

Material Safety Data Sheet

MSDS Number: C6035E

Issue Date: 8/11/1998

Product Name: ACRYSTONE® MP, MS

Revised Date: 1/27/2010

Aristech Acrylics LLC
7350 Empire Drive
Florence, KY 41042

Emergency:
(859) 283-1501 (8 a.m.– 5 p.m. Mon-Fri)
(800) 424-9300 (Off-Hour Emergencies)

Section 1 – Product Identification

Product Name: ACRYSTONE® MP, MS
Synonyms: Polymethylmethacrylate; Acrylic; Mineral Filled Acrylic
Chemical Name: Polymethylmethacrylate

Section 2 – Composition/Information on Ingredients

Ingredient Name	CAS No.	% WT	Exposure Limits
*Acrystone® MP, MS	Mixture	100	This product can generate Particulates Not Otherwise Regulated (PNOR). The OSHA PEL-TWA for PNOR is 15 mg/m ³ (total dust) and 5 mg/m ³ (respirable fraction). The TLV-TWA for Particles Not Otherwise Specified (PNOS) is 10 mg/m ³ (inhalable) and 3 mg/m ³ (respirable fraction).
Alumina Trihydrate	21645-51-2	40-70	Y(Hazardous)** PNOC - 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction) (OSHA PEL TWA) PNOC - 10 mg/m ³ (inhalable) 3 mg/m ³ (respirable fraction) (ACGIH TLV TWA)
Colorants	N/A	~5	Y(Hazardous)** N/A – OSHA PEL TWA N/A – ACGIH TLV TWA
Butyl acrylate, methyl methacrylate copolymer	25852-37-3	>30	N (Hazardous) N/A – OSHA PEL TWA N/A – ACGIH TLV TWA
Methyl methacrylate	80-62-6	<1	Y(Hazardous)** 100 ppm (OSHA PEL TWA) 50 ppm (ACGIH TLV TWA) 100 ppm (ACGIH STEL CEILING)

* Mixture. Chemicals that follow this listed chemical are part of the listed mixture.

** All ingredients in quantities >1.0% (>0.1% for carcinogens) that are potentially hazardous per OSHA definitions

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Some States enforce the PELs that OSHA promulgated in 1989, which were subsequently vacated by the U.S. Supreme Court. Check with your state OSHA agency to determine which PEL is enforced in your jurisdiction.

Section 3 – Hazard Identification

Emergency Overview:

CAUTION! Inhalation of dusts or vapors may cause upper respiratory tract irritation with coughing and a burning sensation in the throat. Repeated skin exposures to dusts may cause allergic skin reactions.

Potential Health Effects:

Eyes: Transient/mechanical irritation from contact with dusts. Possible irritation from operations and processing vapors or dusts.

Skin: Possible transient/mechanical irritation.

Ingestion: Product in marketed form is inert.

Inhalation: Sawing, sanding, grinding, or burning may cause upper respiratory tract irritation

Relevant Routes of Exposure: Inhalation, eye and skin.

Signs and Symptoms of Acute Overexposure:

Product sold in its marketed form is not expected to present a serious health hazard; however, operations such as sawing, sanding, grinding or burning may generate dust, smoke or vapors which may be irritating. Inhalation of such dusts, smoke and vapors may cause upper respiratory tract irritation. Symptoms may include burning sensation, coughing, sneezing, and sore throat. Skin contact with dust may produce transitory mechanical irritation. Symptoms may include redness and itching. High concentrations of dusts may cause irritation to the eyes causing burning, redness, and tearing. This product is not expected to be toxic if ingested.

Signs and Symptoms of Chronic Overexposure:

Prolonged or repeated over exposures to high concentrations may cause coughing, dizziness, confusion, headache and drowsiness. Prolonged or repeated skin contact may lead to allergic skin reactions.

Medical Conditions Generally Aggravated By Exposure:

Individuals with chronic respiratory disorders may be adversely affected by any fume or airborne particulate matter exposure. Persons with preexisting skin disorders may be more susceptible to the effects of this material.

