SAFETY DATA SHEET
THE DOW CHEMICAL COMPANY

Product name: TERGITOL™ NP-15 Surfactant **Issue Date:** 11/20/2024
Print Date: 11/21/2024

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. IDENTIFICATION

Product name: TERGITOL™ NP-15 Surfactant

Recommended use of the chemical and restrictions on use
Identified uses: Multi-purpose surfactant. 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.

COMPANY IDENTIFICATION
THE DOW CHEMICAL COMPANY
2211 H.H. DOW WAY
MIDLAND MI 48674
UNITED STATES

Customer Information Number: 800-258-2436
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: CHEMTREC +1 800-424-9300
Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification
GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Skin irritation - Category 2
Eye irritation - Category 2A

Label elements
Hazard pictograms

Signal word: **WARNING!**

Hazards

H315	Causes skin irritation.
H319	Causes serious eye irritation.

Precautionary statements

Prevention

P264	Wash skin thoroughly after handling.
P280	Wear protective gloves, eye protection and/or face protection.

Response

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice and/or attention.
P362	Take off contaminated clothing and wash before reuse.

Other hazards

Slipping hazard.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Nonyl phenol polyethylene glycol ether

This product is a substance.

Component	CASRN	Concentration
4-nonylphenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl), branched	127087-87-0	> 97.0 %
Poly(ethylene oxide)	25322-68-3	< 3.0 %
Dinonylphenyl polyoxyethylene	9014-93-1	< 2.0 %

4. FIRST AID MEASURES

Description of first aid measures

General advice:

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.

Inhalation: Move person to fresh air and keep comfortable for breathing; consult a physician.

Skin contact: Wash off with plenty of water. Suitable emergency safety shower facility should be available in work area.

Eye contact: 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. Suitable emergency eye wash facility should be immediately available.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Most important symptoms and effects, both acute and delayed:
Causes skin irritation. Causes serious eye irritation.

Indication of any immediate medical attention and special treatment needed
Notes to physician: If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Skin contact may aggravate preexisting dermatitis.

5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Water fog or fine spray.. Dry chemical fire extinguishers.. Carbon dioxide fire extinguishers.. Foam.. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective..

Unsuitable extinguishing media: Do not use direct water stream.. May spread fire..

Special hazards arising from the substance or mixture

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..

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

Advice for firefighters

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).. 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.. For protective equipment in post-fire or non-fire clean-up situations, see Section 8 of the safety data sheet..

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Spilled material may cause a slipping hazard. Refer to section 7, Handling, for additional precautionary measures. 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. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Absorb with materials such as: Sand. Dirt. Do not use water for cleanup. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe 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.

Storage stability

Shelf life: Use within
24 Month

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value
Poly(ethylene oxide)	US WEEL	TWA aerosol	10 mg/m3

Exposure controls

Engineering controls: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use chemical goggles.

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. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). 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.

Other protection: When prolonged or frequently repeated contact could occur, use protective clothing chemically resistant to this material. Selection of specific items such as faceshield, boots, apron, or full-body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. In 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Solid.
Color	White
Odor	Mild
Odor Threshold	No test data available
pH	Not available
Melting point/ range	*Not applicable*
Freezing point	24 °C (75 °F) *Not reported*
Boiling point (760 mmHg)	> 200 °C (> 392 °F) *Measured* @ 760 mmHg
Flash point	**closed cup** 232 °C (450 °F) *ASTM D 93*
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not expected to form explosive dust-air mixtures.
Lower explosion limit	Not determined
Upper explosion limit	Not determined
Vapor Pressure	< 0.01 mmHg at 20 °C (68 °F) *Measured*
Relative Vapor Density (air = 1)	>1 *Not applicable*
Relative Density (water = 1)	1.076 at 20 °C (68 °F) / 20 °C *Unspecified* (20degC-liquid density)
Water solubility	partly soluble
Partition coefficient: n-octanol/water	log Pow: 1.73 - 2.56 *Estimated.*
Auto-ignition temperature	Not available

Decomposition temperature	No test data available
Kinematic Viscosity	Not applicable
Explosive properties	Not explosive
Oxidizing properties	No Oxidizing
Molecular weight	No test data available
Cloud Point	19 - 23 °C Supplier 1% aqueous solution.

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical stability: Stable.

