SAFETY DATA SHEET
THE DOW CHEMICAL COMPANY

Product name: RHOPLEX™ WP-1 Plasticiser

Issue Date: 08/07/2020
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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. IDENTIFICATION

Product name: RHOPLEX™ WP-1 Plasticiser

Recommended use of the chemical and restrictions on use
Identified uses: Coating additives.

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 29 CFR 1910.1200
Skin sensitisation - Category 1

Label elements
Hazard pictograms

Signal word: **WARNING!**

Hazards
May cause an allergic skin reaction.

Precautionary statements

Prevention

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves.

Response

IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/ attention.
Wash contaminated clothing before reuse.

Disposal

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

Other hazards

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Acrylic copolymer
This product is a mixture.

Component	CASRN	Concentration
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(methylphenyl)-.omega.-hydroxy-	9064-13-5	> 98.2 %
Poly(propylene glycol)	25322-69-4	<= 1.4999 %
Water	7732-18-5	<= 0.2999 %
Propylene oxide	75-56-9	0.0001 - <= 0.0005 %

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: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation or rash occurs. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Ingestion: No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed:
Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment..

Unsuitable extinguishing media: No data available

Special hazards arising from the substance or mixture

Hazardous combustion products: No data available

Unusual Fire and Explosion Hazards: Toxic fumes are generated when material is exposed to fire or fire conditions.. Closed containers may rupture via pressure build-up when exposed to fire or extreme heat..

Advice for firefighters

Fire Fighting Procedures: Move containers promptly out of fire zone. If removal is impossible, cool containers with water spray.. Remain upwind.. Avoid breathing smoke.. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations..

Special protective equipment for firefighters: Wear self-contained breathing apparatus and protective suit..

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Appropriate protective equipment must be worn when handling a spill of this material. See SECTION 8, Exposure Controls/Personal Protection, for recommendations. If exposed to material during clean-up operations, see SECTION 4, First Aid Measures, for actions to follow.

Environmental precautions: CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up: Keep spectators away. Floor may be slippery; use care to avoid falling. Ventilate the area. Contain spills immediately with inert materials (e.g., sand, earth). Transfer liquids and solid diking material to separate suitable containers for recovery or disposal.

7. HANDLING AND STORAGE

Precautions for safe handling: Vapors can be evolved when material is heated during processing operations. See SECTION 8, Exposure Controls/Personal Protection, for types of ventilation required. Avoid formation of aerosol. Do not breathe vapours or spray mist. Shower or bathe at the end of working.

Conditions for safe storage: Avoid temperature extremes during storage; ambient temperature preferred. Keep from freezing - product stability may be affected. Keep container tightly closed in a dry and well-ventilated place.

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
Propylene oxide	Dow IHG	TWA	2 ppm
	ACGIH	TWA	2 ppm
	Further information: DSEN: Dermal Sensitization; A3: Confirmed animal carcinogen with unknown relevance to humans		
	OSHA Z-1	TWA	240 mg/m3 100 ppm

Exposure controls
Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields).

Skin protection

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

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. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying 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	liquid
Color	colourless clear
Odor	Mild odor
Odor Threshold	No data available
pH	4.0 - 6.0
Melting point/range	No data available
Freezing point	No data available
Boiling point (760 mmHg)	No data available
Flash point	**closed cup** >94.00 °C (201.20 °F) *PENSKY MARTENS CLOSED CUP*
Evaporation Rate (Butyl Acetate = 1)	No data available
Flammability (solid, gas)	Not Applicable
Lower explosion limit	Not Applicable
Upper explosion limit	Not Applicable
Vapor Pressure	No data available
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	1.0100
Water solubility	partly soluble
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Kinematic Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Molecular weight	No data available
Percent volatility	< 0.30 %

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: No data available

Possibility of hazardous reactions: This material is considered stable.
Product will not undergo polymerization.

Conditions to avoid: No data available

Incompatible materials: There are no known materials which are incompatible with this product.

Hazardous decomposition products: There are no known hazardous decomposition products for this material..

11. TOXICOLOGICAL INFORMATION

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

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

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

Acute oral toxicity
Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

Based on information for component(s):
LD50, Rat, > 5,000 mg/kg

Information for components:

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(methylphenyl)-.omega.-hydroxy-
Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

LD50, Rat, 6,000 mg/kg

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

Propylene oxide
LD50, Rat, 382 mg/kg

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

As product: The dermal LD50 has not been determined.