Carcinogenicity:

NTP: N*

IARC: N*

OSHA: N/A

ACGIH: N/A

OTHER: N/A

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Additional Information If Applicable

*Cadmium: Cadmium and Cadmium Compounds are listed as undifferentiated in IARC and the Annual NTP Report as carcinogenic to animals, but with only limited and conflicting evidence of carcinogenicity to humans. These listings are based on test results for Cadmium Compounds other than the pigmentary forms, which are not contained in this product (i.e., oxides and metals). Limited studies have suggested that human exposure to cadmium (primarily as the oxide) is associated with an increased risk of cancer. Various cadmium salts have been shown to cause local sarcomas, testicular atrophy (i.e., decreased size) and testicular tumors in laboratory animals following intravenous and subcutaneous injections.

*Titanium Dioxide: In lifetime inhalation studies of rats, airborne respirable-size titanium dioxide particles have been shown to cause lung tumors at concentrations associated with substantial particle lung burdens and consequential pulmonary overload and inflammation. However, other laboratory animals such as mice and hamsters did not develop lung tumors under similar testing with titanium dioxide. Furthermore, human epidemiology studies do not suggest an association between occupational exposure to titanium dioxide and risk for cancer

Under normal conditions of use and exposure, toxicological and epidemiological studies for titanium dioxide have shown no significant adverse health effects.

Results of an epidemiology study showed that employees who had been exposed to titanium dioxide were at no greater risk of developing lung cancer than were employees who had not been exposed to titanium dioxide. No associations were observed between titanium dioxide exposure and chronic respiratory disease or lung abnormalities. Based on the results of this study, it was concluded that titanium dioxide will not cause lung cancer or chronic respiratory disease in humans at concentrations experienced in the work place.

Section 4 – First Aid Measures

Eyes:

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

Skin:

Wash affected area with soap and plenty of water. If irritation develops, call a physician.

Ingestion:

Product in its marketed form is inert. If large amounts are swallowed, call physician, immediately.

Inhalation:

For overexposure to heated resins, remove from exposure. If breathing is difficult, or has stopped, administer artificial respiration (mouth-to-mouth) or oxygen as indicated. Call a physician, immediately.

Notes to Physicians: None known.

Section 5 – Fire Fighting

Flammable Limits in Air (% by Volume): N/A

Flash Point: N/A

Extinguishing Media:

Use water or dry chemicals to extinguish fire.

Fire Fighting Instructions:

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Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing when fighting fires. Use cold water spray to cool fire-exposed containers.

Unusual Fire and Explosion Hazards:

Burning material may give off toxic products of combustion (CO, CO₂) when involved in a hot fire.

Known or Anticipated Hazardous Products of Combustion:

Combustion products may include carbon dioxide, carbon monoxide, methyl methacrylate monomer (MMA) and acrid smoke and fumes.

Section 6 – Accidental Release Measures

Accidental Release Measures and Methods for Cleanup:

If released or spilled, product may be cleaned up and disposed in the trash. Allow hot or heated material to solidify and cool before disposal.

Section 7 – Handling and Storage

Handling:

Avoid breathing of vapors, fumes and smoke which may be released during thermal processing. Since finished product has sharp edges, protective gloves should be worn when handling.

Storage:

Store in cool dry area.

Section 8 – Exposure Controls/Personal Protection

Ventilation Requirements:

Local exhaust ventilation should be used to control the emissions of air contaminants. General dilution ventilation may assist with the reduction of air contaminant concentrations.

Personal Protective Equipment:

Eye/Face:

Employees should be required to wear chemical safety goggles to prevent eye contact. A face shield should be used when appropriate to prevent contact with hot material.

Skin:

When necessary, garments for protection against heated materials should be used to prevent skin contact with hot acrylate polymer. Since finished material has sharp edges, wear protective gloves when handling. Polyvinyl alcohol and Teflon® protective garments have been recommended for protection against methyl methacrylate.

