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

1.1 Product identifier

Trade name : Heavy Platformate SDO

Product code : Z4034

Registration number EU : 01-2119510128-50

CAS-No. : 64742-94-5

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

Use of the Sub- : Intermediate Refinery Stream.

stance/Mixture Please refer to section 16 and/or the annexes for the regis-

tered uses under REACH.

Uses advised against :

This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the supplier., This product is not to be used as a solvent or cleaning agent; for lighting or brightening fires; as a skin cleanser.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier : Shell Chemicals Europe B.V.

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

Contact for Safety Data : s

Sheet

: sccmsds@shell.com

1.4 Emergency telephone number

+44 (0) 1235 239 670

National Poison Information Centre (NVIC): Tel. nr. +31(0)88 755 8000 (24 hrs a day and 7

days a week).

Only for the purpose of informing medical personnel.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin irritation, Category 2 H315: Causes skin irritation.

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

ways.

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Specific target organ toxicity - single ex-

posure, Category 3, Inhalation

H335: May cause respiratory irritation.

H351: Suspected of causing cancer.

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

effects

H336: May cause drowsiness or dizziness.

Carcinogenicity, Category 2

Long-term (chronic) aquatic hazard, Cat-

egory 2

H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :







Signal word : Danger

Hazard statements : PHYSICAL HAZARDS:

Not classified as a physical hazard according to CLP

criteria.

HEALTH HAZARDS:

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H335 May cause respiratory irritation.
 H336 May cause drowsiness or dizziness.
 H351 Suspected of causing cancer.

ENVIRONMENTAL HAZARDS:

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : Prevention:

P210 Keep away from heat, hot surfaces, sparks, open

flames and other ignition sources. No smoking. P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protec-

tion/ face protection.

Response:

P331 Do NOT induce vomiting.

P301 + P310 IF SWALLOWED: Immediately call a POISON

CENTER/ doctor.

Storage:

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

Disposal:

P501 Dispose of contents/ container to an approved waste

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disposal plant.

2.3 Other hazards

This mixture does not contain any REACH registered substances that are assessed to be a PBT or a vPvB.

Ecological information: The substance/mixture does not contain components considered 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.

Toxicological information: The substance/mixture does not contain components considered 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.

Slightly irritating to respiratory system.

May ignite on surfaces at temperatures above auto-ignition temperature.

Vapour in the headspace of tanks and containers may ignite and explode at temperatures exceeding auto-ignition temperature, where vapour concentrations are within the flammability range. 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.

This product is intended for use in closed systems only.

Hydrogen sulphide (H2S), an extremely flammable and toxic gas, and other hazardous vapours may evolve and collect in the headspace of storage tanks, transport vessels and other enclosed containers.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical nature : Complex mixture of hydrocarbons consisting of paraffins, cy-

cloparaffins, aromatic and olefinic hydrocarbons with carbon

numbers predominantly in the C9 to C16 range.

Components

| Chemical name | CAS-No. EC-No. | Concentration (% w/w) |
|---------------------------|-------------------|-----------------------|
| Solvent naphtha (petrole- | 64742-94-5 | <= 100 |
| um), heavy aromatic | 265-198-5 | |

Hydrogen sulphide may be present both in the liquid and the vapour. Composition is complex and varies with the source of the crude oil and the contributing process plants at that time.

Further information

Contains:

| Ooritairis. | | | |
|----------------|-----------------------|-------------------|-----------------------|
| Chemical | Identification number | Classification | Concentration (% w/w) |
| name | | | |
| Trimethylben- | 25551-13-7, 247- | Flam. Liq.3; H226 | 20 - 30 |
| zene (all iso- | 099-9 | STOT SE3; H335 | |

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| mers) | | Aquatic Chronic2; H411 | |
|--------------|---------------------|----------------------------------------------------------------------------------------------------|-------------|
| Naphthalene | 91-20-3, 202-049-5 | Acute Tox.4; H302 Carc.2; H351 Aquatic Acute1; H400 Aquatic Chronic1; H410 | 1 - 5 |
| anthracene | 120-12-7, 204-371-1 | | 0,01 - 0,15 |
| Phenanthrene | 85-01-8, 201-581-5 | Acute Tox.4; H302 Aquatic Acute1; H400 Aquatic Chronic1; H410 | 0,01 - 0,15 |
| Cumene | 98-82-8, 202-704-5 | Flam. Liq.3; H226 Asp. Tox.1; H304 STOT SE3; H335 Carc.1B; H350 Aquatic Chronic2; H411 | 0 - 0,05 |

SECTION 4: First aid measures

4.1 Description of first aid measures

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.

