



Material Safety Data Sheet

The Dow Chemical Company

Product Name: TERGITOL(TM) NP-9 SURFACTANT.

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The Dow Chemical Company encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. Product and Company Identification

Product Name

TERGITOL(TM) NP-9 SURFACTANT.

COMPANY IDENTIFICATION

The Dow Chemical Company
2030 Willard H. Dow Center
Midland, MI 48674
USA

Customer Information Number: 800-258-2436

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 989-636-4400

Local Emergency Contact: 989-636-4400

2. Hazards Identification

Emergency Overview

Color: Yellow

Physical State: Liquid.

Odor: Mild

Hazards of product:

WARNING! Causes eye irritation. Harmful if inhaled. May be harmful if absorbed through skin. May be harmful if swallowed. Aspiration hazard. Can enter lungs and cause damage. Isolate area. Keep upwind of spill.

OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential Health Effects

Eye Contact: May cause severe eye irritation. May cause severe corneal injury.

Skin Contact: Prolonged contact may cause slight skin irritation with local redness.

Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts.

Similar materials have been shown to cause lung effects following contact with the skin of rabbits.

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Inhalation: Prolonged excessive exposure may cause serious adverse effects, even death. Vapor may cause irritation of the upper respiratory tract (nose and throat). Mist may cause irritation of upper respiratory tract (nose and throat).

Ingestion: Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

Aspiration hazard: Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

Effects of Repeated Exposure: For this family of materials: In animals, effects have been reported on the following organs: Kidney. Liver.

Birth Defects/Developmental Effects: For this family of materials: Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

3. Composition Information

Component	CAS #	Amount
Nonylphenol polyethylene glycol ether	127087-87-0	>= 97.0 %
Poly(ethylene oxide)	25322-68-3	<= 3.0 %
Dinonylphenyl polyoxyethylene	9014-93-1	<= 2.0 %

4. First-aid measures

Eye Contact: Eye wash fountain should be located in immediate work area. Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist.

Skin Contact: Wash skin with plenty of water.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Ingestion: Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

Notes to Physician: Maintain adequate ventilation and oxygenation of the patient. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. The decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Emergency Personnel Protection: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

5. Fire Fighting Measures

Extinguishing Media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers,

boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Unusual Fire and Explosion Hazards: Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

6. Accidental Release Measures

Steps to be Taken if Material is Released or Spilled: Contain spilled material if possible. Absorb with materials such as: Sand. Dirt. Collect in suitable and properly labeled containers. Do not use water for cleanup. See Section 13, Disposal Considerations, for additional information.

Ignition Sources Removal: Keep away from sources of ignition.

Dust Control: Not applicable.

Personal Precautions: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Keep upwind of spill. Ventilate area of leak or spill. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Refer to Section 7, Handling, for additional precautionary measures.

Environmental Precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

7. Handling and Storage

Handling

General Handling: Avoid contact with eyes, skin, and clothing. Avoid breathing vapor. Do not swallow. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Storage

No specific requirements. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact. The shelf life given is for unopened containers stored under moderate temperature conditions.

Shelf life: Use within
24 Months

8. Exposure Controls / Personal Protection

Exposure Limits

Component	List	Type	Value
Poly(ethylene oxide)	AIHA WEEL	TWA Particulate.	10 mg/m3

Personal Protection

Eye/Face Protection: Use chemical goggles.

Skin Protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). Styrene/butadiene rubber. Viton. Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take

into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Respiratory Protection: Atmospheric levels should be maintained below the exposure guideline.

When respiratory protection is required for certain operations, use an approved air-purifying respirator.

In dusty or misty atmospheres, use an approved particulate respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

Ingestion: Avoid ingestion of even very small amounts; do not consume or store food or tobacco in the work area; wash hands and face before smoking or eating.

Engineering Controls

Ventilation: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

9. Physical and Chemical Properties

Physical State	Liquid.
Color	Yellow
Odor	Mild
Odor Threshold	No test data available
Flash Point - Closed Cup	247 °C (477 °F) ASTM D93
Flash Point - Open Cup	282 °C (540 °F) ASTM D92
Flammability (solid, gas)	Not applicable to liquids
Flammable Limits In Air	Lower: No test data available Upper: No test data available
Autoignition Temperature	No test data available
Vapor Pressure	< 0.01 mmHg @ 20 °C <i>Calculated</i>
Boiling Point (760 mmHg)	> 250 °C (> 482 °F) <i>Calculated</i> Decomposes before boiling.
Vapor Density (air = 1)	>1 <i>Calculated</i>
Specific Gravity (H ₂ O = 1)	1.057 20 °C/20 °C <i>Calculated</i>
Freezing Point	3.8 °C (38.8 °F) <i>Calculated</i>
Melting Point	Not applicable to liquids
Solubility in water (by weight)	Completely soluble but some compositions may form gels
pH	No test data available
Molecular Weight	616 g/mol <i>Calculated</i>
Decomposition Temperature	No test data available
Partition coefficient, n-octanol/water (log Pow)	No data available for this product.
Evaporation Rate (Butyl Acetate = 1)	No test data available
Kinematic Viscosity	237 cSt @ 25 °C <i>Calculated</i>

10. Stability and Reactivity

Stability/Instability

Thermally stable at typical use temperatures.