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Respiratory:

Respiratory equipment approved by NIOSH/MSHA for protection against organic vapors and dusts is necessary to avoid inhalation of excessive air contaminants. The appropriate respirator selection depends on the type and magnitude of exposure (refer 29 CFR 1910.134 for appropriate NIOSH approved respirators and to the NIOSH Pocket Guide to Chemical Hazards, DHHS (NIOSH) Publication NO. 2001-145 for equipment selection). Use a positive pressure air supplied respirator if there is a potential for an uncontrolled release, exposure levels are not known or under any other circumstances where air purifying respirators may not provide adequate protection.

Other Protective

Clothing/Equipment:

Emergency eye wash stations and safety showers should be available in the work area.

Section 9 – Physical/Chemical Properties

Appearance: Solid sheet, various colors

Boiling Point: N/A

Molecular/Chemical Formula: $(C_7H_{12}O_2 - C_5H_8O_2)_x - Al(OH)_3$

Evaporation Rate: N/A

Bulk Density: N/A

Freezing Point: N/A

Melting Point: N/A

Octanol/Water Partition Coefficient: N/A

Water/Oil Distribution Coefficient: N/A

Odor: Odorless

Odor Threshold: N/A

Percent Volatile: N/A

pH Value: N/A

Physical State: Solid sheet

Reactivity in Water: N/A

Solubility in Water: N/A

Specific Gravity or Density(Water=1): N/A

Vapor Density: N/A

Vapor Pressure: N/A

Section 10 – Stability/Reactivity

Stability:

Stable

Conditions to Avoid:

Temperatures above 500 Deg. F (260 Deg. C) can release methyl methacrylate.

Incompatibility With Other Materials:

None known.

Hazardous Decomposition Products:

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Carbon dioxide, carbon monoxide, acrid smoke and fumes, possibly MMA.

Hazardous Polymerization:

Will not occur

Conditions to Avoid:

None known.

Section 11 – Toxicological Information

VALUE	ANIMAL	ROUTES	COMPONENTS
N/A	N/A	N/A	N/A

Toxicological Information:

Product Based Information:

No toxicological information is available for the finished product. This product is generally believed to be inert based on available data.

Ingredient Based Information:

Alumina trihydrate may cause eye and skin irritation.

The LD₅₀ for butyl acrylate, methyl methacrylate copolymer (CAS No. 25852-37-3) is greater than 29,500 mg/kg.

One of the monomers of butyl acrylate, methyl methacrylate copolymer, is methyl methacrylate (MMA). In one study, high doses of MMA were reported to produce an increased incidence of blood vessel aggregates in rat pups whose mothers received MMA by injection while pregnant.

Degenerative changes in the liver were observed in Guinea pigs following inhalation exposure to 9.5 ppm of MMA for 3 hours/day for 15 days, according to a 1945 report.

Ingestion of MMA caused irritation of the alimentary canal and kidney and liver lesions (Lefaus, R. Practical Toxicology of Plastics. CRC Press, Inc., 1968P.324). Methyl methacrylate has been shown to cause neurotoxic effects in primarily animal studies.

Carcinogenicity for Cadmium: Cadmium and Cadmium Compounds are listed as undifferentiated in IARC and the Annual NTP Report as carcinogenic to animals, but with only limited and conflicting evidence of carcinogenicity to humans. These listings are based on test results for Cadmium Compounds other than the pigmentary forms, which are not contained in this product (i.e., oxides and metals). Limited studies have suggested that human exposure to cadmium (primarily as the oxide) is associated with an increased risk of cancer. Various cadmium salts have been shown to cause local sarcomas, testicular atrophy (i.e., decreased size) and testicular tumors in laboratory animals following intravenous and subcutaneous injections.