When using high pressure equipment, injection of product under the skin can occur. If high pressure injuries occur, the casualty should be sent immediately to a hospital. Do not wait

for symptoms to develop.

Obtain medical attention even in the absence of apparent

wounds.

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

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

insing.

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

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> 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 Respiratory irritation signs and symptoms may include a tem-

porary burning sensation of the nose and throat, coughing,

and/or difficulty breathing.

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.

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, chest congestion or continued coughing or wheezing.

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 direct water jets on the burning product as they could cause a steam explosion and spread of the fire.

Simultaneous use of foam and water on the same surface is

to be avoided as water destroys the foam.

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).

Unidentified organic and inorganic compounds.

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Carbon monoxide may be evolved if incomplete combustion

occurs.

Will float and can be reignited on surface water.

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.

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

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.

Further information Keep adjacent containers cool by spraying with water.

If possible remove containers from the danger zone.

If the fire cannot be extinguished the only course of action is

to evacuate immediately.

Prevent fire extinguishing water from contaminating surface

water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions 6.1.1 For non emergency personnel:

Do not breathe fumes, vapour. Do not operate electrical equipment. 6.1.2 For emergency responders:

Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area and evacuate all personnel. Attempt to disperse the gas or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all

equipment. Monitor area with combustible gas meter.

6.2 Environmental precautions

Prevent from spreading or entering into drains, ditches or riv-**Environmental precautions**

> ers by using sand, earth, or other appropriate barriers. Do not allow contact with soil, surface or ground water.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up Take precautionary measures against static discharges.

For small liquid spills (< 1 drum), transfer by mechanical

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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 Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers. Ventilate contaminated area thoroughly.

If contamination of site occurs remediation may require specialist advice.

6.4 Reference to other sections

For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet., Notify authorities if any exposure to the general public or the environment occurs or is likely to occur., For guidance on disposal of spilled material see Section 13 of this Safety Data Sheet., Local authorities should be advised if significant spillages cannot be contained., Maritime spillages should be dealt with using a Shipboard Oil Pollution Emergency Plan (SOPEP), as required by MARPOL Annex 1 Regulation 26.

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.

Air-dry contaminated clothing in a well-ventilated area before laundering.

Contaminated leather articles including shoes cannot be decontaminated and should be destroyed to prevent reuse. Prevent spillages.

Never siphon by mouth.

For comprehensive advice on handling, product transfer, storage and tank cleaning refer to the product supplier.

Ensure that all local regulations regarding handling and storage facilities are followed.

Maintenance and Fuelling Activities - Avoid inhalation of vapours and contact with skin.

Advice on safe handling

Ensure that all local regulations regarding handling and storage facilities are followed.

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Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.

Avoid inhaling vapour and/or mists.

Avoid prolonged or repeated contact with skin.

When using do not eat or drink.

When handling product in drums, safety footwear should be worn and proper handling equipment should be used.

The vapour is heavier than air, spreads along the ground and distant ignition is possible.

Earth all equipment.

Even with proper grounding and bonding, this material can still accumulate an electrostatic charge.

If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur.

Be aware of handling operations that may give rise to additional hazards that result from the accumulation of static charges.

These include but are not limited to pumping (especially turbulent flow), mixing, filtering, splash filling, cleaning and filling of tanks and containers, sampling, switch loading, gauging, vacuum truck operations, and mechanical movements.

These activities may lead to static discharge e.g. spark formation.

Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (\leq 1 m/s until fill pipe submerged to twice its diameter, then \leq 7 m/s). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations.

Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.

Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.

"Product Name" designates a trade-mark of Shell Brands International AG. Used under license.

Product Transfer : Avoid splash filling Wait 2 minutes after tank filling (for tanks

such as those on road tanker vehicles) before opening hatches or manholes. Wait 30 minutes after tank filling (for large storage tanks) before opening hatches or manholes. Keep containers closed when not in use. Refer to guidance under

Handling section.

