Prepared in accordance with the provisions of KKDIK Annex-2 Regulation, 23.06.2017, No: 30105

## **Hexane** (extraction grade)

Initial release date: 2025/01/20 Revision Date: 20.01.2025

Version 1.0

SDS Number: 800001010779

#### SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : Hexane (extraction grade)

Product code : Q1252

Registration number EU : 01-2119474209-33-0002

Synonyms : Hydrocarbons, C6, n-alkanes, isoalkanes, cyclics, n-hexane

CAS-No. : 64742-49-0

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub-: Industrial Solvent.

stance/Mixture

Recommended restrictions

on use

: Restricted to professional users.

This product must not be used in applications other than those

listed in Section 1 without first seeking the advice of the sup-

plier.

1.3 Details of the supplier of the safety data sheet

: Shell Chemicals Europe B.V. Company

PO Box 2334

3000 CH Rotterdam

Netherlands

Telephone : +31 (0)10 441 5137 / +31 (0)10 441 5191

Telefax : +31 (0)20 716 8316 / +31 (0)20 713 9230

E-mail address of person

responsible for the SDS

: sccmsds@shell.com

1.4 Emergency telephone number

Emergency telephone num-

: +44 (0) 1235 239 670 (This telephone number is available 24

hours per day, 7 days per week)

National Poison Counselling Centre (UZEM) - 114

#### **SECTION 2: Hazards identification**

#### 2.1 Classification of the substance or mixture

#### Classification T.R. SEA No 28848

Flammable liquids, Category 2 H225: Highly flammable liquid and vapour.

Aspiration hazard, Category 1 H304: May be fatal if swallowed and enters air-

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ways.

Skin irritation, Category 2 H315: Causes skin irritation.

Specific target organ toxicity - single exposure, Category 3, Narcotic effects

H336: May cause drowsiness or dizziness.

Reproductive toxicity, Category 2 H361: Suspected of damaging fertility or the un-

born child.

Specific target organ toxicity - repeated exposure, Category 2, Central nervous system

H373: May cause damage to organs through pro-

longed or repeated exposure.

, Peripheral nervous system

Long-term (chronic) aquatic hazard, Cat-

egory 2

H411: Toxic to aquatic life with long lasting effects.

#### 2.2 Label elements

#### Labelling T.R. SEA No 28848

Hazard pictograms









Signal word : Danger

Hazard statements : PHYSICAL HAZARDS:

H225 Highly flammable liquid and vapour.

**HEALTH HAZARDS:** 

H304 May be fatal if swallowed and enters air-

ways.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.
H361 Suspected of damaging fertility or the un-

born child.

H373 May cause damage to organs (Central

nervous system, Peripheral nervous system) through prolonged or repeated expo-

sure.

**ENVIRONMENTAL HAZARDS:** 

H411 Toxic to aquatic life with long lasting effects.

Supplemental Hazard

Statements

EUH066

Repeated exposure may cause skin dry-

ness or cracking.

Precautionary statements : Prevention:

P201 P210 Obtain special instructions before use. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

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smoking.

P243 Take action to prevent static discharges.
P273 Avoid release to the environment.

Response:

P301 + P310 IF SWALLOWED: Immediately call a

POISON CENTER/ doctor.

P331 Do NOT induce vomiting.

Storage:

No precautionary phrases.

Disposal:

P501 Dispose of contents/ container to an ap-

proved waste disposal plant.

#### 2.3 Other hazards

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 airvapour mixtures can occur.

Vapours may be irritating to the eye.

#### **SECTION 3: Composition/information on ingredients**

#### 3.1 Substances

Substance name : Hexane (extraction grade)

#### **Hazardous components**

Chemical name	CAS-No. EC-No. Registration number	T.R. SEA No 28848	Concentration (% w/w)
Naphtha (petroleum), hydrotreated light	64742-49-0 265-151-9	Flam. Liq.2; H225 Asp. Tox.1; H304 Skin Irrit.2; H315 STOT SE3; H336 Repr.2; H361 STOT RE2; H373 Aquatic Chronic2; H411	99 - 100

#### **Further information**

#### Contains:

Chemical name	Identification number	Concentration (% w/w)
n-Hexane	110-54-3	<= 55
Hexane, other isomers		>= 45

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#### **SECTION 4: First aid measures**

#### 4.1 Description of first aid measures

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

conditions.

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.

If inhaled : Remove to fresh air. If rapid recovery does not occur,

transport to nearest medical facility for additional treatment.

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.

#### 4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Breathing of high vapour concentrations may cause central

nervous system (CNS) depression resulting in dizziness, lightheadedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and

death.

Skin irritation signs and symptoms may include a burning sen-

sation, redness, swelling, and/or blisters.

No specific hazards under normal use conditions.

Eye irritation signs and symptoms may include a burning sen-

sation, 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,

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chest congestion or continued coughing or wheezing. Peripheral nerve damage may be evidenced by impairment of motor function (incoordination, unsteady walk, or muscle weakness in the extremities, and/or loss of sensation in the arms and legs).

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

#### 4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Call a doctor or poison control center for guidance.

Potential for chemical pneumonitis.

Treat symptomatically.

## **SECTION 5: Firefighting measures**

#### 5.1 Extinguishing media

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

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

Unsuitable extinguishing

media

: Do not use water in a jet.

#### 5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-

fighting

: 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.

#### 5.3 Advice for firefighters

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).

Specific extinguishing meth-

ods

: Standard procedure for chemical fires.

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Further information : Keep adjacent containers cool by spraying with water.

#### **SECTION 6: Accidental release measures**

#### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions

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 unpro-

tected personnel.

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

#### 6.2 Environmental precautions

**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 bond-

ing and grounding (earthing) all equipment. Monitor area with combustible gas indicator.

#### 6.3 Methods and material for containment and cleaning up

Methods for 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 spe-

cialist advice.

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#### 6.4 Reference to other sections

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.

#### **SECTION 7: Handling and storage**

#### 7.1 Precautions for safe handling

Technical measures : Avoid breathing of or direct contact with material. Only use in

well ventilated areas. Wash thoroughly after handling. For 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 stor-

age 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.

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

toilet. Launder contaminated clothing before re-use. Do not ingest. If swallowed, then seek immediate medical assistance.

#### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

: Refer to section 15 for any additional specific legislation cov-

ering 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. 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.

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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 container linings use mild

steel, stainless steel., For container paints, use epoxy paint,

zinc silicate paint.

Unsuitable material: Avoid prolonged contact with natural,

butyl or nitrile rubbers.

7.3 Specific end use(s)

Specific use(s) : Please refer to section 16 and/or the annexes for the regis-

tered uses under REACH.

See additional references that provide safe handling practices for liquids that are determined to be static accumulators: American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices

on Static Electricity).

IEC/TS 60079-32-1: Electrostatic hazards, guidance

#### **SECTION 8: Exposure controls/personal protection**

#### 8.1 Control parameters

#### **Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Technical Hexane		TWA	150 mg/m3	EU HSPA
n-Hexane	110-54-3	TWA (8 Hour)	20 ppm	TR OEL
			72 mg/m3	
		TWA	20 ppm	2006/15/EC
			72 mg/m3	
Further information	Indicative			

#### Biological occupational exposure limits

No biological limit allocated.

#### 8.2 Exposure controls

#### **Engineering measures**

Use sealed systems as far as possible.

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

Local exhaust ventilation is recommended.

Firewater monitors and deluge systems are recommended.

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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

Eye protection

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

#### 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 or neoprene 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.

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Skin and body protection : Wear chemical resistant gloves/gauntlets and boots. Where

risk of splashing, also wear an apron.

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

assessment deems it so.

Respiratory protection : If engineering controls do not maintain airborne concentra-

tions to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specif-

ic 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 appropri-

ate combination of mask and filter.

If air-filtering respirators are suitable for conditions of use: Select a filter suitable for organic gases and vapours [Type A

boiling point >65°C (149°F)].

Protective measures : Personal protective equipment (PPE) should meet recom-

mended national standards. Check with PPE suppliers.

Thermal hazards : Not applicable

#### **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 envi-

ronmental legislation.

Information on accidental release measures are to be found in

section 6.

