigénelemző / **sk** paramagnetický kyslíkový analyzátor

paramagnetic A term associated with a substance that has a magnetic permeability always greater than that of vacuum, but the values are much weaker than those of ferromagnetic materials. Such materials are attracted to magnetic fields (= a relative mag netic permeability greater than one). [*1-37*] (*s. a. magnetic susceptibility, paramagnetic*) **de** paramagnetisch / **hu** paramágneses / **sk** paramagnetický

part(ly) automatic burner Types of burners where every ignition has to be done manually. The combustion process is controlled by a flame signal amplifier. [*1-29*] **de** teilautomatischer Brenner, der / **hu** félautomatikus égő / **sk** poloautomatický horák

Particle image velocimetry PIV / Pulsed lasers illuminates particles, due to several pulses the particle appear as moving light points. [*1-2, 2-14*] (*s. a. particle velocity, particle tracing, laser-Doppleranemometry, heat wire anemometry*) **de** PIV

particle size The most important influence of the scatter intensity in LDA and PIV is the particle size. Another important characteristics of particles is their shape factor. [*1-2, 2-8*] (*s. a. Laser Doppler Anemometry, LDA-scattering, LDA-scattering, Mie scattering, Rayleigh scattering, geometrical optics, shape factor*) **de** Partikelgröße, die / **hu** szemcseméret / **sk** veľkosť častíc

particle size distribution PSD / A list of the relative amounts of particles in the sample, sorted according to size. [*1-116*] **de** Partikelgrößenverteilung, die / **sk** rozloženie veľkosti častíc

particle size measurement s. Fraunhofer diffraction, PDA [*1-43*] **de** Partikelgrößenmessung, die / **hu** szemcseméret-meghatározás/ mérés / **sk** meranie veľkosti častíc

particle tracing Particles will be photographed at defined shutter speed. The velocity can be estimated by the photographic particle trace. [*1-2*] (*s. a. laser-Doppler-anemometry, heat wire anemometry, particle image velocitmetry*) **de** Teilchenspurmethode, die / **sk** metóda stopovania častíc

particle velocity Can be estimated by heat wire anemometry, laserDoppler-anemometry or particle tracing. [*1-2*] (*s. a. particle tracing, laser-Doppler-anemometry, heat wire anemometry, particle image velocitmetry*) **de** Geschwindigkeit von Partikeln, die / **hu** szencsesebesség / **sk** rýchlosť častíc

particle velocity measurement s. PDA [*1-43, 2-28*] **de** Partikelgeschwindigkeitsmessung, die / **hu** szencsesebesség-mérés / **sk** meranie rýchlosti častíc

pascal SI derived unit of pressure. [*3-38*] **de** Pascal, das

passive or neutral plume Plume which is not lighter or heavier than air. [*1-68*] (*s. a. atmospheric dispersion models*) **de** Abgasfahne, die

patio heater Radiant heater for outdoor use. **de** Heizstrahler, der / **hu** (kültéri) hősugárzó / **sk** sálavá piecka

PBI fiber s. Polybenzimidazole fiber **de** PBI-Faser, die / **sk** PBI vlákno

peak gas Time when the maximum rate of the global natural gas production is reached. [*1-63*] (*s. a. peak oil, gas reserves, Hubbert peak theory*) **de** Globales Ergasfördermaximum, das / **hu** gázhozam csúcs, (globális) (föld)gázkitermelési csúcs / **sk** globálne maximum ťažby zemného plynu

peak oil Time when the maximum rate of the global petroleum production is reached. [*1-63, 2-33*] (*s. a. peak gas, oil depletion, Hubbert peak theory*) **de** globales Ölfördermaximum, das / **hu** olajhozam csúcs, (globális) (kő/nyers)olajkitermelési csúcs / **sk** globálne maximum ťažby ropy

peat s. coal (*s. a. coalification, rank*) **de** Torf, der / **hu** tőzeg / **sk** rašelina

Peclet number Pe / The ratio of convection speed to diffusive velocity. A flame will extinguish or quench when it is < 40100. **de** PecletZahl, die / **sk** Peclet-ovo kritérium

pellet mill s. solid biofuels **de** Pelletiermaschine, die / **hu** pelletáló (gép/berendezés/üzem/rendszer) **sk** peletizér

pelletize s. solid biofuels **de** Pelletieren, das / **hu** pelletál, pelletet készít/gyárt / **sk** peletizovať

Peltier effect Thermoelectric effect. Heat is evolved or absorbed at the junction of two metals transporting a small current. It depends on the direction of the current. **de** Peltier Effekt, der / **hu** Peltierhatás/jelenség / **sk** Peltier-ov efekt

Peng Lai Crude oil product with an API gravity of 21.8° and a sulphur content of 0.3%. The field is located in China. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Peng Lai (Rohöl), das / **hu** Peng Lai olaj / **sk** Peng Lai-ropný produkt

Peng-Robinson equation Equation of state for real gases. [*1-31*] (*s. a. ideal gas, fugacity*) **de** Peng-Robinson Zustandsgleichung / **sk** Peng-Robinson-ova rovnica

pentaerytritol tetranitrate PETN / $C_5H_8N_4O_{12}$; One of the most powerful explosives, used e.g. in percussion caps and detonating cords. Detonation velocity about 8400 m/s. Syn.: pentrite, nitropenta. [*1-12*] (*s. a. octogen*) **de** Nitropenta, das / **hu** penta-eritritol-tetranitrát / **sk** penta-eritritol-tetranitrát

pentafluoroethane Halocarbon used as fire supression agent. It is not an ozone-depleting substance but it is a potent greenhouse gas. [*3-71*] (*s. a. halon*) **de** Pentafluorethan, das / **sk** pentafluoretán **pentrite** s. pentaerytritol tetranitrate **de** Nitropenta, das / **sk** pentrit

percussion cap Used to ignite propellants. A shock-sensitive material (e.g. mercury fulminate) will be ignited by a firing pin or striker. [*1-12, 1-13, 1-14*] (*s. a. propellants, fulminate*) **de** Anzündhütchen, das / **hu** csapódógyutacs / **sk** zápalka

permanent match Consists of a case (filled with lighter fuel) and a rod with a wick. (*s. a. match, safty match, strike anywhere match, storm match, bengal match*) **de** ewiges Streichholz, das / **hu** örökgyufa / **sk** zapaľovač

permeability of free space s. magnetic constant **de** Vakuumpermeabilität, die / **sk** permeabilita vákua

permissible explosive Explosive authorized for using in safty lamp coal mines (american english). Syn.: permitted explosive (british english). [*1-13*] **de** zulässiger Sprengstoff, der / **hu** biztonsági/sújtólégbiztos/engedélyezett robbanóanyag / **sk** bezpečnostná trhavina

permitted explosive s. permissible explosive [*1-13*] **de** zulässiger Sprengstoff, der / **hu** biztonsági/sújtólégbiztos/engedélyezett robbanóanyag / **sk** bezpečnostná trhavina

peroxyacetylnitrate production In the presence of sunlight, nitrogen dioxide, oxygen and unburnt hydrocarbons can react to form peroxyacetylnitrate ($CH_3CO\text{-}OO\text{-}NO_2$). [*1-47*] (*s. a. smog, photochemical smog, ozone production, winter smog, The Great Smog, sulphur dioxide, inversions*) **de** Peroxiacetylnitratbildung, die / **hu** peroxi-acetil-nitrát képződés/keletkezés / **sk** produkcia peroxyacetylnitrátu

peroxyacetylnitrates PAN / Air pollutant in photochemical smog. Irritant to the respiratory system and the eyes. Due to the slow dissociation in the atmosphere they can be carried far away from the industrial origin. [*1-47*] (*s. a. smog, photochemical smog, peroxyacetylnitrate production, ozone production*) **de** Peroxiacetylnitrate, die / **hu** peroxi-acetil-nitrátok / **sk** peroxy-acetylnitráty

perpetual resources Energy ressources such as solar radiation, tides, winds and hydroelectricity. (*s. a. biofuel*) **de** dauerhafte Ressourcen, die / **sk** nevyčerpateľné zdroje

Persian Gulf (oil industry) Major oil and gas oil fields located between Iran and the Arabian Peninsula (Iran, Oman, United Arab Emirates, Saudi Arabia, Qatar, Bahrain, Kuwait and Iraq). [*3-63*] (*s. a. crude oil, natural gas*) **de** Erdölvorkommen am persischen Golf, die / **hu** Perzsa (Arab) öböl / **sk** Persian Gulf-ložiská ropy a zemného plynu medzi Iránom a Arabským polostrovom

peta P / SI-prefix, factor 10^{15}. [*3-38*] **de** peta

petrographic analysis s. petrography **de** Petrografie, die / **hu** kőzettani/petrográfiai vizsgálat / **sk** petrografická analýza

petrography Part of petrology. Detailed description of rocks based on observations and specimens. [*1-74*] (*s. a. petrology*) **de** Petrografie, die / **hu** kőzettan, petrográfia / **sk** petrografia

petrol s. gasoline **de** Benzin, das / **hu** benzin / **sk** motorový benzín

petrol coke s. coke **de** Petrolkoks, der / **hu** petrolkoksz, petróleumkoksz, ásványolajkoksz / **sk** petrolejový koks

petroleum Lipophilic mixture of hydrocarbons and other organic compounds. It is used as fuel and for many applications in chemical industry. Common fuels are: ethane, diesel, fuel oils, gasoline, jet fuel, kerosene, liquefied gas and natural gas. [*1-11*] **de** Erdöl, das / **hu** kőolaj, nyersolaj / **sk** ropa

petroleum coke s. coke **de** Petrolkoks, der / **hu** petrolkoksz, petróleumkoksz, ásványolajkoksz / **sk** petrolejový koks

petroleum engineering Part of engineering science related to the production of crude oil and gas. [*1-60*] (*s. a. petrophysics*) **de** Erdöltechnik, die / **hu** olajmérnöki tudományok / **sk** ropné inžinierstvo

petroleum geology Geological discipline centered around the search for fossil fuels. [*1-60*] **de** Petrogeologie, die / **hu** (kő)olajföldtan / **sk** ropná geológia

petroleum industry Exploration, extraction, refining, transporting and marketing of petroleum products. The largest volume products of the industry are fuel products. Petroleum is also the raw material for many other products, such as fertilizers, pesticides, and plastics. **de** Erdölindustrie, die ; Petro-Industrie, die / **hu** (kő)olajipar / **sk** ropný priemysel

petroleum reservoir Sources of hydrocarbons contained in porous rock formations. [*1-60*] (*s. a. crude oil, conventional oil, non-con ventional oil*) **de** Erdölreservoir, das / **hu** olajtartó kőzet, rezervoá, (olaj) tároló (kőzet) / sk zásobník ropy, ložisko ropy

petrology Science of the origin, present conditions, chemical composition and alteration of rocks. [*1-74*] **de** Petrologie, die / **hu** kőzettan, petrológia / **sk** petrológia

petrophysics Physical and chemical research area related to the oc currence and behavior of oil and gas reservoirs of rocks and soils. [*1-60*] (*s. a. petroleum engineering*) **de** Petrophysik, die / **hu** kőzetfizika / **sk** petrofyzika

phase Doppler analyzer (PDA) PDA / Method to measure the particle size by detecting the phase of the scattered light from a particle. [*1-43*] **de** Phasen-Doppler-Anemometrie, die / **hu** fázis Doppler anemométer / **sk** fázová Doppler-ova anemometria

phase matching Condition determined by vanishing wave vector mismatch in Coherent anti-Stokes Raman Scattering [*1-102*] **de** Phase-Matching, das

phenology The study of periodic plant and animal life cycles and how these are affected by variations in climate. (s. a. global warming, greenhaus gas) **de** Phänologie / **sk** fenológia

phenylenediamines s. antioxidants **de** Phenyldiamine, die / **hu** fenilén-diaminok, diaminobenzolok / **sk** fenyléndiamíny **phenylmethane** s. toluene (C_6H_5-CH_3) **de** Toluol, das / **hu** fenilmetán / **sk** toluén, metylbenzén, fenylmetán

phosphine PH_3; Pyrophoric and highly toxic gas. The ignition temperature is about 100° C. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** Phosphin, das / **hu** foszfin, foszfor-hidrogén / **sk** fosfín

phosphorescence The emission of light (without burning) as the result of the absorption of electromagnetic radiation. It continues for a time (milliseconds to years) after excitation. [*1-31*] **de** Phosphoreszenz, die / **hu** foszforeszkál(ás) / **sk** fosforescencia

phosphoric acid fuel cell PAFC / Middle range temperature fuel cell. Phosphoric acid (90–100%, stabilized in a PTFE fibrous structure) is used as electrolyte. The electrodes are made of carbon coated with a platinum catalyst. [*1-114*] (*s. a. fuel cell, PTFE*) **de** Phosphorsäurebrennstoffzelle, die / **hu** foszforsavas üzemanyagcella / **sk** palivové články skyselinou fosforečnou

phosphorus Pyrophoric substance. It ignites spontaneously on contact with air at temperatures >30° C. Therefore it has to be stored under water. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** Phosphor, der / **hu** fénypor, luminofor / **sk** fosfor

phossy jaw Necrosis of the jaw when exposed to the vapour of white phosphor (as is was common in the match production of the 19th and early 20th century). (*s. a. match*) **de** Phosphornekrose, die / **sk** nekróza čeľuste

photochemical smog Type of smog produced when sunlight hits exhaust gases to form dangerous substances such as ozone, aldehydes and peroxyacetylnitrate. The counteraction to prevent smog is reducing nitrogen oxides and volatile organic compounds in the air. [*1-47*] (*s. a. smog, ozone production, peroxyacetylnitrate production, winter smog, The Great Smog, sulphur dioxide, inversions*) **de** photochemischer Smog, der / **hu** fotokémiai füstköd/szmog / **sk** fotochemický smog

photomultiplier Vacuum-tube detector of light in the ultraviolet, visible, and near-infrared range. It converts the light to photoelectrons, which emit secondary-electrons. These secondary electrons are collected by an output electrode and are converted to an electrical output signal. [*1-96*] (*s. a. spectroscopy, dynode*) **de** Photomultiplier, der / **hu** fotoelektron-sokszorozó, fotosokszorozó, elektronsokszorozó / **sk** fotónka s násobičom elektrónov

photon Light particle. The energy of a photon is $E = h\nu$ with ν being the frequency and h being Planck's constant. **de** Photon, das / **hu** foton / **sk** fotón

pico p / SI-prefix, factor 10^{-12}. [*3-38*] **de** pico

picrate A salt or an ester of picric acid (2,4,6-trinitrophenol). [*1-12*] **de** Picrat, das / **sk** pikrát

piezo ignition A piezoelectric material, such as quartz, creates a high voltage and an electrical discharge under deformation. This can be used to ignite lighters or gas grills. (*s. a. lighter*) **de** Pie zozündung, die / **hu** piezo(elektromos) (szikra)gyújtás / **sk** piezozapaľovanie

piezoelectric pressure transducer Sensor using the piezoelectric effect (pressure electricity) to measure pressure. The electrical charge of a quartz crystal surface (due to the force acting on it) can be measured. [*1-43*] **de** piezoelektrischer Drucksensor, der / **hu** piezoelktromos nyomásmérő/nyomásérzékelő / **sk** piezoelektrický tlakový senzor

pig dung Pig dung produces about 0.45 m^3 biogas per kg dry matter. [*3-13*] **de** Schweinedung, der / **hu** sertéstrágya / **sk** svinský hnoj

pig slurry Consists of urine and dung. Can be converted into biogas. The CH_4 concentration of the produced biogas is about 58%. Cow slurry produces about 0.40 m^3 biogas per kg (dry matter). [*3-13*] (*s. a. dung, biogas*) **de** Schweinegülle, die / **hu** sertéstrágya(lé), sertéshígtrágya / **sk** svinská hnojovica

pilot burner Small burner whose flame ignites the main burner. [*1-29*] **de** Zündbrenner, der / **hu** gyújtóégő / **sk** pilotný horák

pinging (AE) s. engine knocking. **de** Motorklopfen, das; Klopfen, das

pinking (BE) s. engine knocking. **de** Motorklopfen, das; Klopfen, das

pintle The needle of an injection valve, opened by oil pressure, closed by a spring. [*1-74*] **de** Stift, der / **sk** čáp

piston Cylindrical metal piece wich acts in a cylinder to displace or compress a fluid [*1-74*] **de** Kolben, der / **hu** dugattyú / **sk** piest

piston engine s. reciprocating engine **de** Kolbenmotor, der / **hu** dugattyús motor / **sk** piestový motor

pit gas Gas mixture, mainly consisting of methane, encountered in mines. It can cause an explosion. [*1-20*] (*s. a. methane, pit lamp*) **de** Grubengas, das / **hu** sújtólég, bányalég, bányagáz / **sk** banský plyn

pit lamp An open flame within a wire gauze. If pit gas diffuses through the gauze into the lamp, the lamp glows brighter but it can not ignite the gas outside because the gauze is a barrier (s. quenching distance). [*1-20*] (*s. a. pit lamp, flame size, quenching distance*) **de** Grubenlampe, die / **hu** bányászlámpa / **sk** banská lampa

pitch coal s. coal **de** Pechkohle, die / **hu** bitumenes szén / **sk** smolné uhlie, hnedý antracit

pitting Extremely localized form of corrosion. This can cause small holes in the metal. [*1-74*] (*s. a. corrosion, electrochemical corrosion*) **de** Lochfraß, der / **sk** jamková korózia

planar laser induced exciplex fluorescence (PLIEF) PLIEF / Method to detect liquid droplets and fuel vapor in a spray using two tracers. The exciplex of these two tracers decreases by the emission of a photon. Vapor (LIF-signal) and fluid phase can be distinguished, because the exciplex forms mainly in the fluid phase. [*1-43*] **de** Planare Laserinduzierte Exciplex Fluoreszenz, die / **sk** PLIEF

planar laser induced fluorescence (PLIF) PLIF, P-LIF / Technique to measure species concentration and temperature in combustion processes. As light source often a pulsed Nd:YAG laser is used, the fluorescence light is detected by a CCD or CMOS camera. Common target molecules are the OH radical, HCHO or tracer molecules such as acetone. [*1-96, 1-43*] **de** planare laserinduzierte Fluoreszenz, die / **sk** PLIF

Planck black-body radiation law Planck's law describes the emission spectrum of an ideal black body, where the maximum wavelength is a function of $1/T^4$. **de** Planck'sches Schwarzstrahlergesetz, das / **hu** Planck-féle sugárzási törvény / **sk** Planck-ov zákon žiarenia čierneho telesa

Planck constant h / Physical constant, used to describe the sizes of quanta in quantum mechanics. $6.62606896*10^{-34}$ Js. [*3-38*] **de** Plancksches Wirkungsquantum, das / **hu** Planck-állandó / **sk** Planck-ova konštanta

planetary boundary layer (PBL) The lowest part of the troposphere. It extends from sea-level to about 2 km in height. Syn.: atmospheric boundary layer (ABL) [*1-68*] (*s. a. atmosphere, troposphere*) **de** Peplosphäre, die / **sk** PBL

plasma jet PJ / A jet of a plasma formed by arc discharge. [*2-63*] **de** Plasmastrahl, der / **sk** plazmový paprsok

plasma jet torch A device for forming plasma jets. [*2-63*] **de** Plasmastrahlfackel, die / **sk** horák s plazmovým paprskom

platforming (oil refinery) Another term used for catalytic reforming (composed of the terms platinum and reforming). [*1-59*] (*s. a. catalytic reforming*) **de** katalytisches Reformieren, das / **hu** platformálás, platinakatalizátoros dehidrogénező reformálás / **sk** katalytický reforming

platinum (Pt) Chemical element, mainly used for catalysts and also for noble metal thermocouples. **de** Platin, das / **hu** platina / **sk** platina

Pleurochrysis carterae CCMP647 / s. algae fuel [*3-15, 1-21*] **de** Pleurochrysis carterae / **sk** Pleurochrysis carterae

plug flow reaktor (PFR) PFR / Ideal reactor model to describe chemical reactions in continuous, flowing systems. [*1-2*] (*s. a. perfectly stirred reactor* (*PSR*)) **de** Rohrreaktor, der / **hu** dugóáramú reaktor, csőreaktor / **sk** dokonale premiešavaný reaktor

plum rise Height of a plum over the chimney outlet. [*1-33*] **de** Abgasfahnenüberhöhung, die / **hu** járulékos kéménymagasság

Poiseuille flow s. laminar flow **de** laminare Strömung, die / **sk** Poiseuille-ho prúdenie, laminárne p.

polarizer An optical element used to select a certain polarization of an electromagnetic wave. [*1-106*] **de** Polarisator, der / **hu** polarizációs szűrő, polarizátor / **sk** polarizátor

poly(3,4-ethylenedioxythiophene) PEDOT / A conducting polymer used e.g. in LCDs and solar cells. **de** Poly(3,4-ethylendioxythiophen), das

polybenzimidazole fiber A synthetic fiber with an very high melting point that also dose not ignite. **de** Polybenzimidazolfaser, die

polybrominated diphenyl ethers PBDE / Organobromine compounds that are used as a flame retardants. **de** polybromierte Diphenylether, die

polycyclic aromatic hydrocarbons (PAH) PAH / Chemical compounds of fused aromatic rings without heteroatoms, occurring in oil, coal and tar. [*1-25*] **de** polyzyklische aromatische Kohlenwasserstoffe, die / **hu** policiklusos aromás szénhidrogén / **sk** polycyklické aromatické uhľovodíky

polymer electrolyte membrane fuel cell PEMFC / Low temperature fuel cell used for stationary and portable applications. A proton exchange membrane is used as electrolyte. Both sides of the membrane are coated with a platinum catalyst as electrode. Hydrogen is catalytically split into protons and electrons at the anode side. Protons permeate through the membrane to the cathode side. The electrons move along an external load circuit to create a current. On the cathode side, oxygen is reduced by the electrons and reacts with the protons to water. [*1-114*] (*s. a. fuel cell, noble metal black*) **de** Polymerelektrolytbrennstoffzelle, die / **sk** palivové články s polymérovým elektrolytom

polypropylene glycol Binding agent used for bipropellants. [*1-12*] (*s. a. bipropellants*) **de** Polypropylenglykol, das / **hu** polipropilénglikol / **sk** polypropylénglykol