Based on information for component(s):
LD50, > 2,000 mg/kg Estimated.

Information for components:

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(methylphenyl)-.omega.-hydroxy-
The dermal LD50 has not been determined.

Poly(propylene glycol)
Based on data from similar materials LD50, Rabbit, > 5,000 mg/kg

Propylene oxide
LD50, Rabbit, 950 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.

The LC50 has not been determined.

Information for components:

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(methylphenyl)-.omega.-hydroxy-
The LC50 has not been determined.

Poly(propylene glycol)
Based on data from similar materials LC50, Rat, 4 Hour, dust/mist, > 2.34 mg/l

Propylene oxide
LC50, Rat, 4 Hour, vapour, 9.95 mg/l

Skin corrosion/irritation
Based on information for component(s):
Essentially nonirritating to skin.

Information for components:

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(methylphenyl)-.omega.-hydroxy-
Essentially nonirritating to skin.

Poly(propylene glycol)
For similar material(s):
Brief contact is essentially nonirritating to skin.

Propylene oxide
Prolonged exposure not likely to cause significant skin irritation.
May cause more severe response on covered skin (under clothing, gloves).

Serious eye damage/eye irritation
Based on information for component(s):
Essentially nonirritating to eyes.

Information for components:

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(methylphenyl)-.omega.-hydroxy-
Essentially nonirritating to eyes.

Poly(propylene glycol)
Essentially nonirritating to eyes.

Propylene oxide
Liquid may cause severe eye irritation with corneal injury. Corneal burns may occur.
Vapor may cause eye irritation experienced as mild discomfort and redness.

Sensitization
For the major component(s):
Skin contact may cause an allergic skin reaction.

Information for components:

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(methylphenyl)-.omega.-hydroxy-
Skin contact may cause an allergic skin reaction.

For respiratory sensitization:
No relevant data found.

Poly(propylene glycol)
For this family of materials:
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Propylene oxide
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)
Available data are inadequate to determine single exposure specific target organ toxicity.

Information for components:

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(methylphenyl)-.omega.-hydroxy-
Available data are inadequate to determine single exposure specific target organ toxicity.

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

Propylene oxide
May cause respiratory irritation.
Route of Exposure: Inhalation
Target Organs: Respiratory Tract

Aspiration Hazard

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

Information for components:

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

Propylene oxide
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)
No relevant data found.

Information for components:

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(methylphenyl)-.omega.-hydroxy-
No relevant data found.

Poly(propylene glycol)
For this family of materials:
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Propylene oxide
In animals, effects have been reported on the following organs:
Lung.
Upper respiratory tract.
Eye irritation.
May cause peripheral neuropathy (injury to nerves of the extremities).

Carcinogenicity
No relevant data found.

Information for components:

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(methylphenyl)-.omega.-hydroxy-
No relevant data found.

Poly(propylene glycol)
For similar material(s): Did not cause cancer in laboratory animals.

Propylene oxide
Lifetime inhalation studies in laboratory animals with propylene oxide suggest a weak carcinogenic effect.

Carcinogenicity

Component	**List**	**Classification**
Propylene oxide	IARC	Group 2B: Possibly carcinogenic to humans
	US NTP	Reasonably anticipated to be a human carcinogen

ACGIH	A3: Confirmed animal carcinogen with unknown relevance to humans.

Teratogenicity
No relevant data found.

Information for components:

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(methylphenyl)-.omega.-hydroxy-
No relevant data found.

Poly(propylene glycol)
No relevant data found.

Propylene oxide
Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

Reproductive toxicity
No relevant data found.

Information for components:

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(methylphenyl)-.omega.-hydroxy-
No relevant data found.

Poly(propylene glycol)
In animal studies, a similar material has been shown not to interfere with reproduction.

Propylene oxide
In animal studies, did not interfere with reproduction.

Mutagenicity
Product test data not available.

Information for components:

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(methylphenyl)-.omega.-hydroxy-
No relevant data found.

Poly(propylene glycol)
For this family of materials: In vitro genetic toxicity studies were negative.

Propylene oxide
In vitro genetic toxicity studies were positive. Animal genetic toxicity studies were predominantly negative.

Additional information
No toxicity data are available for this material.