#### **SECTION 9: Physical and chemical properties**

### 9.1 Information on basic physical and chemical properties

Appearance : liquid

Colour : colourless

Odour : Paraffinic, sweet

Odour Threshold : Data not available

pH : Not applicable

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Melting / freezing point : -95 °C

Initial boiling point and boiling

range

: Typical 63 - 79 °C

Flash point : -27 °C

Method: IP 170

Evaporation rate : 1,4

Method: DIN 53170, di-ethyl ether=1

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Method: ASTM D 3539, nBuAc=1

Flammability

Flammability (solid, gas) : Not applicable

Lower explosion limit and upper explosion limit / flammability limit

Upper explosion limit : upper flammability limit

7,4 %(V)

Lower explosion limit : Lower flammability limit

1,1 %(V)

Vapour pressure : Typical 8.000 Pa (0 °C)

Typical 19.000 Pa (20 °C)

Typical 58.500 Pa (50 °C)

Relative vapour density : 2,8

Relative density : 0,66

Method: ASTM D4052

Density : Typical 670 - 675 kg/m3 (15 °C)

Method: ASTM D4052

Solubility(ies)

Water solubility : 9,5 mg/l

Partition coefficient: n-

octanol/water

: log Pow: 4

Auto-ignition temperature : 375 °C

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Method: ASTM E-659

Decomposition temperature : Not applicable

Viscosity

Viscosity, dynamic : Data not available

Viscosity, kinematic : Typical 0,45 mm2/s (25 °C)

Method: ASTM D445

Explosive properties : Not applicable

Oxidizing properties : Data not available

9.2 Other information

Surface tension : 18,5 mN/m, 20 °C, ASTM D-971

Conductivity : 0,04 pS/m at 20 °C

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 con-

ductivity is below 100 pS/m and is considered semi-

conductive 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

Molecular weight : 86 g/mol

#### **SECTION 10: Stability and reactivity**

#### 10.1 Reactivity

The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.

#### 10.2 Chemical stability

No hazardous reaction is expected when handled and stored according to provisions Stable under normal conditions of use.

#### 10.3 Possibility of hazardous reactions

Hazardous reactions : Reacts with strong oxidising agents.

#### 10.4 Conditions to avoid

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

In certain circumstances product can ignite due to static elec-

tricity.

10.5 Incompatible materials

Materials to avoid : Strong oxidising agents.

#### 10.6 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.

#### **SECTION 11: Toxicological information**

#### 11.1 Information on toxicological effects

exposure

Information on likely routes of : 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

: LC50 (Rat): > 20 mg/l Acute inhalation toxicity

Remarks: Low toxicity by inhalation.

: LD50 (Rabbit): > 2000 mg/kg Acute dermal toxicity

Remarks: Low toxicity

#### Components:

Naphtha (petroleum), hydrotreated light:

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

Remarks: Low toxicity

: LC50 (Rat): > 20 mg/l Acute inhalation toxicity

Remarks: Low toxicity by inhalation.

Acute dermal toxicity : LD50 (Rabbit): > 2000 mg/kg

Remarks: Low toxicity

#### Skin corrosion/irritation

#### **Product:**

Remarks: Causes skin irritation.

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Repeated exposure may cause skin dryness or cracking.

#### **Components:**

#### Naphtha (petroleum), hydrotreated light:

Remarks: Causes skin irritation.

Repeated exposure may cause skin dryness or cracking.

#### Serious eye damage/eye irritation

#### **Product:**

Remarks: Not irritating to eye. Vapours may be irritating to the eye.

#### Components:

### Naphtha (petroleum), hydrotreated light:

Remarks: Not irritating to eye. Vapours may be irritating to the eye.

#### Respiratory or skin sensitisation

#### **Product:**

Remarks: Not a sensitiser.

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

#### **Components:**

#### Naphtha (petroleum), hydrotreated light:

Remarks: Not a sensitiser.

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

#### Germ cell mutagenicity

#### **Product:**

Genotoxicity in vivo : Remarks: Not mutagenic.

### **Components:**

#### Naphtha (petroleum), hydrotreated light:

Genotoxicity in vivo : 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:**

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#### Naphtha (petroleum), hydrotreated light:

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	SEA Carcinogenicity Classification
Naphtha (petroleum), hydrotreated light	No carcinogenicity classification.
n-Hexane	No carcinogenicity classification.
Hexane, other isomers	No carcinogenicity classification.

#### Reproductive toxicity

#### **Product:**

Effects on fertility

Remarks: Suspected of damaging fertility or the unborn child. Causes foetotoxicity in animals at doses which are maternally

toxic.

Affects reproductive system in animals at doses which pro-

duce other toxic effects.

#### **Components:**

#### Naphtha (petroleum), hydrotreated light:

Effects on fertility

Remarks: Suspected of damaging fertility or the unborn child. Causes foetotoxicity in animals at doses which are maternally

toxic.

Affects reproductive system in animals at doses which pro-

duce other toxic effects.

#### STOT - single exposure

#### Product:

Remarks: May cause drowsiness and dizziness.

#### **Components:**

#### Naphtha (petroleum), hydrotreated light:

Remarks: May cause drowsiness and dizziness.

#### STOT - repeated exposure

#### **Product:**

Remarks: Central nervous system: repeated exposure affects the nervous system.

Peripheral nervous system: causes peripheral neuropathy which can be potentiated by ketones.

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

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#### **Components:**

#### Naphtha (petroleum), hydrotreated light:

Remarks: Central nervous system: repeated exposure affects the nervous system. Peripheral nervous system: causes peripheral neuropathy which can be potentiated by ketones. 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), hydrotreated light:

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

#### **Further information**

#### **Product:**

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

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

#### **Components:**

#### Naphtha (petroleum), hydrotreated light:

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

#### **SECTION 12: Ecological information**

#### 12.1 Toxicity

#### **Product:**

Toxicity to fish (Acute toxici-

: Remarks: no data available

tv)

Toxicity to daphnia and other

: Remarks: Toxic

aquatic invertebrates (Acute

 $LL/EL/IL50 > 1 \le 10 \text{ mg/l}$ 

toxicity)

Toxicity to algae (Acute tox-

: Remarks: Harmful

icity)

LL/EL/IL50 >10 <= 100 mg/l

Toxicity to fish (Chronic tox-

icity)

: Remarks: Data not available

Toxicity to daphnia and other aquatic invertebrates (Chron-

: Remarks: Data not available

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ic toxicity)

Toxicity to bacteria (Acute

toxicity) Remarks: Data not available

#### 12.2 Persistence and degradability

**Product:** 

Biodegradability : Remarks: Readily biodegradable.

Oxidises rapidly by photo-chemical reactions in air.

#### 12.3 Bioaccumulative potential

**Product:** 

Bioaccumulation : Remarks: Has the potential to bioaccumulate.

#### 12.4 Mobility in soil

**Product:** 

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

particles and will not be mobile.

#### 12.5 Results of PBT and vPvB assessment

**Product:** 

Assessment : The substance does not fulfill all screening criteria for persis-

tence, bioaccumulation and toxicity and hence is not consid-

ered to be PBT or vPvB..

#### 12.6 Other adverse effects

**Product:** 

Further information : The substance/mixture does not contain components consid-

ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

levels of 0.1% or higher.

Additional ecological infor-

mation

: Remarks: Does not have ozone depletion potential.

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

vidual component(s).

#### **SECTION 13: Disposal considerations**

#### 13.1 Waste treatment methods

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**Product** 

: 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 courses.

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 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.

#### **SECTION 14: Transport information**

#### 14.1 UN number

ADR : UN 1208
RID : UN 1208
IMDG : UN 1208
IATA : UN 1208

14.2 UN proper shipping name

ADR : HEXANES
RID : HEXANES
IMDG : HEXANES

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IATA : HEXANES

### 14.3 Transport hazard class(es)

ADR : 3
RID : 3
IMDG : 3
IATA : 3

#### 14.4 Packing group

ADR

Packing group : II
Classification Code : F1
Hazard Identification Number : 33
Labels : 3

**RID** 

Packing group : II
Classification Code : F1
Hazard Identification Number : 33
Labels : 3

**IMDG** 

Packing group : II Labels : 3

**IATA** 

Packing group : II Labels : 3

#### 14.5 Environmental hazards

**ADR** 

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

**IMDG** 

Marine pollutant : yes

14.6 Special precautions for user

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

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

needs to comply with in connection with transport.

#### 14.7 Maritime transport in bulk according to IMO instruments

Pollution category : Y Ship type : 2

Product name : Hexane (all isomers)

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

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Nitrogen is an odourless and invisible gas. Exposure to nitrogen enriched atmospheres displaces available oxygen which may cause asphyxiation or death. Personnel must observe strict safety precautions when involved with a confined space entry.

Transport in bulk according to Annex II of Marpol and the IBC Code

## **SECTION 15: Regulatory information**

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

KKDIK (30105 (Bis)) - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex 17)

: Conditions of restriction for the following entries should be considered:

Entry number 3

Other regulations : The regulatory information is not intended to be comprehen-

sive. Other regulations may apply to this material.

Regulations on the health and safety precautions for chemicals in the workplace. Regulations on the fire protection of buildings. Regulations on the prevention of industrial acci-

dents and the reduction of their effects.