Ponchon-Savarit method Method to find the ideal number of stages for a distillation process. [*2-40*] **de** Ponchon-Savarit Methode, die / **sk** Ponchron-Savarit-ova metóda

pool test Exploratory drilling to find a new oil field. [*1-62*] **de** Suchbohrung, die

poppet valve s. outward-opening valve **de** Tellerventil, das / **sk** tanierový ventil

poppet valve, outward-opening valve Usually outward-opening poppet valves are used. The sealing is assisted by the pressure forced on the poppet and leaves no crevice (contrary to inward-opening needle valves). [*1-43*] (*s. a. inward-opening valve*) **de** Tellerventil, das / **sk** tanierový ventil

Port Hudson Crude oil product with an API gravity of 45.0° and a sulphur content of 0.05%. The field is located in the United States. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Port Hudson (Rohöl), das / **hu** Port Hudson olaj / **sk** Port Hudson-ropný produkt

Portable Emissions Measurement System PEMS / Portable analytic system that is used to test mobile source emissions. [*1-68*] (*s. a. atmospheric dispersion models*) **de** PEMS / **sk** Portable Emissions Measurement System

positive displacement flow meter Accurate method for measuring the air flow based on a mechanical displacement of components inside the instrument. [*1-43*] **de** Durchflussmesser nach dem Prinzip der Verdrängung, der / **hu** köböző áramlásmérő, térfogatszámláló

positive temperature coefficient PTC / In this type of thermistors, the resistance increases as its temperature increases. [*1-54*] (*s. a. thermistor, NTC*) **de** Thermistor mit positivem Temperaturkoeffizienten, der / **hu** ptc/ptk ellenállás(-hőmérő), pozitív hőfokkarakterisztikájú termisztor/ellenállás-hőmérő / **sk** PTC

potassium bicarbonate Fire extinguishing powder. Used for liquid (e.g. petroleum, alkohols, wax) and gaseous (e.g. natural gas, butane) combustible fires. It is not suitable for fires of metals or cooking oils. Syn.: purple-K, monnex (with urea-complex) [*1-71*] (*s. a. fire extinguishing powder*) **de** Kaliumbicarbonat, das / **sk** uhličitam draselný

potassium chlorate $KClO_3$ Primary product for chlorate explosives and a component of match heads and fireworks. [*1-12*] (*s. a. chlorate explosives*) **de** Kaliumchlorat, das / **hu** kálium-klorát / **sk** chlorečnan draselný

potassium chloride (fire fighting) Fire extinguishing powder. Used for liquid (e.g. petroleum, alkohols, wax) and gaseous (e.g. natural gas, butane) combustible fires. It is not suitable for fires of metals or cooking oils. Syn.: super-K [*1-71*] (*s. a. fire extinguishing powder*) **de** Kaliumchlorid, das / **sk** chlorid draselný

potassium nitrate KNO_3 Soluble salt used as oxidizer in explosive mixtures (e.g. blackpowder). [*1-12*] (*s. a. gunpowder*) **de** Kaliumnitrat, das / **hu** kálium-nitrát / **sk** dusičnan draselný

poudre B Smokeless gunpowder consisting of guncotton, ethanol and ether. (*s. a. smokeless powder*) **de** Poudre B, das / **sk** B prášok

poudre N s. black powder **de** Poudre N, das / **sk** N prášok

poultry dung Poultry dung produces about 0.50 m^3 biogas per kg dry matter. The CH_4 concentration of the produced biogas is about 60%. [*3-13*] **de** Geflügeldung, der / **hu** baromfitrágya, csirketrágya / **sk** hydinový trus, h. hnoj

pound lb / Unit of mass.0.45359237 kg **de** Pfund, das / **hu** font, pound / **sk** libra

pour point The lowest temperature at which a liquid will flow under standardized conditions. The pour point is an important parameter of many petroleum products. [*3-23, 3-24*] **de** Pourpoint, der / **hu** dermedéspont, dermedési hőmérséklet / **sk** teplota tuhnutia

power cycle s. thermodynamic cycle (*s. a. Rankine cycle*) **de** Arbeitstakt, der / **sk** pracovný takt

power density Power per unit of volume, usually given in kW per litre of engine displacement. [*1-74*] **de** Volumenleistungsdichte, die / **sk** hustota energie

power kerosene s. tractor vaporizing oil **de** TVO, das / **hu** motorpetróleum, traktorhajtó petróleum

power spectral density PSD / The stationary quantity carried by the wave, per unit frequency. Typically expressed in W/Hz. [*1-118*] **de** spektrale Leistungsdichte, die / **sk** výkonová spektrálna hustota

Prandtl number Pr Pr / A dimensionless number that describes the ratio of kinematic viscosity to thermal diffusivity of fluids. [*1-72*] **de** Prandt-Zahl, die / **hu** Prandtl-szám / **sk** Prandtl-ovo kritérium

Prandtl probe Sensor to examine the dynamic pressure in fluids. [*1-2*] (*s. a. heat wire anemometry*) **de** Prandtlsonde, die / **hu** Prandtl-cső / **sk** Prandtl-ova trubica

prechamber ignition Combustion concept for lean combustion engines. The burning chamber is subdivided into a prechamber and the main burning chamber. The air number in the prechamber should be near 1, to ensure ignition. After igniting in the prechamber the lean mixture in the main burning chamber can be burned in a reliable way, as the flame from the prechamber sets it on fire. [*2-17*] **de** Vorkammerzündung, die / **hu** előkamrás gyújtás / **sk** predkomorové vznietenie

pre-detonation s. knocking **de** Frühzündung, die / **sk** predčasný zážih, predčasné zapálenie

Preheating phase Unburned solid fuels are heated up to its flash point and then fire point. (*s. a. distillation phase, charcoal phase solid fuel*) **de** Anheizen, das / **sk** predohrievacia fáza

pre-ignition Occurs in combustio engines when the fuel/air mixture ignites before the ignition spark is fired. Possible causes are an overheated spark plug or glowing carbon deposits. Pre-ignition must not be confused with engine knocking. [*1-2, 1-7*] (*s. a. engine knocking*) **de** Frühzündung, die / **hu** koai gyújtás, (túlzott) előgyújtás / **sk** predčasný zážih, predčasné zapálenie

premixed flame The fuel and its oxidizing agent are mixed and burnt afterwards. [*1-2*] **de** vorgemischte Flamme, die; vorgemischte Verbrennung, die / **hu** előkevert láng / **sk** predzmiešaný plameň

pressure narrowing see collisional narrowing **de** Linienverschmälerung durch Druck, die / **sk** zužovanie spektrálnych čiar účinkom tlaku

pressure swing adsorption (PSA) PSA / Technology for separating gas species from a mixture of gases under pressure. Gases under pressure tend to adsorb on surfaces (e.g. zeolites). The separation process is based on the principle that different gases tend to be adsorbed more or less strongly. Other technologies to separate e.g. O_2 and N_2 are membrane processes and air distillation. [*2-40*] (*s. a. twister supersonic separator, glycol dehydration*) **de** Druckwechsel-adsorption, die / **hu** nyomásváltásos/nyomáshintás/nyomáslemgetéses adszorpció / szétválasztási eljárás, PSA eljárás / **sk** PSA

pressure volume diagram s. P-V diagram **de** P/V Diagramm, das / **hu** P-V-diagram / **sk** tlak-objem diagram

primary explosives s. initiating explosives [*1-12*] **de** Initialsprengstoff, der / **hu** primer robbanóanyag / **sk** primárne výbušniny

primary reference fuels Fuels used as reference in standardized tests. Examples are isooctane and n-heptane as reference fuels octane rating tests. [*1-2, 1-6, 3-4*] (*s. a. octane rating*) **de** Referenztreibstoff, der / **sk** primárne referenčné palivá

probability density function PDF / A function that represents a probability distribution. The integral over the interval [a, b] gives the probability that a random variable has values in this interval [a, b]. Syn.: density function, frequency function. [*1-112*] **de** Wahrscheinlichkeitsdichtefunktion, die / **hu** sűrűségfüggvény, valószínűségsűrűség-függvény / **sk** PDF

probe Measurement instrument used for the examination of samples which are difficult of access. [*1-11*] **de** Sonde, die / **sk** sonda, snímač signálu

process units (oil refinery) Desalting, atmospheric distillation, vacuum distillation, naphtahydrotreater, catalytic reformer, catalytic cracker, hydro cracker, visbreaking, merox, coking, alkylation, dimerization, isomerization, steam reforming, amine gas treating, Claus process, solvent refining, solvent dewaxing. [*1-59*] (*s. a. Desalting, atmospheric distillation, vacuumdistillation, naphtahydrotreater, catalytic reformer, catalytic cracker, hydro cracker, visbreaking, merox, coking, alkylation, dimerization, isomerization, steam reforming, amine gas treating, Claus process, solvent refining, solvent dewaxing.*) **de** Verarbeitungsschritte (Erdöl), die / **hu** feldolgozási lépések / **sk** procesná, reps. technologická jednotka

producer gas Produced from coke or coal with CO, H_2 and N_2 as main constituents. Calorific value: 6100 to 7300 kJ/m^3. [*1-4*] **de** Generatorgas, das / **hu** generátorgáz / **sk** syntézny plyn, generátorový plyn, syngas

production well s. oil well **de** Ölquelle, die; erschlossene Ölquelle, die / **sk** ťažobný vrt

prompt NO_x NO_x production as a reaction of N_2 (air) with radicals (e.g. CH_n fragments) derived from fuel. The reaction mechanism is very complex and not fully understood. [*1-2, 3-16*] (*s. a. Zeldovich mechanism, fuel NO_x, thermal NO_x, feed NO_x*) **de** promptes NO_x, das / **hu** prompt NO_x / **sk** promptné, resp. rýchle NO_x

propane C_3H_8; Gas derived from petroleum products and natural gas. Used as domestic and industrial fuel. Calorific value: 46350 kJ/ kg or 93160 kJ/m^3. [*1-4*] (*s. a. natural gas, liquefied gas*) **de** Propan, das / **hu** propán / **sk** propán

propellant fraction s. fuel fraction **de** Kraftstoffmassenanteil, der / **sk** hmotnostný podiel paliva

proton mass mp / The mass of a stationary electron is approximately $1.672621637*10^{-27}$ kg. [3-38] **de** Protonenmasse, die / **hu** a proton tömege / **sk** hmotnosť protónu

PUFF-PLUME Gaussian atmospheric dispersion model. [*1-68*] (*s. a. atmospheric dispersion models*) **de** PUFF-PLUME-Modell, das / **sk** PUFF-PLUME

pulsating combustion reactor Tubular device with pulsing combustion. The exhaust gas is blown out, fresh air comes in. [*1-29*] **de** Schwingrohrbrenner, der / **sk** pulzačný horák

pulsed laser A laser in which a pulse of coherent light is produced at defined time intervals. [*1-50*] (*s. a. laser*) **de** gepulster Laser, der / **hu** impulzuslézer, pulzált/impulzusüzemű lézer / **sk** impulzný laser

pulsejet Internal combustion engine used as jet engine. Air-compression and combustion occurs in pulses. [*1-77*] (*s. a. jet engine*) **de** Verpuffungsstrahltriebwerk, das / **hu** szakaszos üzemű torlósugármotor, rezgőszelepes torlósugármotor / **sk** pulzačný motor

pulsing combustion Instable condition of a combustion process. [*1-29*] **de** pulsierende Verbrennung, die / **hu** pulzáló égés / **sk** pulzačné spaľovanie

pump jack Device that converts the rotary mechanism of the motor to drive the piston pump installed in a borehole. Common artificial lift used in oil wells. [*1-59*] (*s. a. pump jack, gas lift*) **de** Pferdekopfpumpe, die / **hu** himbás olajszivattyú / **sk** ropná pumpa

Pump Octane Number (PON) PON / s. Road Octane Number. **de** Oktanzahl, die / **hu** utcai oktánszám / **sk** PON

pure plant oil (PPO) PPO / s. vegetable oil [*3-15, 1-21*] **de** reines Pflanzenöl, das / **sk** čistý rastlinný olej

purple-K (fire fighting) s. potassium bicarbonate (fire fighting) **de** Purple-K, das / **sk** purple-K

P-V diagram Diagram used to describe a thermal cycle involving pressure (y-axis) and volume (x-axis) as variables. [*1-31*] **de** P/V Diagramm, das / **hu** P-V-diagram / **sk** p-V diagram

pyrite s. flint **de** Pyrit, das / **hu** pirit / **sk** pyrit

pyrite FeS_2; A brass-colored mineral. Striking it against a flint produces sparks. [*1-11*] (*s. a. flint*(*stone*)) **de** Pyrit, der / **hu** pirit / **sk** pyrit

pyroelectricity Some materials can generate an electrical potential when heated or cooled. This effect is used in some motion detectors. **de** Pyroelektrizität, die / **hu** piroelektromosság / **sk** pyroelektrina

pyrolysis oil Synthetic fuel extracted by destructive distillation from dried biomass. It is a possible substitute for petroleum. [*1-25*] **de** Pyrolyseöl, das / **hu** pirolízisolaj / **sk** pyrolýzny olej

Pyromet powder Metal fire extinguishing agent composed of chlorides and phosphates and other compounds. It is discharged by a carbon dioxide gas cartridge and used an sodium, calcium, zirconium, and titanium, magnesium and aluminum fires. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** Pyromet Pulver, der / **sk** Pyromet prášok

pyrophoricity Pyrophoric substances are material which can ignite spontaneously. Some examples are: alkali metals, metal hydrids, phosphorus, uranium, plutonium, arsine, diborane, hydrazine and many others. [*3-45, 3-46*] **de** pyrophor / **hu** piroforos anyag / **sk** pyroforickosť

pyrosulfate A salt of pyrosulfuric acid. Used in analytical chemistry and as a catalyst. [*1-37*] **de** Pyrosulfat, das / **sk** pyrosulfát

pyrotechnic fastener A small amount of an explosive charge embedded in a bolt. When ignited the bolt breaks. The technology is used for the separation of devices, e.g. in spacecrafts. [*3-9*] **de** Pyrobolzen, der / **sk** zápalka

pyrotechnic initiator Pyrotechnic composition used to ignite other materials. Common pyrotechnic initiators are: ZPP (zirconium potassium perchlorate); BPN (boron potassium nitrate); ZHPP (zirconium hydride potassium perchlorate); THPP (titanium hydride potassium perchlorate); BNCP (cis-bis-(5-nitrotetrazolato) tetraminecobalt(III) perchlorate) [*1-12*] (*s. a. flash powder, Sprengel explosives*) **de** pyrotechnischer Zünder, der / **sk** pyrotechnický zapaľovač

pyrrhotite Weakly magnetic iron sulfide mineral. [*1-74*] **de** Pyrrhotin, der / **sk** pyrhotín

Q branch Gap between P-branch (ΔJ=-1, J = rotational quantum number) and R-branch (ΔJ=+1), observed in rotational-vibrational spectra for symmetric top molecules and molecules that have unpaired electrons. [*2-54*] (*s. a. CARS, Herman-Wallis correction*) **de** Q-Zweig, der / **sk** Q-vetva

quantization error Inaccuracy due to the finite resolution of an analog/digital converters. [*1-45*] **de** Quantisierungsfehler, der / **hu** kvantálási hiba / **sk** kvantovacia chyba

quantization noise s. quantization error **de** Quantenrauschen, das / **hu** kvantálási zaj / **sk** kvantovací šum

quarter stick Pyrotechnic salute containing 15–30 g flash powder. In many countries illegal. [*1-98*] (*s. a. flash powder*) **de** Böller, der

quenching s. flame quenching **de** Flammenlöschung, die / **hu** lángkialvás / **sk** hasenie

quenching distance Distance when a flame be quenched if it cross a cold barrier. [*1-2*] (*s. a. pit lamp, flame size*) **de** Löschabstand, der / **sk** vzdialenosť hasenia

quick match s. black match [*1-14*] (*s. a. fuse, black match, visco fuse, detonating cord*) **de** Streichholz, das / **hu** gyújtókanóc / **sk** stopina

Racing fuels Formerly racing fuels had no restrictions. Fuel mixtures of benzene, methanol, acetone, nitrobenzene and other components were used to increase knock resistance and efficiency. A typically racing fuel at that time confidential in Germany (1930) was 10% ethanol, 60% methanol, 22% benzene, 5% petroleum ether, 3% toluene, nitrobenzene and castor oil. Italian racing cars used 49.9 % ethanol, 34.5% methanol and other components. Today FIA approves only non-leaded premium gasoline with max. 102 RON for formula 1 races. [*1-8, 1-9*] (*s. a. octane rating, Research Octane Number, engine knocking, FIA, nitomethane*) **de** Rennbenzin, das / **hu** versenybenzin / **sk** pretekársky benzín

rackarock Obsolete Sprengel explosive consisting of potassium chlorate and nitrobenzene. [*1-13*] (*s. a. Sprengel explosives*) **de** Rackarock, das / **sk** rackarock

radiant flux s. black-body irradiance / de Strahlungsfluss, der / **hu** sugárzási áramsűrűség/fluxus / **sk** tok žiarenia

radiation burner The combustion of fuel gas an air occurs evenly on a heating area. [*1-30*] **de** Strahlungsbrenner, der / **hu** sugárzó égő, sugárzó gázégő / **sk** radiačný horák

radiation thermometry Temperature measurement methods based on the principle that the wavelength of emitted light from (hot) bodies depends on the temperature. [*1-43*] (*s. a. Planck's law, black body, two-color method, broad band radiation thermometer, narrow band radiation thermometer*) **de** Pyrometrie, die / **hu** pirometria, sugárzásos hőmérsékletmérés / **sk** radiačná pyrometria

radical Atoms or molecules with unpaired electrons. Radicals are highly reactive and are important for many reaction mechanisms, e.g. for combustion processes. Common radicals are OH* and CH_3*. [*1-2*] **de** Radikal, das / **hu** gyök, csoport / **sk** radikál

radical chain explosion Chemical reaction based on chain branching mechanisms. [*1-2*] (*s. a. chain branching*) **de** Radikalkettenexplosion, die / **sk** explózia radikálového reťazca

radius of gyration The root mean square of the ratio of the moment of inertia of a body about a given axis to its mass [*1-44*] **de** Trägheitsradius, der / **sk** gyračný rádius

Raman scattering Inelastic scattering of photons by atoms or molecules. The wavelength of the scattered photons is different from the wavelength of the incident photons (Stokes, anti-Stokes). Only a small amount (about 1 per 10 million photons) is Raman-scattered. [*1-96*] (*s. a. Stokes, anti-Stokes; infrared spectroscopy*) **de** Raman Streuung, die / **hu** Raman-szór(ód)ás / **sk** Raman-ov rozptyl

Glossary of Combustion

Raman scattering Inelastic light scattering caused by molecules that shift the wavelength of an incoming radiation. No absorption is involved. [*1-96*] **de** Raman-Streuung, die / **hu** Raman-szór(ód)ás / **sk** Raman-ov rozptyl

Raman scattering, concentration measurement The concentration can be obtained from the scattering signal and a calibration factor (*calculated from the measurement of a known sample*). [*1-96, 1-43*] **de** Konzentrationsmessung mittels Raman-Streuung, die / **hu** Raman-szóráson alapuló koncentrációmérés / **sk** meranie koncentrácie pomocou Raman-ového rozptylu

Raman scattering, temperature measurement The temperature can be obtained by fitting the experimental data to a known spectra library or using the Stokes/anti-Stokes scattering ratio. [*1-96, 1-43*] **de** Temperaturmessung mittels Raman-Streuung, die / **hu** Ramanszóráson alapuló hőmérsékletmérés / **sk** meranie teploty pomocou Raman-ového rozptylu

Raman thermometry s. Raman scattering, temperature measurement **de** Raman Thermometrie, die / **sk** Raman-ova prometria

ramjet Jet engine. The flow velocity is used to compress of the incoming air. Syn.: stovepipe jet, athodyd. [*1-77*] (*s. a. jet engine*) **de** Staustrahltriebwerk, das / **hu** torlósugár-hajtómű, torlósugaras hajtómű / **sk** náporová hnacia jednotka

rank s. coal rank **de** Inkohlungsgrad, der / **sk** stupeň preuholňatenia

Rankine-scale Temperature scale. The lower fixed point is absolute zero. The scale is defined as equal to one degree Fahrenheit. Mainly used in North America. [*1-31, 1-73, 3-38*] (*s. a. temperature scale*) **de** Rankine-Skala, die / **hu** Rankine-skála, abszolút Fahrenheitskála / **sk** Rankin-ova stupnica

Raoult's law The law that the vapor pressure of a solution is equals the product of the vapor pressure of the pure solvent and their mole fraction. **de** Raoult'sches Gesetz, das / **hu** Rault-törvény / **sk** Raoult-ov zákon

rapeseed methyl ester RME / s. biodiesel **de** Rapsmethylester, der / **hu** repce-metilészter, repcéből/ repcemagból készült/előállított metil-észter / **sk** metylester repkového oleja

rapid combustion machine RCM / An instrument designed to simulate a single engine cycle of an internal combustion engine. Used to study autoignition of fuel/air mixtures under controlled conditions. [*3-91*] **de** RCM-Apparatur, die

Rayleigh scattering The scatter intensity of very small particles depends to the sixth power on the particle diameter. The scattering intensity is too small to be used for Laser Doppler Anemometry. [*1-2, 2-8*] (*s. a. Laser Doppler Anemometry, LDA-scattering, LDAscattering, Mie scattering, Rayleigh scattering, geometrical optics*) **de** Rayleigh Streuung, die / **hu** Rayleigh-szór(ód)ás / **sk** Rayleighho rozptyl

Rayleigh scattering, concentration measurement The concentration can be obtained from the scattering signal but it is necessary to know pressure and temperature, which is the limitation of this method. [*1-96*] **de** Konzentrationsmessung mittels Rayleigh-Streuung, die / **hu** Rayleigh-szóráson alapuló koncentrációmérés / **sk** meranie koncentrácie pomocou Rayleigh-ho rozptylu

