



Material Safety Data Sheet

THE DOW CHEMICAL COMPANY*

Product name: PARALOID™ TMS-2670

Issue Date: 06/18/2014

Print Date: 11/20/2014

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: PARALOID™ TMS-2670

Recommended use of the chemical and restrictions on use

Identified uses: MBS impact modifier for Engineering resins

COMPANY IDENTIFICATION

THE DOW CHEMICAL COMPANY*
Agent for Rohm and Haas Chemicals LLC
100 INDEPENDENCE MALL WEST
PHILADELPHIA PA 19106-2399
UNITED STATES

Customer Information Number:

215-592-3000

SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 1 800 424 9300

Local Emergency Contact: 989-636-4400

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance

Physical state powder Free-flowing

Color white

Odor sweet

Hazard Summary

CAUTION!

POWDER MAY FORM EXPLOSIVE MIXTURES WITH AIR.

Potential Health Effects

Primary Routes of Entry:

Inhalation
Eye contact
Skin contact

Eyes: Like any foreign body, particles can cause mechanical irritation.
Monomer vapors from heated product can cause the following:
slight irritation

Skin: Prolonged or repeated skin contact can cause the following:
slight irritation

Inhalation: Repeated or prolonged inhalation of dust can cause the following:
Nausea
Headache
Dizziness
May cause irritation of respiratory tract.
Inhalation of monomer vapor from heated product can cause the following:
irritation of nose, throat, and lungs

Chronic Exposure: Prolonged or repeated exposure to dust can cause the following:
Lung irritation

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: MBS copolymer

This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

This product is a mixture.

Component	CASRN	Concentration
MBS polymer	Trade Secret	>= 99.0 - <= 100.0 %
Individual residual monomers	Not Required	<= 0.05 %

4. FIRST AID MEASURES

Description of first aid measures

Inhalation: Move to fresh air.

Skin contact: Wash with water and soap as a precaution. Remove and wash contaminated clothing before re-use. If skin irritation persists, call a physician.

Eye contact: Rinse with water. If eye irritation persists, consult a specialist.

Ingestion: Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Consult a physician if 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: Treatment should be directed at preventing absorption, administering to symptoms (if they occur), and providing supportive therapy.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Carbon dioxide (CO₂) Dry chemical Water spray

Unsuitable extinguishing media: no data available

Special hazards arising from the substance or mixture

Hazardous combustion products: Combustion generates toxic fumes of the following: Carbon oxides

Unusual Fire and Explosion Hazards: Material as sold is combustible; burns vigorously with intense heat. Dusts at sufficient concentrations can form explosive mixtures with air. DO NOT use a solid stream of water. A solid stream of water directed at this material may create a potentially explosive airborne dust mixture.

Advice for firefighters

Fire Fighting Procedures: no data available

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Material can create slippery conditions. Remove all sources of ignition. Ensure adequate ventilation. Avoid breathing dust.

Environmental precautions: CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

Methods and materials for containment and cleaning up: Sweep up and shovel into suitable containers for disposal. Use water spray to keep dusting to a minimum.

7. HANDLING AND STORAGE

Precautions for safe handling: Do not breathe dust. Do not breathe vapors, mist or gas. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Keep away from heat and sources of ignition. Ground all metal containers during storage and handling. Ensure adequate ventilation. Keep container tightly closed. Monomer vapors can be evolved when material is heated during processing operations. See SECTION 8, for types of ventilation required. When this material is melt processed into plastics, 4-Vinylcyclohexene (CAS Reg. No. 100-40-3) may be released. Maintain adequate ventilation under these conditions to prevent exposure to 4-Vinylcyclohexene above the ACGIH TWA of 0.1 ppm.

Conditions for safe storage: Keep away from heat and sources of ignition. Material can burn; limit indoor storage to approved areas equipped with automatic sprinklers. Avoid all ignition sources.

Store away from excessive heat (e.g. steam pipes, radiators), from sources of ignition and from reactive materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

	Regulation	Type of listing	Value/Notation
Product	Rohm and Haas	TWA Respirable fraction.	1 mg/m ³

Exposure controls

Engineering controls: Use local exhaust ventilation with a minimum capture velocity of 150 ft/min. (0.75 m/sec.) at the point of dust or mist evolution. Refer to the current edition of "Industrial Ventilation: A Manual of Recommended Practice" published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

Protective measures: Facilities storing or utilizing this material should be equipped with an eyewash facility.

