SAFETY DATA SHEET

THE DOW CHEMICAL COMPANY*

Product name: PARALOID™ BPM-515 PROCESSING AID

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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™ BPM-515 PROCESSING AID

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
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

Hazard classification
This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.
Combustible dust

Label elements

Signal word: **WARNING!**

Hazards
May form combustible dust concentrations in air

Precautionary statements
Prevention
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Take precautionary measures against static discharge.

Other hazards
no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Acrylic copolymer
This product is a mixture.

Component	CASRN	Concentration
Acrylic polymer(s)	Trade Secret	92.0 - 96.0 %
Fumed silica	Trade secret	3.0 - 5.0 %
Alkylsulfate salt	Trade Secret	1.0 - 3.0 %
Residual monomers	Not available	< 0.01 %

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: no data available

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: 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 at room temperature in the original container. 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. This material is not hazardous under normal storage conditions. However, all materials of this type release some monomer vapors or gases when stored for prolonged periods at elevated temperatures.
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

Exposure limits are listed below, if they exist.

	Regulation	Type of listing	Value/Notation
Product	Rohm and Haas	TWA Respirable fraction.	1 mg/m3

Component	Regulation	Type of listing	Value/Notation
Fumed silica	OSHA Z-3	TWA	20 million particles per cubic foot
	OSHA Z-3	TWA	

Exposure controls

Engineering controls: Use explosion-proof 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 with side-shields Eye protection worn must be compatible with respiratory protection system employed.

Skin protection

Hand protection: For prolonged or repeated contact use protective 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. When dusty conditions are encountered, wear a properly fitted NIOSH approved (or equivalent) half-mask, air-purifying respirator. Air-purifying respirators should be equipped with NIOSH approved (or equivalent) N95 filters. If oil mist is present, use R95 or P95 filters.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	powder
Color	white
Odor	no data available
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)	Water
Flammability (solid, gas)	May form combustible dust concentrations in air
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapor Pressure	no data available
Relative Vapor Density (air = 1)	no data available
Relative Density (water = 1)	no data available
Water solubility	no data available
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: 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 on this product or its components appear in this section when such data is available.

Acute toxicity

Acute oral toxicity
LD50, Rat, female, > 2,000 mg/kg

Acute dermal toxicity
LD50, Rat, > 2,000 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
No skin 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. 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
No data are available for this material. The information shown is based on profiles of compositionally similar materials.

COMPONENTS INFLUENCING TOXICOLOGY:

Fumed silica

Sensitization
For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Carcinogenicity
No relevant data found.

Teratogenicity
No relevant data found.

Reproductive toxicity
No relevant data found.

Mutagenicity
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

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

Alkylsulfate salt

Sensitization
For skin sensitization:
For similar material(s):
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No data available.

Specific Target Organ Systemic Toxicity (Single Exposure)
May cause respiratory irritation.
Route of Exposure: Inhalation
Target Organs: Respiratory Tract

Carcinogenicity
Did not cause cancer in laboratory animals.

Teratogenicity
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 information found.

Mutagenicity
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

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

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

Fumed silica

Acute toxicity to fish
Based on information for a similar material:
Material is practically non-toxic to fish on an acute basis (LC50 > 100 mg/L).
Material is practically non-toxic to aquatic invertebrates on an acute basis (LC50/EC50 > 100 mg/L).
Based on information for a similar material:
Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

Acute toxicity to aquatic invertebrates
For similar material(s):
EC50, Daphnia magna, 24 Hour, > 100 mg/l, Method Not Specified.

Alkylsulfate salt

Acute toxicity to fish
Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 4.6 mg/l, Method Not Specified.
LC50, Pimephales promelas (fathead minnow), 96 Hour, 29 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), 48 Hour, 6.2 - 49.4 mg/l, Method Not Specified.
LC50, saltwater mysid Mysidopsis bahia, 96 Hour, 6.1 - 18.3 mg/l

Acute toxicity to algae/aquatic plants
EC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Biomass, 117 mg/l, Method Not Specified.

Toxicity to bacteria
EC50, activated sludge, 30 min, 130 - 170 mg/l, OECD 209 Test

Residual monomers

Acute toxicity to fish
No relevant data found.

Persistence and degradability

Fumed silica

Biodegradability: Biodegradation is not applicable.

Alkylsulfate salt

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Not applicable
Biodegradation: 85 %
Exposure time: 14 d
Method: OECD Test Guideline 301C or Equivalent
10-day Window: Pass
Biodegradation: 95 %
Exposure time: 28 d
Method: OECD Test Guideline 301B or Equivalent

Theoretical Oxygen Demand: 2.0 mg/g

Chemical Oxygen Demand: 0.68 mg/g

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	57 - 97 %

Residual monomers

Biodegradability: No relevant data found.

Bioaccumulative potential

Fumed silica

Bioaccumulation: No relevant data found.

Alkylsulfate salt

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 1.60 Measured
Bioconcentration factor (BCF): 70 Estimated.

Residual monomers

Bioaccumulation: No relevant data found.

Mobility in soil

Fumed silica

Expected to be relatively immobile in soil (Koc > 5000).

Alkylsulfate salt

Expected to be relatively immobile in soil (Koc > 5000).
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Partition coefficient(Koc): > 5000 Estimated.

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.

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

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
This product does not contain a chemical which is listed in Section 313 at or above de minimis concentrations.

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.

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.

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16. OTHER INFORMATION

Hazard Rating System
HMIS

Health	Flammability	Physical Hazard
1*	1	0

* = Chronic Effects (See Hazards Identification)

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

Legend

OSHA Z-3	USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
Rohm and Haas	Rohm and Haas OEL's
TWA	8-hour time weighted average

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.