Rayleigh scattering, cross section If the scattered light is detected at an angle of 90°, the cross section is given by the sum of all Xiσi where Xi is the mole fraction of species i and σi is the scatte ring cross section of species i. [*1-96, 1-43*] **de** Wirkungsquerschnitt, der / **hu** Rayleigh-szórás hatáskeresztmetszete / **sk** účinný prierez

Rayleigh scattering, temperature measurement The temperature can be obtained from the scattering signal if pressure, composition or Rayleigh scattering cross section is known. [*1-43*] **de** Temperaturmessung mittels Rayleigh-Streuung, die / **hu** Rayleigh-szóráson alapuló hőmérsékletmérés / **sk** meranie teploty pomocou Rayleighho rozptylu

Rayleigh thermometry s. Rayleigh scattering, temperature measurement **de** Rayleigh-Thermometrie, die / **sk** Rayleigh-ho termometria

RDX explosive s. hexogen **de** RDX-Sprengstoff, der / **hu** RDX / **sk** RDX

reaction rate Describes how fast a reaction takes place and the heat of reaction involved. [*1-2*] **de** Geschwindigkeitsgesetz, das / **hu** reakciósebesség / **sk** reakčná rýchlosť

reaction waves Reaction waves can be e.g. initiated by an electric spark. A high concentration of reactive intermediates generated in a small volume initiates a wave of chemical reactions that propagates into the unburned gas. [*1-1*] (*s. a. detonation waves*) **de** Reaktionswelle, die / **sk** reakčné vlny

Reactive Organic Gases ROG / s. volatile organic compounds **de** reaktive organische Gase, die / **hu** reaktív szerves gázok / **sk** reaktívne organické plyny

real gas In contrast to an ideal gas the following effects have to be considered for real gases: compressibility effects, van der Waals forces, non-equlibrium thermodynamic effects and variable heat capicity. [*1-31*] (*s. a. ideal gas, fugacity*) **de** reales Gas, das / **hu** valós gáz / **sk** reálny plyn

Réaumur-scale Obsolete temperature scale. The reference-points are defined as in the Celsius scale but it uses other intervals. [*1-31, 1-73, 3-38*] (*s. a. temperature scale*) **de** Réaumur-Skala, die / **hu** Réaumur-skála / **sk** Réaumur-ova stupnica

reburn s. staged combustion [*1-2*] **de** Nachverbrennung, die / **sk** opätovne spáliť

reciprocating engine Internal combustion engine that uses pistons moving up and down to convert pressure into a rotating motion. [*1-34, 1-29*] **de** Kolbenmaschine, die / **hu** dugattyús motor/gép / **sk** piestový motor

rectisol™ process Process to remove sulphur-compounds from gases using methanol as solvent. [*1-65*] (*s. a. amine gas treatening, process units* (*oil refinery*)) **de** Rectisolverfahren, das

recuperation Recovering thermal energy from exhaust gas. [*1-29*] **de** Rekuperation, die; Rückgewinnung, die / **hu** rekuperáció, hővisszanyerés / **sk** rekuperácia

recuperative burner Counter flow heat exchanger that uses the heat of the exhaust gas to preheat the gases fed to the burner. [*1-29*] **de** Rekuperativbrenner / **hu** rekuperátoros égő / **sk** rekuperačný horák

recuperator Heat exchanger used to recover heat from exhaust gases. [*1-29*] **de** Rekuperator, der / **hu** rekuperátor / **sk** rekuperátor

red phosphorus s. phosporus **de** roter Phosphor, der / **hu** vörösfoszfor / **sk** červený fosfór

Redlich-Kwong equation Equation of state for real gases. [*1-31*] (*s. a. ideal gas, fugacity*) **de** Redlich-Kwong Zustandsgleichung, die / **sk** Redlich-Kwong-ova rovnica

reduction zone s. flame cone **de** Reduktionszone, die / **hu** redukciózóna / **sk** redukčná zóna

refining Purification process of a substance (usually from natural resources) [*1-11*] (*s. a. oil refinery*) **de** Raffination, die / **hu** finomítás, tisztítás, raffinálás / **sk** rafinácia

reformate High-octane liquid fuels produced by catalytic reforming. [*1-59*] (*s. a. catalytic reforming*) **de** Reformat, das / **hu** reformált benzin, reformbenzin, reformátum / **sk** reformát

reforming s. steam reforming **de** Reformieren, das / **hu** reformálás / **sk** reforming

refuse derived fuel RDF / Fuel produced by shredding or steam pressure treating municipal solid waste. Syn.: solid recovered fuel, specified redovered fuel. [*1-131*] (*s. a. tire derived fuel*) **de** Ersatzbrennstoff, der / **sk** tuhá topná zmes

regenerative fuel cell A fuel cell that produces electricity from hydrogen and oxygen and can use electricity from other sources (e.g. solar power) to produce oxygen and hydrogen from the leftover water. Syn.: reverse fuel cell. (*s. a. fuel cell*) **de** reversible Brennstoffzelle, die / **sk** reverzibilné palivové články

reheat s. afterburner **de** Nachbrenner, der / **hu** utóégető/utánégető (kamra) / **sk** opätovné ohriatie, prehrievanie, znovu ohriať

Reid vapour pressure RVP / s. dry vapor pressure equivalent **de** Reid-Dampfdruck, der / **sk** tlak pár benzínu

remote sensing Gathering of information of an object that is not in physical contact with the object. [*1-83*] **de** Fernerkundung, die / **hu** távérzékelés / **sk** diaľkový prieskum

renewable energy Collective term for energy sustainable energy sources such as solar energy, wind energy, water energy and biomass energy. **de** erneuerbare Energie, die / **hu** megújuló energia(forrás) / **sk** obnoviteľná energia

renewable ressource Agricultural products used as raw material for industrial processes (*s. a. biofuel*) **de** nachwachsender rohstoff, der / **sk** obnoviteľný zdroj

renormalization group theory Mathematical methods to allow the investigation of the changes of a physical system at different distance scales. [*1-75*] **de** RG-Theorie, die; RNG-Theorie, die / **sk** renormalizačná teória grúp

resampling Changing the sampling rate of the original data. [*1-75*] **de** Resampling, das / **sk** prevzorkovanie

Research Octane Number RON / Most common octane rating, determined with a test engine (engine speed 600 rpm, intake air heating 52°C) under controlled conditions. [*1-2, 3-4*] (*s. a. octane rating, Motor Octane Number, Road Octane Number*) **de** Research Oktanzahl, die / **hu** kísérleti oktánszám / **sk** Research oktánové číslo

reservoir simulation Computer models used by oil companies to predict the flow of oil and gas through porous media for the development of new fields. [*1-61*] (*s. a. petroleum engineering*) **de** Reservoirsimulation, die / **hu** rezervoámodellezés, rezervoászimuláció, rétegmodellezés, rétegszimuláció / **sk** simulácia ložiska

residual fuel oils RFO / No. 5 and No. 6 fuel oil. [*3-27*] **de** Marinedieselöl, das / **hu** maradványolaj, pakura / **sk** ťažký topný olej

residue and existent gum Deposite what is left after boiling all volatile fuel components off. These deposits can decrease performance and increase emission of an vehicle engine. [*3-32*] **de** Rückstand, der / **sk** zvyšok

resistive temperature detectors RTD / Accurate and stable temperature sensort, suitable up to 800°C. The basic principle of this method is the temperature depency of resistance of metals. [*1-54*] (*s. a. three-wire bridge configuration, four-wire RTD configuration*) **de** RTD / **hu** ellenállás-hőmérők / **sk** RTD

resonant breakdown A mechanism of laser-induced ignition. Similar to the non-resonant breakdown. It involves a non-resonant multiphoton dissociation of a molecule followed by a resonant photo ionization of an atom. [*2-64*] (*s. a. non-resonant breakdown*) **de** resonanter Durchbruch, der

retrofit The addition of new technology or features to older systems. **de** nachrüsten / **hu** megújítás, retrofit / **sk** retrofit, obnovenie

reverse fuel cell s. regenerative fuel cell **de** reversible Brennstoffzelle, die / **sk** reverzibilné palivové články

reversible process A process that can be reversed with no changes in either the system or its surroundings. [*1-31*] **de** reversibler Prozess, der / **hu** megfordítható/reverzibilis folyamat / **sk** reverzibilný vrátny proces

Reynolds Averaged Navier-Stokes equations RANS / Time-averaged equations of motion for a fluid flow. [*1-123*] **de** zeitgemittelte Navier-Stokes Gleichungen, die / **sk** RANS rovnice

Reynolds number Re Re / A dimensionless number that characterizes the ratio of inertial forces to viscous forces of fluids. Re characterizes flows as laminar or turbulent. [*1-72*] **de** Reynoldszahl, die / **hu** Reynolds-szám / **sk** Reynols-ovo kritérium

RFNA s. red fuming nitric acid **de** rauchende Salpetersäure, die

rhenium (Re) Chemical element, mainly used for catalysts and also for noble metal thermocouples. **de** Rhenium, das / **hu** rénium / **sk** rénium

rhodium (Rh) Chemical element, mainly used for catalysts and also for noble metal thermocouples. **de** Rhodium, das / **hu** ródium / **sk** ródium

rhombic drive Mechanic system of transferring oscillating piston stroke into rotational work. It balances the inertial forces on the pistons perfectly. [*1-28*] **de** Rhombentriebwerk, das / **sk** rombický pohon

Richardson number Ri Ri / A dimensionless number that characterizes the correlation between kinetic and potential energy [*1-72*] **de** Richardson-Zahl, die / **hu** Richardson-szám / **sk** Richardson-ovo kritérium

RIMPUFF Atmospheric puff dispersion model for local scales. [*1-68*] (*s. a. atmospheric dispersion models*) **de** RIMPUFF-Modell / **sk** RIMPUFF

ring burner Ring-shaped bar burner for even heating an object placed over the burner. [*1-29*] **de** Ringbrenner, der / **hu** körégő / **sk** prstencový horák

Ringelmann method Visual method to examine the optical density of plumes. [*1-33*] **de** Ringelmann Methode, die / **hu** Ringelmannmódszer / **sk** Ringelmann-ova metóda

Rio Grande de Norte Crude oil product with an API gravity of 29.5° and a sulphur content of 0.3%. The field is located in Brazil. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Rio Grande de Norte (Rohöl), das / **hu** Rio Grande de Norte olaj / **sk** Rio Grande de Norte-ropný produkt

RNG k-e turbulence model Common turbulence models based on renormalized group theory (RNG). [*1-124*] (*s. a. renormalized group theory* (*RNG*)) **de** RNG-k-epsilon Turbulenzmodell, das / **sk** RNG k-e turbulentný model

Road Octane Number RdON / Average of the Research Octane Number and the Motor Octane Number. Also called Pump Octane Number (PON) or Anti-Knock Index (AKI). [*1-2*] (*s. a. octane rating, Research Octane Number, Motor Octane Number, Road Octane Number*) **de** Strassen-Oktanzahl, die / **hu** utcai oktánszám / **sk** Road (cestné) oktánové číslo

road salt (fire fighting) Provisional fire extinguishing agent. [*1-37*] (*s. a. fire extinguisher*) **de** Streusalz, das / **sk** posypová soľ

Roadway air dispersion modeling Computer models used to study of air pollutant transport from a roadway (linear emitting source). [*168*] (*s. a. atmospheric dispersion models*) **de** Roadway Air Dispersion Modeling, das / **sk** Roadway air dispersion modeling

rollover The ignition of fire gases (gas layer) in an enclosed area. Syn.: flameover, lean flashover [*1-69*] (*s. a. backdraft, flashover*) **de** Rauchdurchzündung, die

Rømer-scale Obsolete temperature scale. The lower fixed point is the freezing point of brine (NaCl in water), the upper fix-point is the boiling point of water. [*1-31, 1-73, 3-38*] (*s. a. temperature scale*) **de** Rømer-Skala, die / **hu** Rømer-skála / **sk** Rømer-ova stupnica

room temperature s. ambient temperature **de** Raumtemperatur, die

rotary piston compressor Type of compressors working by a displacement mechanism. [*1-29*] **de** Drehkolbenverdichter, der / **hu** forgódugattyús kompresszor / **sk** piestový kompresor

rotary valve Valve where the rotation of an inner piece regulates the flow. Used to tranport materials between two process regions of different pressure. [*1-43*] **de** Drehventil, das; Zellenrad, das / **hu** gömbcsap, gömbszelep / **sk** otočný ventil

rotary-grate gas producer s. water-gas producer [*1-11*] **de** Drehrostgenerator, der / **hu** vízgázfejlesztő / **sk** generátor s otočným roštom

rotational temperature The emission intensity of an individual line depends on the transition probability for spontaneous emission (EINSTEIN coefficient), the rotational fine structure may appear in the visible or UV wavelength range. [*1-43*] **de** Rotationstemperuatur, die

rotational transitions Molecular transitions between rotational states describing the quantum-mechanical rotations in molecules. Transition energies are on the same order of the thermal energies. [*1-105, 1-109*] **de** Rotationsübergänge, die / **sk** rotačné prechody

RP-1 fuel Rocket propellant similar to kerosene-based jet fuels. [*3-9*] **de** RP-1 / **sk** palivo RP-1

R-Stoff s. Tonka **de** R-Stoff, der; Tonka, der / **sk** R-látka **rupture disc** A pressure relief device that can protect a vessel from overpressurization. Syn.: bursting disc. **de** Berstscheibe, die; Bruchscheibe, die; Sprengscheibe, die

Russia (oil industry) Major gas and oil fields located in Western and Eastern Siberia. [*3-63*] (*s. a. crude oil, natural gas*) **de** Erdölvorkommen in Russland, das / **hu** Oroszország / **sk** Russia-ložiská ropy a zemného plynu v Rusku

Ruth's accumulator Variable pressure type steam accumulator [*174*] (*s. a. steam*) **de** Ruths Akkumulator, der / **sk** Ruth-ov akumulátor

Rydberg constant $R\infty$ / A fundamental physical constant relating to atomic spectra. 10973731.568527 m^{-1}. [*3-38*] **de** Rydberg-Konstante, die / **hu** Rydberg-állandó / **sk** Rydberg-ova konštanta

Sabatier process Reaction of hydrogen and carbon dioxide in the presence of a nickel catalyst to produce methane. (s. a. biogas) **de** Sabatier Prozess, der / **sk** Sabatier-ov proces

Sabatier reaction s. Sabatier process **de** Sabatier Prozess, der

Sackur-Tetrode equation Equation that gives the translational entropy of one mol of an ideal gas. [*1-1*] **de** Sackur-Tetrode Gleichung, die / **hu** Sackur – Tetrode-egyenlet / **sk** Sackur-Tetrode-ova rovnica

SAFE AIR Advanced atmospheric dispersion model. [*1-68*] (*s. a. atmospheric dispersion models*) **de** SAFE AIR-Modell, das / **sk** SAFE AIR

safety match Matches that can only be lit when rubbed against a specially prepared surface. The surface mainly contains of powdered glass, red phosphorus and binder. The coating of the match head contains potassium chlorate. [*1-38*] (*s. a. match, permanent match*) **de** Sicherheitsstreichholz / **hu** biztonsági gyufa / **sk** bezpečnostné zápalky

safty lamp mine Coal mines with the presence of methane. [*1-13*] **de** Grubenlampe, die / **hu** súlytóléges bánya / **sk** bezpečnostná banská lampa

salty coals s. hard coal **de** Salzkohle, die / **sk** slané uhlie

sand Provisional fire extinguishing agent. [*1-37*] (*s. a. fire extinguisher*) **de** Löschsand, der / **hu** oltóhomok / **sk** piesok

Sargassum s. algae fuel [*3-15, 1-21*] **de** Sargassum sp. / **sk** Sargassum

saturated chemical compounds Chemical compounds, especially hydrocarbons, that contain only single C-C bonds, such as alkanes. Examples of unsaturated compounds are alkenes (-C=C-) and alkines (-C°C-). (*s. a. hydrocarbons*) **de** gesättigte chemische Verbindungen, die / **sk** nasýtené chemické zlúčeniny

saturated steam Steam with partial condensation of water (in very small droplets) in a cooler environment. Syn.: wet steam. [*1-74*] (*s. a. steam*) **de** Nassdampf, der / **hu** telített gőz / **sk** nasýtená para

Saudi Arabia (oil industry) Major oil and gas oil fields located between Iran and the Arabian Peninsula (Iran, Oman, United Arab Emirates, Saudi Arabia, Qatar, Bahrain, Kuwait and Iraq). [*3-63*] (*s. a. crude oil, natural gas*) **de** Erdölvorkommen in Saudi Arabien, das / **hu** Szaúd Arábia / **sk** Saudi Arabia-ložiská ropy a zemného plynu v Saudskej Arábii

Saybolt universal viscosity Measured viscosity in a Saybold viscosimeter in the petroleum industry. It can be converted to dynamic viscosity with a table provided by the American Society for Testing and Materials (ASTM). [*1-59*] (*s. a. viscosity*) **de** Saybolt-UniversalViskosität, die / **hu** Saybolt-viszkozitás / **sk** Saybolt-ova univerzálna viskozita

scalar dissipation rate Important quantity in in flamelet and RANS combustion models. [*1-2*] (*s. a. flamelet, RANS*) **de** Dissipationsgeschwindigkeit, die / **sk** skalárna rýchlosť rozptylu

scale-up Methods to transfer a process from the laboratory or pilotscale to a large production scale. (*s. a. dimensionless number*) **de** Scale-up, der; Übertragung vom Labor auf die Großanlage, die

scanning mobility particle sizer (SMPS) SMPS / Particle size mea surement to examine the size distribution of small particles. [*1-43*] (*s. a. differential mobility analyzer, differential mobility analyzer*) **de** SMPS / **sk** SMPS

schlieren photography Method for visual detection of (air) flows due to varying optical density. [*1-1*] **de** Schlierenfotographie, die / **hu** réteg(ződési)/schlieren módszer

Schmidt number Sc Sc / A dimensionless number that characterizes the ratio of viscosity and diffusive mass transport in fluid flows. [*1-72*] **de** Schmidt-Zahl, die / **hu** Schmidt-szám / **sk** Schmidt-ovo kritérium

SCIPUFF Gaussian puff dispersion model. [*1-68*] (*s. a. atmospheric dispersion models*) **de** SCIPUFF-Modell, das / **sk** SCIPUFF

Scotch yoke Mechanism for converting linear motion into rotational motion. [*1-74*] **de** Scotch-Yoke-Kurbeltrieb, der / **hu** háromszögkapcsolórúd / **sk** Scotch yoke

scramjet A variation of a ramjet designed to operate at high speeds (supersonic combustion ramjet). [*1-77*] (*s. a. jet engine*) **de** Staustrahltriebwerk, das / **hu** hangsebesség feletti torlósugár-hajtómű / **sk** scramjet, tryskáč s nadzvukovým spaľovaním

scrubber A vessel through which industrial exhaust gases are passed to remove particulates and/or acid gases. [*2-42, 2-43*] (*s. a. wet scrubber, dry scrubber, dry sorbent injection, spray dryer absorbers, flue gas condensation*) **de** Gaswäscher, der / **hu** gázmosó, mosótorony / **sk** skrúber, práčka

scrubbing solution Solutions used in a scrubbing process to remove air pollutants. These can be water or solutions of specific reagents. Caustic scrubbers often use an aquaeous solution of NaOH. [*2-42, 2-43*] (*s. a. wet scrubber*) **de** Waschlösung, die / **hu** mosóoldat / **sk** prací roztok

SCWO s. supercritical water oxidation **de** überkritische Naßoxidation, die

second SI basic unit of time. **de** Sekunde, die / **hu** második / **sk** sekunda

second Damköhler number DaII A dimensionless number, formed by the ratio of reaction rate to diffusion rate. [*1-2, 1-19*] (*s. a. first Damköhler number, third Damköhler number, fourth Damköhler number, turbulent Damköhler number*) **de** Damköhler Zahl zweiter Ordnung / **hu** második Damköhler-szám / **sk** Damköhler-ovo číslo druhého poriadku

second generation biofuels Biofuels made from non food crops (e.g. waste biomass such as stalks of wheat, corn and wood). Many production methods are under development (biohydrogen, biomethanol, bio-DME, Fischer-Tropsch diesel, wood diesel, myco diesel). [*3-15, 1-21*] (*s. a. first generation biofuels, third generation biofuels, fourth generation biofuels*) **de** Biotreibstoffe der zweiten Generation, die / **hu** második generációs bio-üzemanyagok / **sk** biopalivá druhej generácie

second law of thermodynamics The total entropy of any isolated thermodynamic system tends to increase (irreversibility). [*1-31*] **de** zweiter HS der Thermodynamik, der / **hu** a termodinamika második főtétele, második főtétel / **sk** druhý zákon termodynamiky

secondary explosive s. initiating explosives [*1-12*] **de** Sekundärsprengstoff, der / **hu** másodlagos robbanóanyag / **sk** sekundárna výbušnina

second-moment closure SMC / A model of the Reynolds stresses in turbulent flow, based on transport equations. [*1-126*] **de** SMC / **sk** SMC

Seebeck effect Thermoelectric effect. The generation of a temperature dependent electromotive force at the junction of two metals. **de** Seebeck Effekt, der / **hu** hőelektromos/termoelektromos effektus, Seebeck-effektus / **sk** Seebeck-ov efekt

seeding particles s. Laser Doppler anemometry **de** Seed-Partikel, die; Impfpartikel, die / **sk** očkovacie častice

