ShellSol T

Version 4.1 Revision Date 24.11.2023 Print Date 01.12.2023

1. IDENTIFICATION OF THE HAZARDOUS CHEMICALS AND OF THE SUPPLIER

Product name : ShellSol T

Product code : Q7412

Synonyms : Hydrocarbons, C11-C12, isoalkanes, <2% aromatics

CAS-No. : 64741-65-7

Manufacturer or supplier's details

Supplier :

SHELL EASTERN CHEMICALS (S)

A REGISTERED BUSINESS OF SHELL EASTERN

TRADING (PTE) LTD (UEN:198902087C)

9 North Buona Vista Drive, #07-01

The Metropolis Tower 1 Singapore 138588

Singapore 136

Telephone : +65 6384 8269 Telefax : +65 6384 8454

Contact for Safety Data

Sheet

Emergency telephone : + (65) 6542 9595 (ALERT-SGS)

number

Recommended use of the chemical and restrictions on use

Recommended use : Industrial Solvent.

Restrictions on use : This product must not be used in applications other than the

above without first seeking the advice of the supplier.

Other information : SHELLSOL is a trademark owned by Shell Trademark

Management B.V. and Shell Brands Inc. and used by affiliates

of Shell plc.

2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 3 Aspiration hazard : Category 1

GHS label elements

Hazard pictograms :





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Signal word Danger

PHYSICAL HAZARDS: Hazard statements

H226 Flammable liquid and vapour.

HEALTH HAZARDS:

H304 May be fatal if swallowed and enters airways.

ENVIRONMENTAL HAZARDS:

Not classified as an environmental hazard under GHS criteria.

Precautionary statements

Prevention:

P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical/ ventilating/ lighting equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P280 Wear protective gloves/ protective clothing/ eye

protection/ face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P370+P378 In case of fire: Use appropriate media for extinction.

P301 + P310 IF SWALLOWED: Immediately call a POISON

CENTER or doctor/ physician. P331 Do NOT induce vomiting.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool. P405 Store locked up.

Disposal:

P501 Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

Other hazards which do not result in classification

In use, may form flammable/explosive vapour-air mixture. This material is a static accumulator. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur. Repeated exposure may cause skin dryness or cracking.

3. COMPOSITION AND INFORMATION OF THE INGREDIENTS OF THE HAZARDOUS CHEMICAL

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Substance / Mixture Substance

Hazardous components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
naphtha (petroleum), heavy alkylate	64741-65-7	Flam. Liq.3; H226 Asp. Tox.1; H304	100

For explanation of abbreviations see section 16.

4. FIRST-AID MEASURES

General advice : Not expected to be a health hazard when used under normal

conditions.

If inhaled : No treatment necessary under normal conditions of use.

If symptoms persist, obtain medical advice.

In case of skin contact : Remove contaminated clothing. Immediately flush skin with

large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical

facility for additional treatment.

In case of eye contact : Flush eye with copious quantities of water.

Remove contact lenses, if present and easy to do. Continue

rinsing.

If persistent irritation occurs, obtain medical attention.

If swallowed Call emergency number for your location / facility.

If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.

Most important symptoms and effects, both acute and delayed

: Not considered to be an inhalation hazard under normal conditions of use.

Possible respiratory irritation signs and symptoms may include

a temporary burning sensation of the nose and throat,

coughing, and/or difficulty breathing.

Skin irritation signs and symptoms may include a burning

sensation, redness, or swelling.

No specific hazards under normal use conditions.

Eye irritation signs and symptoms may include a burning

sensation, redness, swelling, and/or blurred vision.

If material enters lungs, signs and symptoms may include

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coughing, choking, wheezing, difficulty in breathing, chest

congestion, shortness of breath, and/or fever.

If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.

Defatting dermatitis signs and symptoms may include a burning sensation and/or a dried/cracked appearance.