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

Further information on storage stability

Drum and small container storage:

Drums should be stacked to a maximum of 3 high.

Use properly labeled and closable containers.

Take suitable precautions when opening sealed containers, as

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pressure can build up during storage.

Tank storage:

Tanks must be specifically designed for use with this product. Bulk storage tanks should be diked (bunded).

Locate tanks away from heat and other sources of ignition. The vapour is heavier than air. Beware of accumulation in pits and confined spaces.

Electrostatic charges will be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk.

The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable.

Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.

Packaging material

Suitable material: For containers, or container linings use carbon steel and low alloy steel. Aluminium may also be used for applications where it does not present an unnecessary fire hazard. For container linings the following may also be used: Unplastisized polyvinyl chloride (U-PVC), Fluoropolymers (PTFE), Polyvinylidenefluoride (PVDF), Polyetheretherketone (PEEK), Polyamide (PA-11). For seals and gaskets use: Fluoroelastomer (FKM), Viton A, and Viton B, Nitrile butadiene (NBR), Buna-N. For coating (paint) materials use: High build, amine adduct-cured epoxy.

Unsuitable material: For containers or container linings, examples of materials to avoid are: Polyethylene (PE, HDPE), Polypropylene (PP), Polymethyl methacrylate (PMMA), Acrylonnitrile butadiene styrene (ABS). For seals and gaskets, examples of materials to avoid are: Natural rubber (NR), Ethylene Propylene (EPDM, Polychloroprene (CR) - Neoprene, Butyl (IIR), Chlorosulphonated polyethylene (CSM), e.g. Hypalon.

Container Advice

Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.

7.3 Specific end use(s)

Specific use(s)

Please refer to section 16 and/or the annexes for the registered 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

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------|------------------|
| Trimethylbenzene (all isomers) | 25551-13-7 | TLV-8hr | 20 ppm 100 mg/m3 | NL WG |
| Trimethylbenzene (all isomers) | | TLV-15 min | 40 ppm 200 mg/m3 | NL WG |
| Naphthalene | 91-20-3 | TLV-8hr | 10 ppm 50 mg/m3 | NL WG |
| Naphthalene | | TLV-15 min | 16 ppm 80 mg/m3 | NL WG |
| Naphthalene | | TWA | 10 ppm 50 mg/m3 | 91/322/EEC |
| | Further inform | nation: Indicative | | |
| Cumene | 98-82-8 | TLV-8hr | 10 ppm 50 mg/m3 | NL WG |
| | Further information: Skin notation | | | |
| Cumene | | TLV-15 min | 50 ppm 250 mg/m3 | NL WG |
| | Further information: Skin notation | | | |
| Cumene | | TWA | 10 ppm 50 mg/m3 | 2019/1831/E U |
| | Further information: A skin notation assigned to the occupational exposure limit value indicates the possibility of significant uptake through the skin., Indicative | | | |
| Cumene | | STEL | 50 ppm 250 mg/m3 | 2019/1831/E U |
| | Further information: A skin notation assigned to the occupational exposure limit value indicates the possibility of significant uptake through the skin., Indicative | | | |

Biological occupational exposure limits

No biological limit allocated.

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

| Substance name | | Environmental Compartment | Value |
|----------------|--|--------------------------------------------------------------------------------------------------------------------------------------|-------|
| | | e is a hydrocarbon with a complex, unknown or variable composi- ventional methods of deriving PNECs are not appropriate and it is | |
| | | ble to identify a single representative PNEC for | |

8.2 Exposure controls

Engineering measures

Read in conjunction with the Exposure Scenario for your specific use contained in the Annex. 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:

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Use sealed systems as far as possible.

Firewater monitors and deluge systems are recommended.

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

Local exhaust ventilation is recommended.

Eye washes and showers for emergency use.

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 for subsequent recycle.

Do not ingest. If swallowed, then seek immediate medical assistance

Personal protective equipment

Read in conjunction with the Exposure Scenario for your specific use contained in the Annex.

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

The provided information is made in consideration of the PPE directive (Council Directive 89/686/EEC) and the CEN European Committee for Standardisation (CEN) standards.

Eye protection : Wear goggles for use against liquids and gas.

If a local risk assessment deems it so then chemical splash goggles may not be required and safety glasses may provide

adequate eye protection.