Seilinger cycle Idealized thermodynamic cycle with limited pressure maximum. The combustion is isochoric until the maximum pressure is reached, then it continues in an isobaric way. [*1-34*] (*s. a. thermodynamic cycle, standard cycle, idealized cycle*) **de** Seilinger Prozess, der / **hu** Seilinger-körfolyamat/ciklus / **sk** Seilinger-ov cyklus

selective catalytic reduction (SCR) SCR / Catalytic DeNOx process. The reaction needs NH_3 (added to the gas) and a catalyst (TiO_2, $V2O_5$, WO_3). The end products are H_2O and N_2. Also Hg and dioxins can be filtered with this method. [*1-2*] (*s. a. DeNOx, selective homogeneous reduction, TurboNOx*) **de** Selektive katalytische Reduktion, die / **hu** szelektív katalitikus redukció / **sk** selektívna katalytická redukcia

selective non-catalytic reduction (SNCR) SNCR / Thermolytic DeNOx process. Urea or NH_3 (injected as solution in the combustion chamber) reacts with NOx by thermolysis. The end products are H_2O and N_2. [*1-2, 2-12*] (*s. a. DeNOx, selective homogeneous reduction, TurboNOx*) **de** Selektive nicht-katalytische Reduktion / **hu** szelektív, nem katalitikus redukció / **sk** selektívna nekatalytická redukcia

selexol™ Acid gas removal solvent. [*1-65*] (*s. a. amine gas treatening, process units* (*oil refinery*)) **de** Selexol, das / **hu** selexol eljárás / **sk** Selexol

self-acceleration Increase of the reaction rate due to the heat formed by that very reaction. (s. a. SADT) **de** Selbstbeschleunigung, die / **hu** öngyorsítás / **sk** samozrýchlenie

Semenov modell s. homogeneous ignition **de** Semenov-Modell, das / **sk** Semenov-ov mode

semianthracite Coal with a carbon content of 86–92%. Classified between between bituminous coal and anthracite. [*1-83*] (*s. a. coal*) **de** Mageranthrazit, der / **hu** sovány szén / **sk** poloantracit

semiconductor linear temperature sensors Linear temperature sensors suitable for about -50 to 150°C. [*1-54*] **de** Halbleitertemperatursensor, der / **sk** lineárny polovodič tepelného senzora

semi-dry scrubber s. dry scrubber **de** Gaswäscher, der / **sk** polosuché čistenie

Semi-Volatile Organic Compounds (SVOC) SVOC / s. volatile organic compounds **de** semiflüchtige organische Verbindungen, die / **hu** közepesen/félig illékony/illó szerves vegyületek / **sk** poloprchavé organické zlúčeniny

separator gas Gas remaining after separation of condensate. (s. a. oil refinery) **de** Separatorgas, das / **hu** szeparált gáz / **sk** odlúčený plyn

shadowgram s. shadowgraphy **de** Schattenabbildung, die

shadowgraphy An optical method that reveals non-uniformities in transparent media. **de** Schattenabbildung, die

shaft furnace s. water-gas producer [*1-11*] **de** Schachtofen, der / **hu** aknakemence, aknás kemence / **sk** šachtová pec

Shah Deniz Condensate Crude oil product with an API gravity of 47.0° and a sulphur content of 0.03%. The field is located in Azerbaijan. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Shah Deniz Condensate (Rohöl), das / **hu** Shah Deniz (Condensate) olaj / **sk** Shah Deniz-ropný produkt

Shah Deniz gas field Major natural gas field in Azerbaijan. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Shah Deniz Gasfeld, das / **hu** Shah Denizi (föld)gázmező / **sk** Shah Deniz-ložisko zemného plynu v Azerbajdžáne

shallower pool test (SPT) SPT / New oil well on a shallower deep zone on already producing fields. [*1-62*] **de** Shallower Pool Test, der / **hu** sekélyfúrás / **sk** SPT

sheath s. thermocouple sheath **de** Abschirmung, die / **hu** védőcső, védőhüvely, védőburok / **sk** púzdro, plášť, obal, povlak

shifting cultivation s. slash and burn / **sk** striedavé obhospodarovanie

shock tube ST / A device used primarily to study gas phase combustion reactions. A simple shock tube is a metal tube in which a gas at low pressure and a gas at high pressure are separated using a diaphragm. [*1-130*] **de** Stoßrohr, das / **hu** lökéshullámcső / **sk** rázová trubka, r. rúrka

short residue SR / Residue of vacuum distillation of crude oil. This residue is used as bitumen, blended to fuel oil or used in a cracking process. [*1-59*] (*s. a. process units* (*oil refinery*)*, continuous distillation, vacuum distillation*) **de** Vakuumrückstand, der / **hu** erősen bekoncentrált lepárlási maradék / **sk** vákuový zvyšok

short ton S/T / Unit of mass.907.18474 kg **de** Amerikanische Tonne, die / **sk** krátka tona

Shtokman field Major natural gas field in Russia. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Shtokman Gasfeld, das / **hu** shtokmani (föld) gázmező / **sk** Shtokman-ložisko plynu v Rusku

shungit s. coal **de** Shungit, der / **hu** sungit / **sk** šungit

SI engine Internal combustion engine that uses SI (spark ignition). **de** Motor mit Funkenzündung, der / **sk** benzínový motor

Siberian Light Crude oil product with an API gravity of 35.1° and a sulphur content of 0.6%. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Siberian Light, (Rohöl), das / **hu** Siberian Light olaj / **sk** Siberian Light-ropný produkt

sidevalve engine s. flathead engine **de** Seitenventilmotor, der / **hu** oldalszelepelt motor / **sk** motor SV, m. s bočnými stojatými ventilmi

Siegert equation Equation used to approximate the exhaust gas losses of a fireplace. [*1-29*] **de** Siegert Gleichung, die / **hu** Siegertegyenlet / **sk** Siegert-ova rovnica

Siegert factor s. Siegert equation **de** Siegert Faktor, der / **sk** Siegert-ov faktor

signal-to-noise ratio SNR / Ratio of the signal power to the power of the noise signal. [*1-45*] **de** Signal-Rausch-Verhältnis, das / **hu** jel-zaj viszony / **sk** odstup signálu od šumu

silanes Silanes have the general formula Si_nH_{2n+2}. They are unstable compounds compare to alkanes (C_nH_{2n+2}). SiH4 (silane) is a pyrophoric colourless gas. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** Silane, die / **hu** szilán / **sk** silán

silicones Fuel additive used as anti-foaming agent for diesel. [*3-32*] **de** Silikone, die / **sk** silikóny

silver salute Pyrotechnic salute containing 1.5 g flash powder. In many countries illegal. (*s. a. flash powder*) **de** Böller, der / **sk** silver salut

simplex An n-dimensional analogue of a triangle. [*1-75*] **de** Simplex, das / **sk** simplex, geometrické číslo v priestore

Simplified molecular input line entry specification SMILES / Specification for describing the chemical structure by simple ASCII strings. [*2-21*] **de** SMILES / **sk** SMILES

single droplet combustion In the combustion of a single droplet, the physical and chemical processes can be modeled by examining a single droplet where droplet is surrounded by its own laminar non premixed flame. The aim is to determine the combustion rate as a function of the diameter and the thermodynamical and chemical properties. [*1-2*] **de** Einzeltröpfchen-Verbrennung, die / **sk** spaľovanie kvapky **single-base powder** s. smokeless powder **de** einbasiges Schießpulver, das / **sk** jednozložkový strelný prach

six stroke engine Internal combustion engine with has added two strokes to a four stroke Otto cycle to improve its efficiency and reduce emissions. [*1-34*] (*s. a. 4 stroke engine*) **de** 6-Takt-Motor, der / **hu** hatütemű motor / **sk** šesť-taktový motor

slag Mixture of metal oxides and sulfides as a by-product of smelting ore. [*1-11*] (*s. a. matte*) **de** Schlacke, die / **hu** salak / **sk** troska

slant drilling s. directional driling [*3-72*] **de** Richtbohren, das / **hu** ferde fúrás / **sk** šikmé vŕtanie, vŕtanie pod uhlom

slash-and-burn Cutting down woodlands and burning the slash to create fields for agriculture. **de** Brandrodungsackerbau, der / **sk** vyrúbavanie a vypaľovanie

slash-and-char Charring the biomass instead of burning it as in the slash-and-burn practice. **de** slash-and-char **sk** vyrúbavanie a zuholňovanie

slot burner s. Wolfhard-Parker burner **de** Schlitzbrenner, der / **hu** laposlángú égő / **sk** štrbinový horák

slurry explosive Explosive, thickened aqueous slurry of oxidizable salts. [*1-13*] **de** suspendierter sprengstoff, der / **sk** výbušný kal

Smagorinsky model A simple model for turbulent fluids. [*1-125*] **de** Smagorinsky-Modell, das / **sk** Smagorinskeho model

Smekal-Raman-effect s. Raman scattering **de** Smekal-Raman Effekt, der / **sk** Smekal-Raman-ov efekt

SMILES s. Simplified molecular input line entry specification **de** SMILES

smog The presence of air pollutants in harmful and visibility-impairing concentrations. The name is derived from smoke + fog. One can distinugish between winter-smog and summer-smog. [*1-47*] (*s. a. photochemical smog, winter smog, The Great Smog, sulphur dioxide, inversions*) **de** Smog, der / **hu** füstköd, szmog / **sk** smog

smoke detector Device that detects smoke and gives off an alarm. There are several types of smoke detectors, 2 of which are briefly explained: * Ionization (the radiation from a very small amount of americium 241 leads to a constant current in a ionization chamber. Smoke absorbs alpha-particles from the radiation and the current is interrupted). * Optical (smoke scatters some light of a light beam in the detector. The scattered light will be detected by a photodiode). **de** Rauchmelder, der / **hu** füstérzékelő, tűzjelző (készülék) / **sk** detektor dymu

smoke number Characterizes the soot emission of oil-fired furnaces. [*1-33*] (*s. a. Bacharach method*) **de** Rußzahl, die / **hu** koromszám / **sk** dymivosť

smokeless powder Modern type of gunpowder with less smoke production than blackpowder (but not completely smokeless). Propellants for smokeless powders are single-base (nitrocellulose), double-base (nitroglycerine) or triple-base (nitroguanidine) pow ders. Other components are plasticizer, binder and stabilizer. (*s. a. black powder*) **de** rauchschwaches Schießpulver, das / **hu** füstmentes puskapor, füst nélküli puskapor / **sk** bezdymový pušný prach

smokestack s. chimney **de** Schornstein, der / **sk** komín

smouldering combustion process Combination of pyrolysis and combustion. The combustible gases after and the carbonaceous residue from the pyrolysis process will be burnt. An advantage of this process is that harmful substances such as dioxin are pyrolyzed. Smouldering combustion also occurs during some fires. [*1-33*] **de** Schwelbrandverfahren, das; schwelende Verbrennung, die / **sk** bezplameňové horenie

snaphance Mechanism for igniting/firing a gun. (s. a. fire piston, wheellock, matchlock, snaphance) **de** Snaphance / **sk** snaphance

snaplock Mechanism for igniting/firing a gun. (*s. a. fire piston, wheellock, matchlock, snaphance*) **de** Snaplock / **sk** snaplock

sodium bicarbonate Fire extinguishing powder. Used for liquid (e.g. petroleum, alkohols, wax, lac) and gaseous (e.g. natural gas, butane) combustible fires. It is not suitable for for fires of metals or cooking oils. [*1-71*] (*s. a. fire extinguishing powder*) **de** Natriumbikarbonat, das / **hu** nátrium-bikarbonát / **sk** uhličitan sodný

sodium chloride Salt that is used for alkali metal fires. [*1-71*] (*s. a. fire extinguisher*) **de** Natriumchlorid, das / **hu** nátrium-klorid / **sk** chlorid sodný

SOFC s. solid oxide fuel cell **de** Festoidbrennstoffzelle, die

softening temperature The temperature at which viscous flow changes to plastic flow. Defined for a substance (e.g. glasses and plastics) which does not have a defined melting point. [*1-11*] **de** Erweichungstemperatur, die / **sk** teplota mäknutia

solid (fuel) rocket A rocket with a motor that uses solid propellants. Today solid fuel rockets are only used as model rockets because liquid and hybrid rockets are more efficient. [*1-12*] (*s. a. liquid propellant rocket, lithergoles, booster*) **de** Feststoffrakete, die / **hu** szilárd hajtóanyagú/üzemanyagú rakéta / **sk** raketa na tuhé palivo

solid biofuels Materials such as woodchips, sawdust, charcoal, and dried manure. Solid biofuels can be burnt directly or as pellets. [*3-15, 1-21*] (*s. a. first generation biofuels*) **de** feste Biobrennstoffe, die / **hu** szilárd bio-tüzelőanyagok / **sk** tuhé biopalivá

solid electrolyte SE / Solid state electrical conductor used e.g. in fuel cells and chemical sensors. A cationic or anionic component of the structure acts as charge carrier. Syn.: superionic conductor (*s. a. fuel cell*) **de** Festelektrolyt, der / **hu** szilárd elektrolit / **sk** pevný elektrolyt, tuhý e.

solid fuel Combustible materials such as wood or coal. The combustion process consists of three phases: preheating phase, distillation phase, and charcoal phase. (*s. a. preheating phase, distillation phase, charcoal phase*) **de** fester Brennstoff, der / **sk** tuhé palivo

solid oxide fuel cell SOFC / High temperature fuel cell, operating at about 500-1000°C. It consists a porous ceramic anode (e.g. yttria stabilized zirconia), an oxygen ion conducting ceramic electrolyte, and a thin porous layer on the electrolyte as cathode (e.g. lanthanum strontium manganite). Up to thousands of these cells can be then connected to a stack. [*1-114*] (*s. a. fuel cell, cermet, yttria stabilized zirconia*) **de** Festoxidbrennstoffzelle, die / **hu** szilárd oxid(os) üzemanyagcella / **sk** palivové články s tuhým oxidom

solid oxide fuel cell (SOFC) SOFC / A high temperature (500–1000°C) fuel cell which produces electricity directly by fuel-oxidizing. The electrolyte is a ceramic material. One can distinguish between tubular and planar SOFCs. [3-25] **de** Festoxidbrennstoffzelle, die / hu szilárd oxid(os) üzemanyagcella / **sk** palivový článok na báze tuhého oxidu

solid phase s. charcoal phase **de** Verkohlungsphase, die / **sk** tuhá fáza

solid recovered fuel s. refuse derived fuel **de** Ersatzbrennstoff, der / **sk** tuhé náhradné palivo

solvent blue Blue anthraquinone-dye used in some countries as fuel dye and for colouring smoke in pyrotechnics. Other names: Oil Blue 35, Blue 2N, Blue B, Oil Blue B, 1,4-bis(butylamino) anthraquinone and CI 61554. [*1-11, 3-32, 3-33, 3-34, 2-20*] **de** Solvent blue, das / **sk** solvent blue

solvent dewaxing Removing heavy waxy components from vacuum distillation products. [*1-59*] (*s. a. process units*) **de** Entwachsung, die / **sk** solvent dewaxing

solvent red 164 Red diazo dye used as fuel dye in USA. Other names: oil red B, 1-[[4-[phenylazo]-phenyl] azo]-2-naphthol. [*1-11, 3-32, 3-33, 3-34, 2-20*] **de** Solvent red 164, das / **sk** solvent red 164

solvent red 26 Red diazo dye used as fuel dye in USA. Other names: C.I. 26120, 1-[[2,5-dimethyl-4-[(2-methylphenyl)azo]-phenyl] azo]-2-naphthol. [*1-11, 3-32, 3-33, 3-34, 2-20*] **de** Solvent red 26, das / **sk** solvent red 26

solvent refining Removing asphaltenic materials using solvent such as cresol or furfural. [*1-59*] (*s. a. process units*) **de** Lösungsmittelaufbereitung, die / **hu** oldószeres finomítás / **sk** solvent refining

solvent yellow 124 Yellow azo dye used as a fuel dye (EU), with acids the colour changes to red. Other names: Euromarker, SY124, Sudan 455, Somalia Yellow, T10 Yellow LBN, N-Ethyl-N-(2-(1-(2methylpropoxy)ethoxy)ethyl)-4-(phenylazo)anilin. [*1-11, 3-32, 3-33, 3-34, 2-20*] **de** Solvent yellow 124, das / **sk** solvent yellow 124

solvent yellow 56 Yellow azo dye used as a fuel dye (EU). Also used for yellow smokes in pyrotechnics. Other names oil yellow DE, N,N-diethyl-p-(phenylazo)aniline. [*1-11, 3-32, 3-33, 3-34, 2-20*] **de** Solvent yellow 56, das / **sk** solvent yellow 56

Somalia Yellow s. solvent yellow 124 **de** Somaliagelb, das / **sk** Somalia Yellow

sonic point The point at which the flow velocity is equal to the speed of sound. (s. a. detonation) **de** Schallgrenzpunkt, der / **sk** sonický bod

soot Black carbon nanoparticles. Produced by incomplete combustion. [*1-2*] (*s. a. soot agglomeration, soot coagulation, carbon black*) **de** Ruß, der / **hu** korom / **sk** sadze

soot agglomeration Takes place in the late phase of soot formation when coagulation is not possible any more. [*1-2*] **de** Ruß-Agglomeration, die / **hu** agglomerátum képződés (koromszemcsékből) / **sk** aglomerácia sadzí, spekanie sadzí

soot blowing system Steam is used to clean heating plates from fouling (e.g. fly ash produced by the combustion process). This can increase the efficiency of a boiler. [*2-61*] (*s. a. fly ash*) **de** Rußblassystem, das / **sk** ofukovací systém sadzí

soot coagulation The adhesion of very small soot particles. The rate of growth can be calculated by the collision frequency. [*1-2*] **de** Ruß-Koagulation, die / **sk** koagulácia sadzí

soot measurement Soot can be characterized in its concentration and particle size distribution by laser induced incadescence (LII), light extinction or photoacoustic spectroscopy (PAS). [*1-43*] **de** Russmessung, die / **hu** korom érése / **sk** meranie sadzí

soot particle-number density The ratio of the number of soot particles in the total volume. [*1-2*] **de** Ruß Teilchenzahldichte, die / **sk** hustota počtu častíc sadzí

soot production The first step is the nucleation (clustering of polycyclic aromatic hydrocarbons (PAH) at molar masses between 500–2000). The next step is growth by coagulation. [*1-2*] (*s. a. polycyclic aromatic hydrocarbons*) **de** Ruß-Bildung, die / **hu** koromképződés / **sk** tvorba sadzí

soot yield Fractional amount of carbon that appears as soot. [*1-2*] **de** Ruß Ausbeute, die / **sk** výťažok sadzí

sorbent An agent that can provide provide a sorption function (adsorption, absorption, desorption). [*1-116*] **de** Sorptionsmittel, das

sour crude oil Petroleum which contains more than 0.5% sulfur. [*363*] (*s. a. crude oil*) **de** schwefelreiches (Rohöl), das / **hu** savas/savanyú/kéntartalmú (kő/nyers)olaj / **sk** ropa s vysokým obsahom síry **sour gas** Gas with a H_2S content higher than 1 grain per 100 SCF. [*2-40*] (*s. a. hydrogen sulfide*) **de** schwefelreiches Gas, das / **hu** savas/savanyú/kéntartalmú (föld)gáz / **sk** plyn s vysokým obsahom síry

South Pars gas field Major natural gas field in Iran. [*3-63*] (*s. a. natural gas, gas reserves*) **de** South Pars Gasfeld, das / **hu** south parsi (föld)gázmező / **sk** South Pars-ložisko zemného plynu v Iráne

Southern Green Canyon Crude oil product with an API gravity of 30.4° and a sulphur content of 2.2%. The field is located in the United States. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Southern Green Canyon (Rohöl), das / **hu** Southern Green Canyon olaj / **sk** Southern Green Canyon-ropný produkt

spark ignition SI / Technology to ignite the fuel-air mixture in gasoline (Otto) engines by electrical spark plugs. (*s. a. Otto engine, diesel engine*) **de** Funkenzündung, die / **hu** szikragyújtás / **sk** zapaľovacia iskra

spark ignition SI / s. induced ignition [*1-2*] **de** Funkenzündung, die / **hu** szikragyújtás / **sk** zapaľovacia iskra

spark ignition engine Engine based on the four-stroke cycle (Otto cycle). One power stroke for every four strokes (up-down-up-down). Ignited by a spark plug. [*1-8*] (*s. a. Diesel engine, octane rating*) **de** Ottomotor, der / **sk** Ottov motor

spark plug Device used for ignition in Otto engines. Alternative ignition technologies currently under investigation are e.g. laser ignition and corona ignition. (*s. a. laser ignition, corona ignition*) **de** Zündkerze, die / **sk** zapaľovacia sviečka

specific heat capacity The thermal energy required to increase the temperature of a mass unit of a substance by a defined temperature unit. [*1-31*] **de** spezifische Wärmekapazität, die / **hu** fajhő, fajlagos hőkapacitás / **sk** špecifická tepelná kapacita

specified recovered fuel s. refuse derived fuel / **de** Ersatzbrennstoff, der / **sk** náhradné palivo

Spectral intensity Intensity of a spectral line as a function of the wavelength (or frequency). Its integration with respect to the spectral variable provides the intensity (i.e. power/surface). [*1-102*] **de** spektrale Intensität, die / **sk** spektrálna intenzita

spectral linewidth Width in terms of wave numbers (cm^{-1}) used to determine the uncertainty about the energy of a spectral line. [*1-102*] (*s. a. Laser*) **de** Linienbreite, die / **sk** hrúbka linky

spectrograph A piece of equipment based on diffraction of light and used to generate spectra in one single acquisition. [*1-102*] **de** Spektrograph, der / **hu** spektrográf / **sk** spektrograf

spectroscopic temperature measurements Spectral lines arise from transitions between two energy states, the intensities of which are temperature-dependent and can be used for the measurement of the gas temperature. This in-situ measurement is timely and does not interfere with the system. Typical accuracies are less than with a thermocouple, though. [*1-43*] (*s. a. two line thermometry*) **de** spektroskopische Temperaturmessung, die / **sk** spektroskopické meranie teploty