Protection of first-aiders : When administering first aid, ensure that you are wearing the

appropriate personal protective equipment according to the

incident, injury and surroundings.

Notes to physician : Call a doctor or poison control center for guidance.

Potential for chemical pneumonitis.

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Foam, water spray or fog. Dry chemical powder, carbon

dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing

media

: Do not use water in a jet.

Specific hazards during

firefighting

: Clear fire area of all non-emergency personnel. Hazardous combustion products may include:

A complex mixture of airborne solid and liquid particulates and

gases (smoke). Carbon monoxide.

Unidentified organic and inorganic compounds.

Flammable vapours may be present even at temperatures

below the flash point.

The vapour is heavier than air, spreads along the ground and

distant ignition is possible.

Will float and can be reignited on surface water.

Specific extinguishing

methods

: Standard procedure for chemical fires.

Keep adjacent containers cool by spraying with water.

Special protective equipment

for firefighters

Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained

Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to

relevant Standards (e.g. Europe: EN469).

Hazchem Code : 3Y

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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

: Observe all relevant local and international regulations. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

Local authorities should be advised if significant spillages

cannot be contained.

: Avoid contact with skin, eyes and clothing.

Isolate hazard area and deny entry to unnecessary or

unprotected personnel.

Do not breathe fumes, vapour. Do not operate electrical equipment.

Environmental precautions

Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.

Monitor area with combustible gas indicator.

Methods and materials for containment and cleaning up For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.

For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak

up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely

Ventilate contaminated area thoroughly.

If contamination of site occurs remediation may require

specialist advice.

Additional advice

: For guidance on selection of personal protective equipment

see Section 8 of this Safety Data Sheet.

For guidance on disposal of spilled material see Section 13 of

this Safety Data Sheet.

7. HANDLING AND STORAGE

Handling

General Precautions : Avoid breathing of or direct contact with material. Only use in

well ventilated areas. Wash thoroughly after handling. For

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guidance on selection of personal protective equipment see

Section 8 of this Safety Data Sheet.

Use the information in this data sheet as input to a risk assessment of local circumstances to help determine

appropriate controls for safe handling, storage and disposal of

this material.

Ensure that all local regulations regarding handling and

storage facilities are followed.

Advice on safe handling : Avoid inhaling vapour and/or mists.

Avoid contact with skin, eyes and clothing.

Extinguish any naked flames. Do not smoke. Remove ignition

sources. Avoid sparks.

Use local exhaust ventilation if there is risk of inhalation of

vapours, mists or aerosols.

Bulk storage tanks should be diked (bunded).

When using do not eat or drink.

The vapour is heavier than air, spreads along the ground and

distant ignition is possible.

Avoidance of contact : Strong oxidising agents.

Product Transfer : Even with proper grounding and bonding, this material can still

> accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur. Be aware of handling operations that may give rise to additional hazards that result from the accumulation of static charges. These include but are not limited to pumping (especially turbulent flow), mixing, filtering, splash filling, cleaning and filling of tanks and containers, sampling, switch loading, gauging, vacuum truck operations, and mechanical movements. These activities may lead to static discharge e.g. spark formation. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/s until fill pipe submerged to twice its diameter, then ≤ 7 m/s). Avoid splash filling. Do NOT use compressed air for filling, discharging, or

handling operations.

Refer to guidance under Handling section.

Storage

Conditions for safe storage : Refer to section 15 for any additional specific legislation

covering the packaging and storage of this product.

Other data : Storage Temperature:

Ambient.

Bulk storage tanks should be diked (bunded).

Locate tanks away from heat and other sources of ignition. Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of

strict procedures and precautions.