Individual protection measures

Eye/face protection: Safety glasses Eye protection worn must be compatible with respiratory protection system employed.

Skin protection

Hand protection: Cotton or canvas gloves.

Respiratory protection: A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements or equivalent must be followed whenever workplace conditions warrant a respirator's use. None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. Up to 10 times the exposure limit: Wear a properly fitted NIOSH approved (or equivalent) half-mask, air-purifying respirator. Up to 50 times the exposure limit: Wear a properly fitted NIOSH approved (or equivalent) full-facepiece, air-purifying respirator, OR full-facepiece, airline respirator in the pressure demand mode. Above 50 times the exposure limit or Unknown: Wear a properly fitted NIOSH approved (or equivalent) self-contained breathing apparatus in the pressure demand mode, OR full-facepiece, airline respirator in the pressure demand mode with emergency escape provision. Air-purifying respirators should be equipped with NIOSH approved (or equivalent) organic vapor cartridges and R95 or P95 filters.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	powder Free-flowing
Color	white
Odor	sweet
Odor Threshold	no data available
pH	not applicable
Melting point/range	no data available
Freezing point	no data available
Boiling point (760 mmHg)	no data available
Flash point	not applicable

Evaporation Rate (Butyl Acetate = 1)	not applicable
Flammability (solid, gas)	no data available
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Vapor Pressure	not applicable
Relative Vapor Density (air = 1)	no data available
Relative Density (water = 1)	1.0 - 1.2
Water solubility	insoluble
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	<1 %

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: None known.

Product will not undergo polymerization.

Stable

Conditions to avoid: The neat material should not be exposed to temperatures above 120C. This material should not be processed neat in an extruder.

Incompatible materials: Prolonged contact with acids, alkalies and strong oxidizing agents may attack or dissolve the polymer.

Hazardous decomposition products: Thermal decomposition may yield acrylic, butadiene and styrene monomers. However, avoid temperatures above 177C/350F, the onset of polymer decomposition. Thermal decomposition is dependent on time and temperature.

11. TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear in this section when such data is available.

Acute toxicity

Acute oral toxicity

LD50, rat, > 5,000 mg/kg

Acute dermal toxicity

LD50, rabbit, > 5,000 mg/kg

Acute inhalation toxicity

LC50, rat, 4 Hour, dust/mist, > 3.4 mg/l The LC50 value is greater than the Maximum Attainable Concentration.

Skin corrosion/irritation

slight irritation

Serious eye damage/eye irritation

slight irritation

Sensitization

Product test data not available.

Specific Target Organ Systemic Toxicity (Single Exposure)

Product test data not available.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

A 13-week inhalation study in rats of a compositionally similar acrylic powder showed inflammatory effects in the lung at concentrations of 6 mg/m³ for 6 hours per day, 5 days per week. These findings were consistent with high concentration exposure effects reported for other non-soluble dusts such as titanium dioxide and toner. Maintaining airborne dust concentrations within the recommended exposure limit is not expected to produce adverse effects within the lung.

Carcinogenicity

Product test data not available.

Teratogenicity

Product test data not available.

Reproductive toxicity

Product test data not available.

Mutagenicity

Product test data not available.

Aspiration Hazard

Product test data not available.

Additional information

Information given is based on data obtained from similar substances.

12. ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

General Information

There is no data available for this product.

Toxicity

No data available.

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

13. DISPOSAL CONSIDERATIONS

Disposal methods: Place powder in air-tight bags. For disposal, incinerate this material at a facility that complies with local, state, and federal regulations.

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

**Transport in bulk
according to Annex I or II
of MARPOL 73/78 and the
IBC or IGC Code**

Not regulated for transport

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

OSHA Hazard Communication Standard

This product is considered hazardous under 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

Chronic Health Hazard

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

SARA 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.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103

Releases of this material to air, land, or water are not reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to state and local emergency planning committees under the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304.

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 (Proposition 65)

This product contains trace levels of a component or components known to the state of California to cause cancer:

Components**CASRN**

Vinylcyclohexene

100-40-3

United States TSCA Inventory (US.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
1*	1	0

* = Chronic Effects (See Hazards Identification)

Revision

Identification Number: 101184514 / 1001 / Issue Date: 06/18/2014 / Version: 1.1

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

Legend

Rohm and Haas	Rohm and Haas OEL's
TWA	Time Weighted Average (TWA):

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.