# SAFETY DATA SHEET

# NEODOL 25-2.5



## 1. PRODUCT AND COMPANY IDENTIFICATION

| | | |
|---|---|---|
| Chemical product name | : | NEODOL 25-2.5 |
| Product code | : | V2590 |
| Synonyms | : | Alcohols, C12-15, ethoxylated |
| CAS-No. | : | 68131-39-5 |
| ENCS/ISHL number | : | 7-97 (CAS 68131-39-5) |

**Manufacturer or supplier's details**

| | | |
|---|---|---|
| Supplier's company name, address and phone number | : | SHELL EASTERN CHEMICALS (S)<br>A REGISTERED BUSINESS OF SHELL EASTERN TRADING (PTE) LTD (UEN:198902087C)<br>9 North Buona Vista Drive , #07-01<br>The Metropolis Tower 1<br>Singapore 138588<br>Singapore |
| Telephone | : | +65 6384 8269 |
| Telefax | : | +65 6384 8454 |
| Contact for Safety Data Sheet | : | |
| Emergency telephone number | : | +65 6542 9595 (Alert SGS) |

**Recommended use of the chemical and restrictions on use**

| | | |
|---|---|---|
| Recommended use | : | Use in detergent manufacture. |
| Restrictions on use | : | This product must not be used in applications other than the above without first seeking the advice of the supplier.<br>This substance may not be used for any purpose other than recommended without expert advice |
| Other information | : | NEODOL is a trademark owned by Shell Trademark Management B.V. and Shell Brands Inc. and used by affiliates of Royal Dutch Shell plc. |

## 2. HAZARDS IDENTIFICATION

**GHS classification of chemical product**

| | | |
|---|---|---|
| Eye irritation | : | Category 2B |
| Short-term (acute) aquatic hazard | : | Category 1 |
| Long-term (chronic) aquatic hazard | : | Category 2 |

**GHS label elements**

Hazard pictograms :

Signal word : Warning

Hazard statements : PHYSICAL HAZARDS:
Not classified as a physical hazard under GHS criteria.
HEALTH HAZARDS:
H320 Causes eye irritation.
ENVIRONMENTAL HAZARDS:
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements :

**Prevention:**
P264 Wash hands thoroughly after handling.
P273 Avoid release to the environment.

**Response:**
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P391 Collect spillage.

**Storage:**
No precautionary phrases.

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

**Other hazards which do not result in classification**

None known.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

**Hazardous components**

| Substance name | CAS-No. | Classification | Concentration (% w/w) |
|---|---|---|---|
| C12-15 Alcohol Ethoxylate | 68131-39-5 | Eye Irrit.2B; H320 | <= 100 |

| | | | |
|---|---|---|---|
| | | Aquatic Acute1; H400<br>Aquatic Chronic2; H411 | |

For explanation of abbreviations see section 16.

## 4. FIRST-AID MEASURES

| | | |
|---|---|---|
| General advice | : | Not expected to be a health hazard when used under normal conditions. |
| If inhaled | : | No treatment necessary under normal conditions of use.<br>If symptoms persist, obtain medical advice. |
| In case of skin contact | : | Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.<br>If persistent irritation occurs, obtain medical attention. |
| In case of eye contact | : | Immediately flush eye(s) with plenty of water.<br>Remove contact lenses, if present and easy to do. Continue rinsing.<br>Transport to the nearest medical facility for additional treatment. |
| If swallowed | : | In general no treatment is necessary unless large quantities are swallowed, however, get medical advice. |
| Most important symptoms and effects, both acute and delayed | : | Not considered to be an inhalation hazard under normal conditions of use.<br>Possible respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing.<br><br>No specific hazards under normal use conditions.<br>Skin irritation signs and symptoms may include a burning sensation, redness, or swelling.<br><br>Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision.<br><br>No specific hazards under normal use conditions.<br>Ingestion may result in nausea, vomiting and/or diarrhoea. |
| Protection of first-aiders | : | When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings. |
| Notes to physician | : | Treat symptomatically.<br>IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT!<br>Call a doctor or poison control center for guidance. |

