



SAFETY DATA SHEET

THE DOW CHEMICAL COMPANY*

Product name: PARALOID™ KM-5000 Impact Modifier

Issue Date: 12/20/2019

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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: PARALOID™ KM-5000 Impact Modifier

Recommended use of the chemical and restrictions on use

Identified uses: Plastics Additive

COMPANY IDENTIFICATION

THE DOW CHEMICAL COMPANY*
Agent for Rohm and Haas Chemicals LLC
400 ARCOLA ROAD
COLLEGEVILLE PA 19426-2914
UNITED STATES

Customer Information Number:

800-258-2436
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 1 800 424 9300

Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification

GHS classification in accordance with 29 CFR 1910.1200
Combustible dust

Label elements

Signal word: **WARNING!**

Hazards

May form combustible dust concentrations in air.

Other hazards

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Acrylic copolymer
This product is a mixture.

Component	CASRN	Concentration
Butyl acrylate, methyl methacrylate, polymer	25852-37-3	90.0 - 95.0 %
Calcium carbonate	471-34-1	5.0 - 10.0 %
Residual monomers	Not required	< 0.01 %

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; if effects occur, consult a physician.

Skin contact: Wash off with plenty of water.

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: May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Repeated excessive exposure may aggravate preexisting lung disease.

5. FIREFIGHTING MEASURES

Extinguishing media

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

Unsuitable extinguishing media: No information currently available..

Special hazards arising from the substance or mixture

Hazardous combustion products: 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: Isolate the area immediately for at least 50 meters in all directions..

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

6. ACCIDENTAL RELEASE MEASURES

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

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.

Conditions for safe storage: Store in original container. Avoid temperature extremes during storage; ambient temperature preferred. Keep away from heat, sparks, flame, and other sources of ignition.

Other data: Avoid high concentrations of dust in air and accumulation of dust on equipment. An airborne dust of this material can create a dust explosion. When handling and processing this material local exhaust ventilation may be required to control dust and reduce exposure to vapors. To prevent dust explosions employ bonding and grounding for operations capable of generating static electricity. Protect all equipment from explosions by following the guidelines in NFPA-68 and NFPA-69. For electrical equipment follow local codes and electrical classification NFPA-70 (the National Electrical Code), class II, division 2, group G.

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
Calcium carbonate	Dow IHG	TWA	1 mg/m ³

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 safety glasses (with side shields).

Skin protection

Hand protection: Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized.

Other protection: No precautions other than clean body-covering clothing should be needed.

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 dusty or misty atmospheres, use an approved particulate respirator. The following should be effective types of air-purifying respirators: Particulate filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	powder
Color	white
Odor	acrylic-like
Odor Threshold	No data available
pH	No data available
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)	No data available
Flammability (solid, gas)	May form combustible dust concentrations in air.
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)	1.10
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: None reasonably foreseeable.

Chemical stability: Stable

Possibility of hazardous reactions: Product will not undergo polymerization.

Conditions to avoid: No data available

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

Hazardous decomposition products: Heating above the decomposition temperature will release acrylic monomers..

11. TOXICOLOGICAL INFORMATION

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

Information on likely routes of exposure

Ingestion, Inhalation, Skin contact, Eye 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.

For similar material(s):

LD50, Rat, > 5,000 mg/kg No deaths occurred at this concentration.

Information for components:

Butyl acrylate, methyl methacrylate, polymer

For similar material(s): LD50, Rat, > 5,000 mg/kg

Calcium carbonate

LD50, Rat, female, > 2,000 mg/kg Fixed Dose Method No deaths occurred at this concentration.

Residual monomers

Single dose oral LD50 has not been determined.

Acute dermal toxicity

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

For similar material(s):

LD50, Rabbit, > 5,000 mg/kg No deaths occurred at this concentration.

Information for components:

Butyl acrylate, methyl methacrylate, polymer

For similar material(s): LD50, Rabbit, > 5,000 mg/kg

Calcium carbonate

LD0, Rat, > 2,000 mg/kg No deaths occurred at this concentration.

Residual monomers

The dermal LD50 has not been determined.

Acute inhalation toxicity

No adverse effects are anticipated from single exposure to dust. Dust may cause irritation of the upper respiratory tract (nose and throat) and lungs.

For similar material(s):

LC50, Rat, male and female, 4 Hour, dust/mist, > 3.36 mg/l No deaths occurred at this concentration.

Information for components:

Butyl acrylate, methyl methacrylate, polymer

Dust may cause irritation of the upper respiratory tract (nose and throat) and lungs.

For similar material(s): LC50, Rat, dust/mist, > 3.4 mg/l

Calcium carbonate

LC50, Rat, male and female, 4 Hour, dust/mist, > 3 mg/l The LC50 value is greater than the Maximum Attainable Concentration. No deaths occurred at this concentration.

