

NOVEL® 22-4 Ethoxylate

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

| | | | |
|-----------------------|--|--|----------------|
| Trade name | NOVEL® 22-4 Ethoxylate | | |
| Synonyms | Ethoxylated Docosanol, Polyoxyethylene Docosyl Ether | | |
| Use | Industrial use, Oilfield Drilling | | |
| Company | Sasol Chemicals (USA) LLC (an affiliate of Sasol Chemicals North America LLC) | | |
| Address | 12120 Wickchester Lane Houston TX 77079 | | |
| Telephone | CHEMTREC North America Transportation Emergency (24-hr) | | (800) 424-9300 |
| | CHEMTREC World Wide | | (703) 527-3887 |
| | Other Emergencies (24-hr) | | (337) 494-5142 |
| | MSDS and Product Information (8:00am-4:30pm CST) | | (281) 588-3491 |
| | Health and Safety Information (7:30am-4:00pm CST) | | (281) 588-3492 |
| E-mail address | SasolElectronicSDS@us.sasol.com | | |

SECTION 2 HAZARDS IDENTIFICATION

Not a hazardous substance or mixture according to OSHA HCS 2012.

Additional advice This product may contain residual levels of alcohols which, even under normal handling conditions, may smell and irritate the eyes, nose, and throats of some individuals.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Components</u> | <u>CAS-No.</u> | <u>Weight percent</u> |
|---------------------------|----------------|-----------------------|
| Alcohol, C22, ethoxylated | 26636-40-8 | 100 |

See Section 8 for Exposure Guidelines and Section 15 for Regulatory Classifications.

SECTION 4 FIRST AID MEASURES

- Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. When symptoms persist or in all cases of doubt seek medical advice. Wash contaminated clothing before re-use.
- Inhalation** Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.
- Ingestion** If swallowed, call a poison control centre or doctor immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

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SECTION 5 FIREFIGHTING MEASURES

FLAMMABLE PROPERTIES

Fire/explosion NFPA Class IIIB combustible liquid.

Suitable extinguishing media Water spray, Alcohol-resistant foam, Dry chemical, Carbon dioxide (CO₂)

Protective equipment and precautions for firefighters Wear self contained breathing apparatus for fire fighting if necessary.

Further information Keep containers and surroundings cool with water spray. Do not use a solid water stream as it may scatter and spread fire. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning up Evacuate personnel to safe areas. Remove all sources of ignition. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Do not flush into surface water or sanitary sewer system.

SECTION 7 HANDLING AND STORAGE

Safe handling advice Take precautionary measures against static discharges.

Storage/Transport pressure Ambient

Load/Unload temperature 66 - 85 C
150 - 185 F

Storage and handling materials Suitable: Carbon steel coated with baked phenolic. Any moisture may cause rusting of carbon steel. If product is moisture free, uncoated carbon steel tanks.

Further information on storage conditions When stored in the liquid form, ethoxylates should be padded with a dry inert gas, such as nitrogen, to prevent oxygen or air from entering the tank. Prolonged storage in the presence of air or oxygen may cause product degradation. Oxidation is not expected when stored under a nitrogen atmosphere. Inert gas blanket and breathing system needed to maintain color stability. Use dry inert gas having at least -40°C (-40°F) dew point.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES

Ensure adequate ventilation, especially in confined areas. Trace amounts of ethylene oxide may be present in the product and could accumulate in vapor spaces of storage or transport vessels.

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PERSONAL PROTECTIVE EQUIPMENT

Eyes Wear as appropriate: Goggles, Face-shield

Skin Full protective clothing, chemical boots, and chemical gloves.

Inhalation Use respirator when performing operations involving potential exposure to vapour of the product. Use NIOSH approved respiratory protection.

EXPOSURE GUIDELINES

There are no exposure limits established for this product. Trace amounts of ethylene oxide may be present in this product., The ethylene oxide in this product is not expected to result in significant exposures or present a health hazard.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance solid; colorless liquid when melted;

Colour white

Form flakes

Odour sweet pungent

Odour Threshold no data available

Flash point ca. > 204 °C, > 399 °F; PM;

Flammability Upper explosion limit: no data available
Lower explosion limit: no data available

Boiling point/boiling range no data available

Melting point/range 58.8 °C, 137.8 °F;

Auto-ignition temperature ca. 220 °C, 428 °F;

Decomposition temperature no data available

Flammability (solid, gas) no data available

Vapour pressure no data available

Vapour density 17.3

Density no data available

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|---|---------------------------|
| Specific gravity | 0.8911 @60 °C, 140 °F; |
| Water solubility | non-solubles |
| Viscosity | 19.3 cSt @ 60 °C, 140 °F; |
| pH | 6 - 8 |
| Evaporation rate | no data available |
| Partition coefficient: n-octanol/water | no data available |
| Volatile organic compounds (VOC) content | 20.5 % |

SECTION 10 STABILITY AND REACTIVITY

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| Reactivity | Stable at normal ambient temperature and pressure. |
| Chemical stability | No decomposition if stored and applied as directed. |
| Conditions to avoid | Reacts slowly with air or oxygen. Storage under heated conditions in the presence of air or oxygen increases reaction rate. For example, after storing at 95°F/35°C for 30 days in the presence of air, there is measureable oxidation of the ethoxylate. Lower temperatures will allow for longer storage time and higher temperatures will shorten the storage time if stored under an air or oxygen atmosphere. |
| Hazardous decomposition products | When storing this product in air or oxygen, decomposition may occur, generating vapors which could be irritating. Ensure adequate ventilation, especially in confined areas. Oxidation is not expected when stored under a nitrogen atmosphere. |
| Materials to avoid | Can react with strong oxidizers, inorganic acids, and halogens. |
| Hazardous polymerisation | None. |