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		Must be stored in a diked (bunded) well- ventilated area, away from sunlight, ignition sources and other sources of heat. Keep away from aerosols, flammables, oxidizing agents, corrosives and from other flammable products which are not harmful or toxic to man or to the environment. Electrostatic charges will be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk. The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable.	
Packaging material	:	Suitable material: For containers, or c steel, stainless steel., For container pa zinc silicate paint. Unsuitable material: Avoid prolonged butyl or nitrile rubbers.	aints, use epoxy paint,
Container Advice	:	Do not cut, drill, grind, weld or perform near containers.	n similar operations on or
Specific use(s)	:	Not applicable	
		See additional references that provide for liquids that are determined to be st American Petroleum Institute 2003 (P Ignitions Arising out of Static, Lightnin National Fire Protection Agency 77 (R on Static Electricity). IEC/TS 60079-32-1: Electrostatic haza	ratic accumulators: rotection Against g and Stray Currents) or ecommended Practices

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Isoparaffinic solvents 180 - 220	Not Assigned	TWA	1.050 mg/m3	OEL based on European Hydrocarbon Solvents Producers (CEFIC- HSPA) methodology.

Biological occupational exposure limits

No biological limit allocated.

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Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/

Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany http://www.dguv.de/inhalt/index.jsp

L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

Engineering measures

: Use sealed systems as far as possible.

Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.

Local exhaust ventilation is recommended.

Firewater monitors and deluge systems are recommended. Eye washes and showers for emergency use.

Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated. The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:

General Information:

Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

Define procedures for safe handling and maintenance of controls.

Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.

Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.

Drain down system prior to equipment break-in or maintenance.

Retain drain downs in sealed storage pending disposal or subsequent recycle.

Personal protective equipment

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Protective measures

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory protection

: If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. Where air-filtering respirators are suitable, select an

appropriate combination of mask and filter.

If air-filtering respirators are suitable for conditions of use: Select a filter suitable for the combination of organic gases and vapours and particles [Type A/Type P boiling point >65°C

(149°F)].

Hand protection Remarks

: Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Longer term protection: Nitrile rubber gloves. Incidental contact/Splash protection: PVC, neoprene or nitrile rubber gloves For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Eye protection

If material is handled such that it could be splashed into eyes, protective eyewear is recommended.

Skin and body protection

: Skin protection is not required under normal conditions of use. For prolonged or repeated exposures use impervious clothing over parts of the body subject to exposure. If repeated and/or prolonged skin exposure to the substance

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is likely, then wear suitable gloves tested to relevant Standard,

and provide employee skin care programmes.

Wear antistatic and flame-retardant clothing, if a local risk

assessment deems it so.

Thermal hazards : Not applicable

Hygiene measures : Wash hands before eating, drinking, smoking and using the

Launder contaminated clothing before re-use.

Do not ingest. If swallowed, then seek immediate medical

assistance.

Environmental exposure controls

General advice Local guidelines on emission limits for volatile substances

must be observed for the discharge of exhaust air containing

vapour.

Minimise release to the environment. An environmental assessment must be made to ensure compliance with local

environmental legislation.

Information on accidental release measures are to be found in

section 6.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquid.

Colour : colourless Odour : Paraffinic

Odour Threshold : Data not available Hq : Not applicable

 $: < -30 \, ^{\circ}\text{C} / < -22 \, ^{\circ}\text{F}$ pour point

Melting point/freezing point Data not available

Boiling point/boiling range : Typical 187 - 213 °C / 369 - 415 °F

Flash point Typical 60 °C / 140 °F

Method: ASTM D-93 / PMCC

Evaporation rate 110

Method: DIN 53170, di-ethyl ether=1

0.09

Method: ASTM D 3539, nBuAc=1

Flammability (solid, gas) : Not applicable

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Upper explosion limit : 6 %(V)

Lower explosion limit : 0.6 %(V)

Vapour pressure : Typical 40 Pa (0 °C / 32 °F)

Typical 100 Pa (20 °C / 68 °F)

Typical 600 Pa (50 °C / 122 °F)

Relative vapour density : Data not available

Relative density : Data not available

Density : Typical 761 kg/m3 (15 °C / 59 °F)

Method: ASTM D4052

Solubility(ies)