Approved to EU Standard EN166.

Hand protection

Remarks : 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. 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. 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 suita-

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> ble 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.

> Select gloves tested to a relevant standard (e.g. Europe EN374, US F739). When prolonged or frequent repeated contact occurs, Nitrile gloves may be suitable. (Breakthrough time of > 240 minutes.) For incidental contact/splash protec-

tion Neoprene, PVC gloves may be suitable.

Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.

Skin and body protection

Wear antistatic and flame-retardant clothing, if a local risk assessment deems it so.

Skin protection is not required under normal conditions of

For prolonged or repeated exposures use impervious clothing

over parts of the body subject to exposure.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to relevant Standard, and provide employee skin care programmes.

Protective clothing approved to EU Standard EN14605.

Respiratory protection

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

Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.

Select a filter suitable for the combination of organic gases and vapours and particles meeting EN14387 and EN143 [Filter type A/P for use against certain organic gases and vapours with a boiling point >65°C (149°F) and for use

against particles].

Thermal hazards : Not applicable

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid

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Colour Not applicable

Odour Not applicable

Odour Threshold Data not available

Melting point/freezing point Data not available

165 - 330 °C Initial boiling point and boiling

range

Flammability

Flammability (solid, gas) Not applicable

Lower explosion limit and upper explosion limit / flammability limit

Lower explosion limit / : 1 %(V)

Lower flammability limit

: 61 °C Flash point

: > 220 °C Auto-ignition temperature

Decomposition temperature

Decomposition tempera-

ture

Data not available

рΗ Not applicable

Viscosity

1 - 2 mm2/s (40 °C) Viscosity, kinematic

Method: ASTM D445

Solubility(ies)

Water solubility negligible

Partition coefficient: n-

octanol/water

log Pow: 2 - 7

Vapour pressure 0,05 - 0,2 kPa (20,0 °C)

900 - 940 kg/m3 (15 °C) Density

Method: ASTM D4052

Particle characteristics

Particle size Data not available

9.2 Other information

Explosive properties Classification Code: Not classified

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Oxidizing properties : Not applicable

Evaporation rate : Data not available

Conductivity: < 100 pS/m, The conductivity of this material

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

uid

SECTION 10: Stability and reactivity

10.1 Reactivity

Oxidises on contact with air.

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

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 hazard classes as defined in Regulation (EC) No 1272/2008

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Information on likely routes of:

exposure

Exposure may occur via inhalation, ingestion, skin absorption,

skin or eye contact, and accidental ingestion.

Acute toxicity

Product:

Acute oral toxicity : LD50 Oral (Rat): > 5.000 mg/kg

Remarks: Low toxicity

Remarks: Aspiration into the lungs may cause chemical

pneumonitis which can be fatal.

Acute inhalation toxicity : LC 50 (Rat): > 5 mg/l

Exposure time: 4 h Remarks: Low toxicity

Remarks: High concentrations may cause central nervous system depression resulting in headaches, dizziness and

nausea.

Acute dermal toxicity : LD50 Dermal (Rabbit): > 2.000 mg/kg

Remarks: Low toxicity

Acute toxicity (other routes of :

administration)

Remarks: Inhalation of vapours or mists may cause irritation

to the respiratory system.

Skin corrosion/irritation

Product:

Remarks : Irritating to skin.

Serious eye damage/eye irritation

Product:

Remarks : Slightly irritating to the eye.

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

Respiratory or skin sensitisation

Product:

Remarks : Not a sensitiser.

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

Germ cell mutagenicity

Product:

Genotoxicity in vivo : Remarks: Not considered to be a mutagenic hazard.

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Germ cell mutagenicity- As-

sessment

This product does not meet the criteria for classification in

categories 1A/1B.

Carcinogenicity

Product:

Remarks : Limited evidence of carcinogenic effect

Repeated skin contact has resulted in irritation and skin can-

cer in animals.