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

DSL : Listed

IECSC : Listed

KECI : Listed

PICCS : Listed

TSCA : Listed

TCSI : Listed

ENCS : Listed

NZIoC : Listed

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#### 15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

#### **SECTION 16: Other information**

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA -European Chemicals Agency; EC-Number - European Community number; 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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI -Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

#### Prepared by

Name : Eren Aktas

Certified Qualification date : 15.05.2024

Certificate number : TÜV/11.241.01

Expiry date 15.05.2029

**Further information** 

Training advice : Provide adequate information, instruction and training for op-

erators.

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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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#### **Exposure Scenario - Worker**

Exposure coeriano Worke	•
30000000736	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Manufacture of substance- Industrial
Use Descriptor	Sector of Use: SU3, SU8, SU9 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 15 Environmental Release Categories: ERC1, ERC4, ESVOC SpERC 1.1.v1
Scope of process	Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/ recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Section 2.1	Control of Worker Exposure
Product Characteristics	·
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,
Frequency and Duration of	Use
Covers daily exposures up to	8 hours (unless stated differently).
<b>Other Operational Condition</b>	
	n 20°C above ambient temperature (unless stated differently).
	ard of occupational hygiene is implemented.
Contributing Scenarios	Risk Management Measures
General measures (skin irritants).  Avoid direct skin contact with product. Identify potential for indirect skin contact. Wear gloves (tested to EN374 hand contact with substance likely. Clean up contamin tion/spills as soon as they occur. Wash off any skin contact mation immediately. Provide basic employee training to vent / minimise exposures and to report any skin problem.	
General exposures (closed systems)PROC1PROC2PRO	Ensure material transfers are under containment or extract ventilation.
General exposures (open systems)PROC4	Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more than 1 hour. , or: Wear a respirator conforming to EN140 with Type A filter or

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better.

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ventilation.  Laboratory activitiesPROC15  Handle in a fume cupboard or under extract ventilation.  Bulk transfers(open systems)PROC8b  Provide extraction ventilation at points where emissions of cur.  Bulk transfers(closed systems)PROC8b  Ensure material transfers are under containment or extract ventilation.	Draces compling DDOC9h	Engure meterial transfers are under	containment or extract	
Bulk transfers(open systems)PROC8b cur.  Bulk transfers(closed systems)PROC8b cur.  Ensure material transfers are under containment or extraction extensions of cur.  Ensure material transfers are under containment or extraction development cleaning and maintenancePROC8a Drain down and flush system prior to equipment break-in maintenancePROC8a Storage.PROC1 Store substance within a closed system.  StoragePROC2 Store substance within a closed system.  Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more to a hours.  Section 2.2 Control of Environmental Exposure  Substance is isomeric mixture.  Predominantly hydrophobic.  Readily biodegradable.  Amounts Used  Fraction of EU tonnage used in region: 0,1 Regional use tonnage (tonnes/year): 1,5E+04  Fraction of Regional tonnage used locally: 1  Annual site tonnage (tonnes/year): 1,5E+04  Maximum daily site tonnage (kg/day): 5,1E+04  Frequency and Duration of Use  Continuous release.Emission Days (days/year): 300  Environmental factors not influenced by risk management Local freshwater dilution factor: 10  Cother Operational Conditions affecting Environmental Exposure  Release fraction to air from process (initial release prior to RMM): 5,0E-02  Release fraction to soil from process (initial release prior to RMM): 1,0E-04  Technical conditions and measures at process level (source) to prevent release  Common practices vary across sites thus conservative process release estimates used.  Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil  Risk from environmental exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite	Process samplingPROC8b		containment or extract	
tems)PROC8b cur.  Bulk transfers(closed systems)PROC8b Ensure material transfers are under containment or extract ventilation.  Equipment cleaning and maintenancePROC8a Drain down and flush system prior to equipment break-in maintenance.  Storage.PROC1 Store substance within a closed system.  Storage.PROC2 Store substance within a closed system.  Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more to thours.  Section 2.2 Control of Environmental Exposure  Substance is isomeric mixture.  Predominantly hydrophobic.  Readily biodegradable.  Amounts Used  Fraction of EU tonnage used in region: 0,1  Regional use tonnage (tonnes/year): 1,5E+04  Fraction of Regional tonnage used locally: 1  Annual site tonnage (tonnes/year): 1,5E+04  Frequency and Duration of Use  Continuous release.Emission Days (days/year): 300  Environmental factors not influenced by risk management  Local freshwater dilution factor: 10  Cother Operational Conditions affecting Environmental Exposure  Release fraction to air from process (initial release prior to RMM): 5,0E-02  Release fraction to soil from process (initial release prior to RMM): 1,0E-04  Technical conditions and measures at process level (source) to prevent release  Common practices vary across sites thus conservative process release effection and measures at process level (source) to prevent release  Common practices vary across sites thus conservative process release effection and measures at process release effection to mimital exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite	Laboratory activitiesPROC15	Handle in a fume cupboard or under	extract ventilation.	
tems)PROC8b ventilation.  Equipment cleaning and maintenancePROC8a  Drain down and flush system prior to equipment break-in maintenancePROC8a  Storage.PROC1  Store substance within a closed system.  Storage.PROC2  Store substance within a closed system.  Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more to 4 hours  Section 2.2  Control of Environmental Exposure  Substance is isomeric mixture. Predominantly hydrophobic.  Readily biodegradable.  Amounts Used  Fraction of EU tonnage used in region: Regional use tonnage (tonnes/year): 1,5E+04  Fraction of Regional tonnage used locally: 1 Annual site tonnage (tonnes/year): 1,5E+04  Maximum daily site tonnage (kg/day): 5,1E+04  Frequency and Duration of Use Continuous release.Emission Days (days/year): 300  Environmental factors not influenced by risk management Local freshwater dilution factor: 10  Other Operational Conditions affecting Environmental Exposure  Release fraction to air from process (initial release prior to RMM): Release fraction to wastewater from process (initial release prior to RMM): 1,0E-04  Technical conditions and measures at process level (source) to prevent release  Common practices vary across sites thus conservative process release estimates used.  Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Risk from environmental exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite		•	nts where emissions oc	
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StoragePROC2  Store substance within a closed system. Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more the 4 hours  Section 2.2  Control of Environmental Exposure  Substance is isomeric mixture.  Predominantly hydrophobic.  Readily biodegradable.  Amounts Used  Fraction of EU tonnage used in region: Regional use tonnage (tonnes/year): 1,5E+04  Fraction of Regional tonnage used locally: 1 Annual site tonnage (tonnes/year): 1,5E+04  Maximum daily site tonnage (kg/day): 5,1E+04  Frequency and Duration of Use Continuous release.Emission Days (days/year): 300  Environmental factors not influenced by risk management Local freshwater dilution factor: 100  Other Operational Conditions affecting Environmental Exposure Release fraction to air from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-04  Technical conditions and measures at process level (source) to prevent release Common practices vary across sites thus conservative process release estimates used.  Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil  Risk from environmental exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite			Drain down and flush system prior to equipment break-in or maintenance.	
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Maximum daily site tonnage (kg/day): 5,1E+04  Frequency and Duration of Use  Continuous release.Emission Days (days/year): 300  Environmental factors not influenced by risk management  Local freshwater dilution factor: 100  Cother Operational Conditions affecting Environmental Exposure  Release fraction to air from process (initial release prior to RMM): 5,0E-02  Release fraction to wastewater from process (initial release prior to RMM): 3,0E-04  RMM):  Release fraction to soil from process (initial release prior to RMM): 1,0E-04  Technical conditions and measures at process level (source) to prevent release  Common practices vary across sites thus conservative process release estimates used.  Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil  Risk from environmental exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite			1	
Continuous release.Emission Days (days/year):  Brivironmental factors not influenced by risk management  Local freshwater dilution factor:  Local marine water dilution factor:  100  Other Operational Conditions affecting Environmental Exposure  Release fraction to air from process (initial release prior to RMM):  Release fraction to wastewater from process (initial release prior to RMM):  Release fraction to soil from process (initial release prior to RMM):  1,0E-04  Technical conditions and measures at process level (source) to prevent release  Common practices vary across sites thus conservative process release estimates used.  Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil  Risk from environmental exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite				
Continuous release.Emission Days (days/year):  Environmental factors not influenced by risk management  Local freshwater dilution factor:  Local marine water dilution factor:  Other Operational Conditions affecting Environmental Exposure  Release fraction to air from process (initial release prior to RMM):  Release fraction to wastewater from process (initial release prior to RMM):  Release fraction to soil from process (initial release prior to RMM):  1,0E-04  Technical conditions and measures at process level (source) to prevent release  Common practices vary across sites thus conservative process release estimates used.  Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil  Risk from environmental exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite	Maximum daily site tonnage (	(kg/day):	5,1E+04	
Environmental factors not influenced by risk management  Local freshwater dilution factor:  Local marine water dilution factor:  Other Operational Conditions affecting Environmental Exposure  Release fraction to air from process (initial release prior to RMM):  Release fraction to wastewater from process (initial release prior to RMM):  Release fraction to soil from process (initial release prior to RMM):  1,0E-04  Technical conditions and measures at process level (source) to prevent release  Common practices vary across sites thus conservative process release estimates used.  Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil  Risk from environmental exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite				
Local freshwater dilution factor:  Local marine water dilution factor:  Other Operational Conditions affecting Environmental Exposure  Release fraction to air from process (initial release prior to RMM):  Release fraction to wastewater from process (initial release prior to RMM):  Release fraction to soil from process (initial release prior to RMM):  1,0E-04  Technical conditions and measures at process level (source) to prevent release  Common practices vary across sites thus conservative process release estimates used.  Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil  Risk from environmental exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite	Continuous release.Emission	Days (days/year):	300	
Local marine water dilution factor:  Other Operational Conditions affecting Environmental Exposure  Release fraction to air from process (initial release prior to RMM):  Release fraction to wastewater from process (initial release prior to RMM):  Release fraction to soil from process (initial release prior to RMM):  Technical conditions and measures at process level (source) to prevent release  Common practices vary across sites thus conservative process release estimates used.  Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil  Risk from environmental exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite				
Release fraction to air from process (initial release prior to RMM):  Release fraction to wastewater from process (initial release prior to RMM):  Release fraction to wastewater from process (initial release prior to RMM):  Release fraction to soil from process (initial release prior to RMM):  1,0E-04  Technical conditions and measures at process level (source) to prevent release  Common practices vary across sites thus conservative process release estimates used.  Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil  Risk from environmental exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite				
Release fraction to air from process (initial release prior to RMM):  Release fraction to wastewater from process (initial release prior to RMM):  Release fraction to soil from process (initial release prior to RMM):  1,0E-04  Technical conditions and measures at process level (source) to prevent release  Common practices vary across sites thus conservative process release estimates used.  Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil  Risk from environmental exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite	Local marine water dilution factor: 100		100	
Release fraction to wastewater from process (initial release prior to RMM):  Release fraction to soil from process (initial release prior to RMM):  1,0E-04  Technical conditions and measures at process level (source) to prevent release  Common practices vary across sites thus conservative process release estimates used.  Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil  Risk from environmental exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite				
RMM):  Release fraction to soil from process (initial release prior to RMM):  1,0E-04  Technical conditions and measures at process level (source) to prevent release  Common practices vary across sites thus conservative process release estimates used.  Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil  Risk from environmental exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite				
Technical conditions and measures at process level (source) to prevent release  Common practices vary across sites thus conservative process release estimates used.  Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil  Risk from environmental exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite	RMM):		3,0E-04	
Common practices vary across sites thus conservative process release estimates used.  Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil  Risk from environmental exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite				
lease estimates used.  Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil  Risk from environmental exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite			revent release	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil  Risk from environmental exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite		ss sites thus conservative process re-		
sions and releases to soil  Risk from environmental exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite			<u> </u>	
Risk from environmental exposure is driven by freshwater sediment.  Prevent discharge of undissolved substance to or recover from onsite		s and measures to reduce or limit disch	arges, air emis-	
Prevent discharge of undissolved substance to or recover from onsite		and the first of t		
wasiewaler.		ived substance to or recover from onsite		
If discharging to domestic sewage treatment plant, no onsite		us no trooting out when the second		