Residual monomers

The LC50 has not been determined.

Skin corrosion/irritation

Based on testing for product(s) in this family of materials:

Essentially nonirritating to skin.

Information for components:

Butyl acrylate, methyl methacrylate, polymer

Brief contact may cause slight skin irritation with local redness.

Calcium carbonate

Essentially nonirritating to skin.

May cause drying and flaking of the skin.

Serious eye damage/eye irritation

Based on testing for product(s) in this family of materials:

May cause slight temporary eye irritation.

Corneal injury is unlikely.

Information for components:

Butyl acrylate, methyl methacrylate, polymer

May cause slight eye irritation.

Calcium carbonate

May cause slight temporary eye irritation.

Dust may irritate eyes.

Sensitization

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

Information for components:

Butyl acrylate, methyl methacrylate, polymer

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

Calcium carbonate

Did not demonstrate the potential for contact allergy in mice.

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:

Butyl acrylate, methyl methacrylate, polymer

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

Calcium carbonate

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

Aspiration Hazard

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

Information for components:

Butyl acrylate, methyl methacrylate, polymer

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

Calcium carbonate

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)

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. Maintaining airborne dust concentrations within the recommended exposure limit is not expected to produce adverse effects within the lung.

Information for components:

Butyl acrylate, methyl methacrylate, polymer

No relevant data found.

Calcium carbonate

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Carcinogenicity

No relevant data found.

Information for components:

Butyl acrylate, methyl methacrylate, polymer

No relevant data found.

Calcium carbonate

No relevant data found.

Teratogenicity

No relevant data found.

Information for components:

Butyl acrylate, methyl methacrylate, polymer

No relevant data found.

Calcium carbonate

Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive toxicity

No relevant data found.

Information for components:

Butyl acrylate, methyl methacrylate, polymer

No relevant data found.

Calcium carbonate

In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

Mutagenicity

No relevant data found.

Information for components:

Butyl acrylate, methyl methacrylate, polymer

No relevant data found.

Calcium carbonate

In vitro genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION

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

Toxicity

Butyl acrylate, methyl methacrylate, polymer

Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

For similar material(s):

LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 100 mg/l, OECD Test Guideline 203

For similar material(s):

NOEC, Oncorhynchus mykiss (rainbow trout), 96 Hour, 100 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates

For similar material(s):

EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l, OECD Test Guideline 202

For similar material(s):

NOEC, Daphnia magna (Water flea), 48 Hour, 100 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants

For similar material(s):

EC50, Selenastrum capricornutum (green algae), 72 Hour, Growth rate, > 999 mg/l, OECD Test Guideline 201

For similar material(s):

NOEC, Selenastrum capricornutum (green algae), 72 Hour, Growth rate, 92 mg/l, OECD Test Guideline 201

Toxicity to bacteria

For similar material(s):

EC50, activated sludge, 3 Hour, Respiration rates., > 100 mg/l, OECD Test Guideline 209

Calcium carbonate

Acute toxicity to fish

Material is practically non-toxic to fish on an acute basis (LC50 > 100 mg/L).

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants

ErC50, Desmodesmus subspicatus (green algae), 72 Hour, > 14 mg/l, OECD Test Guideline 201

NOEC, Desmodesmus subspicatus (green algae), 72 Hour, 14 mg/l, OECD Test Guideline 201

Toxicity to bacteria

EC50, 3 Hour, > 1,000 mg/l, OECD Test Guideline 209

Residual monomers

Acute toxicity to fish

No relevant data found.

Persistence and degradability

Butyl acrylate, methyl methacrylate, polymer

Biodegradability: For similar material(s): Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

Calcium carbonate

Biodegradability: Biodegradation is not applicable.

Residual monomers

Biodegradability: No relevant data found.

Bioaccumulative potential

Butyl acrylate, methyl methacrylate, polymer

Bioaccumulation: No relevant data found.

Calcium carbonate

Bioaccumulation: Partitioning from water to n-octanol is not applicable.

Residual monomers

Bioaccumulation: No relevant data found.

Mobility in soil

Butyl acrylate, methyl methacrylate, polymer

No relevant data found.

Calcium carbonate

No relevant data found.

Residual monomers

No relevant data found.

13. DISPOSAL CONSIDERATIONS

Disposal methods: Place powder in air-tight bags. For disposal, incinerate or landfill at a permitted facility in accordance 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):

**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

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

Combustible dust

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.

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

This material does not contain any components with a CERCLA RQ.

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 Amorphous silica, 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

Revision

Identification Number: 11034038 / 1001 / Issue Date: 12/20/2019 / Version: 3.0

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

Legend

Dow IHG	Dow Industrial Hygiene Guideline
TWA	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; KECl - 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.

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