Carcinogenicity - Assess-

ment

This product does not meet the criteria for classification in

categories 1A/1B.

| Material | GHS/CLP Carcinogenicity Classification |
|---------------------------------------------|----------------------------------------|
| Solvent naphtha (petroleum), heavy aromatic | Carcinogenicity Category 2 |
| Trimethylbenzene (all isomers) | No carcinogenicity classification. |
| Naphthalene | Carcinogenicity Category 2 |
| anthracene | No carcinogenicity classification. |
| Phenanthrene | No carcinogenicity classification. |
| Cumene | Carcinogenicity Category 1B |

| Material | Other Carcinogenicity Classification |
|--------------|---------------------------------------------------------------------|
| Naphthalene | IARC: Group 2B: Possibly carcinogenic to humans |
| anthracene | IARC: Group 3: Not classifiable as to its carcinogenicity to humans |
| Phenanthrene | IARC: Group 3: Not classifiable as to its carcinogenicity to humans |
| Cumene | IARC: Group 2B: Possibly carcinogenic to humans |

Reproductive toxicity

Product:

Effects on fertility :

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

fertility.

Reproductive toxicity - As-

sessment

: This product does not meet the criteria for classification in

categories 1A/1B.

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STOT - single exposure

Product:

Remarks : High concentrations may cause central nervous system de-

pression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.

Remarks : Inhalation of vapours or mists cause irritation to the respiratory

system. (Hydrogen Sulfide)

STOT - repeated exposure

Product:

Exposure routes : Skin contact

Remarks : Repeated exposure may cause skin dryness or cracking.

Aspiration toxicity

Product:

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

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : 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.

Further information

Product:

Remarks : Classifications by other authorities under varying regulatory

frameworks may exist.

Remarks : H2S has a broad range of effects dependent on the airborne

concentration and length of exposure: 0.02 ppm odour threshold, smell of rotten eggs; 10 ppm eye and respiratory tract irritation; 100 ppm coughing, headache, dizziness, nausea, eye irritation, loss of sense of smell in minutes; 200 ppm potential for pulmonary oedema after >20-30 minutes; 500 ppm loss of consciousness after short exposures, potential for respiratory arrest; >1000ppm immediate loss of consciousness, may lead rapidly to death, prompt cardiopulmonary resuscitation may be required. Do not depend on sense of smell for warning. H2S causes rapid olfactory fatigue (deadens sense of smell). There is no evidence that H2S will accumulate in

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the body tissue after repeated exposure.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : Remarks: Toxic

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

Toxicity to daphnia and other :

aquatic invertebrates

Remarks: Toxic

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

Toxicity to algae/aquatic plants : Remarks: Toxic

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

Toxicity to fish (Chronic tox-

icity)

Remarks: NOEC/NOEL > 0.01 - <=0.1 mg/l

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

Remarks: NOEC/NOEL > 0.1 - <=1.0 mg/l

Toxicity to microorganisms

Remarks: Practically non toxic: LL/EL/IL50 > 100 mg/l

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: Major constituents are inherently biodegradable.

The volatile constituents will oxidize rapidly by photochemical

reactions in air.

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

Not Persistent per IMO criteria.

International Oil Pollution Compensation (IOPC) Fund definition: "A non-persistent oil is oil, which, at the time of shipment, consists of hydrocarbon fractions, (a) at least 50% of which, by volume, distills at a temperature of 340°C (645°F) and (b) at least 95% of which, by volume, distills at a temperature of 370°C (700°F) when tested by the ASTM Method D-86/78 or any subsequent revision

thereof."

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Contains constituents with the potential to bioaccumulate.

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12.4 Mobility in soil

Product:

Mobility : Remarks: Large volumes may penetrate soil and could con-

taminate groundwater., Evaporates within a day from water or soil surfaces., Contains volatile components., Floats on water.

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This mixture does not contain any REACH registered sub-

stances that are assessed to be a PBT or a vPvB..

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered 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.

12.7 Other adverse effects

Product:

Additional ecological infor-

mation

Films formed on water may affect oxygen transfer and damage or-

ganisms.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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 meth-

ods in compliance with applicable regulations.

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. MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides tech-

nical aspects at controlling pollutions from ships.

Contaminated packaging : Send to drum recoverer or metal reclaimer.

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Drain container thoroughly.

After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard if heated above the flash point. Do not puncture, cut or weld uncleaned drums. Do not pollute the soil, water or environment with the waste

container.

Comply with any local recovery or waste disposal regulations.

Local legislation

Remarks : EU Waste Disposal Code (EWC):

13 07 03* wastes of liquid fuels, other fuels (including mix-

tures).

