

Material Safety Data Sheet

MSDS Number: C8601A

Issue Date: 08/12/2003

Product Name: Catalyst MEKP-9

Revised Date: 12/14/2006

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: Catalyst MEKP-9
Synonyms: N/A
Chemical Name: Organic Peroxide Catalyst

Section 2 – Composition/Information on Ingredients

Ingredient Name	CAS No.	% WT	Exposure Limits
* Catalyst MEKP-9	Mixture	100	
Methyl Ethyl Ketone Peroxide	1338-23-4	34	Y (Hazardous)** 0.2 ppm (ACGIH STEL)
Dimethyl Phthalate	131-11-3	43	Y (Hazardous)** 5 mg/ m ³ (OSHA PEL TWA)
2,2,4 Trimethyl- 1,3-pentanediol diisobutyrate	6846-50-0	20	N (Hazardous)**
Hydrogen Peroxide	7722-84-1	1	Y (Hazardous)** 1 ppm (OSHA PEL TWA) 1 ppm (ACGIH TLV TWA)
Methyl Ethyl Ketone	78-93-3	2	Y (Hazardous)** 200 ppm (OSHA PEL TWA) 200 ppm (ACGIH TLV TWA) 300 ppm (ACGIH STEL CEILIN)
Water	7732-18-5	1	N (Hazardous)**

* 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

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:

WARNING! CAUSES SEVERE IRRITATION. Causes eye, skin and upper respiratory tract irritation. May

Material Safety Data Sheet

MSDS Number: C8601A

Issue Date: 08/12/2003

Product Name: Catalyst MEKP-9

Revised Date: 12/14/2006

cause burns or blindness. Exposure to high concentrations of mists or vapors may cause vertigo. Skin contact may cause dermatitis.

Potential Health Effects:

Eyes: Cause severe eye irritation with possible corneal damage or blindness.

Skin: Contact with skin can produce irritation, redness, blistering and dermatitis.

Ingestion: May cause nausea, vomiting or other gastrointestinal effects. May cause burns to the esophagus. Possible aspiration hazard. This product, if vomited, may be aspirated into the lungs causing chemical pneumonia which may be life threatening.

Inhalation: Inhalation may cause upper respiratory irritation.

Relevant Routes of Exposure: Inhalation, eye and skin.

Signs and Symptoms of Acute Overexposure:

Prolonged or repeated breathing of vapors can cause irritation to the upper respiratory tract. Symptoms may include sore throat, watery eyes, sneezing, and coughing. Excessive inhalation of high concentration above the TLV can cause vertigo.

Signs and Symptoms of Chronic Overexposure:

Prolonged or repeated exposures may cause liver and kidney damage, systemic toxicity, and cardiac sensitization. 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.

Medical Conditions Generally Aggravated By Exposure:

None known.

Carcinogenicity:

NTP: N/A

IARC: N/A

OSHA: N/A

ACGIH: N/A

OTHER: N/A

Additional Information If Applicable

Section 4 – First Aid Measures

Eyes:

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

Skin:

Remove contaminated clothing. Wash skin thoroughly with soap and plenty of water. If irritation or adverse symptoms develop, call a physician.

Material Safety Data Sheet

MSDS Number: C8601A

Issue Date: 08/12/2003

Product Name: Catalyst MEKP-9

Revised Date: 12/14/2006

Ingestion:

DO NOT INDUCE VOMITING! Rinse mouth immediately with plenty of water. If victim is conscious and alert, give 1 glass of milk or water. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Call a physician or poison control center, immediately.

Inhalation:

Remove from exposure. If breathing is difficult, administer artificial respiration (mouth-to-mouth) or oxygen as indicated. Call a physician or poison control center, immediately.

Notes to Physicians:

None

Section 5 – Fire Fighting

Flammable Limits in Air (% by Volume): Not Known

Flash Point: >200°F (>93°C) (COC)

Extinguishing Media:

Apply water from a safe distance, preferably with a fog nozzle. For small fires use foam, carbon dioxide, or dry chemicals to extinguish fire. Use of dry chemicals may allow the fire to re-ignite.

Fire Fighting Instructions:

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. If dry chemical is used to extinguish an MEKP fire, the extinguished area must be thoroughly wetted down with water to prevent re-ignition.

Unusual Fire and Explosion Hazards:

Heat of decomposition of the peroxides adds to the heat of the fire. Dry chemicals fire extinguishing agent may catalyze the decomposition.

Known or Anticipated Hazardous Products of Combustion:

Combustion products may include carbon dioxide, carbon monoxide and acrid smoke and fumes.

Section 6 – Accidental Release Measures

Accidental Release Measures and Methods for Cleanup:

Dike with sand or earth to prevent spill from entering sewers and waterways. Do not touch or walk through spilled material. Wet spilled material with water. Absorb or cover with dry earth, sand, or other non-combustible material and transfer to containers. Discard in plastic containers. Use clean non-sparking tools to collect absorbed material. Personal protective equipment should be used when cleaning up all spills. Do not place collected materials in a steel container, decomposition may occur. Methyl Ethyl Ketone Peroxide has a Reportable Quantity (RQ) of 10 lbs.

Material Safety Data Sheet

MSDS Number: C8601A

Issue Date: 08/12/2003

Product Name: Catalyst MEKP-9

Revised Date: 12/14/2006

Section 7 – Handling and Storage

Handling:

Keep away from heat, sparks and flames. Keep containers closed when not in use. Use with adequate ventilation. Avoid contact with eyes and skin. Avoid breathing mists or vapors. Proper protective equipment should be utilized when handling this material. Do not use near Food or Drink. Wash thoroughly after handling. Rotate stock using the oldest material first.

