



MATERIAL SAFETY DATA SHEET

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

- **Product name:** Nonylphenol Polyethylene Glycol Ether
- **Common Name:** TERGITOL(r) NP-9.5 Surfactant
- **Product Description:** Nonionic Surfactant
- **Manufacturer:** Deep South Chemical, Inc.
229 Millstone Road
Broussard, LA 70518 • (337) 837-9931
- **For Emergency: Call CHEMTREC 1-800-424-9300 Outside the U.S.A. (703)-527-3887**
- **Contact Person:** Glenn Ray
- **Formula:** Proprietary
- **MSDS Revised:** January 1, 2011

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components	CAS Number %	PEL(OSHA)		TLV (ACGIH)		IDLH
		TWA	STEL	TWA	STEL	
Poly(oxy-1,2-ethanediyl),alpha-(4-nonylphenyl)-omega-hydroxy	127087-87-0 (> 97%)	N/D		N/D		N/D
Poly(ethylene oxide)	25322-68-3 (< 3%)	1 ppm TWA 8		1 ppm TWA 8		
Dinonylphenyl polyoxyethylene	9014-93-1 (< 2%)	N/D		N/D		N/D

SECTION 3. HAZARDS IDENTIFICATION, INCLUDING EMERGENCY OVERVIEW

Effects of overexposure

DANGER!

Inhalation: Aspiration may cause lung damage.

Skin Contact: Harmful if absorbed through skin. Causes skin irritation.

Eye Contact: Causes eye burns.

Ingestion: Harmful if swallowed.

Potential Health Effects

Effects of Overexposure: Inhalation Mist may cause irritation of the respiratory tract, chest pain and coughing. Eye Contact Causes severe irritation, experienced as discomfort or pain, excess blinking and tear production, marked excess redness and swelling of the conjunctiva, and chemical burns of the eye. Skin Contact Brief contact is not irritating. Prolonged or repeated contact may cause discomfort and local redness. Skin Absorption Prolonged or widespread contact may result in the absorption of potentially harmful amounts of material. Swallowing May cause abdominal discomfort, nausea, vomiting and diarrhea. Aspiration into the lungs may occur during ingestion or vomiting, resulting in lung injury. Chronic, Prolonged or Repeated Overexposure Effects of Repeated Overexposure Repeated skin contact may cause a dermatitis. Other Effects of Overexposure None currently known. Medical Conditions Aggravated by Exposure A knowledge of the available toxicology information and of the physical and chemical properties of the material suggests that overexposure is unlikely to aggravate existing medical conditions.

SECTION 4. FIRST AID MEASURES

Eyes: Immediately flush eyes with water and continue washing for at least 15 minutes. DO NOT remove contact lenses, if worn. Obtain medical attention without delay, preferably from an ophthalmologist.

Inhalation: Remove to fresh air. Obtain medical attention if symptoms persist.

Skin: Remove contaminated clothing. Wash skin with soap and water. Obtain medical attention if irritation persists. Wash clothing before reuse.

Ingestion: If patient is fully conscious, give two glasses of water. DO NOT INDUCE VOMITING. Obtain medical attention.

Notes To Physician

There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Any material aspirated during vomiting may cause lung injury.

Therefore, emesis should not be induced mechanically or pharmacologically. If it is considered necessary to evacuate the stomach contents, this should be done by means least likely to cause aspiration (e.g., gastric lavage after endotracheal intubation).

SECTION 5. FIRE FIGHTING MEASURES

Fire fighting measures

Extinguishing Media: Apply alcohol-type or all-purpose-type foam by manufacturer's recommended techniques for large fires. Use carbon dioxide or dry chemical media for small fires.

Flash Point – Closed Cup: Pensky-Martens Closed Cup ASTM D 93 196.1 deg C 385 deg F

Flash Point – Open Cup: Cleveland Open Cup ASTM D 92 312.2 deg C 565 deg F

Extinguishing Media To Avoid

No information currently available.

Special Fire Fighting Procedures: Do not direct a solid stream of water or foam into hot, burning pools; this may cause frothing and increase fire intensity.

Special Protective Equipment for Firefighters:

Use self-contained breathing apparatus and protective clothing.