The number given to waste is associated with the appropriate usage. The user must decide if their particular use results in

another waste code being assigned.

Disposal should be in accordance with applicable regional,

national, and local laws and regulations.

Local regulations may be more stringent than regional or na-

tional requirements and must be complied with.

SECTION 14: Transport information

14.1 UN number or ID number

ADN : 3082 **ADR** 3082 RID 3082 **IMDG** 3082 IATA : 3082

14.2 UN proper shipping name

ADN : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Solvent Naphtha (Petroleum) heavy aromatic)

ADR ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Solvent Naphtha (Petroleum) heavy aromatic)

RID ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

(Solvent Naphtha (Petroleum) heavy aromatic)

IMDG ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Solvent Naphtha (Petroleum) heavy aromatic)

IATA ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

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(Solvent Naphtha (Petroleum) heavy aromatic)

14.3 Transport hazard class(es)

ADN : 9
ADR : 9
RID : 9
IMDG : 9
IATA : 9

14.4 Packing group

ADN

Packing group : III

Classification Code : M6

Hazard Identification Number : 90

Labels : 9 (N2, F)

CDNI Inland Water Waste : NST 8963 Solvent

Agreement

ADR

Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9

RID

Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9

IMDG

Packing group : III Labels : 9

IATA

Packing group : III Labels : 9

14.5 Environmental hazards

ADN

Environmentally hazardous : yes

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.

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14.7 Maritime transport in bulk according to IMO instruments

Pollution category : Not applicable
Ship type : Not applicable
Product name : Not applicable
Special precautions : Not applicable

Additional Information: MARPOL Annex 1 rules apply for bulk shipments by sea.

SECTION 15: Regulatory information

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

Other regulations:

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

Product is subject to Major accident risk decision 2015 (BRZO+) based on Seveso III directive (2012/18/EU).

15.2 Chemical safety assessment

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

SECTION 16: Other information

Full text of other abbreviations

2019/1831/EU : Europe. Commission Directive 2019/1831/EU establishing a

fifth list of indicative occupational exposure limit values

91/322/EEC : Europe. Commission Directive 91/322/EEC on establishing

indicative limit values

NL WG : Netherlands. Law on Labour conditions - Occupational Expo-

sure Limits

2019/1831/EU / TWA : Limit Value - eight hours
2019/1831/EU / STEL : Short term exposure limit
91/322/EEC / TWA : Limit Value - eight hours
NL WG / TLV-8hr : Time Weighted Average
NL WG / TLV-15 min : Short Term Exposure Limit

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 -

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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

Further information

Other information : This product is intended for use in closed systems only.

This mixture does not contain any REACH registered substances that are assessed to be a PBT or a vPvB.

Classification of the mixture: Classification procedure:

| Skin Irrit. 2 | H315 | Expert judgement and weight of evidence determination. |
|-------------------|------|--------------------------------------------------------|
| Asp. Tox. 1 | H304 | Expert judgement and weight of evidence determination. |
| STOT SE 3 | H335 | Expert judgement and weight of evidence determination. |
| STOT SE 3 | H336 | Expert judgement and weight of evidence determination. |
| Carc. 2 | H351 | Expert judgement and weight of evidence determination. |
| Aquatic Chronic 2 | H411 | Expert judgement and weight of evidence determination. |

Identified Uses according to the Use Descriptor System Uses - Worker

Title : Manufacture of substance

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- Industrial

Uses - Worker

Title : Use as an intermediate

- Industrial

Uses - Worker

Title : Distribution of substance

- Industrial

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.

NL / EN

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Exposure Scenario - Worker

| 200000000000 | |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 30000000012 | |
| | |
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Manufacture of substance- Industrial |
| Use Descriptor | Sector of Use: SU3, SU8, SU9 |
| | Process Categories: PROC1, PROC2, PROC3, PROC4, |
| | PROC8a, PROC8b, PROC9, PROC15 |
| | Environmental Release Categories: ERC1, 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 < 0.5 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 Conditio | | |
| | evated temperature (> 20°C above ambient temperature). | |
| 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. No other specific measures identified. | |
| General measures (carcinogens). | Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict access to authorised persons; provide specific activity training | |

