



# SAFETY DATA SHEET

THE DOW CHEMICAL COMPANY\*

Product name: PARALOID™ K-415 Processing Aid

Issue Date: 04/17/2015

Print Date: 08/16/2016

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.

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## 1. IDENTIFICATION

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Product name: PARALOID™ K-415 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: 800-424-9300

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## 2. HAZARDS IDENTIFICATION

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### 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

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

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**Chemical nature:** Acrylic copolymer

This product is a mixture.

Component	CASRN	Concentration
P(BA/BMA/MMA)	25322-99-0	80.0 - 85.0 %
P(BA/MMA)	25852-37-3	14.0 - 17.0 %
Alkylaryl sulfonate	Trade Secret	1.0 - 2.0 %
Individual residual monomers	Not Required	< 0.05 %

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**4. FIRST AID MEASURES**

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**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.

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**5. FIREFIGHTING MEASURES**

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**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.

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**6. ACCIDENTAL RELEASE MEASURES**

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**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.

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**7. HANDLING AND STORAGE**

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**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/m <sup>3</sup>

### 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	Free-flowing white
Odor	Pungent, sweet odor
Odor Threshold	no data available
pH	Not applicable
Melting point/range	132.00 - 149.00 °C ( 269.60 - 300.20 °F)
Freezing point	no data available
Boiling point (760 mmHg)	Not applicable
Flash point	no data available
Evaporation Rate (Butyl Acetate = 1)	Not applicable
Flammability (solid, gas)	May form combustible dust concentrations in air
Lower explosion limit	no data available
Upper explosion limit	no data available

Vapor Pressure	Not applicable
Relative Vapor Density (air = 1)	Not applicable
Relative Density (water = 1)	1.0000 - 1.2000
Water solubility	insoluble
Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	400.00 °C (752.00 °F)
Decomposition temperature	no data available
Dynamic Viscosity	Not applicable
Kinematic Viscosity	no data available
Explosive properties	no data available
Oxidizing properties	no data available
Molecular weight	no data available
Percent volatility	1.00 %

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

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## 10. STABILITY AND REACTIVITY

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**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.

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## 11. TOXICOLOGICAL INFORMATION

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*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/m<sup>3</sup> 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:**

**P(BA/BMA/MMA)**

**Sensitization**

For skin sensitization:

For this family of materials, sensitization studies done in guinea pigs have been negative.

For respiratory sensitization:

No relevant data found.

**Carcinogenicity**

No relevant data found.

**Teratogenicity**

No relevant data found.

**Reproductive toxicity**

No relevant data found.

**Mutagenicity**

In vitro genetic toxicity studies were negative.

**Aspiration Hazard**

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

**P(BA/MMA)**

**Sensitization**

No relevant information found.

For respiratory sensitization:

No relevant information found.

**Aspiration Hazard**

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

**Alkylaryl sulfonate**

**Sensitization**

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)**

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

**Carcinogenicity**

Did not cause cancer in laboratory animals.

**Teratogenicity**

For similar material(s): Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

**Reproductive toxicity**

For similar material(s): In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

**Mutagenicity**

Based on information for a similar material: In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

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**12. ECOLOGICAL INFORMATION**

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*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**

**P(BA/BMA/MMA)**

**Acute toxicity to fish**

For this family of materials:

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 this family of materials:

LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 100 mg/l

**Acute toxicity to aquatic invertebrates**

For this family of materials:

EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l

**P(BA/MMA)**

**Acute toxicity to fish**

No relevant information found.

**Alkylaryl sulfonate**

**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, Lepomis macrochirus (Bluegill sunfish), static test, 96 Hour, 6.81 mg/l

LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 6.2 mg/l

**Acute toxicity to aquatic invertebrates**

LC50, Daphnia magna (Water flea), static test, 48 Hour, 1.64 mg/l, Other guidelines

**Acute toxicity to algae/aquatic plants**

EC50, Pseudokirchneriella subcapitata (green algae), 21 d, Growth inhibition (cell density reduction), 100 mg/l

**Toxicity to bacteria**

Based on analogy.

EC50, activated sludge, static test, 0.5 Hour, Respiration rates., > 100 mg/l, activated sludge test (OECD 209)

**Chronic toxicity to aquatic invertebrates**

NOEC, Ceriodaphnia dubia (water flea), semi-static test, 7 d, survival, 0.65 mg/l

**Toxicity to soil-dwelling organisms**

LC50, Eisenia fetida (earthworms), 28 d, > 1,000 mg/kg

**Persistence and degradability**

**P(BA/BMA/MMA)**



**Biodegradability:** Although the polymers are not biodegradable, they would likely be removed in biological wastewater treatment plants by adsorption to biosolids.

**P(BA/MMA)**

**Biodegradability:** No relevant information found.

**Alkylaryl sulfonate**

**Biodegradability:** Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability). 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.

10-day Window: Not applicable

**Biodegradation:** < 70 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 302B or Equivalent

10-day Window: Not applicable

**Biodegradation:** < 60 %

**Exposure time:** 20 d

**Method:** OECD Test Guideline 301D or Equivalent

**Bioaccumulative potential**

**P(BA/BMA/MMA)**

**Bioaccumulation:** No bioconcentration of the polymeric component is expected because of its high molecular weight. Latex dispersions will color water a milky white.

**P(BA/MMA)**

**Bioaccumulation:** No relevant data found.

**Alkylaryl sulfonate**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** -2.68 at 20 °C estimated

**Mobility in soil**

**P(BA/BMA/MMA)**

No data available.

**P(BA/MMA)**

No relevant data found.

**Alkylaryl sulfonate**

No relevant data found.

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## 13. DISPOSAL CONSIDERATIONS

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**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.

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**14. TRANSPORT INFORMATION**

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**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.

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**15. REGULATORY INFORMATION**

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**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

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### Hazard Rating System

#### HMIS

Health	Flammability	Physical Hazard
1*	1	0

\* = Chronic Effects (See Hazards Identification)

### Revision

Identification Number: 101078174 / 1001 / Issue Date: 04/17/2015 / Version: 1.2

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.