



Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

PARALOID™ K-400

Revision date: 01/11/2007

Supplier

Rohm and Haas Chemicals LLC
A Subsidiary of The Dow Chemical Company
100 Independence Mall West
Philadelphia, PA 19106-2399 United States

For non-emergency information contact: +12155923000

For non-emergency information contact: 215-592-3000

Emergency telephone number

CHEMTREC: 1 800 424 9300

Local emergency telephone number

989-636-4400

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
P(BA/BMA/MMA)	25322-99-0	90.0 - 95.0%
p(BA/MMA)	25852-37-3	1.0 - 2.0%
Acrylic polymer(s)	Trade Secret	1.0 - 3.0%
Benzene, 1,1'-oxybis-, tetrapropylene derivatives, sulfonate	119345-04-9	1.0 - 5.0%
Individual residual monomers	Not Required	< 0.1%

Polymeric description(s) presented in this section are the U.S. Toxic Substances Control Act (TSCA) definitions.

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance

Form Powdered solid

Colour	white
Colour	Free-flowing
Odour	Pungent, sweet odor

Hazard Summary	WARNING! IRRITATING TO EYES AND RESPIRATORY SYSTEM. POWDER MAY FORM EXPLOSIVE MIXTURES WITH AIR.
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Potential Health Effects

Primary Routes of Entry: Inhalation
Skin contact
Eye contact

Eyes: Direct contact with material can cause the following:
Moderate irritation.
temporary corneal injury

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

Inhalation: Inhalation of vapor or mist can cause the following:
irritation of nose, throat, and lungs
headache
nausea
dizziness

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

4. 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 immediately with plenty of water for at least 15 minutes. Call a physician immediately.

Ingestion: Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

5. FIRE-FIGHTING MEASURES

Flash point	not applicable
Ignition temperature	400.0 °C (752.00 °F)
Upper explosion limit	not applicable
Thermal decomposition	Thermal decomposition may yield acrylic monomers., Combustion generates toxic fumes of the following:, Carbon oxides

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

Specific hazards during fire fighting: 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.

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

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.

Methods for cleaning up

Sweep up and shovel into suitable containers for disposal.
Use water spray to keep dusting to a minimum.

7. HANDLING AND STORAGE

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.
Advice on protection against fire and explosion: Avoid dusting. Under dusty conditions avoid all sources of ignition, including sparks and static electricity.

Storage

Storage conditions: 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.

Further information:

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

Exposure limit(s)

Exposure limits are listed below, if they exist.

	Regulation	Type of listing	Value
Product	Rohm and Haas	TWA Respirable fraction.	1 mg/m ³
	ACGIH	TWA Dust.	5 mg/m ³

Eye protection: Chemical resistant goggles must be worn. Eye protection worn must be compatible with respiratory protection system employed.

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.

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

Engineering measures: 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	Powdered solid
Colour	white
	Free-flowing
Odour	Pungent, sweet odor
Boiling point/range	not applicable
Melting point/range	132.00 - 149.00 °C (269.60 - 300.20 °F)
Flash point	not applicable
Ignition temperature	400 °C (752.00 °F)
Lower explosion limit - Dust.	20.020 g/m ³
Upper explosion limit	not applicable
Vapour pressure	not applicable
Relative vapour density	not applicable
Water solubility	not applicable
Relative density	1.16

Viscosity, dynamic	not applicable
Evaporation rate	not applicable
Percent volatility	negligible

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

10. STABILITY AND REACTIVITY

Hazardous reactions	None known. Stable
Materials to avoid	Prolonged contact with acids, alkalis and strong oxidizing agents may attack or dissolve the polymer.
Hazardous decomposition products	Heating above the decomposition temperature will release acrylic monomers.,
polymerization	Product will not undergo polymerization.

11. TOXICOLOGICAL INFORMATION

Information given is based on data obtained from similar substances.

Acute inhalation toxicity LC50 rat Dust generated at a maximum concentration of 3.4 mg/L for 4 hours was not fatal to any of 24 test animals (12 male and 12 female).

Subchronic toxicity 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.

Component: **Benzene, 1,1'-oxybis-, tetrapropylene derivatives, sulfonate**

Acute oral toxicity LD50 rat 2,000 mg/kg

12. ECOLOGICAL INFORMATION

There is no data available for this product.

13. DISPOSAL CONSIDERATIONS

Disposal

Waste Classification: When a decision is made to discard this material as supplied, it does not meet RCRA's characteristic definition of ignitability, corrosivity, or reactivity, and is not listed in 40 CFR

261.33. The toxicity characteristic (TC), however, has not been evaluated by the Toxicity Characteristic Leaching Procedure (TCLP).
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

IMO/IMDG

Not regulated (Not dangerous for transport)

Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations

15. REGULATORY INFORMATION

Workplace Classification

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

This product is a 'controlled product' under the Canadian Workplace Hazardous Materials Information System (WHMIS).

SARA TITLE III: Section 311/312 Categorizations (40CFR370): Acute Health Hazard
Chronic Health Hazard

SARA TITLE III: Section 313 Information (40CFR372)

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

US. Toxic Substances Control Act (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.

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: Ethyl acrylate 140-88-5

16. OTHER INFORMATION

Hazard Rating

	Health	Fire	Reactivity
HMIS	2*	1	0

Legend

ACGIH	American Conference of Governmental Industrial Hygienists
BAc	Butyl acetate
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
STEL	Short Term Exposure Limit (STEL):
TLV	Threshold Limit Value
TWA	Time Weighted Average (TWA):
	Bar denotes a revision from prior MSDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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