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waatawatar traatment required	
wastewater treatment required.	00
Treat air emission to provide a typical removal efficiency of (%)	90
Treat onsite wastewater (prior to receiving water discharge) to provide	45,8
the required removal efficiency of >= (%)	
If discharging to domestic sewage treatment plant, provide the re-	0
quired onsite wastewater removal efficiency of (%)	
Organisational measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils.	
Sludge should be incinerated, contained or reclaimed.	
Conditions and Measures related to municipal sewage treatment p	lant
Estimated substance removal from wastewater via domestic sewage	96,2
treatment (%)	
Total efficiency of removal from wastewater after onsite and offsite	96,2
(domestic treatment plant) RMMs (%)	
Maximum allowable site tonnage (MSafe) based on release following	7,2E+05
total wastewater treatment removal (kg/d)	,
Assumed domestic sewage treatment plant flow (m3/d)	1,0E+04
Conditions and Measures related to external treatment of waste for	r disposal
During manufacturing no waste of the substance is generated.	•
Conditions and measures related to external recovery of waste	
During manufacturing no waste of the substance is generated.	

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise	
indicated.	

### Section 3.2 - Environment

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - Health	
Predicted exposures are not	expected to exceed the DN(M)EL when the Risk Management
Measures/Operational Condi	tions outlined in Section 2 are implemented.
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.	
Risk Management Measures	are based on qualitative risk characterisation.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

#### Section 4.2 - Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management

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#### measures.

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org).

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#### **Exposure Scenario - Worker**

General exposures (open sys-

tems)PROC4

Exposure Scenario - Worker	
30000000737	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Distribution of substance- Industrial
Use Descriptor	Sector of Use: SU3, SU8, SU9
	Process Categories: PROC 1, PROC 2, PROC 3, PROC 4,
	PROC 8a, PROC 8b, PROC 9, PROC 15
	Environmental Release Categories: ERC1, ERC2, ERC3,
	ERC4, ERC5, ERC6a, ERC6b, ERC 6C, ERC 6D, ERC7,
	ESVOC SpERC 1.1b.v1
Scope of process	Loading (including marine vessel/barge, rail/road car and IBC
	loading) and repacking (including drums and small packs) of
	substance, including its sampling, storage, unloading distribu-
	tion and associated laboratory activities.
	·

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Section 2.1	Control of Worker Exposure
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Concentration of the Sub-	Covers use of substance/product up to 100% (unless stated
stance in Mixture/Article	differently).,
Frequency and Duration of	Use
Covers daily exposures up to	8 hours (unless stated differently).
Other Operational Conditio	ns affecting Exposure
Assumes use at not more that	in 20°C above ambient temperature (unless stated differently).
Assumes a good basic stand	ard of occupational hygiene is implemented.
Contributing Scenarios	Risk Management Measures
General measures (skin irritants).	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.
General exposures (closed systems)PROC1PROC2PRO	Ensure material transfers are under containment or extract ventilation.

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1 hour.

better.

Ensure operation is undertaken outdoors.

Avoid carrying out activities involving exposure for more than

Wear a respirator conforming to EN140 with Type A filter or

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Process samplingPROC3	Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more than 1 hour.
Laboratory activitiesPROC15	Handle in a fume cupboard or under extract ventilation.
Bulk transfers(closed systems)PROC8b	Ensure material transfers are under containment or extract ventilation.
Bulk transfers(open systems)PROC8b	Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more than 1 hour. , or: Wear a respirator conforming to EN140 with Type A filter or better.
Drum and small package fill-ingPROC9	Fill containers/cans at dedicated filling points supplied with local extract ventilation.
Equipment cleaning and maintenancePROC8a	Drain down and flush system prior to equipment break-in or maintenance.
Storage.PROC1PROC2	Store substance within a closed system. Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more than 4 hours

Section 2.2	<b>Control of Environmental Exposure</b>	
Substance is isomeric mixture	Substance is isomeric mixture.	
Predominantly hydrophobic.		
Readily biodegradable.		
Amounts Used		
Fraction of EU tonnage used	in region:	0,1
Regional use tonnage (tonnes	s/year):	600
Fraction of Regional tonnage	used locally:	2,0E-03
Annual site tonnage (tonnes/)		1,2
Maximum daily site tonnage (		60
Frequency and Duration of		
Continuous release.Emission Days (days/year): 20		20
Environmental factors not influenced by risk management		
Local freshwater dilution factor	or:	10
Local marine water dilution factor:		100
	ns affecting Environmental Exposure	
	rocess (initial release prior to RMM):	1,0E-03
Release fraction to wastewater from process (initial release prior to		1,0E-05
RMM):		
Release fraction to soil from process (initial release prior to RMM): 1,0E-05		
	easures at process level (source) to p	prevent release
	ss sites thus conservative process re-	
lease estimates used.		

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Technical onsite conditions and measures to reduce or limit disch sions and releases to soil	arges, air emis-
Risk from environmental exposure is driven by freshwater.	
Prevent discharge of undissolved substance to or recover from onsite	
wastewater.	
No wastewater treatment required.	
Treat air emission to provide a typical removal efficiency of (%)	90
Treat onsite wastewater (prior to receiving water discharge) to provide	0
the required removal efficiency of >= (%)	
If discharging to domestic sewage treatment plant, no secondary	0
wastewater treatment required.	
Organisational measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils.	
Sludge should be incinerated, contained or reclaimed.	
Conditions and Measures related to municipal sewage treatment p	
Estimated substance removal from wastewater via domestic sewage	96,2
treatment (%)	
Total efficiency of removal from wastewater after onsite and offsite	96,2
(domestic treatment plant) RMMs (%)	0.45 05
Maximum allowable site tonnage (MSafe) based on release following	2,1E+05
total wastewater treatment removal (kg/d)	2.05.02
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
Conditions and Measures related to external treatment of waste fo	•
External treatment and disposal of waste should comply with applicable	local and/or regional
regulations.	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable	local and/or regional
regulations.	iodai aria, or rogioriar
· - <del>g · · · · · · · · ·</del>	

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

#### Section 3.2 - Environment

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE	
	EXPOSURE SCENARIO	
Section 4.1 - Health		
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management		
Measures/Operational Conditions outlined in Section 2 are implemented.		
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.		
Risk Management Measures are based on qualitative risk characterisation		

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Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

#### **Section 4.2 - Environment**

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org).