SECTION 11 TOXICOLOGICAL INFORMATION

| | |
|----------------------------------|--|
| Additional Remarks | Information given is based on data obtained from similar substances. |
| Acute dermal toxicity | no data available |
| Acute inhalation toxicity | LC50 value expected to exceed the saturated vapor concentration in air. |
| Acute oral toxicity | LD50 rat: > 2,000 mg/kg |
| Skin corrosion/irritation | Primary irritation (rabbit): 4 hours; 0.1 - 0.7 (Max. score is 8.0.) Not irritating |

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| Eye damage/irritation | Primary irritation (rabbit): 4.3 (Max. score is 110.) Not irritating |
| Respiratory or skin sensitization | no data available |
| Germ cell mutagenicity | Genotoxicity in vitro: no data available Genotoxicity in vivo: no data available Assessment Mutagenicity: no data available |
| Reproductive toxicity | Reproductive toxicity: no data available Assessment Reproductive toxicity: no data available Teratogenicity: no data available Assessment teratogenicity: no data available |
| STOT - single exposure | no data available |
| STOT - repeated exposure | no data available |
| Aspiration toxicity | no data available |
| Carcinogenicity | Assessment carcinogenicity: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. |

SECTION 12 ECOLOGICAL INFORMATION

| | |
|--|---|
| Aquatic toxicity | Aquatic toxicity is unlikely due to low solubility. |
| Toxicity to fish | no data available |
| Toxicity to aquatic invertebrates | no data available |
| Toxicity to algae | no data available |
| Chronic toxicity to fish | no data available |

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Chronic toxicity to aquatic invertebrates no data available

Biodegradation Expected to be biodegradable.

Semi-continuous activated sludge (SCAS) > 99 %
Test substance: ALFONIC® 18LE-9 Ethoxylate

Bioaccumulation no data available

Mobility in soil no data available

Other adverse effects no data available

SECTION 13 DISPOSAL CONSIDERATIONS

Waste Code Any unused product or empty containers may be disposed of as non-hazardous in accordance with state and federal requirements. Re-evaluation of the product may be required by the user at the time of disposal, since the product uses, transformations, mixtures, contamination, and spillage may change the classification. If the resulting material is determined to be hazardous, please dispose in accordance with state and federal (40 CFR 262) hazardous waste regulations.

Disposal methods Dispose of only in accordance with local, state, and federal regulations.

Empty containers. Empty containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, triple-rinsed, properly bunged and promptly returned to a drum reconditioner, or properly disposed.

SECTION 14 TRANSPORT INFORMATION

DOT Not regulated.

IATA Not regulated.

IMDG Not regulated.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remarks no data available

SECTION 15 REGULATORY INFORMATION

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U.S. FEDERAL REGULATIONS

OSHA Hazards (HCS 1994)

Non-hazardous substance

TSCA Inventory Listing

Components

Poly(oxy-1,2-ethanediyl), a-docosyl-w-hydroxy-

CAS-No.

26636-40-8

SARA 302 Status

Components

CAS-No.

Weight percent

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Classification

Non-hazardous substance

SARA 313 Chemical

Components

CAS-No.

Weight percent

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US. EPA CERCLA Hazardous Substances (40 CFR 302)

Components

none

Reportable Quantity

Weight percent

INTERNATIONAL REGULATIONS

WHMIS Classification

WHMIS hazardous composition: No ingredients are hazardous according to the CPR criteria.

European Union

The product does not need to be labelled in accordance with EC directives or respective national laws.

| | |
|---|------------|
| Australia. Inventory of Chemical Substances (AICS) | Not listed |
| Japan. Inventory of Existing and New Chemical Substances (ENCS) | Listed |
| Japan. Industrial Safety & Health Law (ISHL) Inventory | Listed |
| Canada. Domestic Substances List (DSL) Inventory | Not listed |
| Canadian Non-Domestic Substance Listing (NDSL) | Listed |
| European Inventory of Existing Commercial Chemical Substances (EINECS) Listing | Listed |
| Philippines. Inventory of Chemicals / Chemical Substances (PICCS) | Not listed |
| Korea. Existing Chemicals Inventory (KECI) | Listed |

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|---|------------|
| China. Inventory of Existing Chemical Substances (IECSC) | Listed |
| Mexico. National Inventory of Chemical Substances (INSQ) | Not listed |
| New Zealand. Inventory of Chemicals (NZIoC) | Listed |
| Switzerland. Inventory of Notified New Substances (CHINV) | Listed |
| Taiwan. National Existing Chemical Inventory (NECI) | Listed |

Please note: The names and CAS numbers which are used for this product in the stated inventories may deviate from the information which is listed in Section 3.

STATE REGULATIONS

California Prop. 65

Components

Ethylene Oxide

CAS-No.

75-21-8

Sasol Chemicals (USA) LLC's ethoxylates may contain detectable quantities of ethylene oxide which is a chemical on the California Proposition 65 list. The level is typically below 1.0 ppm, although it may vary. The manufacturing process is controlled to reduce the residual ethylene oxide content.

SECTION 16 OTHER INFORMATION

HAZARD RATINGS

| | <u>Health</u> | <u>Flammability</u> | <u>Physical Hazard/ Instability</u> |
|--------------|---------------|---------------------|---|
| HMIS® | 1 | 1 | 0 |
| NFPA | 1 | 1 | 0 |

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