Unusual Fire and Explosion Hazards: See Section 8 – Exposure/Engineering Controls. This material may produce a floating fire hazard.

Hazardous Combustion Products: Burning can produce the following products: Carbon monoxide and/or carbon dioxide. Carbon monoxide is highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiant.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Steps to be taken if material is released or spilled: Contain spills immediately with inert materials (e.g., sand, earth). Transfer liquids and solid diking material to suitable containers for recovery or disposal. To avoid gelling and foaming problems, do not use water to flush away spills.

Personal Precautions: Wear eye and skin protection. Floor may be slippery; use care to avoid falling.

Waste disposal method: Avoid discharge to natural waters

Environmental Precautions: Environmental Statement: Microbial degradation of NPEs results in some intermediates that have shown weak estrogen mimetic activity. These effects have been observed in laboratory studies only at concentrations (> 20 ppb) of these degradation intermediates greater than those required for eliciting conventional toxicity in the most sensitive aquatic organisms (approximately 5 ppb). Therefore, conventional toxicity remains the more sensitive indicator of environmental exposure to degradation intermediates of NPEs. Although residence times may vary for these intermediates before complete mineralization, proper treatment of NPEs is not expected to result in environmental concentrations considered to be harmful to wildlife or humans.

SECTION 7. HANDLING AND STORAGE

Storage: No information currently available.

Handling: Do not get in eyes, on skin, on clothing. Do not swallow. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling. FOR INDUSTRY USE ONLY.

Other precautions: This product may contain trace amounts of ethylene oxide (CAS No. 75-21-8), a condition which creates the potential for accumulation of ethylene oxide in the head space of shipping and storage containers and in enclosed areas where the product is being handled or used. Ethylene oxide is listed by OSHA as probably carcinogenic to humans, IARC as carcinogenic to humans, and NTP as

reasonably anticipated to be carcinogenic. OSHA considers that, at excessive levels, ethylene oxide may present reproductive, mutagenic, genotoxic, neurologic and sensitization hazards. If this product is handled with adequate ventilation, the presence of these trace amounts is not expected to result in any short or long term hazard. This product may not be exempt from OSHA's ethylene oxide standard, 29CFR1910.1047. Users should comply with all applicable provisions. Personnel should be monitored to determine levels of exposure to ethylene oxide. If necessary, protective measures should be taken. The OSHA permissible exposure limit for ethylene oxide is 1 ppm TWA8, the action level is 0.5 ppm TWA8, the ACGIH TLV is 1 ppm TWA8 and OSHA has established an excursion limit of 5 ppm (15 minute average).

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation: General (mechanical) room ventilation is expected

Protective clothing: PVC-coated protective gloves

Eye protection: Monogoggles

Respiratory Protection: None expected to be needed. to be satisfactory.

Special Protection: Eye bath, safety shower, and chemical apron.

Engineering Controls Process Hazard: Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into hot equipment under a vacuum, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated-temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions. Further information is available in a technical bulletin entitled "Ignition Hazards of Organic Chemical Vapors." Surfactants can cause foaming problems in biological wastewater treatment plants and other high shear operations.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Specific gravity @ 75°F(H₂O = 1): 1.06 g/mL

Flash Point – Closed Cup: Pensky-Martens Closed Cup ASTM D 93 196.1 deg C 385 deg F

Flash Point – Open Cup: Cleveland Open Cup ASTM D 92 312.2 deg C 565 deg F

Vapor density (Air = 1): N/D

Solubility in Water (by weight): 20 deg C Soluble

Vapor Pressure at 20 deg C: < 0.001 kPa < 0.01 mmHg

Vapor Density (air = 1): > 10 **Evaporation Rate:** N/D

Appearance: Murky

Odor: Mild

pH: N/A

Percent Volatiles : 0.83

Wt% Molecular Weight: 638 g/mol (Average)

Boiling Point (760 mmHg): > 200 deg C > 392 deg F Decomposes

Freezing Point: approx 3 deg C approx 37 deg F

Specific Gravity (H₂O = 1): 1.06 20 deg C / 20 deg C

Evaporation Rate (Butyl Acetate = 1): < 0.01 Melting Point: Not applicable.

SECTION 10. STABILITY AND REACTIVITY

Stable Conditions to Avoid: Prolonged excessive heat may cause product decomposition.