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| | to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when there is potential for inhalation; clear up spills immediately and dispose of wastes safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--|
| Section 2.2 | Control of Environmental Exposure | | |
| Substance is complex UVCB. | | | |
| Predominantly hydrophobic. | | | |
| Amounts Used | | | |
| Fraction of EU tonnage used | | 1 | |
| Regional use tonnage (tonnes | | 1,6E+07 | |
| Fraction of Regional tonnage | | 9,5E-01 | |
| Annual site tonnage (tonnes/y | | 1,8E+06 | |
| Maximum daily site tonnage (| | 6,0E+06 | |
| Frequency and Duration of | Use | | |
| Continuous release. | | | |
| Emission Days (days/year): | | 300 | |
| | nfluenced by risk management | 1 | |
| Local freshwater dilution factor | | 10 | |
| Local marine water dilution fa | 100 | | |
| | ns affecting Environmental Exposure | 1 | |
| Release fraction to air from p | 1,0E-02 | | |
| Release fraction to wastewate RMM): | 7,5E-08 | | |
| Release fraction to soil from p | process (initial release prior to RMM): | 1,0E-04 | |
| Technical conditions and measures at process level (source) to prevent release | | | |
| lease estimates used. | ss sites thus conservative process re- | | |
| sions and releases to soil | and measures to reduce or limit disch | arges, air emis- | |
| Risk from environmental exposure is driven by freshwater sediment. Prevent discharge of undissolved substance to or recover from onsite wastewater. | | | |
| Onsite waste water treatment | | | |
| Treat air emission to provide | 90 | | |
| Treat onsite wastewater (prio the required removal efficience | 94,3 | | |
| If discharging to domestic sev wastewater treatment require | 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 re | elated to municipal sewage treatment p | lant | |
| | I from wastewater via domestic sewage | 95 | |

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| Total efficiency of removal from wastewater after onsite and offsite | 95 | | |
|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|--|--|
| (domestic treatment plant) RMMs (%) | | | |
| Maximum allowable site tonnage (MSafe) based on release following | 6,7E+06 | | |
| total wastewater treatment removal (kg/d) | | | |
| Assumed domestic sewage treatment plant flow (m3/d) | 10.000 | | |
| Conditions and Measures related to external treatment of waste for disposal | | | |
| During manufacturing no waste of the substance is generated. | | | |
| | | | |
| | Conditions and measures related to external recovery of waste | | |
| Conditions and measures related to external recovery of waste | | | |
| 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 | | |

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

Users are advised to consider national Occupational Exposure Limits or other equivalent values.

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

| 30000000013 | | | |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| SECTION 1 | EXPOSURE SCENARIO TITLE | | |
| Title | Use as an intermediate- Industrial | | |
| Use Descriptor | Sector of Use: SU3, SU8, SU9 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC15 Environmental Release Categories: ERC6a, ESVOC SpERC 6.1a.v1 | | |
| Scope of process | Use of substance as an intermediate within closed or contained systems (not related to Strictly Controlled Conditions). Includes incidental exposures during recycling/recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container). | | |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | |
|---------------------------------------------------|--------------------------------------------------------------------------|--|
| Section 2.1 | Control of Worker Exposure | |
| Product Characteristics | | |
| Physical form of product | Liquid, vapour pressure < 0.5 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 Condition | ons affecting Exposure | |
| • | evated temperature (> 20°C above ambient temperature). | |

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. No other specific measures identified. | |
| General measures (carcinogens). | Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict | |

