

Safety Data Sheet



Trade Name: US-270S Surfactant

SECTION 1. IDENTIFICATION

Date of Issue: 12.11.2018

Product Name: US-270S Surfactant

Chemical Name: Polyether Triol

Other means of identification: Preparation of polyether modified polysiloxanes

Recommended use of the chemical and restrictions on use:

Recommended use: Industrial production of polyurethane foam articles

Recommended restrictions: Uses other than as recommended above

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SECTION 2: HAZARD(S) IDENTIFICATION

Classification of the chemical in accordance with paragraph (d) of §1910.1200:

This material is hazardous under the criteria of paragraph (d) of §1910.1200
Reproductive Toxicity – Category 2

GHS Signal word: WARNING

GHS Hazard statement(s): Reproductive Toxicity

GHS Hazard symbol(s):



Precautionary statement(s):

Prevention:

Wash skin thoroughly after handling.

Do not eat, drink or smoke while using this product

Avoid release to the environment.

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Wear eye protection/ face protection. Wear protective gloves
Keep only in original container

Response:

If exposed or concerned, get medical attention

Disposal:

Dispose of contents/containers to an approved disposal site in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise Classified (HNOC): May generate flammable hydrogen gas. Avoid contact with water, alcohols, basic, or oxidizing materials.

Percentage of ingredient(s) of unknown acute toxicity: Not applicable.

SECTION 3: Composition/Information on ingredients

Mixture: Chemical intermediate for urethane polymer production

CHEMICAL NAME	CAS #	Concentration (weight %)
Poly(Dimethylsiloxane) Ethoxylate / Propoxylate	68037-64-9	45 – 65 %
Octamethyl Cyclotetrasiloxane	556-67-2	< 1%
Trade Secret		Balance

Note: The manufacturer has claimed one or more ingredients as trade secret under the OSHA Hazard Communication Standard. All components of the trade secret composition are not classified as hazardous or are below the concentration limit to be classified as hazardous, under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200

SECTION 4: FIRST AID MEASURES

Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion:

Inhalation: Move person to fresh air. If effects occur, consult a physician.

Skin contact: In case of contact, wash off with plenty of water

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses and continue flushing for several additional minutes.

If longer lasting effects occur, consult a physician, preferably an ophthalmologist.

Ingestion: Thoroughly wash mouth. In the event of symptoms, seek medical attention.

Most important symptoms/effects, acute and delayed: Aside from the information presented above under First Aid measures, any additional known symptoms or effects are described in Section 11

Indication of immediate medical attention and special treatment needed: If any symptoms are observed, contact a physician and give them this SDS sheet. If concerned: Get medical advice/attention. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Suitable extinguishing media: Foam. Dry powder. Carbon dioxide. Water spray.

Unsuitable extinguishing media: Dry Chemical

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products): During a fire, smoke may contain the original material in addition to the combustion products of varying composition which may be toxic and/or irritating. Combustion product may include but are not limited to: Carbon monoxide, carbon dioxide, silicon dioxide. Container may rupture from gas generation in a fire situation. Violent stream generation or eruption may occur upon application of direct water stream to hot liquids.

Unusual Fire and Explosion Hazards: Applying foam will release significant amounts of hydrogen gas that can be trapped under the foam blanket. Exposure to combustion products may be a hazard to health. Fire burns more vigorously than would be expected.

Special protective equipment and precautions for fire-fighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire-fighting clothing (includes fire-fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire-fighting operations. If contact is likely, change to full chemical resistant fire-fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Isolate area. Remove all sources of ignition. Refer to section 7, Handling, for additional precautionary measures. Keep unnecessary and unprotected personnel from entering the area. Spilled material may cause a slipping hazard. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental Precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. Prevent spreading over a wide area. Discharge into environment must be avoided. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Absorb with materials such as: Dirt. Sand. Sawdust. Collect in suitable and properly labeled containers. Materials in contact with water, moisture, acids or bases have the potential to generate hydrogen gas. Recovered material should be stored in a vented container. Wash the spill site with water. See Section 13, Disposal Considerations, for additional information.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling: Avoid inhalation of vapor or mist. Do not swallow. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Keep away from water. Take care to prevent spills, waste, and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice. Use only with adequate ventilation.