## 5. FIRE-FIGHTING MEASURES

| | | |
|---|---|---|
| Suitable extinguishing media | : | Alcohol-resistant foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. |
| Unsuitable extinguishing media | : | Do not use water in a jet. |
| Specific hazards during firefighting | : | Carbon monoxide may be evolved if incomplete combustion occurs.<br>Will float and can be reignited on surface water.<br>The vapour is heavier than air, spreads along the ground and distant ignition is possible. |
| Specific extinguishing methods | : | Standard procedure for chemical fires.<br>Clear fire area of all non-emergency personnel.<br>Keep adjacent containers cool by spraying with water. |
| Special protective equipment for firefighters | : | Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469). |

## 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Observe all relevant local and international regulations.<br>Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.<br>Local authorities should be advised if significant spillages cannot be contained. |
| | : | Avoid contact with spilled or released material. Immediately remove all contaminated clothing. 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.<br>Stay upwind and keep out of low areas.<br>Be ready for fire or possible exposure. |
| Environmental precautions | : | Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers.<br>Use appropriate containment to avoid environmental contamination.<br>Ventilate contaminated area thoroughly. |
| Methods and materials for | : | For large liquid spills (> 1 drum), transfer by mechanical |

| | | |
|---|---|---|
| containment and cleaning up | | 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<br>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. |
| Additional advice | : | For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet.<br>For guidance on disposal of spilled material see Section 13 of this Safety Data Sheet. |

## 7. HANDLING AND STORAGE

### 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.<br>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.<br>Ensure that all local regulations regarding handling and storage facilities are followed. |
| Advice on safe handling | : | Avoid contact with skin, eyes and clothing.<br>Do not empty into drains.<br>Sudden Release of Pressure Hazard |
| Facial protective equipment | : | Wear goggles for use against liquids and gas.<br>Wear full face shield if splashes are likely to occur. |
| Hygiene measures | : | Wash hands before eating, drinking, smoking and using the toilet.<br>Launder contaminated clothing before re-use. |
| Describe contact avoidance, etc | : | Copper.<br>Copper alloys.<br>Strong oxidising agents.<br>Aluminum |
| Product Transfer | : | Keep containers closed when not in use. Do not use compressed air for filling discharge or handling. |

### Storage

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

covering the packaging and storage of this product.

Other data : Bulk storage tanks should be diked (bunded).
Vapours from tanks should not be released to atmosphere.
Breathing losses during storage should be controlled by a suitable vapour treatment system.
Nitrogen blanket recommended for large tanks (capacity 100 m3 or higher).
Insulation (lagging) will minimize heat loss in areas of low ambient temperature.
Tanks should be fitted with heating coils in areas where ambient conditions can result in handling temperatures below the freezing point/pour point of the product.

Packaging material : Suitable material: Stainless steel., Epoxy resins, Polyester.
Unsuitable material: Aluminum, Copper., Copper alloys.

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.

Specific use(s) : Not applicable

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

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Threshold limit value and permissible exposure limits for each component in the work environment**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|---|---|---|---|---|
| Ethylene Oxide | 75-21-8 | ACL | 1 ppm | JP OEL ISHL |
| Ethylene Oxide | | OEL-M | 1 ppm<br>1.8 mg/m3 | JP OEL JSOH |
| | Further information: Group 1: Substances known to cause reproductive toxicity in humans, Group 1: carcinogenic to humans, Skin sensitizing agent; Group 2 substances which probably induce allergic reactions in humans. | | | |
| Ethylene Oxide | 75-21-8 | TWA | 1 ppm<br>1.8 mg/m3 | Shell Internal Standard (SIS) for 8 hour TWA. |
| Ethylene Oxide | 75-21-8 | TWA | 1 ppm | ACGIH |
| Ethylene Oxide | | PEL | 1 ppm | OSHA CARC |
| Ethylene Oxide | | STEL | 5 ppm | OSHA CARC |

**Biological occupational exposure limits**

No biological limit allocated.