Water solubility : insoluble

Partition coefficient: n-

octanol/water

: log Pow: 6.7 - 7.2

: 430 °C / 806 °F Auto-ignition temperature

Method: ASTM E-659

Decomposition temperature : Data not available

Viscosity

Viscosity, dynamic : Data not available

Viscosity, kinematic Typical 1.85 mm2/s (25 °C / 77 °F)

Method: ASTM D445

Explosive properties : Not applicable : Data not available Oxidizing properties

Surface tension Typical 23.5 mN/m, 20 °C / 68 °F

: < 100 pS/m at 20 °C / 68 °FConductivity

Method: ASTM D-4308 Low conductivity: < 100 pS/m

The conductivity of this material makes it a static

accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semiconductive if its conductivity is below 10,000 pS/m., Whether a liquid is nonconductive or semi-conductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid

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Particle size : Data not available

Molecular weight : 172 g/mol

10. STABILITY AND REACTIVITY

Reactivity : The product does not pose any further reactivity hazards in

addition to those listed in the following sub-paragraph.

: No hazardous reaction is expected when handled and stored Chemical stability

: Reacts with strong oxidising agents.

according to provisions Stable under normal conditions of use.

Possibility of hazardous

reactions

Conditions to avoid

: Avoid heat, sparks, open flames and other ignition sources.

In certain circumstances product can ignite due to static

electricity.

Incompatible materials : Strong oxidising agents.

Hazardous decomposition

products

: Hazardous decomposition products are not expected to form

during normal storage.

Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this

material undergoes combustion or thermal or oxidative

degradation.

11. TOXICOLOGICAL INFORMATION

Basis for assessment : Information given is based on product testing, and/or similar

products, and/or components.

Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s). Information given is based on product

testing, and/or similar products, and/or components. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for

individual component(s).

: Not considered to be an inhalation hazard under normal Symptoms of Overexposure

conditions of use.

Possible respiratory irritation signs and symptoms may include

a temporary burning sensation of the nose and throat,

coughing, and/or difficulty breathing. Skin irritation signs and symptoms may include a burning sensation, redness, or

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swelling. No specific hazards under normal use conditions. Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion,

shortness of breath, and/or fever.

If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing. Defatting dermatitis signs and symptoms may include a burning sensation and/or a dried/cracked

appearance.

Information on likely routes of

exposure

Exposure may occur via inhalation, ingestion, skin absorption,

skin or eye contact, and accidental ingestion.

Acute toxicity

Product:

Acute oral toxicity : LD50 Rat: > 5000 mg/kg

Remarks: Low toxicity

Acute inhalation toxicity : Rat: Remarks: Low toxicity

LC50 greater than near-saturated vapour concentration.

Acute dermal toxicity : LD50 Rabbit: > 5000 mg/kg

Remarks: Low toxicity

Components:

naphtha (petroleum), heavy alkylate:

Acute oral toxicity : LD50 Rat: > 5000 mg/kg

Remarks: Low toxicity

Acute inhalation toxicity : Rat: Remarks: Low toxicity

LC50 greater than near-saturated vapour concentration.

Acute dermal toxicity : LD50 Rabbit: > 5000 mg/kg

Remarks: Low toxicity

Skin corrosion/irritation

Product:

Remarks: Causes mild skin irritation., Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis.

Components:

naphtha (petroleum), heavy alkylate:

Remarks: Causes mild skin irritation., Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis.

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Serious eye damage/eye irritation

Product:

Remarks: Not irritating to eye.

Components:

naphtha (petroleum), heavy alkylate:

Remarks: Not irritating to eye.

Respiratory or skin sensitisation

Product:

Remarks: Not a sensitiser.

Based on available data, the classification criteria are not met.

Components:

naphtha (petroleum), heavy alkylate:

Remarks: Not a sensitiser.

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Product:

: Remarks: Not mutagenic.

Components:

naphtha (petroleum), heavy alkylate:

: Remarks: Not mutagenic.