Possibility of hazardous reactions: Polymerization will not occur.

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

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

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

11. TOXICOLOGICAL INFORMATION

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

Information on likely routes of exposure
Ingestion, Skin contact, Eye contact.

Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)

Acute Toxicity Endpoints:
Not classified based on available information.

Acute oral toxicity

Information for the Product:

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.

Typical for this family of materials.
LD50, Rat, 3,989 - 5,000 mg/kg

Information for components:

4-nonylphenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl), branched
Typical for this family of materials. LD50, Rat, 3,989 - 5,000 mg/kg

Poly(ethylene oxide)
Typical for this family of materials. LD50, Rat, > 10,000 mg/kg

Dinonylphenyl polyoxyethylene
May cause abdominal discomfort or diarrhea. LD50, Rat, 8,200 mg/kg

Acute dermal toxicity

Information for the Product:

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

Typical for this family of materials.
LD50, Rabbit, 3,228 - 5,000 mg/kg

Information for components:

4-nonylphenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl), branched
Typical for this family of materials. LD50, Rabbit, 3,228 - 5,000 mg/kg

Poly(ethylene oxide)
Typical for this family of materials. LD50, Rabbit, > 20,000 mg/kg

Dinonylphenyl polyoxyethylene
The dermal LD50 has not been determined.

Acute inhalation toxicity

Information for the Product:

Prolonged exposure is not expected to cause adverse effects. Vapor may cause irritation of the upper respiratory tract (nose and throat). Mist may cause irritation of upper respiratory tract (nose and throat).

As product: The LC50 has not been determined.

Information for components:

4-nonylphenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl), branched
The LC50 has not been determined.

Poly(ethylene oxide)
Typical for this family of materials. LC50, Rat, 6 Hour, dust/mist, > 2.5 mg/l No deaths occurred at this concentration.

Dinonylphenyl polyoxyethylene
The LC50 has not been determined.

Skin corrosion/irritation

Causes skin irritation.

Information for the Product:

Based on testing for product(s) in this family of materials:
Prolonged contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage.
May cause drying and flaking of the skin.

Information for components:

4-nonylphenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl), branched
Prolonged contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage.
May cause drying and flaking of the skin.

Poly(ethylene oxide)
Prolonged exposure not likely to cause significant skin irritation.
May cause more severe response if skin is abraded (scratched or cut).

Dinonylphenyl polyoxyethylene
Prolonged contact may cause slight skin irritation with local redness.

Serious eye damage/eye irritation

Causes serious eye irritation.

Information for the Product:

Based on testing for product(s) in this family of materials:
May cause severe eye irritation.
May cause severe corneal injury.

Information for components:

4-nonylphenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl), branched
May cause severe eye irritation.
May cause severe corneal injury.

Poly(ethylene oxide)
May cause slight temporary eye irritation.
Corneal injury is unlikely.

Dinonylphenyl polyoxyethylene
Liquid may cause severe eye irritation with corneal injury. Corneal burns may occur.
Vapor or mist may cause eye irritation.

Sensitization

For skin sensitization:
Not classified based on available information.

For respiratory sensitization:
Not classified based on available information.

Information for the Product:

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

For respiratory sensitization:
No relevant data found.

Information for components:

4-nonylphenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl), branched
For this family of materials:
Did not cause allergic skin reactions when tested in humans.

For respiratory sensitization:
No relevant data found.

Poly(ethylene oxide)
For this family of materials:
Did not cause allergic skin reactions when tested in humans.
For this family of materials, sensitization studies done in guinea pigs have been negative.

For respiratory sensitization:
No relevant data found.

Dinonylphenyl polyoxyethylene
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Not classified based on available information.

Information for the Product:

Product test data not available.

Information for components:

4-nonylphenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl), branched
Available data are inadequate to determine single exposure specific target organ toxicity.

Poly(ethylene oxide)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Dinonylphenyl polyoxyethylene
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Aspiration Hazard

Not classified based on available information.

Information for the Product:

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

Information for components:

4-nonylphenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl), branched
Based on physical properties, not likely to be an aspiration hazard.

Poly(ethylene oxide)
Based on physical properties, not likely to be an aspiration hazard.

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

Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Not classified based on available information.

Information for the Product:

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

Information for components:

4-nonylphenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl), branched
For this family of materials:
In animals, effects have been reported on the following organs:
Heart.