**Monitoring Methods**

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.
Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.
National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/
Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/
Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/
Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany http://www.dguv.de/inhalt/index.jsp
L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

労働者の健康障害を防止するため化学物質の濃度基準値とその適用方法などを定めました (mhlw.go.jp)

**Engineering measures** : Adequate ventilation to control airborne concentrations below the exposure guidelines/limits.
Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.
Eye washes and showers for emergency use.
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.
Do not ingest. If swallowed, then seek immediate medical assistance.

**Personal protective equipment**

**Protective measures**

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

| | | |
|---|---|---|
| Respiratory protection | : | If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. If air-filtering respirators are suitable for conditions of use: Select a filter suitable for the combination of organic gases and vapours and particles [Type A/Type P boiling point >65°C (149°F)]. |
| Hand protection<br>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. |
| Eye and face protection | : | Wear goggles for use against liquids and gas.<br>Wear full face shield if splashes are likely to occur. |
| Skin and body protection | : | Skin protection is not required under normal conditions of use. |

For prolonged or repeated exposures use impervious clothing over parts of the body subject to exposure.
If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to relevant Standard, and provide employee skin care programmes.

Thermal hazards : Not applicable

Hygiene measures : Wash hands before eating, drinking, smoking and using the toilet.
Launder contaminated clothing before re-use.

**Environmental exposure controls**

General advice : Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.
Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.
Information on accidental release measures are to be found in section 6.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Physical state | : | Clear or slightly turbid liquid. |
| Colour | : | colourless |
| Odour | : | mild |
| Odour Threshold | : | Data not available |
| pH | : | 6.8, 0.5% mass aqueous solution. |
| pour point | : | 6 °C / 43 °F |
| Melting point/freezing point | | 6 °C / 43 °F |
| Boiling point, initial boiling point and boiling range | : | 271.11 - 516.11 °C / 520.00 - 961.00 °F |
| Flash point | : | 157 °C / 315 °F<br>Method: IP 34 |
| Evaporation rate | : | Data not available |

Flammability

Flammability (solid, gas) : Not applicable

Lower explosion limit and upper explosion limit / flammability limit

Upper explosion limit : Data not available

| | | |
|---|---|---|
| Lower explosion limit | : | Data not available |
| Vapour pressure | : | < 1 Pa (25 °C / 77 °F) |
| Relative vapour density | : | Data not available |
| Density and / or relative density | | |
| Relative density | : | Data not available |
| Density | : | 903 kg/m3 (40 °C / 104 °F)<br>Method: ASTM D4052 |
| Solubility(ies) | | |
| Water solubility | : | 0.188 - 13.18 mg/l Slightly soluble. (25 °C / 77 °F)<br>Method: Calculated value(s) |
| Partition coefficient: n-octanol/water | : | log Pow: 3 |
| Auto-ignition point | : | 235 °C / 455 °F |
| Decomposition temperature | : | Data not available |
| Viscosity | | |
| Viscosity (Dynamic) | : | 50 mPa.s (20 °C / 68 °F)<br>Method: ASTM D445 |
| Viscosity, kinematic | : | 16 mm2/s (40 °C / 104 °F)<br>Method: ASTM D445 |
| Particle characteristics | | |
| Explosive properties | : | Not applicable |
| Oxidizing properties | : | Data not available |
| Surface tension | : | 21.8 - 28.8 mN/m, 20 °C / 68 °F |
| Conductivity | : | Electrical conductivity: > 10,000 pS/m<br>A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid, This material is not expected to be a static accumulator. |
| Molecular weight | : | Data not available |