Speed of light c_0 / Fundamental physical constant. Due to the definition of the metre, it is defined as exactly 299792458 metres per second. [*3-38*] **de** Lichtgeschwindigkeit, die / **hu** vákuumbeli fénysebesség / **sk** rýchlosť svetla

spontaneous combustion s. auto ignition **de** Selbstzündung, die; spontane Verbrennung, die / **hu** öngyulladás, öngyúlás / **sk** samovoľné spaľovanie

spontaneous ignition s. auto ignition **de** Selbstzündung, die; spontane Verbrennung, die / **hu** öngyulladás, öngyúlás / **sk** samovznietenie

spontaneous Raman scattering (SRS) SRS / Electronic state transitions are not involved, therefore species like N_2, O_2, CO_2 can be measured. Laser-induced fluorescence measurement would need deep UV-radiation to measure these species. **de** Ramanstreuung, die / **hu** spontán Raman-szór(ód)ás / **sk** spontánny Ramanov rozptyl

spray chamber s. spray tower **de** Sprühkammer, die / **sk** rozstrekovacia komora

spray dryer absorber SDA / Dry scrubbing system, also called semi-dry scrubber. [*2-42, 2-43*] (*s. a. dry scrubber*) **de** Sprühabsorption, die / **hu** porlasztó szárító abszorber / **sk** suchý absorbér

spray nozzle Device to disperse a liquid into a stream of small drop lets (spray). [*2-42, 2-43*] (*s. a. wet scrubber*) **de** Zerstäuberdüse, die / **hu** porlasztófúvóka, permetezőfúvóka / **sk** rozprašovacia tryska

spray tower Wet scrubbing system. Nozzels are spraying the scrubbing solution into the scrubber vessel. The flue gas enters the vessel with a countercurrent flow. [*2-42, 2-43*] (*s. a. wet scrubber*) **de** Sprühwäscher, der / **sk** sprchovacia veža

spray-combustion A spray can be considered as an ensemble of combustions of single drops, where the droplet-ensemble is surrounded by flame. [*1-2*] **de** Spray Verbrennung / **sk** sprayove spaľovanie

Sprengel explosive An explosive that consists of a mixture of oxidizers and reactive fuels, which are mixed shortly before use. (s. a. pyrotechnic initiator) **de** Sprengel-Sprengstoff, der / **hu** Sprengelféle robbanó szerek/anyagok / **sk** Sprengel-ova výbušnina

spud mud Fluid used to drill boreholes into the earth such as oil wells. **de** Bohrschlamm, der / **hu** fúróiszap / **sk** vŕtací kal

stabilizer Gasoline additive, can prevent water vapor contamination. [*3-32*] **de** Stabilisator, der / **sk** stabilizátor

stack-effect The movement of gases out of chimneys and flue gas stacks. It is driven by buoyancy. (*s. a. induced draft, chimney*) **de** Kamineffekt, der / **hu** kürtőhatás / **sk** komínový efekt

staged combustion Combustion is split up into several stages. In first step a fuel rich mixture is burnt. In second step a lean mixture is be burnt, to reach a stoichimetric combustion of the overall process. A third step (reburn) can further reduce pollutants by an additional fuel injection. This technology is used to reduce NO_x emissions. [*1-2, 2-15*] **de** gestufte Verbrennung, die / **hu** lépcsős tüzelés / **sk** stupňovité spaľovanie

stain Unwanted localized discoloration. [*1-74*] **de** Verschmutzung, die / **sk** škvrna

standard cubic foot SCF / The quantity of gas, equal to a volume of one cubic foot at 60 degrees Fahrenheit and 14.696 pounds per square inch (psi). Often used in the oil and gas industry. A standard cubic foot of an ideal gas, is equivalent to 0.026853 normal cubic meters (Nm^3). [2-40] **de** Standardkubikfuss, der / **sk** štandardná kubická stopa

standard cycle Thermodynamic cycle that can use any step between an idealized and a real thermodynamic process. [*1-31*] (*s. a. thermodynamic cycle*) **de** Vergleichsprozess, der / **sk** štandardný cyklus

standard hydrogen electrode SHE / Platinum redox electrode. The zero point of electrode basic potentials is set with the potential of this electrode. [*1-31*] **de** Standard-Wasserstoffelektrode, die / **sk** štandardná vodíková elektróda

Stanton number St St / A dimensionless number that characterizes the heat transfer. It can be expressed as the ratio of Nusselt number to the product of Prandtl number and Reynolds number. [*1-72*] **de** Stanton-Zahl, die / **hu** Stanton-szám / **sk** Stnanton-ovo kritérium

state variable s. variable of state **de** Zustandsvariable, die

static dissipator additive s. antistatic agent **de** antistatischer Zusatzstoff, der / **sk** antistatická prísada

steam Water in the vapor state. [*1-74*] **de** Wasserdampf, der / **hu** (víz)gőz / **sk** para

steam assisted gravity drainage (SAGD) SAGD / Advanced steam injection method with horizontal wells. Used e.g. in Athabasca oil sands. [*1-55*] **de** SAGD-Methode, die / **hu** gőzzel segített lecsapolás / **sk** SAGD metóda

steam drive s. steam flooding **de** Steam-drive / **sk** parný pohon

steam drum A phase seperator and reservoir of water/steam in water-tube boilers. [*1-72*] **de** Dampftrommel, die / **sk** parný bubon

steam flodding Steam injection method where some oil wells are used for steam injection and other wells are used for oil production. [*1-55*] **de** Steam-fllooding, das / **sk** steam flodding

steam injection Common method of extracting heavy oil, cyclic steam stimulation and steam flooding.are the two main technologies. [*1-55*] **de** Dampfstimulation, die / **hu** gőzöléses technológia / **sk** vstrekovanie pary

steam methane reforming (SMR) SMR / s. steam reforming **de** Dampfreformierung von Methan, die; Dampfreformieren von Methan, das / **sk** parný reforming zemného plynu

steam reforming SR / Method of producing hydrogen from hydrocarbons. $CH_4 + H_2O > CO + 3\ H_2$ (endothermic), $CO + H_2O > CO_2 + H_2$ (exothermic). [*1-59*] (*s. a. process units* (*oil refinery*), *syngas*) **de** Dampfreformierung, die; Dampfreformieren, das / **hu** vízgőzös reformálási eljárás / **sk** parný reforming

steam turbine A device using steam for doing work. [*1-74*] (*s. a. steam*) **de** Dampfturbine, die / **hu** gőzturbina / **sk** parná turbína

steam-carbon reaction s. water-gas reaction **de** Wassergasreaktion, die / **hu** víz-gáz reakció / **sk** reakcia vodného plynu

Stefan number Ste / A dimensionless number that characterizes the thermal energy transfer change during phase changes. [*1-72*] **de** Stefan-Zahl, die / **hu** Stefan-szám / **sk** Stefan-ovo kritérium

Stefan-Boltzmann constant σ / A physical constant. It is the constant of proportionality in the Stefan–Boltzmann law. $5.670400*10^{-8}$ W m^{-2} K^{-4}. [*3-38*] **de** Stefan-Boltzmann-Konstante, die / **hu** Stefan-Boltzman-állandó / **sk** Stefan-Boltzmann-ova konštanta

Stefan-Boltzmann equation The total energy radiated by a black body is directly proportional to the fourth power of the absolute temperature. [*1-31*] (*s. a. black body*) **de** Stefan-Boltzmann-Gesetz, das / **hu** Stefan-Bolzmann-törvény / **sk** Stefan-Boltzmann-ova rovnica

Stefan's constant s. Stefan-Boltzmann constant **de** Stefan-Boltzmann-Konstante, die

stère A measurement unit for volume of wood and equals one cubic metre. (*s. a. wood briquette, firewood*) **de** Raummeter, der / **sk** priestorový meter

stereoisomers s. isomers [*3-35, 1-24*] **de** Stereoisomere, die / **hu** térizomerek, sztereoizomerek / **sk** stereoizoméry

Stern-Vollmer factor A measure of the quantum efficiency from the concentration of quenching substances. [*1-44*] **de** Stern-Vollmer Faktor, der / **sk** Stern-Volmer-ov faktor

Stirling cycle Thermodynamic cycle for stirling engines. Process 1 > 2: isothermal process. Process 2 > 3: isometric process. Process. 3 > 4: isothermal process. Process 4 > 1: isometric process. [*1-31*] (*s. a. idealized cycle, standard cycle, Carnot cycle*) **de** Stirling Kreisprozess, der / **hu** Stirling-körfolyamat/ ciklus / **sk** Stirling-ov cyklus

stirred tank reactor STR / s. batch reactor (*s. a. PFR*) **de** Batch-Reaktor, der / **hu** tökéletesen kevert szakaszos reaktor, kevert tartályreaktor / **sk** dokonale miešaný reaktor

Stockholm convention on persistent organic pollutants Environmental agreement to protect human health and the environment from chemicals that remain in the environment for long periods, become widely distributed and accumulate in the fatty tissue of humans and wildlife. [*3-61*] (*s. a. environmental agreement*) **de** Stockholmer Konvention, die / **hu** stockholmi egyezmény/megállapodás / **sk** Štockholmská dohoda

Stoddard cycle Thermodynamic cycle for an external combustion engine (Stoddard engine). Process 1 > 2: adiabatic process. Process 2 > 3: isometric process. Process 3 > 4: adiabatic process. Process 4 > 1: isometric process. [*1-31*] (*s. a. idealized cycle, standard cycle, Carnot cycle*) **de** Stoddard Kreisprozess, der / **sk** Stoddard-ov cyklus

stoichometric combustion Stoichiometric fuel/oxidizer mixture (lambda = 1). [*1-2*] (*s. a. lambda*) **de** stöchiometrische Verbrennung, die / **hu** sztöchiometrikus égés / **sk** stechiometrické spaľovanie

Stokes-line s. Stokes-shift **de** Stokes-Linie, die / **hu** Stokes-vonalak / **sk** Stokes-ova (spektrálna) čiara

Stokes-shift The shift of spectral lines of luminescent radiation toward longer wavelengths than those of the absorption lines. [*1-96*] **de** Stokesverschiebung, die / **hu** Stokes-eltolódás / **sk** Stokes-ov posun

stone coal s. coal (s. a. coalification, rank) **de** Steinkohle, die / **hu** kőszén / **sk** čierne uhlie, kamenné u.

storm match The match tip is coated as a normal match but the stick is also coated with a combustible material which will keep burning in a strong wind. [*1-38*] (*s. a. match, permanent match*) **de** Sturmstreichholz, das / **hu** vihargyufa / **sk** búrkové zápalky

stovepipe jet s. ramjet **de** Staustrahltriebwerk, das / **hu** torlósugárhajtómű, torlósugaras hajtómű / **sk** náporová hnacia jednotka

straight vegetable oil SVO / Vegetable oil produced from algae. It can also be used for fuel directly (no transesterification process required). [*3-15, 1-21*] (*s. a. transesterification*) **de** SVO / **sk** SVOrastlinný olej produkovaný z rias

strain The alteration of the relations between the parts of a structure by applying an external force. [*1-44*] **de** Dehnung, die / **sk** napätie, deformácia

strain gauge pressure transducer Conductor arranged in a zigzag pattern on a membrane. It works like a Wheatstone bridge. The deformation of the membrane, e.g. by pressure or mechanical formation, can be measured by this device. It is appropriate to measure fast pressure pulsation in fuel pipes. [*1-43*] (*s. a. Wheatstone bridge*) **de** Dehnungsmessstreifen (Druckumwandler), der / **hu** nyúlásmérőbélyeges nyomásmérő / **sk** tenzometer

stratosphere Second atmospheric layer. It extends from 18–50 km over sea-level. [*1-68*] (*s. a. atmosphere, troposhere, mesosphere, planetary boundary layer*) **de** Stratosphäre, die / **hu** sztratoszféra / **sk** stratosféra

streamline flow s. laminar flow **de** laminare Strömung, die / **hu** lamináris áramlás / **sk** laminárne prúdenie

strike anywhere match Matches that can be lit when rubbed against any solid surface. The match head contains potassium chlorate and phosphorus sesquisulfide. As these matches are not safe, they have been widely replaced by safety matches. [*1-38*] (*s. a. match, permanent match*) **de** Reibungsstreichholz, das / **hu** dörzsgyufa / **sk** špeciálne zápalky, zápalky "strike anywhere"

strip mining Mining near the surface by removing the first soil layer. [*1-13*] **de** Tagebau, der / **hu** külfejtés, külszíni művelés / **sk** povrchové ťaženie

strontium nitrate $SrNO_3$; Soluble salt, used for green fire in pyrotechnics. [*1-12*] (*s. a. flash powder*) **de** Strontiumnitrat, das / **hu** stroncium-nitrát / **sk** dusičnan strontnatý

structural isomers s. isomers [*3-35, 1-24*] **de** Strukturisomere, die / **hu** vázizomer, szerkezeti izomer, struktúrizomer / **sk** štruktúrne izoméry

sub-bituminous coal s. coal **de** Fettkohle, die / **hu** szubbitumenes (kő)szén, fénytelen (barna)kőszén / **sk** subbitúmenové uhlie

submerged combustion burner Burner type where the flame burns below the surface of the fluid medium in a immersion pipe. [*1-29*] **de** Tauchbrenner, der / **sk** ponorený horák

sucker rod pumps (SRP) SRP / s. pump jack **de** Pferdekopfpumpe, die / **hu** rudazatos mélyszivattyú / **sk** SRP

Sudan 455 s. solvent yellow 124 **de** Sudan 455, das / **sk** Sudan 445

sulfate-induced hot corrosion s. high temperature corrosion

sulfation The crystallization of unsoluble lead sulfate in the plates of a lead acid battery. This reduces efficiency and capacity of the battery. [*1-74*] **de** Sulfatierung, die / **sk** sulfatácia

sulfinol process Process of removing H_2S, CO_2 and mercaptans from natural gas with a mixture of alkanolamine and sulfolane. [*111*] (*s. a. sulfolane, carbon dioxide, hydrogen disulfide, mercaptan*) **de** Sulfinolverfahren, das / **sk** proces sulfinol

sulfolane Solvent for extractive distillation of aromatic compounds. Also used for removing H_2S, CO_2 and mercaptans from natural gas (sulfinol process). [*1-11*] (*s. a. amine gas treating, carbon dioxide, hydrogen sulfide, mercaptan*) **de** Sulfolan, das / **sk** sulfolán

sulfur dioxide SO_2; Produced by the combustion of sulfur, which is contained in petroleum products. It is an environmental pollutant (acid rain) and can cause respiratory disease in people and corrosion in flue gas systems. [*1-37, 1-46*] (*s. a. global warming, petroleum*) **de** Schwefeldioxid, das / **hu** kén-dioxid / **sk** oxid siričitý

sulfur trioxide SO_3; Produced by the oxidation of SO_2 with aerial oxygen. It is a carcinogen. Breathing-in of SO_3 can cause a pulmonary edema due to the formation of sulphuric acid in the lung. [*1-37, 1-46*] (*s. a. sulfur dioxide*) **de** Schwefeltrioxid, das / **hu** kén-trioxid, kén(IV)-oxid / **sk** oxid sírový

sulfuric acid alkylation unit SAAU / Alkylation process unit using sulfuric acid as catalyst. [*1-59*] (*s. a. alkylation* (*oil refinery*)) **de** SAAU / **sk** jednotka alkylácie kyselinou sírovou

Sulige gas field Major natural gas field in China. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Sulige Gasfeld, das / **hu** sulige-i (föld) gázmező / **sk** Sulige-ložisko zemného plynu v Číne

sulphur Sulfur is a component of crude oil. It can cause corrosion and reduce the lifetime of catalyst. When being burt, it produces harmful SO_2. [*3-32*] (*s. a. SO_2, Claus process*) **de** Schwefel / **hu** kén / **sk** síra

sulphur emissions reduction protocol Protocol to the 1979 convention on long-range transboundary air pollution on the reduction of sulphur emissions or their transboundary fluxes. [*3-60*] (*s. a. environmental agreement*) **de** Luftreinhalteabkommen zur Verringerung der Emission von Schwefelverbindungen, das / **hu** kénkibocsátási-jegyzőkönyv, göteborgi jegyzőkönyv / **sk** protokol o znížení emisií zlúčenín síry

summer-smog s. photochemical smog **de** Sommer-Smog, der / **hu** oxidáló / Los Angeles-típusú / fotokémiai / **sk** füstköd/szmog letný smog

sundiesel s. biomass to liquid (s. a. biodiesel) **de** Biodiesel, der / **sk** sundiesel

sunfuel™ s. biomass to liquid **de** aus Biomasse dargestellte Treibstoffe, die

Super M-80 Pyrotechnic salute containing 6–10 g flash powder. In many countries illegal. (*s. a. flash powder*) **de** Böller, der / **sk** Super M-8

supercharger Air compressor used for forced-induction of combustion engines. [*1-23*] (*s. a. air inlet system*) **de** Aufladegebläse, das / **hu** (fel)töltőkompresszor, (túl)sűrítő / **sk** supercharger

supercritical water oxidation SCWO / s. hydrothermal flames **de** überkritische Nassoxidation, die / **hu** szuperkritikus víz/vizes oxidáció / **sk** xidácia v nadkritickej vode

supercruise The ability of supersonic flight of an aircraft without the use of afterburners. [1-76] (s. a. afterburner) **de** Supercruise, der / **sk** supercruise-schopnosť lietať nadzvukovou rýchlosťou bez prídavného spaľovania

super-d (fire fighting) s. sodium chloride (fire fighting) [1-71] (s. a. fire extinguisher) **de** Super-D, das / **sk** super-d

superheated steam Steam free from condensed water, heated higher than the corresponding boiling temperature at constant pressure. [*1-74*] (*s. a. steam*) **de** Heißdampf, der; überhitzer Dampf, der / **hu** túlhevített gőz / **sk** prehriata para

superheater Device in a steam engine or boiler to increase the efficiency. It heats the steam generated by the boiler again. This increases the thermal energy of the steam and decreases the likelihood of condense inside the engine/boiler. [*1-119*] **de** Überhitzer, der / **hu** túlhevítő / **sk** prehrievač

superionic conductor s. solid electrolyte **de** Ionenleiter, der / **sk** tuhý elektrolyt

super-K (fire fighting) s. potassium chloride (fire fighting) **de** SuperK, das

supersonic combustion ramjet s. scramjet **de** Staustrahltriebwerk, das / **hu** hangsebesség feletti torlósugár-hajtómű / **sk** náporová hnacia jednotka

surface combustion The combustion of a fuel gas/air mixture occurs on a porous surface. [*1-29*] **de** Oberflächenverbrennung, die / **hu** sugárzó égő / **sk** povrchové spaľovanie

surface combustion burner Hot plates used for wall installation in industrial furnaces. [*1-29*] **de** Strahlplattenbrenner, der / **hu** sugárzó égő / **sk** sálavý horák

surface tension A property of liquid surfaces from unbalanced molecular cohesive forces at or near the surface, as a result of which the surface appear to be covered by a thin elastic membrane. [*1-31*] **de** Oberflächenspannung, die / **sk** povrchové napätie

surrogate fuel To facilitate modelling of combustion processes, fuel surrogates are used. Diesel oil surrogates are n-decane and α-methylnaphthalene. **de** Ersatzbrennstoff, der / **sk** náhradné palivo

surrogate model Approximation model in engineering design. [*2-50*] **de** Surrogate-Modell, das / **sk** náhražkový model

sustainer Slow burning motor in rocketry. [*1-13*] **de** sustainer, der / **hu** hajtórakéta, utazórakéta

swash plate A circular plate mounted diagonally on a shaft. Used to translate the motion of a rotating shaft into reciprocating motion. [*1-74*] **de** Taumelscheibe, die

sweet crude oil Petroleum which contains less than 0.5% sulfur. [*363*] (*s. a. crude oil*) **de** schwefelarmes (Rohöl), das / **hu** kénszegény/édes/korrozívkénmentes nyersolaj/kőolaj / **sk** nízkosírnatá ropa

sweet gas Gas with a H_2S content lower than 1 grain per 100 SCF. [*2-40*] (*s. a. hydrogen sulfide*) **de** schwefelarmes Gas, das / **hu** édes gáz / **sk** plyn s nízkym obsahom síry

sweetening process s. amine gas treating **de** Entschwefelungsprozess, der / **hu** (füstgáz-)kéntelenítés / **sk** proces odstraňovania síry

swidden agriculture s. slash and burn **de** Brandrodungsackerbau, der / **sk** swidden poľnohospodárstvo, bezlesné p.

swirl chamber system The air enters in a tangential way a spherical or discoid chamber (located in the cylinder head) during compression stroke and produces a swirl. [*1-34*] (*s. a. indirect injection*) **de** Wirbelkammereinspritzung, die / **sk** vírivé vstrekovanie

SY124 s. solvent yellow 124 **de** SY 124, das / **sk** SY124

synfuel™ Liquid fuel produced by gas to liquid process. It can replace diesel fuels. [*1-21*] (*s. a. syngas, Fischer Tropsch, gas to liquid*) **de** synthetisch hergestellter Treibstoff, der / **sk** synteticky vyrobené pohonné hmoty

syngas™ Is produced by a process of pyrolysis, combustion, and gasification. The combustion of syngas is more efficient than direct combustion of the raw biofuel. [*3-15, 1-21*] (*s. a. first generation biofuels*) **de** synthetisch hergestelltes Gas zur Verbrennung, das / **sk** synteticky vyrobený plyn

synthetic fuel s. synfuel **de** synthetisch hergestellter Treibstoff, der / **hu** szintetikus üzemanyag / **sk** syntetické palivo

synthetic oil An oil synthetisized from other compounds than crude oil. Synthetic oil could be made to be a substitute for petroleum and lubricants. **de** synthetisch hergestelltes Öl, das / **hu** szintetikus olaj / **sk** synteticky vyrobený olej

T10 Yellow LBN s. solvent yellow 124 **de** T10 Yellow, das / **sk** T1 Yellow LBN