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| | | access to authorised persons; provide s to operators to minimise exposures; were coveralls to prevent skin contamination; tection when there is potential for inhalar immediately and dispose of wastes safe tems of work or equivalent arrangement manage risks. Regularly inspect, test an measures. Consider the need for risk balance. | ar suitable gloves a wear respiratory p tion; clear up spills ly.Ensure safe sys s are in place to d maintain all cont |
| Section | on 2.2 | Control of Environmental Exposure | |
| Subst | ance is complex UVC | | |
| | minantly hydrophobic | | |
| | ınts Used | | • |
| Fraction | on of EU tonnage use | ed in region: | 1,0 |
| | nal use tonnage (tonr | | 2,8E+06 |
| Fraction | on of Regional tonnag | ge used locally: | 5,5E-02 |
| | al site tonnage (tonne | | 1,5E+04 |
| | num daily site tonnag | | 5,0E+04 |
| | ency and Duration | of Use | |
| | nuous release. | | |
| | sion Days (days/year) | | 300 |
| | | t influenced by risk management | T., |
| Local freshwater dilution factor: | | 10 | |
| Local marine water dilution factor: Other Operational Conditions affecting Environmental Exposure | | 100 | |
| | • | | 1.05.00 |
| | | process (initial release prior to RMM): ater from process (initial release prior to | 1,0E-03 3,0E-04 |
| RMM) | | ater from process (initial release prior to | 3,00-04 |
| | | n process (initial release prior to RMM): | 1,0E-03 |
| | | measures at process level (source) to pr | |
| | | ross sites thus conservative process re- | |
| | estimates used. | • | |
| | nical onsite conditio and releases to soi | ns and measures to reduce or limit disch | narges, air emis- |
| | | posure is driven by freshwater sediment. | |
| | | solved substance to or recover from onsite | |
| waste | • | coca sapotarios to or robovor from Oriotto | |
| | | sewage treatment plant, no secondary | 1 |
| waste | water treatment requi | ired. | |
| Treat | air emission to provid | le a typical removal efficiency of (%) | 80 |
| Treat onsite wastewater (prior to receiving water discharge) to provide | | 93,2 | |
| | quired removal efficie | | |
| | | sewage treatment plant, no secondary | 0 |
| | water treatment requi | | |
| • | | to prevent/limit release from site | |
| Do no | t apply industrial slud | ge to natural soils. | |
| | a should be incinerate | ed, contained or reclaimed. | |
| Sludge | e should be incinerate | ou, contained of recialified. | |

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| Estimated substance removal from wastewater via domestic sewage | 95 | | |
|-------------------------------------------------------------------------------|---------|--|--|
| treatment (%) | | | |
| Total efficiency of removal from wastewater after onsite and offsite | 95 | | |
| (domestic treatment plant) RMMs (%) | | | |
| Maximum allowable site tonnage (MSafe) based on release following | 6,7E+04 | | |
| total wastewater treatment removal (kg/d) | | | |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 | | |
| Conditions and Measures related to external treatment of waste for disposal | | | |
| This substance is consumed during use and no waste of substance is generated. | | | |
| | | | |
| Conditions and measures related to external recovery of waste | | | |

This substance is consumed during use and no waste of 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

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

Users are advised to consider national Occupational Exposure Limits or other equivalent values.

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).

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Exposure Scenario - Worker

| 3000000014 | | |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| SECTION 1 | EXPOSURE SCENARIO TITLE | |
| Title | Distribution of substance- Industrial | |
| Use Descriptor | Sector of Use: SU3 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,, 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 distribution 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 0.5 - 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 Conditio | | | |
| 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. No other specific measures identified. | | |
| 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 (tonnes/year): | | 5,4E+06 | |
| Fraction of Regional tonnage used locally: | | 2,0E-03 | |
| Annual site tonnage (tonnes/year): 1,1E+04 | | 1,1E+04 | |

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| Maximum daily site tonnage (kg/day): | 3,6E+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 | |
| Local marine water dilution factor: | 100 | |
| Other Operational Conditions affecting Environmental Exposure | | |
| Release fraction to air from process (initial release prior to RMM): | 1,0E-03 | |
| Release fraction to wastewater from process (initial release prior to RMM): | 1,0E-05 | |
| Release fraction to soil from process (initial release prior to RMM): | 1,0E-05 | |
| Technical conditions and measures at process level (source) to pr | | |
| Common practices vary across sites thus conservative process release estimates used. | | |
| Technical onsite conditions and measures to reduce or limit disch | arges, air emis- | |
| sions and releases to soil | , | |
| Risk from environmental exposure is driven by freshwater. | | |
| 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 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 plant | | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 94,7 | |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 94,7 | |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 2,6E+06 | |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 | |
| Conditions and Measures related to external treatment of waste fo | | |
| External treatment and disposal of waste should comply with applicable 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

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

Risk Management Measures are based on qualitative risk characterisation.

Available hazard data do not support the need for a DNEL to be established for other health effects.

Users are advised to consider national Occupational Exposure Limits or other equivalent values.

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).