## 10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| Reactivity | : | Stable at normal ambient temperature and pressure., May |

oxidise in the presence of air.

| | | |
|---|---|---|
| Chemical stability | : | The product is chemically stable. Stable under normal conditions. |
| Possibility of hazardous reactions | : | None known. |
| Conditions to avoid | : | Extremes of temperature and direct sunlight. |
| Incompatible materials | : | Copper.<br>Copper alloys.<br>Strong oxidising agents.<br>Aluminum |
| Hazardous decomposition products | : | None expected under normal use conditions. |

## 11. TOXICOLOGICAL INFORMATION

| | | |
|---|---|---|
| Basis for assessment | : | Information given is based on product testing, and/or similar products, and/or components.<br>Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s). |
| Information on likely routes of exposure | : | Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion. |

**Acute toxicity**

**Components:**

**C12-15 Alcohol Ethoxylate:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 Rat: > 5000 mg/kg<br>Remarks: Low toxicity<br>Based on available data, the classification criteria are not met. |
| Acute inhalation toxicity | : | Remarks: Based on available data, the classification criteria are not met. |
| Acute dermal toxicity | : | LD50 Rabbit: > 2000 mg/kg<br>Remarks: Low toxicity<br>Based on available data, the classification criteria are not met. |

**Skin corrosion/irritation**

**Components:**

**C12-15 Alcohol Ethoxylate:**
Remarks: Not irritating to skin.

**Serious eye damage/eye irritation**

**Components:**

**C12-15 Alcohol Ethoxylate:**
Species: Rabbit
Exposure time: 24 h
Method: Test(s) equivalent or similar to OECD Test Guideline 405
Remarks: Expected to be irritating to eyes.

Species: Rabbit
Exposure time: 48 h
Method: Test(s) equivalent or similar to OECD Test Guideline 405
Remarks: Expected to be irritating to eyes.

Species: Rabbit
Exposure time: 72 h
Method: Test(s) equivalent or similar to OECD Test Guideline 405
Remarks: Expected to be irritating to eyes.

**Respiratory or skin sensitisation**

**Components:**

**C12-15 Alcohol Ethoxylate:**
Remarks: Not a sensitiser.
Based on available data, the classification criteria are not met.

**Germ cell mutagenicity**

**Components:**

**C12-15 Alcohol Ethoxylate:**

: Remarks: Non mutagenic

**Carcinogenicity**

**Components:**

**C12-15 Alcohol Ethoxylate:**

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

| Material | GHS/CLP Carcinogenicity Classification |
|---|---|
| C12-15 Alcohol Ethoxylate | No carcinogenicity classification. |
| Ethylene Oxide | Carcinogenicity Category 1B |

| Material | Other Carcinogenicity Classification |
|---|---|
| Ethylene Oxide | IARC: Group 1: Carcinogenic to humans |

**Reproductive toxicity**

**Components:**

**C12-15 Alcohol Ethoxylate:**

:

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

**STOT - single exposure**

**Components:**

**C12-15 Alcohol Ethoxylate:**
Remarks: Based on available data, the classification criteria are not met.

**STOT - repeated exposure**

**Components:**

**C12-15 Alcohol Ethoxylate:**
Remarks: Based on available data, the classification criteria are not met.

**Aspiration toxicity**

**Components:**
**C12-15 Alcohol Ethoxylate:**
Not an aspiration hazard.

**Further information**

**Components:**
**C12-15 Alcohol Ethoxylate:**
Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

## 12. ECOLOGICAL INFORMATION

| | | |
|---|---|---|
| Basis for assessment | : | Incomplete ecotoxicological data are available for this product. The information given below is based partly on a knowledge of the components and the ecotoxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s). |

**Ecotoxicity**

**Components:**
**C12-15 Alcohol Ethoxylate :**

| | | |
|---|---|---|
| Toxicity to fish (Acute toxicity) | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 1.3 mg/l<br>Exposure time: 96 h<br>Remarks: Toxic to fish. |
| Toxicity to crustacean (Acute toxicity) | : | EC50 (Daphnia magna (Water flea)): 0.14 mg/l<br>Exposure time: 48 h<br>Method: Test(s) equivalent or similar to OECD Guideline 202 |

Remarks: Very toxic to aquatic organisms.