Carcinogenicity

Product:

Remarks: Tumours produced in animals are not considered relevant to humans., Not a carcinogen., Based on available data, the classification criteria are not met.

Components:

naphtha (petroleum), heavy alkylate:

Remarks: Tumours produced in animals are not considered relevant to humans., Not a carcinogen., Based on available data, the classification criteria are not met.

Material	GHS/CLP Carcinogenicity Classification
naphtha (petroleum), heavy alkylate	No carcinogenicity classification.

Material	Other Carcinogenicity Classification	
naphtha (petroleum), heavy	IARC: Group 2B: Possibly carcinogenic to humans	

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alkylate		

Reproductive toxicity

Product:

Remarks: Not a developmental toxicant., Based on available data, the classification criteria are not met., Does not impair fertility.

Components:

naphtha (petroleum), heavy alkylate:

Remarks: Not a developmental toxicant., Based on available data, the classification criteria are not met., Does not impair fertility.

STOT - single exposure

Product:

Remarks: Based on available data, the classification criteria are not met.

Components:

naphtha (petroleum), heavy alkylate:

Remarks: Based on available data, the classification criteria are not met.

STOT - repeated exposure

Product:

Remarks: Kidney: caused kidney effects in male rats which are not considered relevant to humans

Components:

naphtha (petroleum), heavy alkylate:

Remarks: Kidney: caused kidney effects in male rats which are not considered relevant to humans

Aspiration toxicity

Product:

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

Components:

naphtha (petroleum), heavy alkylate:

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which

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can be fatal.

Further information

Product:

Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

Components:

naphtha (petroleum), heavy alkylate:

Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

12. ECOLOGICAL INFORMATION

Basis for assessment : Incomplete ecotoxicological data are available for this product.

The information given below is based partly on a knowledge of

the components and the ecotoxicology of similar products.

Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).Incomplete ecotoxicological data are

available for this product. The information given below is based partly on a knowledge of the components and the

ecotoxicology of similar products.

Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for

individual component(s).

Ecotoxicity

Product:

Toxicity to fish (Acute

toxicity) Remarks: Not toxic at limit of water solubility:

Toxicity to crustacean (Acute

toxicity)

Remarks: Not toxic at limit of water solubility:

Toxicity to algae/aquatic

plants (Acute toxicity)

Remarks: Not toxic at limit of water solubility:

Toxicity to fish (Chronic

toxicity)

: Remarks: Data not available

Toxicity to crustacean

(Chronic toxicity)

: Remarks: NOEC/NOEL > 1.0 - <=10 mg/l (based on test data)

Toxicity to microorganisms

(Acute toxicity)

: Remarks: LC/EC/IC50 > 100 mg/l

Practically non toxic:

Based on available data, the classification criteria are not met.

Components:

naphtha (petroleum), heavy alkylate:

Toxicity to fish (Acute : Remarks: Not toxic at limit of water solubility:

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toxicity)

Toxicity to crustacean (Acute

toxicity)

Toxicity to algae/aquatic

plants (Acute toxicity)

Toxicity to microorganisms

(Acute toxicity)

: Remarks: Not toxic at limit of water solubility:

: Remarks: Not toxic at limit of water solubility:

: Remarks: LC/EC/IC50 > 100 mg/l

Practically non toxic:

Based on available data, the classification criteria are not met.

Toxicity to fish (Chronic

toxicity)

Toxicity to

crustacean(Chronic toxicity)

: Remarks: Data not available

: Remarks: NOEC/NOEL > 1.0 - <=10 mg/l (based on test data)

Persistence and degradability

Product:

: Remarks: Inherently biodegradable., Oxidises rapidly by Biodegradability

photo-chemical reactions in air.

Components:

naphtha (petroleum), heavy alkylate:

: Remarks: Inherently biodegradable. Biodegradability

Oxidises rapidly by photo-chemical reactions in air.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Has the potential to bioaccumulate.