Tafel equation Electrochemical equation that describes the relationship between exchange current and voltage drop in a fuel cell. [*131*] (*s. a. Butler Volmer equation*) **de** Tafel-Gleichung, die / **sk** Tafelova rovnica

tail gas Residual gas from the Claus process. [*2-40*] (*s. a. Claus process, tail gas treating unit*) **de** Restgas, das / **hu** véggáz, maradékgáz, kiseprő gáz / **sk** zvyškový plyn

tail gas treating unit (TGTU) TGTU / Device to recycle residual sulfur-containing compounds from the tail gas back into the Claus process. [*2-40*] (*s. a. Claus process, tail gas*) **de** Restgasaufbereitungsanlage, die / **sk** jednotka pre spracovanie zvyškového plynu

tail-end-SCR DeNOx process (SCR) takes place after the flue gas desulphurization. It is possibly needed to preheat the gas to reach the needed temperature for the catalytic reaction. (*s. a. DeNOx, selective catalytic reduction, TurboNOx*) **de** Selektive katalytische Reduktion, die / **hu** kénleválasztó utáni SCR (szelektív katalitikus redukáló berendezés) / **sk** SCR po odsírení plynu

talc powder Metal fire extinguishing agent used to control rather than extinguish fire. It can react with burning magnesium and act as an oxygen source. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** Talk-Pulver, das; Talkum / **sk** mastencový prášok

tangential burner Burner for gaseous fuels where the flame is directed in a tangential way into the combustion chamber. [*1-29*] **de** Tangentialbrenner, der / **hu** sarokégő / **sk** tangenciálny horák

tapered element oscillating microbalance TEOM / An instrument for monitoring of ambient aerosol fine mass concentration. The detector consists of a tapered tube with an exchangeable filter cartridge at the narrow end. Air is drawn through the filter cartridge and the particulates deposit on the filter cartridge. As the tapered tube is kept in continuous oscillation, the frequency changes in relation to the mass loaded on the cartridge. [*2-60*] **de** TEOM-Verfahren, das / **sk** TEOM

tar A dark, viscous material. It consists mainly of hydrocarbons and is produced by the destructive distillation of organic substances. **de** Teer, der / **hu** kátrány / **sk** decht

tar sands Large oil reservoirs in a mixture of crude bitumen/heavy crude oil, silica sand, clay minerals and water. Syn.: oil sands, bituminous sands [*1-57*] (*s. a. heavy crude oil, light crude oil, oil sands*) **de** Teersande, die; Ölsande, die / **hu** kátrányhomok / **sk** dechtové piesky

tasmanite Oil shale (marine type) found in Tasmania. [*2-35*] (*s. a. oil shale*) **de** Tasmanit / **hu** tasmanit / **sk** tamanit

tautomers s. isomeres [*3-35, 1-24*] **de** Tautomere, die / **hu** tautomer / **sk** tautoméry

Taylor Wave Self-similar flow following a persistently propagating detonation. (*s. a. detonation*) **de** Taylor-welle, die / **sk** Taylor-ova vlna

TEC powder Metal fire extinguishing agent. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** TEC Pulver, das / **sk** TEC prášok

Teclu burner s. Bunsen burner **de** Teclu-Brenner, der / **hu** Teclu-égő / **sk** Teclu horák

teleheating s. district heating **de** Fernwärme, die / **hu** távfűtés, távhő / **sk** centrálne zásobovanie teplom

temperature measurement of gases The gas temperature can be measured by a temperature probe (thermocouple) or by laser spectroscopy in a non-intrusive manner. To this end, Tunable diode laser absorption spectroscopy and laser-induced fluorescence, Rayleigh scattering, Raman scattering and pyrometry can be used. [*1-96, 1-43, 2-26*] (*s. a. 2 line thermometry*) **de** Temperaturmessung von Gasen, die / **hu** gázhőmérséklet-mérés / **sk** meranie teploty plynov

temperature scale Arbitrary classification of the scale of temperature. In science and engineering, usually Kelvin is used as temperature scale. Also often used are Celsius, Fahrenheit and Rankine. (*s. a. Delisle-scale, Kelvin-scale, Fahrenheit-scale, Rankine-scale, Newton-scale, Réaumur-scale, Rømer-scale*) **de** Temperaturskala, die / **hu** hőmérsékleti skála / **sk** teplotná stupnica

tera T / SI-prefix, factor 10^{12}. [3-38] **de** tera

terbium Rare earth metal, used as a crystal stabilizer of fuel cells. (*s. a. fuel cell*) **de** Terbium, das

terminal block s. thermocouple terminal block **de** Terminal Block, der / **hu** sor(ozat)kapocs / **sk** svorkovnica

ternary eutectic chloride s. TEC powder **de** TEC-Pulver, das / **sk** ternárne eutektikum chloridu

tertiary amyl ethyl ether TAEE / Common oxygenate for fuels. [*3-32*] **de** TAEE, der / **hu** tercier-amil-etil-éter, TAEE / **sk** terciárny amyl(etyl)éter

tertiary amyl methyl ether TAME / Common oxygenate for fuels. [*3-32*] **de** TAME, der / **hu** tercier-amil-metil-éter, TAME / **sk** terciárny amyl(metyl)éter

tertiary hexyl methyl ether THEME / Common oxygenate for fuels. [*3-32*] **de** THEME, der / **hu** tercier-hexil-metil-éter, THEME / **sk** terciárny hexyl(metyl)éter

Tetra-ethyl lead Gasoline additive to increase the fuel's octane rating. In most countries of the world tetra-ethyl-lead is no longer used. [3-32] **de** Tetratethylblei, das / **hu** ólom-tetraetil / **sk** tetraetylolovo

tetraethylene glycol HO-CH_2-CH_2(-O-CH_2-CH_2)$_3$-OH TREG / Dihydroxy alcohol. Due to it's hygroscopic properties it is used to dehumidify fluids (e.g. natural gas). [*1-24*] (*s. a. natural gas, glycol dehydration*) **de** Tetraethylenglycol, das / **hu** tetraetilén-glikol / **sk** tetraetylénglykol

tetrahydrothiophene Organic compound used as odorant in natural gas. It is perceivable in concentrations from 0.001 ppm and it is not corrosive. **de** Tetrahydrothiophen, das / **hu** tetrahidrotiofén / **sk** tetrahydrotiofén

tetranitromethane $C(NO_2)_4$; Fuel additive used to increase the cetane number of a diesel fuel. [*3-32*] **de** Tetranitromethan, das / **sk** tetranitro-metán

tetrazene $C_2H_8N_{10}O$; Powerful explosive used as priming charge and explosive-type rivet. [*1-12*] (*s. a. primary explosive*) **de** Tetrazen, das / **hu** tetrazén / **sk** tetrazén

tetryl $C_7H_7N_5O_8$; Powerful explosive used as priming charge and as filling for torpedos and artillery shells. [*1-12*] (*s. a. primary explosive*) **de** Tetryl, das / **hu** tetril / **sk** tetryl

texaco process Coal gasification process. [*2-40*] (*s. a. coal, coal gasification*) **de** Texaco Prozess, der / **hu** Texaco-eljárás proces / **sk** Texaco

TG-02 s. Tonka **de** Tonka, der / **sk** TG-2

Thamama Condensate Crude oil product with an API gravity of 58.4° and a sulphur content of 0.1%. The field is located in Abu Dhabi. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Thamama Condensate (Rohöl), das / **hu** Thamama (Condensate) olaj / **sk** Thamama Condensate-ropný produkt

The Great Smog Historic smog catastrophe in London from December 5–9 1952, due to extreme meteorological conditions and massive air pollution. The visibility was sometimes lower than 30cm. Thousands of people died from respiratory diseases. [*1-47*] (*s. a. photochemical smog, winter-smog, smog*) **de** Smog-Katastrophe, die / **hu** levegőszennyezési katasztrófa füstköd/szmog miatt / **sk** The Great Smog, smogová katastrófa v Londýne

thermal accomodation coefficient The ratio of the average energy transferred between a surface and colliding gas molecules, to the average energy which would theoretically be transferred if the gas molecules reached complete thermal equilibrium with the surface. [*1-75*] **de** thermaler Akkomodationskoeffizient, der / **sk** tepelný akomodačný koeficient

thermal conductivity The ability of a substance to conduct heat. [*131*] **de** Wärmeleitfähigkeit, die / **hu** hővezető képesség / **sk** tepelná vodivosť

thermal cracking Similar to the visbreaking process but without a soaker. [*1-59*] (*s. a. visbreaking, fluid catalytic cracking*) **de** Thermisches Cracken, das / **hu** hőbontás, termikus krakkolás, termikus bontás / **sk** tepelné krakovanie

thermal depolymerization TDP / Decomposition of complex organic materials (biomass) into light crude oil. [*2-36*] (*s. a. biofuels*) **de** Thermische Depolymerisation, die / **hu** termikus depolimerizáció / **sk** tepelná depolymerizácia

thermal diffusivity The ratio of thermal conductivity to volumetric heat capacity. [*1-2*] **de** thermische Diffusivität, die / **hu** hőmérsékletvezető képesség, hődiffúziós együttható / **sk** teplotová vodivosť

thermal efficiency Engine parameter. Percentage of heat energy that is transformed into work or heat. The value is always below 100%. [*1-34*] (*s. a. engine efficiency*) **de** thermischer Wirkungsgrad, der / **hu** termikus hatásfok / **sk** tepelná účinnosť

thermal NO_x NO_x formed at high temperatures from N_2 (from combustion air). The necessary oxygen also comes from the combustion air. The mechanism scheme is called extended Zeldovich mechanism. There are three principal reaction steps:
$N_2 + O^* = NO + N^*$; $N^* + O_2 = NO^* + O^*$; $N^* + {}^*OH = NO^* + H^*$

[*1-2, 3-16*] (*s. a. Zeldovich mechanism, fuel NO_x, prompt NO_x, feed NO_x*) **de** thermisches NO_x, das / **hu** termikus NO_x / **sk** termické NO_x

thermal partial oxidation TPOX / Partial combustion of a substoichiometric fuel-air mixture in a reformer, which is dependent on the air-fuel ratio (above 1200°C) creating a hydrogen-rich syngas. [*1-122*] (*s. a. catalytic partial oxidation, syngas*) **de** thermisch-partielle Oxidation, die / **sk** tepelná parciálna oxidácia

thermal radiation Radiation emitted from the surface of an object because of its temperature. The higher the temperature, the shorter the wavelength. At room temperature a black body emits infrared light. With increasing temperature the emitted light turns to red, orange, yellow and so on. [*1-2*] (*s. a. blackbody, Planck's law*) **de** thermische Strahlung, die / **hu** hősugárzás / **sk** tepelné žiarenie

thermal runaway Occurs when an increase in temperature changes the conditions of a system so that a further increase in temperature occurs. E.g. a chemical process by which an exothermic reaction gets out of control. [*1-74*] **de** thermisches Durchgehen, das / **sk** tepelný prechod

thermal shunting All sensors placed in contact to a medium (which temperature should be measured) are absorbing a small amount thermally energy and thereby altering the temperature. [*1-54*] **de** Wärmenebenschluß, der / **sk** tepelné premostenie

thermally sensitive resistor s. thermistor **de** Thermistor, der / **hu** hőellenállás, termisztor, hőérzékeny/hőfokfüggő ellenállás / **sk** tepelne citlivý rezistor

thermate TH3 Variation of thermite, used in military applications. [*167*] (*s. a. Barium salts*) **de** Thermat, das / **hu** termát / **sk** termát

thermistor Thermally sensitive resistor. Two types are available, negative temperature coefficient thermistors (NTC) and positive temperature coefficient thermistors (PTC). [*1-54*] (*s. a. negative temperature coefficient thermistor, positive temperature coefficient thermistor*) **de** Thermistor, der / **hu** hőellenállás, termisztor, hőérzékeny/hőfokfüggő ellenállás / **sk** termistor

thermite Mixture of aluminum powder and a metal oxide. It produces an aluminothermic reaction. Not classified as an explosive. (*s. a. flash powder, Sprengel explosives*) **de** Thermit, das / **hu** termit / **sk** termit

thermocouple Temperature sensor based on the Seebeck effect (thermal gradient of two wires generates a voltage). [*1-54*] (*s. a. base metal thermocouple, noble metall thermocouple, type E, J, K, N, T, R, S, B, C, D, G thermocouples*) **de** Thermoelement, das / **hu** hőelem, termoelem / **sk** termočlánok

thermocouple element Two wires of different metals/alloys. [1-54] **de** Thermoelement, das / **hu** hőelem, termoelem / **sk** termočlánok

thermocouple exposed junction Unprotected thermocouple wires, fastest responding [*1-54*] **de** freiliegende Thermoelementmessstelle, die / **hu** szabadon álló hőelem/termoelem / **sk** nechránený spoj termočlánku

thermocouple extension Extension wire, compatible to the extension element. [*1-54*] **de** Erweiterungsstück für Thermoelemente, das / **hu** hőelem huzal, termoelemhuzal / **sk** predĺženie termočlánku

thermocouple grounded junction Thermocouple wires completeley enclosed with the sheath, medium response time. [*1-54*] **de** geerdete Thermoelementverbindung, die / **hu** földelt hőelem/termoelem / **sk** uzemnený termočlánkok

thermocouple sheath Tube (metal or other materials) to protect the thermocouple element from environment. [*1-54*] **de** Thermoelementabschirmung, die / **hu** védőcső, védőhüvely (hőelemé) / **sk** plášťový termočlánok

thermocouple terminal block Connector assembly to connect the thermocouple element to the measuring instrument. [*1-54*] **de** Terminal Block, der / **hu** sor(ozat)kapocs (hőelemé) / **sk** svorkovnica termočlánku

thermocouple ungrounded junction Thermocouple wires completely enclosed and electrically insolated to the sheath, slow response time. [*1-54*] **de** nicht-geerdete Thermoelementverbindung, die / **hu** földeletlen hőelem / **sk** neuzemnený termočlánok

thermodynamic cycle Sequence of thermodynamic processes transferring heat and work, while varying pressure, temperature, and other state variables. [*1-31*] (*s. a. idealized cycle, standard cycle, Carnot cycle*) **de** thermodynamischer Kreisprozess, der / **hu** (termodinamikai) körfolyamat/ciklus / **sk** termodynamický cyklus

thermodynamic cycle A series of thermodynamic processes transferring heat and work, while varying pressure, temperature, and other state variables, eventually returning a system to its initial state. **de** thermodynamischer Kreisprozess, der; Kreisprozess, der

thermoelectricity Electricity generated by a heat flow, e.g. in a thermocouple. [*1-31*] **de** Thermoelektrizität, die / **hu** hőelektromos/ termoelektromos hatás, hőelektromosság / **sk** termoelektrina

thermoelectromotive force s. electromotive force **de** thermoelektromotorische Kraft, die / **hu** hőelektromos/termoelektromos erő / **sk** termoelektromotorická sila

thermojet s. motorjet **de** Motorstrahltriebwerk, das / **sk** prúdový, reaktívny motor

thermolysis Dissociation or decomposition of substances by heat. **de** Thermolyse, die / **hu** termolízis, termikus disszociáció, hődisszociáció / **sk** termolýza

thermoplastic elastomer TPE / A mix of polymers which consist of materials with thermoplastic and elastomeric properties. **de** thermoplatisches Elastomer, das / **sk** termoplastický elastomér

thermostability Property of materials to resist irreversible change in chemical or physical structure at high temperatures. **de** Thermostabilität, die / **sk** termostabilita

Thiele modulus φ / Dimensionless numer used in chemical macrokinetics. Especially used to describe pore diffusion on catalyts. [*1-131*] **de** Thiele-Modul, der / **sk** Thiele-ov modul

third Damköhler number Da_{III} A dimensionless number that is used to estimate operating conditions of polytropic processes. It describes the pore diffusion on surfaces. [*1-2, 1-19*] (*s. a. first Damköhler number, second Damköhler number, fourth Damköhler number, turbulent Damköhler number, polytropic*) **de** Damköhler Zahl dritter Ordnung, die / **hu** harmadik Damköhler-szám / **sk** Damköhler-ovo číslo tretieho poriadku

third generation biofuels Biofuel made of algae. It can produce much more energy per acreage than land crops. Algae are easy to grow and have high yields but algae oil is difficult to extract. [*3-15, 1-21*] **de** Biotreibstoffe der dritten Generation, die / **hu** harmadik generációs bio-üzemanyagok / **sk** biopalivá tretej generácie

third law of thermodynamics It is impossible to reach the absolute zero of temperature (0 K). [*1-31*] **de** dritter HS der Thermodynamik, der / **hu** a termodinamika harmadik főtétele, harmadik főtétel / **sk** tretí zákon termodynamiky

Thomson effect s. Joule Thompson effect **de** Thomson Effekt, der / **hu** Thomson-hatás/effektus / **sk** Thomson-ov efekt

three-body-collision reaction If the sum of reaction and kinetic energy of the colliding atoms (A + B) is enough for a collision-induced dissociation, a third molecule (M) is needed to carry the excess energy away. A + B + M = AB + M [*1-1*] **de** Reaktion mit Stoßpartner, die; trimolekulare Reaktion, die / **sk** trimolekulárna reakcia

three-way catalytic converter A device to reduce the toxicity of emissions from a gasoline combustion engine. Three reaction types are running simultaneously: Reduction of NO_x to N_2 and O_2. Oxidation of CO to CO_2. Oxidation of unburnt hydrocarbons to CO_2 and H_2O. [*1-2*] **de** Dreiwegekatalysator, der / **hu** háromutas katalizátor / **sk** trojcestný katalyzátor

three-wire bridge configuration Standard Wheatstone bridge configuration for resistive temperature detectors. [*1-54*] (*s. a. resistive temperature detectors*) **de** Dreidrahtkonfiguration, die / **hu** Wheatstone-híd / **sk** Whetaston-ov mostík

throttle A valve that regulates e.g. the supply of fuel or air of an engine. [*1-74*] **de** Drosselklappe, die / **hu** fojtás / **sk** regulátor

throttle butterfly s. butterfly control valve [*1-29*] **de** Drosselklappe, die / **sk** škrtiaca klapka

throttle orifice s. throttling type valve [*1-29*] **de** Drosselklappe, die

throttling type valve Valve for regulating the flow pressure of a fluid. [*1-29*] **de** Drosselventil, das

thrust cut-off s. end of burning [*1-12*] **de** Brennschluss, der

tinder Easily combustible material used to ignite fires, e.g. shaved alkaline earth metals or dry leaves or grass. [*1-75*] **de** Zunder, der / **sk** kresadlo

tire derived fuel TDF / Fuel made of shredded tires. Sometimes mixed with coal or other fuels such as wood. Used to be burned in concrete kilns, power plants, or paper mills. [*1-131*] (*s. a. refuse derived fuel*) **de** Brennstoff aus alten Reifen, der / **sk** palivo zo starých pneumatík

titania sensor Lambda sensor based on the changes in electrical resistance of a ceramic element. [*1-43*] (*s. a. lambda sensor*) **de** Widerstandssonde, die / **hu** titán(-oxid) lambda szonda / **sk** odporová sonda

TMB liquid Metal fire extinguishing agent. Primarily on magnesium fires, also on zirconium and titanium fires. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** TMB-Löschmittel, das / **sk** TMB kvapalina

toe to heel air injection (THAI™) New method that combines a vertical air injection well with a horizontal production well. [*1-65*] **de** THAI™-Methode / **sk** THAI metóda

toluene (C_6H_5-CH_3); Aromatic hydrocarbon, occurs naturally in crude oil. It is produced in processes such as catalytic reforming, ethylene cracking or coke-making. Toluene as gasoline additive can be used as octane booster. [*3-32, 3-35, 1-24*] / **hu** toluol, metil-benzol / **sk** toluén

tomographic combustion analysis system (TCA) TCA / Device to measure the flame propagation via fiber optic probes which are embedded in a head gasket. [*1-43*] **de** tomographisches Verbrennungsanalysesystem, das / **sk** TCA systém

Tonka A mixture of triethylamine, xylidine and nitric acid (oxidizer) used as rocket propellant. Syn.: R-Stoff, TG-02. [*1-66*] (*s. a. rocket propellant, xylidine*) **de** Tonka, der / **sk** Tonka

top dead center TDC / The uppermost position of the piston in a combustion chamber of an internal combustion engine. TDC is also called "0° CA" with CA standing for crank angle (*s. a. crank angle*) **de** oberer Totpunkt, der / **sk** horná hranica smrti

torbanite Oil shale found in Scotland. [*2-35*] (*s. a. oil shale*) **de** Torbanit, der / **hu** torbanit / **sk** torbanit

Torr Torr / Unit of pressure.133.322 Pa **de** Torr, das

total aromatics Aromatics are important components of crude oil. They can also be produced by refining processes. Common aromatics are benzene, toluene and xylene. Aromatic compounds have a high octane rating. The amount of total aromatics is regulated in many countries due to public health and air quality benefits. [*3-32*] **de** Gesamtgehalt an Aromaten, der / **sk** celkové aromáty

total energy unit s. block heat and power plant **de** Gesamtenergiedichte, die / **sk** celková energetická jednotka

Total Organic Gases (TOG) TOG / s. volatile organic compounds **de** Gesamtgehalt an organischen Gasen, der / **sk** celkové organické plyny

total radiation thermometer Pyrometer that is sensitive to almost the whole radiation spectrum. In practice, the spectral range is limited by the detector or the transmissivity of the detector windows. [*1-43*] (*s. a. radiation thermometry, Planck's law, two-color method, broad band radiation thermometer, narrow band radiation thermometer*) **de** Gesamtstrahlungspyrometer, das / **hu** ésszsugárzású/ összsugárzásmérő/ összsugárzó pirométer / **sk** radiačný pyrometer

total sulphur (natural gas) Similar to the mercaptan content specification. Sulphur compounds can also act as catalyst poison. [*2-40*] (*s. a. natural gas, hydrogen sulfide, mercaptans, sweet gas, sour gas*) **de** Schwefelgehalt, der / **hu** (össz)kéntartalom / **sk** celková síra

total toxicity The sum of the score of acute toxicity, irritation, exposure effects, mutagenicity, and reproductive toxicity. [*1-100*] **de** Gesamttoxizität, die / **sk** celková toxicita