Toxicity to algae/aquatic plants (Acute toxicity) : EC50 (Raphidocelis subcapitata (freshwater green alga)): 0.031 mg/l
Exposure time: 72 h
Method: Test(s) equivalent or similar to OECD Test Guideline 201
Remarks: Harmful to algae.

M-Factor (Short-term (acute) aquatic hazard) : 1

: 10

Toxicity to microorganisms (Acute toxicity) : EC50 : > 10,000 mg/l
Exposure time: 17 h
Method: DIN 38 412 Part 8
Remarks: Practically non toxic:
Based on available data, the classification criteria are not met.

Toxicity to fish (Chronic toxicity) : Remarks: Data not available

Toxicity to crustacean(Chronic toxicity) : NOEC: 0.77 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: Test(s) equivalent or similar to OECD Guideline 211
Remarks: Harmful with long lasting effects:

M-Factor (Long-term (chronic) aquatic hazard) :

1

**Persistence and degradability**

**Components:**
**C12-15 Alcohol Ethoxylate :**

Biodegradability : Result: Readily biodegradable.
Biodegradation: 61 %
Exposure time: 28 d
Method: Test(s) equivalent or similar to OECD Guideline 301 B

**Bioaccumulation**

**Product:**

Partition coefficient: n-octanol/water : log Pow: 3

**Components:**
**C12-15 Alcohol Ethoxylate :**

Bioaccumulation : Species: Pimephales promelas (fathead minnow)
Bioconcentration factor (BCF): 237
Method: No information available.
Remarks: Does not bioaccumulate.

**Mobility in soil**

**Components:**

**C12-15 Alcohol Ethoxylate :**

Mobility : Remarks: Floats on water., If the product enters soil, one or more constituents will or may be mobile and may contaminate groundwater.

**Other adverse effects**

no data available

**Hazardous to the ozone layer**

Not applicable

## 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

Chemicals (residual waste) : 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.
Do not dispose into the environment, in drains or in water courses.
Waste product should not be allowed to contaminate soil or water.

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.

Contaminated containers and 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.

## 14. TRANSPORT INFORMATION

**Regulatory information when there are domestic regulations**

Refer to section 15 for specific national regulation.

**International Regulations**

**ADR**

UN number : 3082
Product Name (Proper shipping name) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Alcohol C12-C16 Poly (1-6) Ethoxylate)
Class (Hazard class in : 9

transportation)

| | | |
|---|---|---|
| Packing group | : | III |
| Labels | : | 9 |
| Hazard Identification Number | : | 90 |
| Environmentally hazardous | : | yes |

**IATA-DGR**

| | | |
|---|---|---|
| UN/ID No. | : | UN 3082 |
| Product Name (Proper shipping name) | : | Environmentally hazardous substances, liquid, n.o.s.<br>(Alcohol C12-C16 Poly (1-6) Ethoxylate) |
| Class (Hazard class in transportation) | : | 9 |
| Packing group | : | III |
| Labels | : | 9 |

**IMDG-Code**

| | | |
|---|---|---|
| UN number | : | UN 3082 |
| Product Name (Proper shipping name) | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(Alcohol C12-C16 Poly (1-6) Ethoxylate) |
| Class (Hazard class in transportation) | : | 9 |
| Packing group | : | III |
| Labels | : | 9 |
| Marine pollutant | : | yes |

**Maritime transport in bulk according to IMO instruments**

| | | |
|---|---|---|
| Pollution category | : | Y |
| Ship type | : | 2 |
| Product name | : | ALCOHOL (C12-C16) POLY (1-6) ETHOXYLATES |

