

NOVEL® 23E6.5 Ethoxylate
SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

| | | |
|-----------------------|--|----------------|
| Trade name | NOVEL® 23E6.5 Ethoxylate | |
| Synonyms | Ethoxylated Alcohol | |
| Use | Industrial use | |
| 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 |
| | SDS 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

| | | |
|-------------------------|--------------------------|------------|
| OSHA/GHS Hazards | Serious eye damage | Category 1 |
| | Acute toxicity (Oral) | Category 4 |
| | Chronic aquatic toxicity | Category 3 |

LABEL ELEMENTS
Hazard symbols


Signal word Danger

Hazard statements H318 Causes serious eye damage.
H302 Harmful if swallowed.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention P280 Wear eye protection/ face protection.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.

NOVEL® 23E6.5 Ethoxylate

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.
P310 Immediately call a POISON CENTER/doctor.
P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330 Rinse mouth.

Disposal P501 Dispose of contents/ container to an approved waste disposal plant.

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> |
|-------------------------------|----------------|-----------------------|
| Alcohols, C10-16, ethoxylated | 68002-97-1 | 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.

SECTION 5 FIREFIGHTING MEASURES

FLAMMABLE PROPERTIES

Fire/explosion NFPA Class IIIB combustible liquid.

Suitable extinguishing media Water spray, Foam, Dry chemical, Carbon dioxide (CO₂)

Protective equipment and precautions for firefighters Wear self-contained breathing apparatus for firefighting if necessary.

NOVEL® 23E6.5 Ethoxylate

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 32 - 49 C
90 - 120 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 Mix thoroughly before use. 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.

PERSONAL PROTECTIVE EQUIPMENT

Eyes Wear as appropriate: Goggles, Face-shield

Skin Full protective clothing, chemical boots, and chemical gloves. High standards of skin care and personal hygiene should be exercised at all times.

NOVEL® 23E6.5 Ethoxylate

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 | liquid; |
| Colour | Clear to slightly hazy |
| Form | liquid |
| Odour | sweet pungent |
| Odour Threshold | No data available |
| Flash point | 177 °C, 350 °F; PM; |
| Flammability | Upper explosion limit: No data available Lower explosion limit: No data available |
| Boiling point/boiling range | > 260 °C, > 500 °F; |
| Melting point/range | 3 - 6 °C, 37 - 43 °F; |
| Auto-ignition temperature | approximately 320 °C, 608 °F; |
| Decomposition temperature | No data available |
| Flammability (solid, gas) | No data available |
| Vapour pressure | 0.14 psi @ 65 °C, 150 °F; |
| Vapour density | 17 |
| Density | 0.99 g/cm ³ 8.21 lb/gal @ 20 °C, 68 °F; |
| Specific gravity | No data available |

NOVEL® 23E6.5 Ethoxylate

| | |
|---|---------------------------|
| Water solubility | completely miscible |
| Viscosity | 25.8 cSt @ 40 °C, 104 °F; |
| pH | No data available |
| Evaporation rate | No data available |
| Partition coefficient: n-octanol/water | No data available |

SECTION 10 STABILITY AND REACTIVITY

| | |
|---|--|
| 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 | LD50 Rabbit: 3,870 - 8,000 mg/kg |
| Acute inhalation toxicity | LC50 value expected to exceed the saturated vapor concentration in air. |
| Acute oral toxicity | LD50 Rat: > 1,000 mg/kg |
| Skin corrosion/irritation | Primary irritation (Rabbit): 24 hours; 4.4 (Max. score is 8.0.) |

NOVEL® 23E6.5 Ethoxylate

| | |
|--|--|
| Serious eye damage/eye irritation | Primary irritation (Rabbit): 50.8 (Max. score is 110.) Irreversible effects on the eye |
| Respiratory or skin sensitisation | 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 | Harmful to aquatic life with long lasting effects. |
| Toxicity to fish | LC50 (Poecilia reticulata (guppy)) 96 hours: 6.5 mg/l Test substance: SAFOL® 23E7 Ethoxylate |
| Toxicity to aquatic | EC50 (Daphnia (water flea)) 48 hours: 2.32 mg/l |