Conditions for safe storage, including any incompatibles: Keep tightly closed in a cool well-ventilated place. Product may evolve minute quantities of flammable hydrogen gas which can accumulate. Clogged container vents may increase pressure build up. Do not store with strong oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Octamethyl Cyclotetrasiloxane US WEEL TWA 10 ppm

Exposure controls

Engineering controls: General ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Chemical goggles or safety glasses with side shields.

Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl").

Other protection: Wear clean, body-covering clothing.

Respiratory protection: For most conditions, no respiratory protection should be needed; however, if material is heated or sprayed, use an approved air-purifying respirator.

The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state:	Liquid
Form:	Medium viscosity fluid
Color:	Amber

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Odor:	Mild – specific to the product
Odor threshold:	Not available
pH:	6 (in 10/6 isopropanol/ water solution)
Melting point/freezing point:	Not available
Initial boiling point and boiling range:	> 100 °C
Flash point:	97 °C (Closed cup)
Evaporation rate:	Not available
Flammability (solid, gas):	Not available
Upper/lower flammability or explosive limits	
Flammability limit – lower (%):	Not available
Flammability limit – upper (%):	Not available
Explosive limit – lower (%):	Not available
Explosive limit – upper (%):	Not available
Vapor pressure:	Negligible at room temperature
Vapor density:	Not available
Relative density:	1.04
Solubility (ies):	No data available
Partition coefficient (n-octanol/water):	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity (dynamic):	1930 cP @23 degrees C
% Volatile:	Not volatile at or near room temperature

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	Not available.
Chemical stability:	Stable under normal ambient conditions and anticipated conditions of use.
Possibility of hazardous reactions:	Can react with strong oxidizing agents. Vapors may form explosive mixture with air. Product may evolve flammable hydrogen gas on contact with water, alcohols, acid or base materials, metals or metallic compounds and can form explosive mixtures in air. Hazardous decomposition products will be formed at elevated temperatures.
Conditions to avoid:	Product can oxidize at elevated temperatures. Exposure to moisture
Incompatible materials:	Oxidizing agents
Hazardous decomposition products:	Acetic acid. Formaldehyde

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Small amounts swallowed as a result of normal handling operations are not likely to cause injury.

Typical for this family of materials.
LD50, Rat > 16,952 mg/kg

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.
LD50, Rat > 2,000 mg/kg

Acute inhalation toxicity

At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. Vapor from heated material or mist may cause respiratory irritation.
For narcotic effects: No relevant data found.
The LC50 has not been determined.

Skin corrosion/irritation

Prolonged exposure not likely to cause significant skin irritation.

Serious eye damage/eye irritation

May cause slight temporary eye irritation. Corneal injury is unlikely.

Sensitization

Did not cause allergic skin reactions when tested in guinea pigs. No relevant data found for respiratory sensitization

Specific Target Organ Systemic Toxicity (Single Exposure)

No relevant data found.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

No relevant data found.

Carcinogenicity

Results from a 2 year repeated vapor inhalation exposure study to rats of octamethylcyclotetrasiloxane indicate effects (benign uterine adenomas) in the uterus of female animals. This finding occurred at the highest exposure dose (700 ppm) only. Studies to date have not demonstrated if these effects occur through pathways that are relevant to humans. Repeated exposure in rats resulted in protoporphyrin accumulation in the liver. Without knowledge of the specific mechanism leading to the protoporphyrin accumulation the relevance of this finding to humans is unknown.

Teratogenicity

Did not cause birth defects or any other fetal effects in lab animals

Reproductive toxicity

In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals. Have been shown to interfere with fertility in animal studies.

Mutagenicity

In vitro tests did not show mutagenic effects

Aspiration Hazard

No aspiration toxicity classification.

Based on physical properties, not likely to be an aspiration hazard.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Acute toxicity to fish

Poly(Dimethylsiloxane) Ethoxylate / Propoxylate:

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 > 100 mg/L in the most sensitive species tested).

LC50, Oncorhynchus mykiss, 96 hr > 884 mg/l, EPA-660-75-009

LC50, Cyprinodon variegatus, 96 hr > 972 mg/L, OPPTS 850.1075

Octamethyl Cyclotetrasiloxane:

Not expected to be acutely toxic to aquatic organisms. No toxicity at the limit of solubility.

LC50, Oncorhynchus mykiss, flow through, 96 hr > 0.022 mg/l. No toxicity at the limit of solubility.