Total Volatile Organic Compounds TVOC / s. volatile organic compounds **de** Gesamtgehalt an flüchtigen organischen Verbindungen, der / **sk** celkový obsah prchavých látok

town gas s. water gas **de** Stadtgas, das / **hu** városi gáz / **sk** svietiplyn

tracer s. Laser Doppler anemometry [*B7*] **de** Tracer, der / **sk** charakterograf

tracer particles s. Laser Doppler anemometry **de** Tracerpartikel, die / **hu** nyomjelző szemcsék / **sk** stopovač častíc

tracers Substances used to gauge the fluid flow through a reservoir. **de** Tracersubstanzen, die / **hu** nyomjelzők, nyomozó ágensek / **sk** indikátor

tractor vaporising oil TVO / Obsolete fuel made from kerosene. Used for internal combustion engines. Also known as power kerosene. **de** TVO, das / **sk** TVO

transesterification Chemical reaction of interchanging of ester groups with an alcohol. It can be used to make biodiesel from vegetable oils. **de** Umesterung, die / **hu** átészterezés / **sk** transesterifikácia

transesterification Conversion of an organic acid ester into another ester (of that same acid). **de** Umesterung, die / **hu** átészterezés / **sk** transesterifikácia

transit time The time required for an electron to move between two electrodes in an electron tube. [*1-44*] **de** Laufzeit, die / **sk** doba preletu

transmission electron micrograph, transmission electron microscopy TEM / An electron microscope in which the specimen transmits an electron beam. The image contrast is formed by the scattering of electrons out of the beam. **de** Transmissionselektronenmikroskopie, die / **sk** transmisný elektrónový mikrograf

transmissivity The ratio of the transmitted radiation to the radiation arriving vertical to the boundary between two mediums. **de** Durchlassvermögen, das / **hu** áteresztőképesség / **sk** transmisia

transmittance The part of light at a specified wavelength that passes through a sample. [*1-31*] **de** Transmission, die / **hu** áteresztőképesség / **sk** transmitancia, prenos, priepustnosť

Trauzl-block s. lead block test **de** Trauzl-Bolck, der / **sk** Trauzl-ov test

treechipper s. woodchipper **de** Holzschreddermaschine, die

tributylamine $N(CH_3)_3$; s. antioxidants **de** Tributylamin, das / **hu** tributil-amin / **sk** tributylamín

tri-class s. ammonium phosphate **de** Ammoniumphosphatlöschmittel, das / **sk** hasiaci prostriedok na báze amoniumfosfátu

tricresylphosphate Lead scavenger, added to leaded gasoline to avoid deposits of lead inside the engine (obsolete). [*3-32*] **de** Trikresylphosphat, das / **hu** trikrezil-foszfát / **sk** trikrezylfosfát

triethylborane Pyrophoric liquid. It burns with an apple-green, very hot flame. [3-45, 3-46] (s. a. pyrophoricity) de Triethylboran, das / **hu** trietil-borán / **sk** trietylborán

triethylene glycol TEG / $HO\text{-}CH_2\text{-}CH_2(\text{-}O\text{-}CH_2\text{-}CH_0)_2\text{-}OH$; Dihydroxy alcohol; Due to it's hygroscopic properties it is used to de humidify fluids (e.g. natural gas). [*1-24*] (*s. a. glycol dehydration*) **de** Triethylenglykol, das / **hu** trietilén-glikol / **sk** trietylénglykol

triethylenetetramine s. antioxidants, s. bromine number **de** Triethylentetraamin, das / **hu** trietilén-tetramin / **sk** trietylén-tetraamín

triglycol s. triethlylene glycol **de** Triethylenglykol, das / **hu** trietilénglikol / **sk** trietylénglykol

trimethoxyboroxine s. TMB liquid **de** TMB-Löschmittel, das / **hu** trimetoxi-boroxin / **sk** trimetoxyboroxin

trinitrotoluene TNT / $C_7H_5N_3O_8$; Powerful explosive used as commercial explosive, as additive for gunpowders and as filling for torpedos, mines and artillery shells. Syn.: trotyl. [*1-12*] (*s. a. gunpowder, secondary explosive*) **de** Trinitrotoluol, das; TNT, das / **hu** trinitro-toluol, TNT, trotil / **sk** TNT,1,3,5-trinitrotoluén

triple point The pressure and temperature at which three phases (e.g. gas, liquid, and solid) of a substance can coexist. [*1-44*] (*s. a. Celsius-scale, Kelvin-scale*) **de** Tripelpunkt, der / **hu** hármaspont / **sk** trojný bod

triple-base powder s. smokeless powder **de** dreibasiges Schießpulver, das / **sk** bezdymový pušný prach, trojzložkový pušný prach

tripropellant Bipropellant systems with adding a third component, like metal powders to increase the specific impulse. [*3-10, 3-11*] (*s. a. hydrazine, liquid fuel rockets, monopropellant, bipropellant, hypergole*) **de** Triergole, die / **sk** tripropellant

Troll A platform Actually the world's biggest offshore natural gas platform. (*s. a. oil platform*) **de** Sea Troll, die / **hu** Troll A (föld) gázmező / **sk** Troll A platforma

troposphere The atmospheric layer closest to the earth's surface. It extends from 0-18 km over sea-level. [*1-68*] (*s. a. atmosphere, stratosphere, mesosphere, planetary boundary layer*) **de** Troposphäre, die / **hu** troposzféra / **sk** troposféra

tropospheric ozone Air pollutant formed by reactions of nitrogen oxides, carbon monoxide and volatile organic compounds in the presence of sunlight. It causes irritations of the respiratory system. Studies found a significant association between ozone and premature death. [*1-47*] (*s. a. smog, photochemical smog, peroxyacetylnitrate production, ozone production*) **de** troposphärisches Ozon, das / **hu** troposzféraózon, troposzferikus ózon / **sk** troposférický ozón

trotyl s. trinitrotoluene **de** Trotyl, das; TNT, das / **hu** traotil / **sk** 2,4,6trinitrotoluén

TS-1 fuel Jet fuel sometimes used in Eastern Europe for civil aviation. The freezing point is -60° C. [*3-48, 3-49*] **de** TS-1, das / **sk** TS-1 palivo

t-stoff Ammonia stabilized hydrogen peroxide used as oxidizer in rocket bipropellants. [*1-12, 1-66*] (*s. a. rocket propellants*) **de** Aurol, das / **sk** t-látka

Tsuji-burner Simple non-premixed burner. [*1-2*] **de** Tsuji Brenner, der / **sk** Tsuji horák

tungsten Chemical element with the highest melting point of all pure metals. Used for light bulbs, X-ray tubes, alloys and for thermocouples. **de** Wolfram, das / **hu** wolfrám / **sk** wolfrám

tunnel burner Injector burner where the fuel gas/air mixture is burnt in a cylindrical firing channel. [*1-29*] **de** Tunnelbrenner, der / **sk** tunelový horák

turbocharger Air compressor used for forced-induction of combustion engines. [*1-23*] (*s. a. air inlet system*) **de** Turbolader, der / **hu** turbófeltöltő, turbó-töltőkompresszor / **sk** turbocharger, turbodúchadlo

turbodiesel Diesel engine with a turbocharger. [*1-23*] **de** Turbodiesel, der / **hu** turbódízel / **sk** turbodízel

turbofan Ducted-fan turbine engine. A part of the air flow bypasses the engine core and is accelerated by a fan. The thrust is produced from the fan and the core exhaust. [*1-77*] (*s. a. jet engine*) **de** Zweistrom-Strahltriebwerk, das / **hu** turbóventilátoros hajtómű / **sk** dvojprúdový motor

turbojet Simple type of a jet engine consisting of an air compressor, a combustion chamber, a gas turbine and a nozzle. [*1-77*] (*s. a. jet engine*) **de** Strahlturbine, die / **hu** gázturbinás sugárhajtómű, sugárturbina / **sk** turboreaktívny motor, t. lietadlo

TurboNOx DeNOx process. A turbine compress the flue gas to reach the needed temperature, afterwards the compression temperature can be get back by gas expansion. [*1-2*] **de** Turbo-NOx, das / **sk** TurboNOx

turbulence Fuid flow characterized by chaotic property changes such as rapid variation of pressure and velocity. [*1-75*] **de** Turbulenz, die / **hu** turbulencia / **sk** turbulencia

turbulence length scale s. Kolmogorov microscales **de** Kolmogorov-Mikroskala, die

turbulence Reynolds number ReT / Syn: turbulent Reynolds number **de** turbulente Reynolds-Zahl, die / **sk** turbulentné Reynolds-ovo číslo

turbulent Damköhler number Da_t Is the ratio of the macroscopic timescale of turbulent flow and the timescale of chemical reaction. [*1-2, 1-19*] (*s. a. first Damköhler number, second Damköhler number, third Damköhler number, fourth Damköhler number*) **de** turbulente Damköhler-Zahl, die / **hu** turbulens Damköhler-szám / **sk** turbulentné Damköhler-ovo číslo

turbulent flame s. turbulent flow [*1-2*] (*s. a. turbulent premixed flame, turbulent non-premixed flame*) **de** turbulente Flamme, die / **hu** turbulens láng / **sk** turbulentý plameň

turbulent flow Fluid flow that is characterized by stochastic property changes. In pipes, a flow above a Reynolds number of 2300 is turbulent. (*s. a. laminar flow, Reynolds number*) **de** furbulente Strömung, die / **hu** turbulens áramlás / **sk** turbulentné prúdenie

turbulent premixed flame A turbulent premixed flames is encountered e.g. in the Otto engine. Theoretically modeled using the flamelet concept. [*1-2*] **de** turbulente vorgemischte Flamme, die / **hu** turbulens előkevert láng / **sk** turbulentný predzmiešaný plameň

turndown Refers to turning down the operational level (e.g. diminish speed, volume, intensity, or flow). [1-116] **de** Teillastbetrieb, der

twister supersonic separator Device used to remove water and/ or from natural gas. [*2-40*] (*s. a. pressure swing adsorption, glycol dehydration*) **de** Ultraschallabscheider, der / **sk** ultrazvukový odlučovač

two dimensional fuel distribution by PLIF System used to measure concentration and temperature in combustion processes. As light source often a pulsed Nd:YAG laser is used, the fluorescence light is detected by a CCD or CMOS camera. [*1-43*] (*s. a. concentration measurement of gas species*) **de** 2D-Treibstoffverteilungsbestimmung mittels PLIF, die / **sk** dvojrozmerné rozdelenie paliva pomocou PLIF

two dimensional flame Two-dimensional implies that any two vertical slices of the flame would be identical. [*1-2*] **de** zweidimensionale Flamme, die / **sk** dvojrozmerný plameň

two line atomic fluorescence thermometry TLAF / The fluorescence signal by the emission to a lower electronic state is detected. In this method a lower laser power (then for molecular fluorescence thermometry) can be used. [*1-43*] (*s. a. fluorescence thermometry, two line molecular fluorescence thermometry*) **de** Zweilinien-fluoreszenz-Thermometrie, die / **sk** TLAF

two line fluorescence thermometry TLF / The method is based on the temperature dependence of the fluorescence signal. Two fluorescence signals where produced by a pair of excitation wavelengths. [*1-43*] (*s. a. fluorescence thermometry, two line molecular fluorescence thermometry, two line atomic fluorescence thermometry*) **de** Zweilinien-fluoreszenz-Thermometrie, die

two line molecular fluorescence thermometry (TLMF) TLMF / Fluorescence thermometry where the temperature is calculated from the measured populations of two states via the Boltzmann expression. [*1-43*] (*s. a. fluorescence thermometry, two line atomic fluorescence thermometry*) **de** Zweilinien-fluoreszenz-Thermometrie, die / **sk** TLMF

two stroke principle Engine cycle completed in two piston strokes. [*1-34*] (*s. a. Diesel cycle, Otto cycle*) **de** Zweitaktverfahren, das / **hu** kétütemű működés(i elv) / **sk** dvojtakt

two-color method Temperature measure method. The temperature can be determined by measuring the ration of the thermal radiantion at two wavelengths. [*1-43*] (*s. a. radiation thermometry, Planck's law, broad band radiation thermometer, narrow band radiation thermometer*) **de** 2-Farben-Pyrometer, das / **hu** kétszínes pirométer / **sk** dvojfarebná metóda

two-dimensional flame imaging s. Mie scattering method **de** 2D-Streuungsmethode

two-dimensional thermometry s. fluorescence thermometry **de** Fluoreszenzthermometrie, die

two-stage ignition Associated with a fuel that shows two heat release peaks (cool flameand main heat release) during ignition and exhibits significant low-temperature chemistry, e.g. n-heptane. [*1-1*] (*s. a. HCCI*) **de** Zweistufenzündung, die / **sk** dvojstupňové zapaľovanie

type B thermocouple Noble metal thermocouple, suitable up to 1700°C. Not suitable for low temperatures. [*1-54*] (*s. a. thermocouple, noble metal thermocouple*) **de** Typ B Thermoelement, das / **hu** B típusú hőelem / **sk** termočlánok typu B

type C thermocouple Special type of thermocouple for high temperatures up to 2315°C. This type of thermocouple must be used in inert atmospheres. [*1-54*] (*s. a. thermocouple*) **de** Typ C Thermoelement, das / **hu** C típusú hőelem / **sk** termočlánok typu C

type D thermocouple Special type of thermocouple similar to type C. [*1-54*] (*s. a. thermocouple*) **de** Typ D Thermoelement, das / **hu** D típusú hőelem / **sk** termočlánok typu D

type E thermocouple Base metal thermocouple with the highest ouput in this group, suitable for -200–871°C. [*1-54*] (*s. a. thermocouple, base metal thermocouple*) **de** Typ E Thermoelement, das / **hu** E típusú hőelem / **sk** termočlánok typu E

type G thermocouple Special type of thermocouple similar to type C. [*1-54*] (*s. a. thermocouple*) **de** Typ G Thermoelement, das / **hu** G típusú hőelem / **sk** termočlánok typu G

type J thermocouple Base metal thermocouple, economical and suitable for 0–600°C. [*1-54*] (*s. a. thermocouple, base metal thermocouple*) **de** Typ J Thermoelement, das / **hu** J típusú hőelem / **sk** termočlánok typu J

type K thermocouple Base metal thermocouple, standard type, suitable up to 1250°C. [*1-54*] (*s. a. thermocouple, base metal thermocouple*) **de** Typ K Thermoelement, das / **hu** K típusú hőelem / **sk** termočlánok typu K

type M thermocouples base metal thermocouple, suitable up to 1400°C in vacuum furnaces. **de** Typ M Thermoelement, das / **hu** M típusú hőelem / **sk** termočlánok typu M

type N thermocouple Base metal thermocouple similar to type K, but resistant to oxidation. [*1-54*] (*s. a. thermocouple, base metal thermocouple*) **de** Typ N Thermoelement, das / **hu** N típusú hőelem / **sk** termočlánok typu N

type R thermocouple Noble metal thermocouple, standard type for high temperatures up to 1450°C. [*1-54*] (*s. a. thermocouple, noble metal thermocouple*) **de** Typ R Thermoelement, das / **hu** R típusú hőelem / **sk** termočlánok typu R

type S thermocouple Noble metal thermocouple similar to type R. [*1-54*] (*s. a. thermocouple, noble metal thermocouple*) **de** Typ S Thermoelement, das / **hu** S típusú hőelem / **sk** termočlánok typu S

type T thermocouple Base metal thermocouple used in food production, suitable for -200–350°C. [*1-54*] (*s. a. thermocouple, base metal thermocouple*) **de** Typ T Thermoelement, das / **hu** T típusú hőelem / **sk** termočlánok typu T

Ultra-low sulfur diesel (ULSD) ULSD / Standard to specify diesel fuels with lowered sulfur contents. **de** Diesel mit ultaniedrigem Schwefelgehalt, der / **sk** nafta s veľmi nízky obsahom síry

umbrella heater s. patio heater **de** Heizstrahler, der / **sk** terasový sálač patio

unburned hydrocabon measurement These substances can be detected by a flame ionisation detector (FID) or by a nondispersive infrared (NDIR) gas analyzer. In the second method, the measured results are difficult to interpret. Detailed analysis can be done by gas chromatography (GC) for light compounds or high performance liquid-phase chromatography (HPLC) for heavier, less volatile compounds. [*1-43*] **de** Messung der unverbrannten Kohlenwasserstoffe, die / **hu** az elégetlen szénhidrogének mérése / **sk** meranie nedopalu

unburnt hydrocarbons Pollutants produced by incomplete combustion due to quenching or fuel-rich combustion. [*1-2*] **de** unverbrannte Kohlenwasserstoffe, die / **hu** elégetlen szénhidrogének / **sk** nedopal

underbalanced drilling UBD / Drilling oil and gas wells where the pressure in the wellbore is lower than the pressure of the fluid in the drilled formation. [*2-39*] **de** Unterdruckbohren, das / **hu** kiegyensúlyozatlan fúrás / **sk** podtlakové vŕtanie

underground coal gasification Gasification of non-minable coal in the seam by selective air injection for local combustion. [*1-29*] (*s. a. seam*) **de** Untertagevergasung, die / **hu** mélységi elgázosítás, föld alatti elgázosítás / **sk** podzemné splyňovanie uhlia

undersampling To sample a signal with a higher sampling frequency than the highest signal frequency. [*1-45*] **de** Unterabtastung, die / **hu** alulmintavételezés / **sk** podvzorkovanie

ungrounded junction s. thermocouple ungrounded junction **de** nicht-geerdete Verbindung, die / **sk** neuzemnený spoj

United Nations framework convention on climate change Environmental convention for stabilizing greenhouse gas concentrations to prevent dangerous interference with the climate system. [*3-60*] (*s. a. environmental agreement*) **de** Klimarahmenkonvention der Vereinten Nationen, die / **hu** ENSZ klímaváltozási keretegyezmény / **sk** rámcová dohoda spojených národov o zmene klímy

universal exhaust gas oxygen sensor (UEGO) UEGO / Lambda sensor based on the zirconia sensor but including an electrochemical gas pump which controls the fuel cell output (kept constant) and the pump-current, which is used to examine the oxygen content. This allows a faster control of the fuel delivery and ignition timing. Syn.: wideband zirconia sensor. [*1-43*] (*s. a. lambda sensor*) **de** Breitbandsonde für Sauerstoff, die / **hu** univerzális légfeleslegmérő, univerzális légfelesleg-érzékelő / **sk** širokopásmová sonda, š. senzor

universal gas constant s. gas constant **de** Gaskonstante, die / **hu** (moláris/univerzális/általános) gázállandó / **sk** univerzálna plynová konštanta

universal gravitational constant s. constant of gravitation **de** Gravitationskonstante, die

unsaturated chemical compounds s. hydrocarbons **de** ungesättigte chemische Verbindungen, die / **hu** telítetlen vegyületek / **sk** nenasýtené chamické zlúčeniny

unsymmetrical dimethylhydrazine (UDMH) UDMH / Rocket propellant with a good storability. UDMH is a volatile, toxic and carcinogenic liquid. [*1-12, 3-8, 3-9, 1-16, 3-10*] (*s. a. hydrazine, monomethylhydrazine, rocket propellant, hypergole, liquid propellant rocket*) **de** 1,1-Dimethylhydrazin, das / **hu** 1,1-dimetil-hidrazin, aszimmetrikus dimetil-hidrazin / **sk** 1,1dimetylhydrazín

upper explosive limit UEL / s. upper flammability limit [*1-1*] **de** obere Explosionsgrenze, die

upper flammability limit UFL / Highest concentration limit at which, under defined conditions, a flammable gas/air mixture can be ignited. The range between LFL und UFL is termed explosion range or flammability range. [*1-1*] **de** obere Zündgrenze, die / **hu** felső gyulladási határ / **sk** horná medza zápalnosti

upper heating value s. higher heating value **de** oberer Heizwert, der / **hu** égéshő, égésmeleg / **sk** spaľovacie, resp. spalné teplo

upsampling Increasing the sampling rate of a signal. [*1-45*] **de** Upsampling, das / **hu** a mintavételi frekvencia növelése / **sk** upsampling

urea complex (fire fighting) s. potassium bicarbonate (fire fighting) **de** Harnstoff-Komplex, der / **sk** komplex močoviny

Urengoy gas field One of the largest natural gas fields of the world located in Russia. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Urengoy Gasfeld, das / **hu** urengoy-i (föld)gázmező / **sk** Urengoy-ložisko zemného plynu v Rusku

vacuum distillation (oil refinery) The long residue is fractionated under vacuum into vacuum gas oil and short residue. Distillation under vacuum is necessary because hydrocarbons tends to crack and not to fractionate at high temperatures above 400°C. [*1-59*] (*s. a. process units* (*oil refinery*), *continuous distillation, short residue, long residue*) **de** Vakuumdestillation, die / **hu** vákuumlepárlás, vákuumdesztilláció / **sk** vákuová destilácia

vacuum permeability s. magnetic constant **de** Vakuumpermeabilität, die / **sk** permeabilita vákua

valvetrain Describes the mechanisms which control the operation of the valves in an internal combustion engine. **de** Ventilsteuerung, die / **hu** szelepszabályozás / **sk** ventilový rozvod