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

## 15. REGULATORY INFORMATION

**Related Regulations**

**Fire Service Law**

Group 4, Type 3 petroleums, Water insoluble liquid, (2000 litre), Hazardous rank III

| | | |
|---|---|---|
| Fire Service Law ; Obstacle substance to fire-fighting | : | oxirane |

**Chemical Substance Control Law**

Priority Assessment Chemical Substance

| Chemical name | Number |
|---|---|
| alpha-Alkyl(C=12-15)-omega-hydroxypoly(oxyethylene) (It is limited that a number-average molecular weight of the polymer is less than 1,000.) | 189 |
| alpha-Alkyl(C=12-15)-omega-hydroxypoly(oxyethylene) (It is limited that a number-average molecular weight of the polymer is less than 1,000) | 189 |
| Ethylene oxide | 19 |

**Industrial Safety and Health Law**

**Harmful Substances Prohibited from Manufacture**

Not applicable

**Harmful Substances Required Permission for Manufacture**

Not applicable

**Substances Prevented From Impairment of Health**

Not applicable

**Circular concerning Information on Chemicals having Mutagenicity - Annex 2: Information on Existing Chemicals having Mutagenicity**

Not applicable

**Circular concerning Information on Chemicals having Mutagenicity - Annex 1: Information on Notified Substances having Mutagenicity**

Not applicable

**Substances Subject to be Notified Names**

Not applicable

**Substances Subject to be Indicated Names**

Not applicable

**Ordinance on Prevention of Hazards Due to Specified Chemical Substances**

Not applicable

**Ordinance on Prevention of Organic Solvent Poisoning**

Not applicable

**Enforcement Order of the Industrial Safety and Health Law - Attached table 1 (Dangerous Substances)**

Not applicable

**Poisonous and Deleterious Substances Control Law**

Not applicable

**Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof**

**Class I Designated Chemical Substances**

| Chemical name | Number | Concentration (%) |
|---|---|---|
| Poly(oxyethylene) alkyl ether (limited to those the alkyl group is C=12-15 and mixture thereof) | 407 | 100 |

**Vessel Safety Law**

Miscellaneous dangerous substances and articles (Article 2 and 3 of rules on shipping and storage of dangerous goods and its Attached Table 1)

**Aviation Law**

Miscellaneous dangerous substances and articles (Article 194 of The Enforcement Rules of Aviation Law and its Attached Table 1)

**Marine Pollution and Sea Disaster Prevention etc Law**

Marine pollutant

**Waste Disposal and Public Cleansing Law**

Industrial waste

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

| | | |
|---|---|---|
| AIIC | : | Listed |
| DSL | : | Listed |
| IECSC | : | Listed |
| ENCS | : | Listed |
| KECI | : | Listed |
| NZIoC | : | Listed |
| PICCS | : | Listed |
| TSCA | : | Listed |
| TCSI | : | Listed |

## 16. OTHER INFORMATION

**Full text of H-Statements**

| | |
|---|---|
| H320 | Causes eye irritation. |
| H400 | Very toxic to aquatic life. |
| H411 | Toxic to aquatic life with long lasting effects. |

**Full text of other abbreviations**

| | |
|---|---|
| Aquatic Acute | Short-term (acute) aquatic hazard |
| Aquatic Chronic | Long-term (chronic) aquatic hazard |
| Eye Irrit. | Eye irritation |

**Abbreviations and Acronyms**

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with

x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

**Further information**

| | | |
|---|---|---|
| Training advice | : | Provide adequate information, instruction and training for operators. |
| Other information | : | A vertical bar (\|) in the left margin indicates an amendment from the previous version. |
| Sources of key data used to compile the Safety Data Sheet | : | The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU IUCLID date base, EC 1272 regulation, etc). |

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