Partition coefficient: n-

octanol/water

: log Pow: 6.7 - 7.2

Components:

naphtha (petroleum), heavy alkylate:

Bioaccumulation : Remarks: Has the potential to bioaccumulate.

Mobility in soil

Product:

Mobility : Remarks: Floats on water., If it enters soil, it will adsorb to soil

particles and will not be mobile.

Components:

naphtha (petroleum), heavy alkylate:

Mobility : Remarks: Floats on water., If it enters soil, it will adsorb to soil

particles and will not be mobile.

Other adverse effects

no data available

Product:

Additional ecological

information

: Does not have ozone depletion potential.

Components:

naphtha (petroleum), heavy alkylate:

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Additional ecological information

: Does not have ozone depletion potential.

13 DISPOSAL INFORMATION

Disposal methods

Waste from residues

: Recover or recycle if possible.

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment. Do not dispose into the environment, in drains or in water

Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination.

Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.

Waste, spills or used product is dangerous waste.

Disposal should be in accordance with applicable regional, national, and lead lowe and regulations.

national, and local laws and regulations.

Local regulations may be more stringent than regional or national requirements and must be complied with.

MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides technical aspects at controlling pollutions from ships.

Contaminated packaging

: Drain container thoroughly.

After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not puncture,

cut or weld uncleaned drums.

Send to drum recoverer or metal reclaimer.

Comply with any local recovery or waste disposal regulations.

14. TRANSPORTATION INFORMATION

National Regulations

Hazchem Code : 3Y

International Regulations

ADR

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UN number 1268

Proper shipping name PETROLEUM DISTILLATES, N.O.S.

Class 3 : 111 Packing group Labels 3 Environmentally hazardous : no

IATA-DGR

UN/ID No. : UN 1268

Proper shipping name Petroleum distillates, n.o.s.

Class : 3 Packing group : 111 Labels 3

IMDG-Code

UN number : UN 1268

Proper shipping name PETROLEUM DISTILLATES, N.O.S.

Class 3 Packing group : 111 3 Labels Marine pollutant : no

Maritime transport in bulk according to IMO instruments

MARPOL Annex 1 rules apply for bulk shipments by sea.

Special precautions for user

: Special Precautions: Refer to Section 7, Handling & Storage, Remarks

for special precautions which a user needs to be aware of or

needs to comply with in connection with transport.

Additional Information : This product may be transported under nitrogen blanketing.

Nitrogen is an odourless and invisible gas. Exposure to nitrogen may cause asphyxiation or death. Personnel must observe strict safety precautions when involved with a

confined space entry.

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

OSHA 1994 and relevant regulations.

Factories and Machinery Act 1967 and relevant regulations.

Petroleum (Safety Measures) Act 1984.

Environmental Quality Act 1974 and regulation.

Road Transport (Construction & Use) Dangerous Goods Vehicles Rules 2015.

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Motor Vehicles (Construction, Equipment and Use) (Use of Liquefied Petroleum Gas Fuel System in Motor Vehicles) Rules 1982 – P.U. (A) 392/82 under Road Transport Act, 1987.

Other international regulations

The components of this product are reported in the following inventories:

AIIC Listed DSL Listed **IECSC** Listed KECI Listed **PICCS** Listed **TSCA** Listed TCSI Listed **NZIoC** Listed **ENCS** : Listed

16. OTHER INFORMATION

Full text of H-Statements

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

Full text of other abbreviations

Asp. Tox. Aspiration hazard Flam. Liq. Flammable liquids

Abbreviations and Acronyms

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR -Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO -International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO -International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 -Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose): MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC -New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition

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Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Further information

Training advice : Provide adequate information, instruction and training for

operators.

Other information : A vertical bar (|) in the left margin indicates an amendment

from the previous version.

Sources of key data used to compile the Safety Data

Sheet

: The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU

IUCLID date base, EC 1272 regulation, etc).

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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