Van der Waals equation Equation of state for real gases. [*1-31*] (*s. a. ideal gas, fugacity*) **de** Van der Waals Zustandsgleichung, die / **hu** Van der Waals-egyenlet / **sk** Van der Waals-ova rovnica

van't Hoff equation Relation of the change in the equilibrium constant of a chemical reaction to the change in temperature. [*1-31*] (*s. a. equilibrium constant*) **de** van't Hoffsches Gesetz, das / **sk** van't Hoffova rovnica

vapor extraction process (VAPEX) VAPEX / Oil extraction process similar to steam assisted gravity drainage but using hydrocarbons solvents instead of vapor. [*1-55*] **de** VAPEX-Methode, die / **hu** VAPEX/ párakivánás módszer / **sk** VAPEX metóda

vapor recovery The process of recovering the vapors of gasoline so that they can not escape into the atmosphere. **de** Gasrückführung, die

vaporizing oil s. kerosene **de** Motorenpetroleum, das / **hu** motorpetróleum, traktorhajtó petróleum

vapour lock The fuel flow to the engine can disrupt when the fuel vaporizes. The problem exits foremost in older low pressure fuel pumps. Modern fuel injection systems with high pressure fuel pumps can prevent vapour lock. Vapour lock is especially dangerous if it happens in aircraft engines. [*1-26*] **de** Dampfblasenbildung, die / **hu** gőzbuborék képződés / **sk** prítomnosť bublín pary

vapour lock index Quality feature of gasoline, calculated from dry vapour pressure equivalent (DVPE) and E70. [*1-26*] (*s. a. DVPE, E70*) **de** Flüchtigkeitskennziffer, die / **sk** VLI

variable of state An element of the variables that describe the state of a dynamical system. **de** Zustandsvariable, die / **hu** állapotváltozó / **sk** stavová premenná

variance The square of the standard deviation. [*1-121*] (*s. a. covariance*) **de** Varianz, die / **sk** počet stupňov voľnosti

vegetable oil Only lower qualities of vegetable oil are used as biofuel (higher qualities usually are used for food production and not for producing biofuels). More and more it is processed into biodiesel. [*3-15, 1-21*] (*s. a. first generation biofuels*) **de** Pflanzenöl, das / **hu** növényi olaj / **sk** rastlinný olej

vegetable oil refining Vegetable oil can be transformed into fuel by hydrocracking, products can be e.g. gasoline or diesel. [*3-15, 1-21* **de** Pflanzenöl-Refining, das / **hu** növényolaj-finomítás / **sk** rafinácia rastlinného oleja

vegoil s. vegetable oil **de** Pflanzenöl, das / **sk** rastlinný olej

velocity field Physical field, which assigns every point in space a velocity. [*1-2*] **de** Geschwindigkeitsfeld / **hu** sebességmező / **sk** rýchlostné pole

velocity of sound method Temperature measuring method. The principle of this method is that two transducers are placed across a sound path of known length. A sonic signal is sent across the gas volume and recorded. An averaged velocity of sound is calculated from the time needed for the passage. [*1-43*] **de** Methode der Temperaturmessung über Schallgeschwindigkeit, die / **hu** hangsebesség (mérésen alapuló) módszer / **sk** metóda rýchlosti zvuku

Velozeta six-stroke engine Internal combustion engine with has two additional strokes compared to a four stroke Otto cycle. [*1-34*] **de** Velozeta 6-Takt-Motor, der / **hu** Velozeta-féle hatütemű motor / **sk** Velozet-ov 6-taktový motor

Venezuela (oil industry) One of the largest conventional oil reserves in the world. In addition, Venezuela has large depositions of oil sands (non-conventional oil) in the Orinoco Belt. [*3-63*] (*s. a. crude oil, natural gas, Orinoco oil sands*) **de** Erdölvorkommen in Venezuela, das / **hu** Venezuela / **sk** Venezuela-ložisko ropy vo Venezuele

venturi scrubber Wet scrubbing air pollution control system. [*2-42, 2-43*] (*s. a. wet scrubber*) **de** Venturiwäscher, der / **sk** venturiho práčka

vertical-cavity surface-emitting laser (VCSEL) VCSEL / A VCSEL is characterized by light emission parallel to the pump direction, i.e. from the surface. VCSELs, compared to conventional diode lasers, have lower threshold power (~ 1mA) and low output powder (~ 1mW), but good properties for optical data transmission (telecommunication) and spectroscopy. [*1-51*] **de** oberflächenemittieren der Diodenlaser, der / **sk** VCSEL

Very Volatile Organic Compound (VVOC) VVOC / s. volatile organic compounds **de** besonders leichtflüchtige organische Verbindungen, die / **sk** veľmi prchavé organické látky

Vibe function Used to describe the work cycle (heat input) of a thermodynamic cycle. [*1-34*] (*s. a. thermodynamic cycle, standard cycle, idealized cycle*) **de** Vibe-Funktion, die / **sk** Vibe-funkcia

vibrational transitions Molecular transitions between vibrational states describing the quantum-mechanical oscillations in molecules. Transition energies are on the same order of the thermal energies characterizing combustion. [*1-105, 1-109*] **de** Vibrationsübergänge, die / **sk** vibračnéprechody

vieille powder s. poudre B **de** Poudre B, das / **sk** vieille prášok

Vienna convention for the protection of the ozone layer Environmental agreement to protect the ozone layer. It administers legal formalities. Specific arrangements are part of the Montreal protocol [*3-60*] (*s. a. environmental agreement, Montreal protocol*) **de** Wiener Übereinkommen zum Schutz der Ozonschicht, das / **hu** bécsi egyezmény az ózonréteg védelméről / **sk** Viedeňská dohoda o ochrane ozónovej vrstvy

Virial equation Equation of state for real gases. [*1-31*] (*s. a. ideal gas, fugacity*) **de** Virialgleichung, die / **sk** Virial-ova rovnica

virtual state State of an electron between unexcited and ecited electronic states when interacting with photons. [*1-96*] (*s. a. Raman scattering*) **de** virtueller Zustand, der / **sk** virtuálny stav

visbreaking Thermal, non-catalytic cracking process. Large hydrocarbon molecules are cracked in a furnace (about 450°C) to reduce their viscosity. The cracking process is finished in a soaker (about 400°C). [*1-59*] (*s. a. fluid catalytic cracking, process units* (*oil refinery*), *furnace*) **de** Visbreaking, das / **sk** znižovanie viskozity miernym tepelným krakovaním

visco fuse A green colored thin strand (2–4 mm diameter). It burns with an external, visible flame and can be water resistant when coated with lacquer. [*1-12, 1-13, 1-14*] (*s. a. fuse, black match, quick match*) **de** Visco Fuse, das / **sk** visco fuse -zápalná šnúra

viscosity A measure of the siziness of a fluid. [*1-31*] (*s. a. dynamic viscosity, kinematic viscosity, Saybolt universal viscosity*) **de** Viskosität, die / **hu** viszkozitás / **sk** viskozita

viscous flow meter The measurement of the air flow is based on the pressure drop from the flow through a flow element (flow area). [*1-43*] **de** Durchflussmesser, der / **hu** szűkítőelems áramlásmérés / **sk** prietokomer

VOC s. volatile organic compounds **de** flüchtige organische Komponenten, die

Voigt profile Spectral line broadening profile in which a spectral line is broadened by two types of mechanisms, one can be described by a Gaussian profile (Doppler broadening), the other by the Lorentzian profile. [*1-50*] (*s. a. Gaussian profile, Lorentzian profile, Doppler broadening*) **de** Voigt-Profil, das / **sk** Voigt-ov profil

volatile organic compounds (VOC) VOC / Organic molecules, such as methane, aldehydes, and other light hydrocarbons which vapor pressures that are high enough significantly vaporize and enter the atmosphere under normal conditions. VOCs can damage soil and groundwater and can act as greenhouse gases. Some of these substances react in the precence of sunlight with nitrogen dioxide to form ozone. There are several definitions of VOCs: Non-Methane Hydrocarbons (NMHC), Non-Methane Organic Gases (NMOG), Non-Methane Volatile Organic Compounds (NMVOC), Reactive Organic Gases (ROG), Semi-Volatile Organic Compounds (SVOC), Total Organic Gases (TOG), Total Volatile Organic Compounds (TVOC), Volatile Organic Compounds (VOC), Very Volatile Organic Compound (VVOC). [*1-47*] (*s. a. smog, photochemical smog, ozone production, winter smog, The Great Smog, sulphur dioxide, inversions*) **de** flüchtige Kohlenwasserstoffe, die; flüchtige organische Verbindungen, die / **hu** illó/illékony szerves vegyületek / **sk** prchavé látky

Volt V SI derived unit of electric potential difference or electromotive force. [*3-38*] **de** Volt, das

volume-pressure loop s. P-V diagram **de** P/V Verlauf im P/V Diagramm, der / **hu** P-V-diagram / **sk** p-V diagram

von Neumann Spike Narrow region of high pressure which is observed behind the shock of propagating detonations. (*s. a. detonation*) **de** von Neumann Spike, der

vortex A spiral motion of a fluid inside a limited area. [*1-75*] **de** Wirbel, der / **sk** vír

vortex breakdown An abrupt change in the structure of the core of a spinning flow. [*1-44*] (*s. a. vortex*) **de** Vortex-Breakdown, der; Zusammenbrechen des Wirbels, das / **sk** prelomenie víru, vortex breakdown

wake turbulence Air turbulences formed behind aircraft as a side effect of buoyancy. There are also wake turbulences behind notflying vehicles, but these are less intense. [*3-53*] **de** Wirbelzöpfe, die; Wirbelschleppe, die / **hu** turbulens nyomvonal / **sk** vír

wash oil s. absorption oil de Waschöl, das / **hu** mosóolaj / **sk** prací olej

waste vegetable oil (WVO) WVO / s. vegetable oil [*3-15, 1-21*] **de** Pflanzenöl, das / **sk** odpadný rastlinný olej

water based mud WBM / Drilling fluid; Bentonite with some additives is the most common WBM. (s. a. drilling fluid) de Bohrschlamm, der; wasserbasierender Bohrschlamm, der / **hu** fúróiszap / **sk** vŕtny kal

water content (natural gas) Specification which is important to prevent condensation of water in pipelines. [*2-40*] (*s. a. natural gas, glycol dehydration*) **de** Wasssergehalt, der / **hu** víztartalom / **sk** obsah vody

water gas Made by blowing steam over red-hot coke. The main constituents are CO and H_2. Calorific value: 11000 kJ/m^3. [1-4] (s. a. carburetted water gas) de Wassergas, das / **hu** vízgáz / **sk** vodný plyn

water gas shift reaction The reaction of carbon monoxide with water to form carbon dioxide and hydrogen: $CO+H_2O \rightarrow CO_2+H_2$. **de** Wassergas-Shift-Reaction, die / **hu** víz-gáz (shift) reakció / **sk** reakcia vodného plynu

water infusion blasting Method used in coal mining that combines the effect of water pressure and a bursting charge. [*1-12*] (*s. a. coal mining*) **de** Tränkungssprengen, das

water resistance There are no standardized quality categories. [*1-12*] **de** Wasserfestigkeit (Pyrotechnik), die / **hu** vízállóság / **sk** odolnosť voči vode

water-gas generator s. water-gas producer **de** Wassergaserzeuger, die / **hu** vízgázfejlesztő / **sk** generátor vodného plynu

water-gas producer Shaft furnace, fluidized-bed furnace or rotarygrate gas producer to generate water gas. [*2-49*] (*s. a. water gas*) **de** Wassergaserzeuger, die / **hu** vízgázfejlesztő / **sk** generátor vodného plynu

water-gas reaction Process to generate water gas (CO/H_2) by a reaction of coal and vapor. Syn.: steam-carbon reaction [1-11] (s. a. water gas) de Wassergasreaktion, die / **hu** víz-gáz reakció / **sk** reakcia vodného plynu

water-gas tar Residue product in water-gas production. [*2-49*] (*s. a. carburetted water gas, water gas*) **de** Wassergasteer, der / **hu** vízgáz-kátrány / **sk** decht z vodného plynu

waterwall The side of a boiler furnace consisting of water pipes which absorb radiant heat and prevent immoderately high furnace temperatures. [*1-74*] **de** Wasserwand, die; Kühlschirm, der

watt SI derived unit of power, equal to J/s. [*3-38*] **de** Watt, das

wave number Physical unit of energy common in spectroscopy (because wave numbers are directly proportional to energy, as opposed to wavelength, which is not). It corresponds to the inverse of the wavelength and is measured in cm^{-1}. Conversion between cm^{-1} and μm: x cm^{-1} = 10000/(y μm) [*1-102*] **de** Wellenzahl, die / **hu** hullámszám / **sk** vlnové číslo

wave vector Vector representation of a wave. The direction of the vector shows the direction of wave propagation. [*1-75*] **de** Wellenvektor, der / **sk** vlnový vektor

wax appearance temperature WAT / s. cloud point **de** Trübungspunkt, der / **hu** zavarosodási pont/ hőmérséklet / **sk** bod zákalu

wax precipitation temperature WPT / s. cloud point **de** Trübungspunkt, der / **hu** zavarosodási pont/ hőmérséklet / **sk** bod zákalu

wealden coal s. coal **de** Wealden-Kohle, die / **sk** uhlie Wealden

Weaver flame speed factor Measure of the laminar burning velocity of a gases relative to hydrogen. **de** Weaver Flammengeschwindigkeitsfaktor, der / **sk** Weaver-ov rýchlostný faktor plameňa

Weber number We / A dimensionless number in fluid mechanics used especially for multiphase flows. [*1-72*] **de** Weber-Zahl, die / **sk** Weber-ovo kritérium

well logging Gathering a detailed record of the geologic formations when drilling a borehole. This includes a visual inspection of samples brought to the surface and physical measurements from instruments into the hole. **de** Bohrlochvermessung, die / **hu** karottázs, fúrólyuk-szelvényezés / **sk** zameranie vrtu

well-to-wheel efficiency Life cycle assessment of the efficiency of fuels used for road vehicles. [*3-86*] **de** Ökobilanz, die; (von der Ölquelle bis zum Verbrauch auf der Straße) / **sk** ekobilancia

Welsbach mantle s. gas mantle **de** Glühstrumpf, der / **sk** Welsbachov plášť

West Texas Intermediate (WTI) WTI / Most common crude oil used in North America. API gravity 39.6°. [*3-63*] (*s. a. crude oil*) **de** WTI (Rohöl), das / **hu** West Texas Intermediate / **sk** West Texas Intermediate-ropa

westinghouse process Coal gasification process. [*2-40*] (*s. a. coal, coal gasification*) **de** Westinghouse Verfahren, das / **hu** Westinghouse-eljárás / **sk** proces Westinghouse

wet flue gas volume Total flue gas volume, which has been produced by combustion of a unit of gas volume. [*1-30*] **de** feuchte Abgasmenge, die / **hu** nedves füstgáztérfogat / **sk** objem vlhkých spalín

wet gas Gas with a condensate concentration higher than 0.1 U.S. gallon per 1000 CF gas (CF = cubic foot). [*2-40*] (*s. a. natural gas, water content*) **de** Feuchtgas, das / **hu** nedves gáz, dúsgáz / **sk** vlhký plyn

wet scrubber A scrubbing solution (water or solutions of reagents) is used to clean flue gas from air pollutants and dust particles. [*242, 2-43*] (*s. a. buffle spray scrubber, venturi scrubber, spray nozzle, spray tower, scrubbing solution*) **de** Nasswäscher, der / **hu** nedves gáztisztító/mosó / **sk** mokrý skrúber

wet steam s. saturated steam. [*1-74*] **de** Nassdampf, der / **hu** nedves gőz / **sk** mokrá para

Wheatstone bridge Device used to measure an unknown electrical resistance. [*1-96*] (*s. a. strain gauge pressure transducer*) **de** Wheatstone-Brücke, die / **hu** Wheatstone-híd / **sk** Wheatstoneský most

wheellock Obsolete mechanism for igniting/firing firearms by hammering on a piece of pyrite. (*s. a. fire piston, wheellock, matchlock, snaphance, pyrite*) **de** Radschloss, das / **hu** kolliesková zámka

white gas Pure gasoline, without additives. **de** Campingbenzin, das / **sk** campingový benzín

white noise Random signal of which the intensity is the same at all frequencies within a fixed bandwidth. [*1-118*] **de** weißes Rauschen, das / **hu** fehér zaj / **sk** biely hluk

wideband zirconia sensor Lambda sensor based on the zirconia sensor but including an electrochemical gas pump which controls the fuel cell output (kept constant) and the pump-current (used to determine the oxygen content). This setup allows a faster control of the fuel delivery and ignition timing. Syn.: Universal Exhaust Gas Oxygen sensor (UEGO). [*1-43*] (*s. a. lambda sensor*) **de** Breitbandlambdasonde, die / **hu** szélessávú cirkónium érzékelő/szonda / **sk** širokopásmová lambdasonda

wildcat well s. oil well **de** Aufschlußbohrung, die / **hu** kutatófűrás, próbafúrás / **sk** prieskumný vrt

Williams Sugarland Blend Crude oil product with an API gravity of 40.9° and a sulphur content of 0.2%. The field is located in the United States. [*3-63*] (*s. a. crude oil, API grade, oil reserves*) **de** Williams Sugarland Blend (Rohöl), das / **hu** Williams Sugarland (Blend) olaj / **sk** Williams Sugarland Blend-ropný produkt

winter-smog It forms by some meteorological conditions (inversions) with soot, sulphur dioxide, dust and fog. It was a common in London in the beginning and middle of the 20th century ("London Peculiars"). Syn.: London smog, pea souper. [*1-47*] (*s. a. photochemical smog, The Great Smog, smog, sulphur dioxide*) **de** WinterSmog / **hu** redukáló / London-típusú füstköd/szmog / **sk** zimný smog

Wobbe index A measure of the interchangeability of fuel gases. **de** Wobbe Zahl, die / **hu** Wobbe-szám / **sk** Wobbe-ho číslo

Wolfhard Parker (slot) burner Diffusion flame burner that creates a two dimensional flame sheet. The burner consists of two rectangular air ports, sandwiching a central air port. [*2-7*] (*s. a. premixed flame, laminar flame, burner types, flat flame burner*) **de** Wolfhard Parker-Brenner, der (Schlitzbrenner) / **sk** Wolfhard Parker-ov horák

wolfram s. tungsten **de** Wolfram, das / **hu** wolfrám / **sk** wolfrám

wood alkohol Former biomethanol production method using pyrolysis of wood. **de** Holzgeist, der; Holzalkohol, der / **hu** faszesz, metilalkohol, biometanol / **sk** drevný alkohol

wood briquette Briqutts made of dry sawdust and other waste wood under high pressure, but without binders. Used as fuel. (*s. a. biofuel*) **de** Holzbrikett, das / **hu** fabrikett / **sk** drevná briketa

wood chips Shredded wood used in chipboard and as fuel. Most coal power plants can be convertet to run on wood chips. (*s. a. biofuel*) **de** Hackschnitzel, die / **hu** Faforgács / **sk** drevná štiepka

wood diesel Biofuels extracted from woodchips. [*3-15, 1-21*] **de** Holzdiesel, der; Diesel aus Holz, der / **sk** drevná nafta

wood pellet Wood fuel made from compacted sawdust. (*s. a. biofuel*) **de** Holzpellets, die / **hu** fapellet / **sk** drevné pelety

woodchipper Machine used for reducing tree limbs or trunks into smaller parts (e.g. wood chips). They are often portable. Syn.: treechipper. (*s. a. biofuel*) **de** Holzschreddermaschine, die / **sk** štiepkovač

Woodchipping The process and industry of chipping wood for processed wood products, e.g. wood chips as fuel. (*s. a. biofuel*) **de** Holzschreddern, das / **sk** štiepkovanie dreva

woodchips s. wood chips **de** Hackschnitzel, die

xylene (C_6H_4-$(CH_3)_2$); Aromatic hydrocarbon, occurs naturally in crude oil. It is produced in processes such as catalytic reforming, ethylene cracking or coke-making. Xylene as gasoline additive can be used as octane booster. There are o-, mand p-xylene. [*3-35, 1-24*] **de** Xylol, das / **sk** xylén

yard yd / Unit of length; 0.91440 m **de** Yard, das

yocto y / SI-prefix, factor 10^{-24}. [*3-38*] **de** yocto

yotta Y / SI-prefix, factor 10^{24}. [*3-38*] **de** yotta

yttria-stabilized zirconia YSZ / Chemically inert ceramic material. Used e.g. as thermal barrier coating in gas turbines and for solid oxide fuel cells. (*s. a. solid oxide fuel cell*) **de** Yttrium-dotiertes Zirkoniumdioxid, das / **sk** Ytriom stabilizované zirkónium

Yuzhno-Russkoye field Major natural gas field in Russia. [*3-63*] (*s. a. natural gas, gas reserves*) **de** Yuzhno-Russkoye Gasfeld, das / **hu** Yuzhno-Russkoye-i (föld)gázmező / **sk** Yuzhno-Russkoyeložisko zemného plynu v Rusku

zapon Nitrocellulose solution used in fusehead production. [*1-13*] **de** Zapon, das / **hu** zaponlakk / **sk** zapon, zaponový lak

Zeldovich mechanism Mechanism that describes the formation of NO_x at high temperatures from N_2. The series of reaction are called (extended) Zeldovich mechanism. There are three principal reactions forming NO_x: $N_2 + O^* = NO + N^*$; $N^* + O_2 = NO + O^*$; The third (extended) reaction includes the reacting OH* radicals: $N^* + OH^* = NO^* + H^*$ [*1-2, 3-16*] (*s. a. thermal NO_x, fuel NO_x, prompt NO_x, feed NO_x*) **de** Zeldovich Mechanismus, der / **hu** Zeldovich-mechanizmus / **sk** Zeldovich-ov mechanizmus

zeolite (petrochemical industry) Porous aluminosilicate minerals with pores smaller than typically 2 nm. Used as catalysts in petrochemical cracking processes. [*1-37*] (*s. a. cracking, hydro cracking*) **de** Zeolit, der / **hu** zeolit / **sk** zeolit

zepto z / SI-prefix, factor 10^{-21}. [*3-38*] **de** zepto

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zeroth law of thermodynamics If two thermodynamic systems are in thermal equilibrium with a third system, they are also in thermal equilibrium with each other. [*1-31*] **de** Nullter Hauptsatz der Thermodynamik, der / **hu** a termodinamika nulladik főtétele, nulladik főtétel / **sk** nultý zákon termodynamiky

zetta Z / SI-prefix, factor 10^{21}. [*3-38*] **de** zetta

zinc carbonate $ZnCO_3$; Inorganic salt used as sulfide scavenger. (s. a. oil refinery) **de** Zinkcarbonat, das / **hu** cink-karbonát / **sk** uhličitan zinočnatý

zirconia sensor s. Nernst cell **de** Zirkoniumsensor, der / **hu** cirkónium(-oxid) lambda szonda / **sk** zirkónový senzor

zirconium silicate Metal fire extinguishing agent. [*3-45, 3-46*] (*s. a. pyrophoricity*) **de** Zirkoniumsilikat, das / **hu** cirkónium-szilikát / **sk** zirkónsilikát

z-stoff Permanganate-water solution used as catalyst in rocket propellants. [*1-66*] (*s. a. rocket propellants*) **de** Z-Stoff, der / **hu** z-látka

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