Incompatible Materials: Normally unreactive; however, avoid strong bases at high temperatures, strong acids, strong oxidizing agents and materials reactive with hydroxyl compounds.

Inhibitors/Stabilizers: Not applicable.

Hazardous Polymerization: Will Not Occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Significant Data with possible relevance to humans: Contains surfactant which, based on studies with rabbits involving the sustained occluded contact of the undiluted surfactant with skin, indicate that such conditions may result in the development of inflammatory changes in the lung. Developmental effects including extra ribs and other skeletal variations were observed in the fetuses of rats treated with maternally toxic levels of a 9-mole ethoxylate of octylphenol or nonylphenol. The significance of these findings to humans is unclear as several human studies did not show any association of congenital effects in children and maternal exposure to spermicides containing octyl or nonylphenol ethoxylates. Several studies have resulted in slightly increased kidney weights in male rats continuously exposed to nonylphenol at dietary concentrations of 200 ppm or greater (approximately >10 mg/kg body weight/day). No histological lesions of the kidney were observed in two studies but renal tubular degeneration was observed at 650 and 2000 ppm in a third study. These results indicate that continuous exposure to high concentrations of nonylphenol may be toxic to the kidney. While nonylphenol has been shown to bind to the estrogen receptor and to have weak estrogen mimetic activity in several in vitro and in vivo screening assays, treatment of rats at dietary concentrations of nonylphenol up to 2000 ppm in their diet for 90 days did not result in alterations in estrous cycles, sperm measurements, or endocrine organ weights or histopathology. In addition, a three generation (FO through F3 weaning) study conducted by the NIEHS indicated that nonylphenol did not affect reproductive parameters at dietary concentrations up to 2000 ppm in any generation. Effects in juvenile females consistent with those seen in screening assays (e.g., premature vaginal opening) were observed following high level exposure post-weaning (F1, F2, and F3) at 650 and 2000 ppm. Sperm counts were reduced at 650 and 2000 ppm in the F2 adults compared to controls from the same generation. These results and other inconsistent or potentially body weight related findings are considered of questionable significance. The No Observed Adverse Effect Level (NOAEL) for reproduction was 2000 ppm and for all effects was 200 ppm. Considering the high doses (e.g., 100-350 mg/kg/day for females in the 2000 ppm group; the higher doses occurring post-weaning), the lack of permanent/ prolonged effects is considered significant. Based on the results of these studies, exposure to low doses of nonylphenol, such as would be expected from work place or environmental exposure, would not be expected to result in effects on mammalian reproduction.

SECTION 12. ECOLOGICAL INFORMATION

Persistence and Degradability: All the components are biodegradable.

Biodegradation: 70-90% (28 days)

ErC50 (72 hours) *Skeletonema costatum*: N/D

LC50 (48 hours) *Acartia tonsa*: N/D

LC50 (10 days) *Corophium voliotator*: N/D

Bioaccumulative Potential: Low

Aquatic Toxicity: 96 HR LC50 (mysid shrimp) >142,200 ppm

Oil and grease content in slurry(Polymer 2 LB/BBL): 16-20mg/L

UK OCNS CATEGORY: E

MARINE POLLUTANT (IMDG Code): No

Environmental Fate: Partial information may be available, call Union Carbide.

Ecotoxicity: Ecotoxicity to Micro-organisms: Bacterial/NA LC50 > 5000 mg/l Ecotoxicity to Aquatic

Invertebrates: *Daphnia* LC50 48 h 21.4 mg/l Ecotoxicity to Fish: Fathead Ninnow LC50 96 h 6.6 mg/l

Further Information: None.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal: Aerobic biological wastewater treatment systems are effective in treating aqueous solutions of surfactants. Removal efficiency will depend upon treatment plant conditions. As with any wastewater, consultation with local treatment plant staff is recommended (and may be required by law) before disposal. In typical activated sludge treatment systems, inlet concentrations below 5 mg/L have been treated without foaming problems. – FOR DISPOSAL OF NEAT, UNUSED SURFACTANT: Incinerate in a furnace where permitted under Federal, State and local regulations. – Dispose in accordance with all applicable Federal, State, Provincial, and local environmental regulations. Empty containers should be recycled or disposed of through an approved waste management facility..