Conditions to Avoid: Exposure to elevated temperatures can cause product to decompose.

Incompatible Materials: Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

Hazardous Polymerization

Will not occur.

Thermal Decomposition

Decomposition products depend upon temperature, air supply and the presence of other materials.

11. Toxicological Information**Acute Toxicity****Ingestion**

Typical for this family of materials. LD50, Rat 960 - 3,980 mg/kg

Dermal

Typical for this family of materials. LD50, Rabbit 2,000 - 2,991 mg/kg

Inhalation

Typical for this family of materials. LC50, 4 h, Aerosol, Rat 1.15 mg/l

Serious eye damage/eye irritation

May cause severe eye irritation. May cause severe corneal injury.

Skin corrosion/irritation

Prolonged contact may cause slight skin irritation with local redness.

Sensitization**Skin**

For this family of materials: Did not cause allergic skin reactions when tested in humans.

Respiratory

No relevant information found.

Repeated Dose Toxicity

For this family of materials: In animals, effects have been reported on the following organs: Kidney, Liver.

Chronic Toxicity and Carcinogenicity

For this family of materials: Did not cause cancer in laboratory animals.

Developmental Toxicity

For this family of materials: Has been toxic to the fetus in laboratory animals at doses toxic to the mother. For this family of materials: Did not cause birth defects in laboratory animals.

Reproductive Toxicity

No relevant information found.

Genetic Toxicology

For this family of materials: In vitro genetic toxicity studies were negative.

12. Ecological Information**ENVIRONMENTAL FATE****Movement & Partitioning**

No relevant information found.

Persistence and Degradability

For this family of materials: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

Chemical Oxygen Demand: 2.09 - 2.25 mg/mg

Theoretical Oxygen Demand: 2.23 - 2.35 mg/mg

ECOTOXICITY

For this family of materials: Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity

For this family of materials: LC50, fathead minnow (*Pimephales promelas*): 3.8 - 6.2 mg/l

Aquatic Invertebrate Acute Toxicity

For this family of materials: LC50, water flea *Daphnia magna*: 9.3 - 21.4 mg/l

Toxicity to Micro-organisms

For this family of materials: IC50; bacteria, Growth inhibition, 16 h: > 1,000 mg/l

13. Disposal Considerations

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. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device. Waste water treatment system.

14. Transport Information

DOT Non-Bulk
NOT REGULATED

DOT Bulk
NOT REGULATED

IMDG

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S

Technical Name: NONYLPHENOL POLYETHYLENE GLYCOL ETHER

Hazard Class: CLASS 9 **ID Number:** UN 3082 **Packing Group:** PG III

EMS Number: F-A,S-F

Marine pollutant.: Yes

ICAO/IATA

NOT REGULATED

Additional 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 an authorized 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.

15. Regulatory Information**OSHA Hazard Communication Standard**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Immediate (Acute) Health Hazard Yes

Delayed (Chronic) Health Hazard Yes

Fire Hazard No

Reactive Hazard No

Sudden Release of Pressure Hazard No

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

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

WARNING: This product contains a chemical(s) known to the State of California to cause cancer.

Component	CAS #	Amount
1,4-Dioxane	123-91-1	20.0 PPM
Ethylene oxide	75-21-8	10.0 PPM

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

WARNING: This product contains a chemical(s) known to the State of California to cause birth defects or other reproductive harm.

Component	CAS #	Amount
Ethylene oxide	75-21-8	10.0 PPM

US. Toxic Substances Control Act

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

CEPA - Domestic Substances List (DSL)

All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

European Inventory of Existing Commercial Chemical Substances (EINECS)

This product is a polymer according to the definition in Directive 92/32/EEC (7th Amendment to Directive 67/548/EEC) and all of its starting materials and intentional additives are listed in the European Inventory of Existing Commercial Chemical Substances (EINECS) or in compliance with European (EU) chemical inventory requirements.

16. Other Information

Product Literature

Additional information on this and other Dow products may be obtained by visiting our web page at www.dow.com. Additional information on this product may be obtained by calling your sales or customer service contact. Ask for a product brochure.

Hazard Rating System

NFPA	Health	Fire	Reactivity
	3	1	0

Recommended Uses and Restrictions

Multi-purpose surfactant. NOTICE! NOT TO BE USED AS A BIOCIDES IN INTRAVAGINAL END-USE APPLICATIONS (INCLUDING SPERMICIDES). FOR INDUSTRY USE ONLY. We recommend that

you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

Revision

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Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

N/A	Not available
W/W	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level
HAZ_DES	Hazard Designation
Action Level	A value set by OSHA that is lower than the PEL which will trigger the need for activities such as exposure monitoring and medical surveillance if exceeded.

The Dow Chemical Company urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.