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# **Hexane** (extraction grade)

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#### **Exposure Scenario - Worker**

AND	
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SECTION 1	EXPOSURE SCENARIO TITLE
Title	Formulation & (re)packing of substances and mixtures- Industrial
Use Descriptor	Sector of Use: SU3, SU10 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 8a, PROC 8b, PROC 9, PROC 14, PROC 15 Environmental Release Categories: ERC2, ESVOC SpERC 2.2.v1
Scope of process	Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Section 2.1	Control of Worker Exposure
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,
Frequency and Duration of	
	8 hours (unless stated differently).
Other Operational Condition	
Assumes use at not more than 20°C above ambient temperature (unless stated differently).	
	ard of occupational hygiene is implemented.
-	
Contributing Scenarios	Risk Management Measures
General measures (skin irritants).	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.
General exposures (closed systems)PROC1PROC2PRO	C3 Ensure material transfers are under containment or extract ventilation.
General exposures (open systems)PROC4	- Provide extraction ventilation at points where emissions occur.
Batch processes at elevated temperaturesOperation is car	Ensure material transfers are under containment or extract ventilation.

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ried out at elevated temperature

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(> 20°C above ambient temper- ature).PROC3		
Process samplingPROC3	Ensure material transfers are under oventilation. , or: Avoid carrying out activities involving	
	1 hour.	
Laboratory activitiesPROC15	Handle in a fume cupboard or under	extract ventilation.
Bulk transfersPROC8b	Ensure material transfers are under coventilation.	containment or extract
Mixing operations (open systems)PROC5	Provide extraction ventilation at points where emissions occur.	
ManualTransfer from/pouring from containersNon-dedicated facilityPROC8a	Provide extraction ventilation at points where emissions occur.	
Drum/batch transfersDedicated facilityPROC8b	Provide extraction ventilation at points where emissions occur.	
Production or preparation or articles by tabletting, compression, extrusion or pelletisationPROC14	Handle substance within a predominantly closed system provided with extract ventilation.	
Drum and small package fill-ingPROC9	Fill containers/cans at dedicated filling local extract ventilation.	g points supplied with
Equipment cleaning and maintenancePROC8a	Drain down and flush system prior to equipment break-in or maintenance.	
Storage.PROC1PROC2	Store substance within a closed system. Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more than 4 hours	
Section 2.2 Co	ntrol of Environmental Exposure	
Substance is isomeric mixture.		
Predominantly hydrophobic.		
Readily biodegradable.		
Amounts Used		
Fraction of EU tonnage used in re		0,1
Regional use tonnage (tonnes/yea	,	3,1E+02
Fraction of Regional tonnage used		1 245.00
Annual site tonnage (tonnes/year)		3,1E+02
Maximum daily site tonnage (kg/day):		3,1E+03
Frequency and Duration of Use		100
	Continuous release.Emission Days (days/year): 100  Environmental factors not influenced by risk management	
LITVITOTITIETILAT TACLOTS HOL INHU	enced by fisk management	

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Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	
Release fraction to air from process (initial release prior to RMM):	2,5E-02
Release fraction to wastewater from process (initial release prior to RMM):	2,0E-04
Release fraction to soil from process (initial release prior to RMM):	1,0E-04
Technical conditions and measures at process level (source) to pro-	event release
Common practices vary across sites thus conservative process release estimates used.	
Technical onsite conditions and measures to reduce or limit discharges and releases to soil	arges, air emis-
Risk from environmental exposure is driven by freshwater sediment.	
Prevent discharge of undissolved substance to or recover from onsite wastewater.	
No wastewater treatment required.	
Treat air emission to provide a typical removal efficiency of (%)	0
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)	0
If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.	0
Organisational measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils.	
Sludge should be incinerated, contained or reclaimed.	
Conditions and Measures related to municipal sewage treatment p	lant
Estimated substance removal from wastewater via domestic sewage treatment (%)	96,2
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	96,2
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	2,2E+05
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
Conditions and Measures related to external treatment of waste for	r disposal
External treatment and disposal of waste should comply with applicable regulations.	local and/or regional
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable regulations.	local and/or regional

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

Section 3.2 -Environment	
The Hydrocarbon Block Method has been used to calculate enviro	nmental exposure with

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the Petrorisk model.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE
	EXPOSURE SCENARIO

#### Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.

Risk Management Measures are based on qualitative risk characterisation.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

#### **Section 4.2 - Environment**

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org).

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#### **Exposure Scenario - Worker**

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30000000747		
	I	
SECTION 1	EXPOSURE SCENARIO TITLE	
Title	Uses in Coatings- Industrial	
Use Descriptor	Sector of Use: SU3	
	Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 7, PROC 8a, PROC 8b, PROC 9, PROC 10, PROC 13, PROC 14, PROC 15 Environmental Release Categories: ERC4, ESVOC SpERC 4.3a.v1	
Scope of process	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.	

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Section 2.1	Control of Worker Exposure
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,
Frequency and Duration of	
	o 8 hours (unless stated differently).
Other Operational Condition	
Assumes a good basic stand	an 20°C above ambient temperature (unless stated differently). dard of occupational hygiene is implemented.
Contributing Scenarios	Risk Management Measures
General measures (skin irritants).	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.
General exposures (closed systems)PROC1	No other specific measures identified.
General exposures (closed systems) with sample collectionUse in contained systemsPROC2	Ensure material transfers are under containment or extract ventilation.
Film formation - force dry-	Ensure material transfers are under containment or extract

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ing, stoving and other technologies.(closed systems)Operation is carried out at elevated temperature (> 20°C above ambient temperature).PROC2	ventilation.
Mixing operations (closed systems)General exposures (closed systems)PROC3	Ensure material transfers are under containment or extract ventilation.
Film formation - air dry- ingPROC4	Provide extraction ventilation at points where emissions occur.
Preparation of material for applicationMixing operations (open systems)PROC5	Provide extraction ventilation at points where emissions occur.
Spraying (automat-ic/robotic)PROC7	Carry out in a vented booth provided with laminar airflow.
ManualSprayingPROC7	Carry out in a vented booth provided with laminar airflow. , or: Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). Wear a respirator conforming to EN140 with Type A filter or better.
Material transfersNon-dedicated facilityPROC8a	Provide extraction ventilation at points where emissions occur. , or: Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). Avoid carrying out activities involving exposure for more than 1 hour.
Material transfersDedicated facilityPROC8b	Provide extraction ventilation at points where emissions occur.
Roller, spreader, flow applicationPROC10	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.  Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).
Dipping, immersion and pouringPROC13	Provide extraction ventilation at points where emissions occur.
Laboratory activitiesPROC15	Handle in a fume cupboard or under extract ventilation.
Material trans- fersDrum/batch transfer- sTransfer from/pouring from containersPROC9	Provide extract ventilation to material transfer points and other openings. , or: Wear a respirator conforming to EN140 with Type A filter or better.