LC50, Cyprinodon variegatus, flow through, 14 d > 0.0063 mg/l

Acute toxicity to aquatic invertebrates

Poly(Dimethylsiloxane) Ethoxylate / Propoxylate:

EC50, Daphnia magna, 48 hr > 963 mg/l, EPA-660/3-75-009

EC50, Mysidopsis bahia, 96 hr 183 mg/l, EPA-660/3-75-009

Octamethyl Cyclotetrasiloxane:

No toxicity at the limit of solubility.

EC50, Daphnia magna, 48 hr > 0.015 mg/l

EC50, Mysidopsis bahia, 96 hr > 0.0091 mg/l

Acute toxicity to algae/aquatic plants

Octamethyl Cyclotetrasiloxane:

No toxicity at the limit of solubility.

ErC50, psuedokirchneriella subcapitata, 72 hr, Growth rate 0.022 mg/l

Chronic toxicity to fish

Octamethyl Cyclotetrasiloxane:

No toxicity at the limit of solubility.

NOEC, Oncorhynchus mykiss, 93 d >= 0.0044 mg/l

Chronic toxicity to aquatic invertebrates

Octamethyl Cyclotetrasiloxane:
No toxicity at the limit of solubility.
NOEC, Daphnia magna, 21 d \geq 0.0079 mg/l

Persistence and degradability

Octamethyl Cyclotetrasiloxane:
Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability. 10 day window – NA.
Biodegradation: 3.7%
Exposure Time: 28 d
Method: OECD Test Guideline 310
Stability in Water (1/2 life)
Hydrolysis, DT50, 69.3 – 144 hour pH 7, Half-life Temperature 24.6 C OECD Test Guideline 111
Photodegradation: Atmospheric half-life – 16 d, Method – Estimated

Bioaccumulative potential

Octamethyl Cyclotetrasiloxane:
Bioaccumulation: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).
Partition coefficient: n-octanol/water(log Pow): 6.49 measured
Bioconcentration factor (BCF): 12,400 Pimephales promelas. Measured.

Mobility in soil

Octamethyl Cyclotetrasiloxane:
Expected to be relatively immobile in soil.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal methods: Do not dump into any sewers, on the ground, or into any body of water. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. For unused and uncontained product, the preferred options include sending to a licensed and permitted recycler or reclaimer, and incineration or destruction in an appropriate thermal device.

Treatment and disposal methods of used packaging: Empty container should be recycled or otherwise disposed of by an approved waste management facility. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Do not re-use containers for any purpose.

SECTION 14: Transport Information

US Department of Transportation Classification (49CFR)

Not regulated for transport

Maritime transport IMDG

Not regulated for transport.

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

No further relevant information available.

Air transport ICAO-TI and IATA-DGR

Not regulated for transport

Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.

Vented packages are forbidden for air transport

SECTION 15: REGULATORY INFORMATION

USA:

United States Federal Regulations: This SDS complies with the OSHA, 29 CFR 1910.1200. The product is not hazardous under OSHA.

Toxic Substances Control Act (TSCA) – All components are on the U.S. EPA TSCA Inventory List.

CERCLA Hazardous Substance List, 40 CFR 302.4:

No components listed

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories:

Immediate Hazard - No

Delayed Hazard - No

Fire Hazard - No

Pressure Hazard - No

Reactivity Hazard – No

Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A): None listed

Section 311 hazardous chemical: Reproductive Toxicity

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

STATE REGULATIONS:

This SDS contains specific health and safety data is applicable for state requirements. For details on your regulatory requirements, you should contact the appropriate agency in your state.

New Jersey Right to Know

Poly(Dimethylsiloxane) Ethoxylate / Propoxylate, CAS# 68037-64-9

Oxirane, methyl-, polymer with oxirane, monoacetate, 2 propenyl ether, CAS #56090-69-8

Acetate of polyether polyol, CAS# 39362-51-1

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California Proposition 65 (California Safe Drinking Water and Toxic Enforcement Act of 1986):

No components are listed on Prop 65.

SECTION 16: OTHER INFORMATION

Hazard Rating System

NFPA

Health – 0

Flammability – 1

Instability – 0

HMIS

Health – 0

Flammability – 1

Physical Hazard – 1

Revision Date: October 12, 2020

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