12. ECOLOGICAL INFORMATION

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

Toxicity

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(methylphenyl)-.omega.-hydroxy-

Acute toxicity to fish
Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).
LC50, Leuciscus idus (Golden orfe), static test, 96 Hour, 53 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna, static test, 48 Hour, 116.47 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants
EC50, Green algae (Chlorella pyrenoidosa), static test, 72 Hour, Not available, >100 mg/l, Method Not Specified.

Poly(propylene glycol)

Acute toxicity to fish
For this family of materials:
Material is practically non-toxic to fish on an acute basis (LC50 > 100 mg/L).
LC50, Pimephales promelas (fathead minnow), 96 Hour, 1,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
Based on data from similar materials
EC50, Desmodesmus subspicatus (green algae), 72 Hour, > 100 mg/l, OECD Test Guideline 201
Based on data from similar materials
NOEC, Desmodesmus subspicatus (green algae), 72 Hour, > 100 mg/l, OECD Test Guideline 201

Toxicity to bacteria
Based on data from similar materials
EC50, 3 Hour, > 1,000 mg/l, OECD Test Guideline 209

Chronic toxicity to aquatic invertebrates
Based on data from similar materials
NOEC, Daphnia magna (Water flea), 21 d, > 1,000 mg/l

Propylene oxide

Acute toxicity to fish
Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).
LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 52 mg/l, EPA-660-75-009
LC50, common mullet (Mugil cephalus), static test, 96 Hour, 89 mg/l, Other guidelines

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 48 Hour, 350 mg/l, Other guidelines

Acute toxicity to algae/aquatic plants
EC50, Pseudokirchneriella subcapitata (green algae), static test, 96 Hour, Growth rate inhibition, 240 mg/l, Other guidelines

Toxicity to bacteria
EC50, Bacteria, static test, 16 Hour, > 10,000 mg/l

Persistence and degradability

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(methylphenyl)-.omega.-hydroxy-
Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Pass
Biodegradation: 80 - 90 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent

Poly(propylene glycol)
Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
For similar material(s): 10-day Window: Pass
Biodegradation: 81.9 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Propylene oxide
Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Not applicable
Biodegradation: 93 - 98 %
Exposure time: 28 d
Method: OECD Test Guideline 301C or Equivalent

Theoretical Oxygen Demand: 2.21 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	15.8 %
10 d	55.7 %
20 d	74.7 %

Stability in Water (1/2-life)
Fresh water, Hydrolysis, half-life, 12.9 d, pH 7, Half-life Temperature 25 °C

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitization: OH radicals
Atmospheric half-life: 17.87 d
Method: Estimated.

Bioaccumulative potential

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(methylphenyl)-.omega.-hydroxy-
Bioaccumulation: No data available.

Poly(propylene glycol)
Bioaccumulation: For this family of materials: No bioconcentration is expected because of the relatively high water solubility.

Propylene oxide
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.055 Estimated.

Mobility in soil

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(methylphenyl)-.omega.-hydroxy-
No data available.

Poly(propylene glycol)
No relevant data found.

Propylene oxide
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient (Koc): 2 - 30 Estimated.

13. DISPOSAL CONSIDERATIONS

Disposal methods: For disposal, incinerate this material at a facility that complies with local, state, and federal regulations.

Contaminated packaging: Empty containers retain product residues. Follow label warnings even after container is emptied. Improper disposal or reuse of this container may be dangerous and illegal. Refer to applicable federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT
Not regulated for transport

Classification for SEA transport (IMO-IMDG):
Not regulated for transport

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):
Not regulated for transport

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
Respiratory or skin sensitisation

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

Pennsylvania
Any material listed as "Not Hazardous" in the CAS REG NO. column of SECTION 2, Composition/Information On Ingredients, of this MSDS is a trade secret under the provisions of the Pennsylvania Worker and Community Right-to-Know Act.

California Prop. 65
WARNING: This product can expose you to chemicals including Propylene oxide, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

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

Hazard Rating System
HMIS

Health	Flammability	Physical Hazard
2	1	0

Revision
Identification Number: 10004946 / A001 / Issue Date: 08/07/2020 / Version: 5.0
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
Dow IHG	Dow Industrial Hygiene Guideline
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
TWA	8-hour, time-weighted average

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; 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; 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 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.
US