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Prepared in accordance with the provisions of KKDIK Annex-2 Regulation, 23.06.2017, No: 30105

# **Hexane** (extraction grade)

Initial release date: 2025/01/20 Revision Date: 20.01.2025

Version 1.0

SDS Number: 800001010779

Production or preparation or articles by tabletting, compression, extrusion or pelletisationPROC14	Provide extraction ventilation at points where emissions occur. , or: Wear a respirator conforming to EN140 with Type A filter or better.		
Storage.PROC1	Store substance within a closed system.		
	·		
Section 2.2	Control of Environmental Exposure	1	
Substance is isomeric mixture	9.		
Predominantly hydrophobic.			
Readily biodegradable.			
Amounts Used		1	
Fraction of EU tonnage used		0,1	
Regional use tonnage (tonne		8,3E+02	
Fraction of Regional tonnage		1	
Annual site tonnage (tonnes/		8,3E+02	
Maximum daily site tonnage (		4,2E+04	
Frequency and Duration of		T	
Continuous release.Emission	Days (days/year):	20	
	nfluenced by risk management	T	
Local freshwater dilution factor	-	10	
Local marine water dilution fa		100	
	ns affecting Environmental Exposure	100504	
	rocess (initial release prior to RMM):	9,8E-01	
Release fraction to wastewater from process (initial release prior to RMM):		7,0E-04	
Release fraction to soil from process (initial release prior to RMM):		0	
	neasures at process level (source) to pr	event release	
Common practices vary across sites thus conservative process re- lease estimates used.			
Technical onsite conditions	s and measures to reduce or limit discha	arges, air emis-	
sions and releases to soil			
	osure is driven by freshwater sediment.		
Prevent discharge of undissolved substance to or recover from onsite wastewater.			
If discharging to domestic sev wastewater treatment require	wage treatment plant, no secondary d.		
Treat air emission to provide	a typical removal efficiency of (%)	90	
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)		94,3	
	wage treatment plant, no secondary	0	
wastewater treatment require	wastewater treatment required.		
Organisational measures to prevent/limit release from site			
Do not apply industrial sludge to natural soils.			
Sludge should be incinerated, contained or reclaimed.			
Conditions and Measures related to municipal sewage treatment plant			
Estimated substance remova	I from wastewater via domestic sewage	96,2	

Prepared in accordance with the provisions of KKDIK Annex-2 Regulation, 23.06.2017, No: 30105

# **Hexane** (extraction grade)

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treatment (%)	
Total efficiency of removal from wastewater after onsite and offsite	96,2
(domestic treatment plant) RMMs (%)	
Maximum allowable site tonnage (MSafe) based on release following	6,2E+04
total wastewater treatment removal (kg/d)	
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
Conditions and Massaures related to external treatment of wests for	r dianagal

#### Conditions and Measures related to external treatment of waste for disposal

External treatment and disposal of waste should comply with applicable local and/or regional regulations.

#### Conditions and measures related to external recovery of waste

External recovery and recycling of waste should comply with applicable local and/or regional regulations.

SECTION 3	EXPOSURE ESTIMATION	
Section 3.1 - Health		
The ECETOC TRA tool has b	een used to estimate workplace exposures unless otherwise	

indicated.

#### Section 3.2 - Environment

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

SECTION 4 GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO	JIDANCE TO CHECK COMPLIANCE WITH THE (POSURE SCENARIO	SECTION 4
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#### Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

#### Section 4.2 -Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org).

Prepared in accordance with the provisions of KKDIK Annex-2 Regulation, 23.06.2017, No: 30105

# **Hexane** (extraction grade)

Initial release date: 2025/01/20 Revision Date: 20.01.2025

Version 1.0

SDS Number: 800001010779

#### **Exposure Scenario - Worker**

Exposure oceriano - Worke	•
30000000748	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Cleaning Agents- Industrial
Use Descriptor	Sector of Use: SU3
	Process Categories: PROC 1, PROC 2, PROC 3, PROC 4,
	PROC 7, PROC 8a, PROC 8b, PROC 10, PROC 13
	Environmental Release Categories: ERC4, ESVOC SpERC
	4.4a.v1
Scope of process	Covers the use as a component of cleaning products including transfer from storage, pouring/unloading from drums or containers. Exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand), related equipment cleaning and maintenance.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,	
Frequency and Duration of	Use	
Covers daily exposures up to	o 8 hours (unless stated differently).	
Other Operational Conditio		
	an 20°C above ambient temperature (unless stated differently).	
Assumes a good basic standard of occupational hygiene is implemented.		
Contributing Scenarios	Risk Management Measures	
General measures (skin irrita	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.	
Bulk transfersNon-dedicated cilityPROC8a	fa- Ensure material transfers are under containment or extract ventilation. , or: Wear a respirator conforming to EN140 with Type A filter or better.	
Automated process with (sen closed systems.Use in contain		

Prepared in accordance with the provisions of KKDIK Annex-2 Regulation, 23.06.2017, No: 30105

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systemsPROC2	
Automated process with (semi) closed systems.Drum/batch transfersUse in contained batch processesPROC3	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).  Avoid carrying out activities involving exposure for more than 4 hours , or:  Wear a respirator conforming to EN140 with Type A filter or better.
Application of cleaning products in closed systemsPROC2	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).
Filling/ preparation of equipment from drums or containers.Dedicated facilityPROC8b	Ensure material transfers are under containment or extract ventilation. , or: Wear a respirator conforming to EN140 with Type A filter or better.
Use in contained batch process- esPROC4	Provide extraction ventilation at points where emissions occur.
Degreasing small objects in cleaning stationPROC13	Provide extraction ventilation at points where emissions occur. , or: Wear a respirator conforming to EN140 with Type A filter or better.
Cleaning with low-pressure washersPROC10	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).  Avoid carrying out activities involving exposure for more than 1 hour.  , or:  Wear a respirator conforming to EN140 with Type A filter or better.
Cleaning with high pressure washersPROC7	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).  Limit the substance content in the product to 25 %.  Avoid carrying out activities involving exposure for more than 1 hour.  , or:  Wear a respirator conforming to EN140 with Type A filter or better.
ManualSurfacesCleaningPROC10	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Limit the substance content in the product to 25 %.  Avoid carrying out operation for more than 1 hour.  , or:  Wear a respirator conforming to EN140 with Type A filter or better.

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# **Hexane** (extraction grade)