Disposal Considerations: Surfactants can cause foaming problems in biological wastewater treatment plants and other high shear operations. Disposal methods identified are for the product as sold. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permissible under applicable rules, regulations and/or laws governing your location.

SECTION 14. TRANSPORT INFORMATION

Transport Information: U.S. D.O.T. NON-BULK

Proper Shipping Name : NOT REGULATED BULK

Proper Shipping Name : UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES LIQUID, NOS **Technical Name :** CONTAINS ALCOHOL C13-C15 POLY(1-6) ETHOXYLATE

ID Number: UN3082

Hazard Class: 9

Packing Group : PG III

Other Information: Marine Pollutant : This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through your UCC sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15. REGULATORY INFORMATION

FEDERAL/NATIONAL

CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 SECTION 103)

The following components of this product are specifically listed as hazardous substances in 40 CFR 302.4 (unlisted hazardous substances are not identified) and are present at levels which could require reporting:

COMPONENTS	CAS #	AMOUNT
Glycol Ether		<= 0.8000%
Ethylene oxide	75-21-8	<= 0.0020 %
1,4-Dioxane	123-91-1	<= 0.0015 %
Acetaldehyde	75-07-0	<= 0.0006 %
Formaldehyde	50-00-0	<= 0.0004 %

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III SECTIONS 302 AND 304

The following components of this product are listed as extremely hazardous substances in 40 CFR Part 355 and are present at levels which could require reporting and emergency planning:

None.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III SECTION 313

The following components of this product are listed as toxic chemicals in 40 CFR 372.65 and are present at levels which could require reporting and customer notification under Section 313 and 40 CFR Part 372.; This product does not contain toxic chemicals at levels which require reporting under the statute.

Component	CAS #	Amount
Glycol Ether		<= 0.8000 %

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III SECTIONS 311 AND 312

Delayed Hazard : Yes
 Fire Hazard : No
 Immediate Health Hazard : Yes
 Reactive Hazard : No



Sudden Release of Pressure Hazard : No

TOXIC SUBSTANCES CONTROL ACT (TSCA): All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

PENNSYLVANIA (WORKER AND COMMUNITY RIGHT-TO-KNOW ACT)

This product is subject to the Worker and Community Right-to-Know Act. The following components of this product are at levels which could require identification in the MSDS:

MASSACHUSETTS (HAZARDOUS SUBSTANCES DISCLOSURE BY EMPLOYERS)

The following components of this product appear on the Massachusetts Substance List and are present at levels which could require identification in the MSDS:

COMPONENTS	CAS #	AMOUNT
Ethylene oxide	75-21-8	<= 0.0020%
1,4-Dioxane	123-91-1	<= 0.0015 %
Acetaldehyde	75-07-0	<= 0.0006 %
Formaldehyde	50-00-0	<= 0.0004%

CALIFORNIA PROPOSITION 65 (SAFE DRINKING WATER AND TOXIC ENFORCENENT ACT OF 1986) : This product contains the following chemical(s) known to the State of California to cause cancer and/or birth defects or other reproductive harm.

COMPONENTS	CAS #	AMOUNT
Ethylene oxide	75-21-8	<= 0.0020%
1,4-Dioxane	123-91-1	<= 0.0015 %
Acetaldehyde	75-07-0	<= 0.0006 %
Formaldehyde	50-00-0	<= 0.0004%

CALIFORNIA SCAQMD RULE 443.1 (SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 443.1, LABELING OF MATERIALS CONTAINING ORGANIC SOLVENTS)

VOC : Vapor pressure <0.01 mmHg at 20 deg C 8 g/1

8 g/1 less water and less exempted solvents This section provides selected regulatory information on this product including its components. This is not intended to include all regulations. It is the responsibility of the user to know and comply with all applicable rules, regulations and laws relating to the product being used.

SECTION 16. OTHER INFORMATION

NFPA RATING: Health (3) Fire (1) S (0)

HMIS RATING: Health (3) Fire (1) S (0)

Recommended uses and restrictions: Notice! Not to be used as a biocide in intravaginal end-use applications (including spermicides). For industry use only.

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N/D= No data; N/A = Not available; N/E= Not established