Poly(ethylene oxide)
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.
Recent findings of kidney failure and death in burn patients, as well as some studies using animal burn models, suggest that polyethylene glycol may have been a factor.
The use of topical applications containing this material may not be appropriate in severely burned patients.

Dinonylphenyl polyoxyethylene
No relevant data found.

Carcinogenicity

Not classified based on available information.

Information for the Product:

Product test data not available.

Information for components:

4-nonylphenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl), branched
No relevant data found.

Poly(ethylene oxide)
Polyethylene glycols did not cause cancer in long-term animal studies.

Dinonylphenyl polyoxyethylene
No relevant data found.

Teratogenicity

Not classified based on available information.

Information for the Product:

Product test data not available.

Information for components:

4-nonylphenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl), branched
No relevant data found.

Poly(ethylene oxide)
For this family of materials: Did not cause birth defects or any other fetal effects in laboratory animals.

Dinonylphenyl polyoxyethylene
No relevant data found.

Reproductive toxicity

Not classified based on available information.

Information for the Product:

Product test data not available.

Information for components:

4-nonylphenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl), branched
No relevant data found.

Poly(ethylene oxide)
For this family of materials: In animal studies, did not interfere with reproduction.

Dinonylphenyl polyoxyethylene
No relevant data found.

Mutagenicity

Not classified based on available information.

Information for the Product:

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

Information for components:

4-nonylphenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl), branched
No relevant data found.

Poly(ethylene oxide)
For this family of materials: In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Dinonylphenyl polyoxyethylene
No relevant data found.

12. ECOLOGICAL INFORMATION

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

Toxicity

Acute toxicity to fish
Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

For this family of materials:
LC50, Pimephales promelas (fathead minnow), 96 Hour, 0.218 mg/l

Acute toxicity to aquatic invertebrates
For this family of materials:
EC50, Ceriodaphnia dubia (water flea), 48 Hour, 0.218 mg/l

Long-term (chronic) aquatic hazard
Chronic toxicity to aquatic invertebrates
For this family of materials:
NOEC, Mysidopsis bahia (opossum shrimp), 21 d, 0.0077 mg/l

Persistence and degradability

Biodegradability: 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.

Theoretical Oxygen Demand: 2.11 - 2.45 mg/mg

Chemical Oxygen Demand: 2.2 mg/mg

Bioaccumulative potential

Bioaccumulation: For similar material(s):
Partition coefficient: n-octanol/water(log Pow): 1.73 - 2.56 Estimated.
Bioconcentration factor (BCF): 3.6 - 12.6 Fish Estimated.

Mobility in soil

No relevant data found.

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 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 SDS SECTION 1: Identified Uses. 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

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(4-nonylphenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl), branched)
UN number	UN 3077
Class	9
Packing group	III
Marine pollutant	4-nonylphenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl), branched
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Environmentally hazardous substance, solid, n.o.s.(4-nonylphenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl), branched)
UN number	UN 3077
Class	9
Packing group	III

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. 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

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Skin corrosion or irritation
Serious eye damage or eye irritation

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This product contains the following substances which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and which are listed in 40 CFR 372.

Components	**CASRN**
4-nonylphenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl), branched	127087-87-0

Pennsylvania Worker and Community Right-To-Know Act:
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Prop. 65
This product contains a chemical that is at or below California Propositions 65's "safe harbor level" as determined via a risk assessment. Therefore, the chemical is not required to be listed as a Prop 65 chemical on the SDS or label.

United States TSCA Inventory (TSCA)
All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

Product Literature
Additional information on this and other products may be obtained by visiting our web page. 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	Flammability	Instability
2	1	0

Revision

Identification Number: 166430 / A001 / Issue Date: 11/20/2024 / Version: 9.0

In case this version of the SDS contains significant changes from the previous version, they are listed below or noted by bold, double bars in the left-hand margin throughout this document.
Changes encompass identification, hazards, tox/eco-tox information and the addition/removal of the ingredients, and regulatory information, hazard information, uses, risk management measures and other key regulatory changes of the product. Detailed explanation of the changes can be obtained upon request.

Legend

TWA	8-hr TWA
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

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 informationherein is provided in good faith and believed to be accurate as of the effective date shown

above. However, no warranty, express orimplied, 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.
US