Initial release date: 2025/01/20 Revision Date: 20.01.2025

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SDS Number: 800001010779

	stem.
Section 2.2 Control of Environmental Exposure	
Substance is isomeric mixture.	
Predominantly hydrophobic.	
Readily biodegradable.	
Amounts Used	
Fraction of EU tonnage used in region:	0,1
Regional use tonnage (tonnes/year):	340
Fraction of Regional tonnage used locally:	0,3
· · · · · · · · · · · · · · · · · · ·	100
Annual site tonnage (tonnes/year):	5,0E+03
Maximum daily site tonnage (kg/day):	3,0⊑+03
Frequency and Duration of Use	100
Continuous release.Emission Days (days/year):	20
Environmental factors not influenced by risk management	Γ
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	T
Release fraction to air from process (initial release prior to RMM):	1,0E+00
Release fraction to wastewater from process (initial release prior to RMM):	3,0E-06
Release fraction to soil from process (initial release prior to RMM):	0
Technical conditions and measures at process level (source) to pr	event release
Common practices vary across sites thus conservative process re-	
lease estimates used.	
Technical onsite conditions and measures to reduce or limit disch sions and releases to soil	arges, air emis-
Technical onsite conditions and measures to reduce or limit disch sions and releases to soil Risk from environmental exposure is driven by freshwater.	arges, air emis-
Technical onsite conditions and measures to reduce or limit disch sions and releases to soil  Risk from environmental exposure is driven by freshwater.  Prevent discharge of undissolved substance to or recover from onsite wastewater.	arges, air emis-
Technical onsite conditions and measures to reduce or limit disch sions and releases to soil  Risk from environmental exposure is driven by freshwater.  Prevent discharge of undissolved substance to or recover from onsite wastewater.  If discharging to domestic sewage treatment plant, no secondary	arges, air emis-
Technical onsite conditions and measures to reduce or limit dischesions and releases to soil  Risk from environmental exposure is driven by freshwater.  Prevent discharge of undissolved substance to or recover from onsite wastewater.  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.	arges, air emis-
Technical onsite conditions and measures to reduce or limit discharges and releases to soil  Risk from environmental exposure is driven by freshwater.  Prevent discharge of undissolved substance to or recover from onsite wastewater.  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Treat air emission to provide a typical removal efficiency of (%)	arges, air emis-
Technical onsite conditions and measures to reduce or limit disch sions and releases to soil  Risk from environmental exposure is driven by freshwater.  Prevent discharge of undissolved substance to or recover from onsite wastewater.  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Treat air emission to provide a typical removal efficiency of (%)  Treat onsite wastewater (prior to receiving water discharge) to provide	
Technical onsite conditions and measures to reduce or limit disch sions and releases to soil  Risk from environmental exposure is driven by freshwater.  Prevent discharge of undissolved substance to or recover from onsite wastewater.  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Treat air emission to provide a typical removal efficiency of (%)  Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)  If discharging to domestic sewage treatment plant, no secondary	70
Technical onsite conditions and measures to reduce or limit disch sions and releases to soil  Risk from environmental exposure is driven by freshwater.  Prevent discharge of undissolved substance to or recover from onsite wastewater.  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Treat air emission to provide a typical removal efficiency of (%)  Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.	70
lease estimates used.  Technical onsite conditions and measures to reduce or limit disch sions and releases to soil  Risk from environmental exposure is driven by freshwater.  Prevent discharge of undissolved substance to or recover from onsite wastewater.  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Treat air emission to provide a typical removal efficiency of (%)  Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Organisational measures to prevent/limit release from site  Do not apply industrial sludge to natural soils.	70
Technical onsite conditions and measures to reduce or limit disch sions and releases to soil  Risk from environmental exposure is driven by freshwater.  Prevent discharge of undissolved substance to or recover from onsite wastewater.  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Treat air emission to provide a typical removal efficiency of (%)  Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Organisational measures to prevent/limit release from site	70
Technical onsite conditions and measures to reduce or limit disch sions and releases to soil  Risk from environmental exposure is driven by freshwater.  Prevent discharge of undissolved substance to or recover from onsite wastewater.  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Treat air emission to provide a typical removal efficiency of (%)  Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Organisational measures to prevent/limit release from site  Do not apply industrial sludge to natural soils.  Sludge should be incinerated, contained or reclaimed.	70 0
Technical onsite conditions and measures to reduce or limit dischesions and releases to soil  Risk from environmental exposure is driven by freshwater.  Prevent discharge of undissolved substance to or recover from onsite wastewater.  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Treat air emission to provide a typical removal efficiency of (%)  Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Organisational measures to prevent/limit release from site  Do not apply industrial sludge to natural soils.  Sludge should be incinerated, contained or reclaimed.  Conditions and Measures related to municipal sewage treatment p	70 0 0
Technical onsite conditions and measures to reduce or limit dischesions and releases to soil  Risk from environmental exposure is driven by freshwater.  Prevent discharge of undissolved substance to or recover from onsite wastewater.  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Treat air emission to provide a typical removal efficiency of (%)  Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Organisational measures to prevent/limit release from site  Do not apply industrial sludge to natural soils.  Sludge should be incinerated, contained or reclaimed.  Conditions and Measures related to municipal sewage treatment p  Estimated substance removal from wastewater via domestic sewage	70 0
Technical onsite conditions and measures to reduce or limit dischesions and releases to soil  Risk from environmental exposure is driven by freshwater.  Prevent discharge of undissolved substance to or recover from onsite wastewater.  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Treat air emission to provide a typical removal efficiency of (%)  Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Organisational measures to prevent/limit release from site  Do not apply industrial sludge to natural soils.  Sludge should be incinerated, contained or reclaimed.  Conditions and Measures related to municipal sewage treatment p  Estimated substance removal from wastewater via domestic sewage treatment (%)	70 0 0
Technical onsite conditions and measures to reduce or limit dischesions and releases to soil  Risk from environmental exposure is driven by freshwater.  Prevent discharge of undissolved substance to or recover from onsite wastewater.  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Treat air emission to provide a typical removal efficiency of (%)  Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Organisational measures to prevent/limit release from site  Do not apply industrial sludge to natural soils.  Sludge should be incinerated, contained or reclaimed.  Conditions and Measures related to municipal sewage treatment p  Estimated substance removal from wastewater via domestic sewage treatment (%)  Total efficiency of removal from wastewater after onsite and offsite	70 0 0
Technical onsite conditions and measures to reduce or limit disch sions and releases to soil  Risk from environmental exposure is driven by freshwater.  Prevent discharge of undissolved substance to or recover from onsite wastewater.  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Treat air emission to provide a typical removal efficiency of (%)  Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Organisational measures to prevent/limit release from site  Do not apply industrial sludge to natural soils.  Sludge should be incinerated, contained or reclaimed.  Conditions and Measures related to municipal sewage treatment p  Estimated substance removal from wastewater via domestic sewage treatment (%)  Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	70 0 0 0
Technical onsite conditions and measures to reduce or limit disch sions and releases to soil  Risk from environmental exposure is driven by freshwater.  Prevent discharge of undissolved substance to or recover from onsite wastewater.  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Treat air emission to provide a typical removal efficiency of (%)  Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Organisational measures to prevent/limit release from site  Do not apply industrial sludge to natural soils.  Sludge should be incinerated, contained or reclaimed.  Conditions and Measures related to municipal sewage treatment p  Estimated substance removal from wastewater via domestic sewage treatment (%)  Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)  Maximum allowable site tonnage (MSafe) based on release following	70 0 0
Technical onsite conditions and measures to reduce or limit disch sions and releases to soil  Risk from environmental exposure is driven by freshwater.  Prevent discharge of undissolved substance to or recover from onsite wastewater.  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Treat air emission to provide a typical removal efficiency of (%)  Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)  If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.  Organisational measures to prevent/limit release from site  Do not apply industrial sludge to natural soils.	70 0 0 0

Prepared in accordance with the provisions of KKDIK Annex-2 Regulation, 23.06.2017, No: 30105

# **Hexane** (extraction grade)

Initial release date: 2025/01/20 Revision Date: 20.01.2025

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SDS Number: 800001010779

External treatment and disposal of waste should comply with applicable local and/or regional regulations.

#### Conditions and measures related to external recovery of waste

External recovery and recycling of waste should comply with applicable local and/or regional regulations.

#### SECTION 3 EXPOSURE ESTIMATION

#### Section 3.1 - Health

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

#### **Section 3.2 - Environment**

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

# SECTION 4 GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

#### Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.

Risk Management Measures are based on qualitative risk characterisation.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

#### **Section 4.2 - Environment**

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org).

Prepared in accordance with the provisions of KKDIK Annex-2 Regulation, 23.06.2017, No: 30105

# **Hexane** (extraction grade)

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#### **Exposure Scenario - Worker**

30000000751	
30000000731	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in laboratories- Industrial
Use Descriptor	Sector of Use: SU3 Process Categories: PROC 15, PROC 10 Environmental Release Categories: ERC2, ERC4
Scope of process	Use of the substance within laboratory settings, including material transfers and equipment cleaning.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,	
Frequency and Duration of Use		
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		

Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.

Contributing Scenarios	Risk Management Measures	
General measures (skin irritants).	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.	
Laboratory activi-	Provide a good standard of general or controlled ventilation (5	
tiesPROC15	to 15 air changes per hour).	
CleaningPROC10	Handle in a fume cupboard or under extract ventilation.	
Section 2.2	Control of Environmental Exposure	
Substance is isomeric mixture.		
Predominantly hydrophobic.		
Readily biodegradable.		
Amounts Used		
Fraction of EU tonnage used in region:		0,1
Regional use tonnage (tonnes/year):		0,1
Fraction of Regional tonnage	used locally:	1

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	1	
Annual site tonnage (tonnes/year):	0,1	
Maximum daily site tonnage (kg/day):	5,0	
Frequency and Duration of Use		
Continuous release.Emission Days (days/year):	20	
Environmental factors not influenced by risk management		
Local freshwater dilution factor:	10	
Local marine water dilution factor:	100	
Other Operational Conditions affecting Environmental Exposure		
Release fraction to air from process (initial release prior to RMM):	2,5E-02	
Release fraction to wastewater from process (initial release prior to RMM):	2,0E-02	
Release fraction to soil from process (initial release prior to RMM):	1,0E-04	
Technical conditions and measures at process level (source) to pro		
Common practices vary across sites thus conservative process re-		
lease estimates used.		
Technical onsite conditions and measures to reduce or limit discha-	arges, air emis-	
sions and releases to soil	<b>G</b> ,	
Risk from environmental exposure is driven by freshwater sediment.		
No wastewater treatment required.		
Treat air emission to provide a typical removal efficiency of (%)	0	
Treat onsite wastewater (prior to receiving water discharge) to provide	0	
the required removal efficiency of >= (%)		
If discharging to domestic sewage treatment plant, no secondary	0	
wastewater treatment required.		
Organisational measures to prevent/limit release from site		
Do not apply industrial sludge to natural soils.		
Sludge should be incinerated, contained or reclaimed.		
Conditions and Measures related to municipal sewage treatment p	lant	
Estimated substance removal from wastewater via domestic sewage	96,2	
treatment (%)	,	
Total efficiency of removal from wastewater after onsite and offsite	96,2	
(domestic treatment plant) RMMs (%)	,	
Maximum allowable site tonnage (MSafe) based on release following	2,2E+03	
total wastewater treatment removal (kg/d)		
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03	
Conditions and Measures related to external treatment of waste for disposal		
External treatment and disposal of waste should comply with applicable local and/or regional regulations.		
Conditions and measures related to external recovery of waste		
External recovery and recycling of waste should comply with applicable local and/or regional		
regulations.		

SECTION 3	EXPOSURE ESTIMATION	
Section 3.1 - Health		
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise		
indicated.		

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#### **Section 3.2 - Environment**

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE
	EXPOSURE SCENARIO

#### Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.