NOVEL® 23E6.5 Ethoxylate

| | |
|--|---|
| invertebrates | Test substance: SAFOL® 23E7 Ethoxylate |
| Toxicity to algae | EbC50 (Desmodesmus subspicatus (green algae)) 72 hours: 2.70 mg/l Test substance: SAFOL® 23E7 Ethoxylate |
| Chronic toxicity to fish | EC10 (Pimephales promelas (fathead minnow)): 0.21 mg/l (literature value) |
| Chronic toxicity to aquatic invertebrates | EC10 (Daphnia magna (Water flea)): 0.36 mg/l; OECD Test Guideline 211 (literature value) |
| Biodegradation | Readily biodegradable. > 99 % Product will biodegrade rapidly in the environment especially under waste treatment plant conditions. |
| Bioaccumulative potential | Bioaccumulation is unlikely. |
| Mobility in soil | immobile |
| 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

NOVEL® 23E6.5 Ethoxylate

- DOT** UN 3082, Environmentally hazardous substance, liquid, n.o.s.(Alcohol C12-16 poly (1-6) ethoxylate), 9, III , Marine pollutant
This product is regulated as a hazardous material according to the Department of Transportation only in bulk quantities (greater than 119 gallons per package).
- IATA** UN 3082, Environmentally hazardous substance, liquid, n.o.s.(Alcohol C12-16 poly (1-6) ethoxylate), 9, III
This product is regulated as a dangerous good when shipped by air in all quantities according to IATA.
- IMDG** UN 3082, Environmentally hazardous substance, liquid, n.o.s., (Alcohol C12-16 poly (1-6) ethoxylate), 9, III, Marine pollutant
This product is regulated as a Marine Pollutant when shipped by water in all quantities according to the IMDG Code.

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

Remarks No data available

SECTION 15 REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS
TSCA Inventory Listing
Components

Alcohols, C10-16, ethoxylated

CAS-No.

68002-97-1

SARA 302 Status
Components

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

CAS-No.
Weight percent
SARA 311/312 Classification

"Immediate (acute) health hazard"

SARA 313 Chemical
Components

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.

CAS-No.
Weight percent
US. EPA CERCLA Hazardous Substances (40 CFR 302)
Components

none

Reportable Quantity
Weight percent

NOVEL® 23E6.5 Ethoxylate

INTERNATIONAL REGULATIONS

WHMIS Classification

| | |
|--------------------------|------------|
| Serious eye damage | Category 1 |
| Acute toxicity (Oral) | Category 4 |
| Chronic aquatic toxicity | Category 3 |

European Union

This surfactant complies with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

Classification according to Regulation (EU) 1272/2008.

Serious eye damage, Category 1
Acute toxicity (Oral), Category 4
Chronic aquatic toxicity, Category 3

| | |
|--|------------|
| Australia. Inventory of Chemical Substances (AICS) | Listed |
| Japan. Inventory of Existing and New Chemical Substances (ENCS) | Listed |
| Japan. ISHL - Inventory of Chemical Substances | Listed |
| Canada. Domestic Substances List (DSL) Inventory | Listed |
| Canada. Non-Domestic Substance Listing (NDSL) | Not listed |
| Philippines. Inventory of Chemicals / Chemical Substances (PICCS) | Listed |
| Korea. Existing Chemicals Inventory (KECI) | Listed |
| China. Inventory of Existing Chemical Substances (IECSC) | Listed |
| Mexico | Not listed |
| New Zealand. Inventory of Chemical Substances | Listed |
| Switzerland | 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.

NOVEL® 23E6.5 Ethoxylate

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® | 3 | 1 | 0 |
| NFPA | 3 | 1 | 0 |

THE DATA AND INFORMATION CONTAINED HEREIN ARE BEING FURNISHED FOR INFORMATIONAL PURPOSES ONLY, UPON THE EXPRESS CONDITION THAT EACH CUSTOMER SHALL MAKE ITS OWN ASSESSMENT OF APPROPRIATE USE AND APPROPRIATE SHIPPING, TRANSFER AND STORAGE MATERIALS AND PROCEDURES FOR SASOL CHEMICALS (USA) LLC'S PRODUCTS. ALTHOUGH BASED ON INFORMATION SOURCES WHICH SASOL CHEMICALS (USA) LLC CONSIDERS ACCURATE AND RELIABLE, SASOL CHEMICALS (USA) LLC MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, REGARDING THE VALIDITY OF THIS INFORMATION, THE INFORMATION SOURCES UPON WHICH THE SAME ARE BASED, OR THE RESULTS TO BE OBTAINED, AND EXPRESSLY DISCLAIMS LIABILITIES FOR DAMAGES OR INJURIES RESULTING FROM THE USE THEREOF.