Titanium Dioxide is listed as possibly carcinogenic to humans (Group 2B). In lifetime inhalation studies of rats, airborne respirable-size titanium dioxide particles have been shown to cause lung tumors at concentrations associated with substantial particle lung burdens and consequential pulmonary overload

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Results of an epidemiology study showed that employees who had been exposed to titanium dioxide were at no greater risk of developing lung cancer than were employees who had not been exposed to titanium dioxide. No associations were observed between titanium dioxide exposure and chronic respiratory disease or lung abnormalities. Based on the results of this study, it was concluded that titanium dioxide will not cause lung cancer or chronic respiratory disease in humans at concentrations experienced in the work place.

Possible target organs: Skin and respiratory system (e.g., lungs)

Additional Information If Applicable

Section 12 – Ecological Information

Ecological Information:

No ecological data are currently available.

Additional Information If Applicable

Section 13 – Disposal Considerations

Disposal Considerations: Dispose of in accordance with local, state and federal requirements. This product as sold in its marketed form is not considered an EPA hazardous waste when discarded.

Additional Information If Applicable

Section 14 – Transport Information

Proper Shipping Name: Not regulated as a hazardous material

Hazard Class: none

ID Number: none

Packing Group: none

Additional Information If Applicable

Section 15 – Regulatory Information

U.S. Federal Regulations:

Toxic Substances Control Act (TSCA) Inventory- Yes

Superfund Amendments and Reauthorization Act (SARA 313)- Cadmium Compounds

State Regulations:

California Proposition 65 List- Yes*(Cadmium compounds)

*Warning, this product contains chemical(s) known to the state of California to cause cancer and/or birth defects or other reproductive harm. The Proposition 65 chemical(s) found in this product appear in trace amounts and would not be expected to pose significant risk; however, a risk assessment for this (these) chemical(s) has not yet been performed. Each product should be assessed in light of its use.

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International Regulations:

European Inventory (EINECS)- Unknown

Canadian Inventory (DSL)- Yes

SARA Hazards:

Acute: Yes

Chronic: Yes

Reactive: No

Fire: No

Pressure: No

Additional Information If Applicable

Section 16 – Other Information

NFPA Codes:

HMIS Codes:

Health: 2

Health: 1

Flammability: 0

Flammability: 0

Reactivity: 0

Reactivity: 0

Label Statements:

CAUTION! Inhalation of dusts or vapors may cause upper respiratory tract irritation with coughing and a burning sensation in the throat. Repeated skin exposures to dusts may cause allergic skin reactions.

Avoid contact with eyes, skin and clothing

Avoid breathing dust or vapors.

Wash thoroughly after handling.

Launder contaminated clothing before re-use.

Use only with adequate ventilation.

If repeated skin contact may occur, wear PVA gloves.

Wear chemical safety goggles.

If Exposure Limits may be exceeded, wear NIOSH approved respirator with OV/N95 cartridges.

Other Information:

If you require additional information regarding any legal or regulatory requirements referred to in this MSDS, we suggest that you consult with an appropriate regulatory agency, or with a professional with expertise in this area.

This information is taken from sources or based upon data believed to be reliable; however, Aristech Acrylics LLC makes no warranty as to the absolute correctness or sufficiency of any of the foregoing or that additional or other measures may not be required under particular conditions.

Additional Information If Applicable

Reason for MSDS Revision: TiO2 admonition

This MSDS was prepared in accordance with the ANSI Z400.1 1993 Guideline for the Preparation of Material Safety Data Sheets.

KEY

N/A= Not Applicable

MSHA=Mine Safety and Health Administration

NIOSH=National Institute of Occupational Safety and Health

SARA= Superfund Amendment and Reauthorization Act

CNS= Central Nervous System

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ACGIH=American Conference of Governmental Industrial Hygienists

OSHA=Occupational Safety and Health Administration

PNOC=Particulates Not Otherwise Classifiable

TLV=Threshold Limit Value

PEL=Permissible Exposure Limit

TWA=Time Weighted Average

STEL=Short Term Exposure Limit

CEIL=Ceiling Limit Value

For additional product information, please call 800-354-9858.