Risk Management Measures are based on qualitative risk characterisation.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

#### Section 4.2 - Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org).

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# **Hexane** (extraction grade)

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SDS Number: 800001010779

#### **Exposure Scenario - Worker**

30000000752	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in laboratories- Professional
Use Descriptor	Sector of Use: SU22 Process Categories: PROC 10, PROC 15 Environmental Release Categories: ERC8a, ESVOC SpERC 8.17.v1
Scope of process	Use of small quantities within laboratory settings, including material transfers and equipment cleaning.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,	
Frequency and Duration of	Use	
Covers daily exposures up to	8 hours (unless stated differently).	
Other Operational Condition	ns affecting Exposure	
	an 20°C above ambient temperature (unless ard of occupational hygiene is implemented	• ,

Contributing Scenarios	Risk Management Measures		
General measures (skin irritants).	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.		
Laboratory activitiesPROC15	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).		
CleaningPROC10	Handle in a fume cupboard or under extract ventilation.		
Section 2.2	Control of Environmental Exposure	Control of Environmental Exposure	
Substance is isomeric mixture.			
Predominantly hydrophobic.			
Readily biodegradable.			
Amounts Used			
Fraction of EU tonnage used in region:		0,1	
Regional use tonnage (tonnes/year):		1,0	
Fraction of Regional tonnage used locally: 5,0E-04		5,0E-04	

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A social site to graph (to graph)	T 05 05	
Annual site tonnage (tonnes/year):	5,0E-05	
Maximum daily site tonnage (kg/day):	1,4E-04	
Frequency and Duration of Use		
Continuous release.Emission Days (days/year):	365	
Environmental factors not influenced by risk management	T	
Local freshwater dilution factor:	10	
Local marine water dilution factor:	100	
Other Operational Conditions affecting Environmental Exposure		
Release fraction to air from process (initial release prior to RMM):	5,0E-01	
Release fraction to wastewater from process (initial release prior to RMM):	5,0E-01	
Release fraction to soil from process (initial release prior to RMM):	0	
Technical conditions and measures at process level (source) to pro	event release	
Common practices vary across sites thus conservative process re-		
lease estimates used.		
Technical onsite conditions and measures to reduce or limit discharges and releases to soil	arges, air emis-	
Risk from environmental exposure is driven by freshwater.		
No wastewater treatment required.		
Treat air emission to provide a typical removal efficiency of (%)	0	
Treat onsite wastewater (prior to receiving water discharge) to provide	0	
the required removal efficiency of >= (%)		
If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.	0	
Organisational measures to prevent/limit release from site		
Do not apply industrial sludge to natural soils.		
De not apply industrial studys to matural contri		
Sludge should be incinerated, contained or reclaimed.		
Conditions and Measures related to municipal sewage treatment p	lant	
Estimated substance removal from wastewater via domestic sewage treatment (%)	96,2	
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	96,2	
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	5,0E-01	
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03	
Conditions and Measures related to external treatment of waste for	,	
External treatment and disposal of waste should comply with applicable local and/or regional regulations.		
Conditions and measures related to external recovery of waste		
External recovery and recycling of waste should comply with applicable local and/or regional regulations.		

SECTION 3	EXPOSURE ESTIMATION	
Section 3.1 - Health		
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise		
indicated.		

Prepared in accordance with the provisions of KKDIK Annex-2 Regulation, 23.06.2017, No: 30105

# **Hexane** (extraction grade)

Initial release date: 2025/01/20 Revision Date: 20.01.2025

Version 1.0

SDS Number: 800001010779

#### **Section 3.2 - Environment**

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE
	EXPOSURE SCENARIO

#### Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.

Risk Management Measures are based on qualitative risk characterisation.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

#### Section 4.2 - Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org).

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#### **Exposure Scenario - Worker**

30000010045	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Rubber production and processing- Industrial
Use Descriptor	Sector of Use: SU3 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 6, PROC 7, PROC 8a, PROC 8b, PROC 9, PROC 13, PROC 14, PROC 15, PROC 21 Environmental Release Categories: ERC1, ERC4, ERC6d, ESVOC SpERC 4.19.v1
Scope of process	Manufacture of tyres and general rubber articles, including processing of raw (uncured) rubber, handling and mixing of rubber additives, vulcanising, cooling and finishing.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT	
Section 2.1	MEASURES Control of Worker Exposure	
Product Characteristics	Control of Worker Exposure	
	Liquid vancus processes : 40 kDc at CTD	
Physical form of product	Liquid, vapour pressure > 10 kPa at STP	
Concentration of the Sub-	Covers use of substance/product up to 100% (unless stated	
stance in Mixture/Article	differently).,	
Frequency and Duration of	Use	
Covers daily exposures up to	8 hours (unless stated differently).	
<b>Other Operational Conditio</b>	ns affecting Exposure	
Assumes use at not more that	an 20°C above ambient temperature (unless stated differently).	
Assumes a good basic stand	ard of occupational hygiene is implemented.	
Contributing Scenarios	Risk Management Measures	
General measures (skin irritants).	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.  Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying.	
Material transfers(closed systems)PROC1	No other specific measures identified.	
Material transfers(closed systems)PROC2	Avoid carrying out activities involving exposure for more than 1 hour.	

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	to 15 air changes per hour). Avoid carrying out activities involving exposure for more than 1 hour.
Bulk weighing(closed systems)PROC1	No other specific measures identified.
Bulk weighingUse in contained systemsPROC2	Avoid carrying out activities involving exposure for more than 1 hour.
Small scale weigh- ingPROC9	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).  Avoid carrying out activities involving exposure for more than 1 hour.
Additive premixingUse in contained batch processesPROC3	Avoid carrying out activities involving exposure for more than 1 hour.
Additive premixing(open systems)PROC4	Avoid carrying out activities involving exposure for more than 1 hour.
Additive premixingPROC5	Ensure material transfers are under containment or extract ventilation.
Material transfersDedicated facilityPROC8bPROC9	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).  Avoid carrying out activities involving exposure for more than 1 hour.
Calendering (including Banburys)Operation is car- ried out at elevated tem- perature (> 20°C above ambient tempera- ture).PROC6	Minimise exposure by extracted full enclosure for the operation or equipment.
Pressing uncured rubber blanksPROC14	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.
Tyre build upPROC7	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.
VulcanisationOperation is carried out at elevated temperature (> 20°C above ambient temperature).PROC6	Minimise exposure by extracted full enclosure for the operation or equipment.
Cooling cured articlesOperation is carried out at elevated temperature (> 20°C above ambient temperature).PROC6	Minimise exposure by extracted full enclosure for the operation or equipment.
Production of articles by dipping and pour-	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

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in a DDOCA 2	T		
ingPROC13	No. of the control of		
Finishing operationsPROC21	No other specific measures identified.		
Laboratory activi-	Provide a good standard of general or co	ntrolled ventilation (5	
tiesPROC15	to 15 air changes per hour).		
Equipment maintenance-	Drain down and flush system prior to equipment opening or		
PROC8a	maintenance.		
Ottorio BBOOM	Comment of the control of the contro		
Storage.PROC1	Store substance within a closed system.		
Storage.PROC2	Provide a good standard of general or co	ntrolled ventilation (5	
	to 15 air changes per hour).		
	Store substance within a closed system.		
Section 2.2	Control of Environmental Exposure		
Substance is complex UVCB			
Predominantly hydrophobic.	•		
Amounts Used			
Fraction of EU tonnage used	in region:	0,1	
Regional use tonnage (tonne		7,9E+01	
Fraction of Regional tonnage		1	
Annual site tonnage (tonnes/		7,9E+01	
Maximum daily site tonnage		4,0E+03	
Frequency and Duration of		1,02.00	
Continuous release.Emission		20	
	influenced by risk management	1 = 0	
Local freshwater dilution factor: 10			
Local marine water dilution factor: 100			
Other Operational Conditions affecting Environmental Exposure			
Release fraction to air from process (initial release prior to RMM): 0,01			
Release fraction to wastewater from process (initial release prior to RMM):		3,0E-04	
	process (initial release prior to RMM):	1,0E-04	
	neasures at process level (source) to pro		
Common practices vary acros	ss sites thus conservative process re-		
lease estimates used.			
	s and measures to reduce or limit disch	arges, air emis-	
sions and releases to soil		1	
	osure is driven by freshwater sediment.		
No wastewater treatment required.			
Treat air emission to provide a typical removal efficiency of (%)		0	
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)		O	
If discharging to domestic sewage treatment plant, no secondary 0			
	wastewater treatment required.		
Prevent discharge of undissolved substance to or recover from onsite			
wastewater.			
	prevent/limit release from site		
Do not apply industrial sludge	e to natural soils.		

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Sludge should be incinerated, contained or reclaimed.			
Conditions and Measures related to municipal sewage treatment plant			
Estimated substance removal from wastewater via domestic sewage treatment (%)	96,2		
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	96,2		
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	1,4E+05		
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03		
Conditions and Measures related to external treatment of waste for disposal			

#### Conditions and Measures related to external treatment of waste for disposal

External treatment and disposal of waste should comply with applicable local and/or regional regulations.

#### Conditions and measures related to external recovery of waste

External recovery and recycling of waste should comply with applicable local and/or regional regulations.

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	
The ECETOC TRA tool has b	een used to estimate workplace exposures unless otherwise

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

### Section 3.2 - Environment

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SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE	
	EXPOSURE SCENARIO	

### Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

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Risk Management Measures are based on qualitative risk characterisation.

#### Section 4.2 -Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

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Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

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