Storage:

Store away from heat, sparks and flames and all ignition sources. Store out of direct sunlight. Do not store above 100°F (38 °C). Wash thoroughly after handling and before eating or smoking.

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:

Wear chemical safety goggles or face shields to prevent eye contact.

Skin:

Wear butyl rubber, nitrile or neoprene gloves to prevent skin contact. Protective aprons may be necessary where employees may be splashed. Contaminated clothing should be removed and laundered before reuse.

Respiratory:

Respiratory equipment approved by NIOSH/MSHA for protection against organic vapors and mists 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: Water white liquid, slight odor

Boiling Point: Not Known

Molecular/Chemical Formula: Mixture

Evaporation Rate: N/A

Bulk Density: N/A

Material Safety Data Sheet

MSDS Number: C8601A

Issue Date: 08/12/2003

Product Name: Catalyst MEKP-9

Revised Date: 12/14/2006

Freezing Point: N/A

Melting Point: N/A

Octanol/Water Partition Coefficient: N/A

Water/Oil Distribution Coefficient: N/A

Odor: Characteristic

Odor Threshold: N/A

Percent Volatile: Not Known

pH Value: N/A

Physical State: Liquid

Reactivity in Water: N/A

Solubility in Water: Slight

Specific Gravity or Density (Water=1): 1.1

Vapor Density: >1. (Air=1)

SADT: >140°F (60 °C).

Section 10 – Stability/Reactivity

Stability:

Stable when kept in original closed container, out of direct sunlight at temperatures below 80°F (27 °C)

Conditions to Avoid:

Contamination. Direct sunlight. Open flames. Prolonged storage above 100°F(38 °C). Storage above SADT. Storage near flammable or combustible materials.

Incompatibility With Other Materials:

Dimethylaniline, cobalt naphthenate and other promoter, promoted resins, accelerators, oxidizing and reducing agents, strong acids, bases, metals, metal alloys and salts, sulfur compounds, amines or any hot materials

Hazardous Decomposition Products:

Decomposition products are flammable. Carbon dioxide, carbon monoxide, acrid smoke and fumes

Hazardous Polymerization:

Will not occur

Section 11 – Toxicological Information

VALUE	ANIMAL	ROUTES	COMPONENTS
200 ppm/4 hr	Rat	Inhalation- LC ₅₀	Methyl Ethyl Ketone Peroxide
23,500 mg/m ³ /8 hr.	Rat	Inhalation- LC ₅₀	Methyl Ethyl Ketone
9300 mg/m ³ /6.5 hr.	Cat	Inhalation- LC _{Lo}	Dimethyl Phthalate
227 mg/m ³	Mouse	Inhalation- LC _{Lo}	Hydrogen Peroxide

Material Safety Data Sheet

MSDS Number: C8601A

Issue Date: 08/12/2003

Product Name: Catalyst MEKP-9

Revised Date: 12/14/2006

500 mg/kg.	Rabbit	Dermal- LD ₅₀	Methyl Ethyl Ketone Peroxide
6480 mg/kg.	Rabbit	Dermal- LD ₅₀	Methyl Ethyl Ketone
4060 mg/kg.	Rabbit	Dermal- LD ₅₀	Hydrogen Peroxide
376 mg/kg	Rat	Oral - LD ₅₀	Hydrogen Peroxide
>3200 mg/kg	Rat	Oral - LD ₅₀	2,2,4-Trimethyl-1,3-pentanediol diisobutyrate
484 mg/kg	Rat	Oral - LD ₅₀	Methyl Ethyl Ketone Peroxide
6800mg/kg	Rat	Oral - LD ₅₀	Dimethyl Phthalate
2737 mg/kg	Rat	Oral - LD ₅₀	Methyl Ethyl Ketone

Toxicological Information:

Product Based Information:

No toxicological information is available for the finished product.

Ingredient Based Information:

In tests with laboratory animals, MEK did not cause any teratogenic effects at exposure concentrations which demonstrated evidence of maternal toxicity. Similarly, animal testing produced evidence of fetotoxicity but only in the presence of maternal toxicity (MSDS-MEK, Union Carbide 1/16/96:1979, EPA doc. no. 878210652).

MEK was negative in several mutagenicity assays including the Ames Test (1984, EPA doc. no. 40-8444072).

Possible target organs: Skin and respiratory system (e.g., lungs), liver, kidneys and central nervous system

Additional Information If Applicable

Section 12 – Ecological Information

Ecological Information:

Methyl Ethyl Ketone Peroxide

Guppy, 96hr LC₅₀:44.2 mg/l
Algae LC₅₀: 42,700 ug/l

Additional Information If Applicable

Section 13 – Disposal Considerations

Disposal Considerations:

Material Safety Data Sheet

MSDS Number: C8601A

Issue Date: 08/12/2003

Product Name: Catalyst MEKP-9

Revised Date: 12/14/2006

Dispose of in accordance with local, state and federal requirements. The following ingredients are listed RCRA hazardous wastes: Methyl ethyl ketone peroxide is a listed hazardous waste with a waste number of U160. Methyl ethyl ketone is specifically listed as a RCRA U159 hazardous waste. In addition, MEK is a TCLP constituent; waste product or other waste material containing or contaminated with this product may be a toxicity characteristic hazardous waste (D035).

Additional Information If Applicable

Section 14 – Transport Information

Proper Shipping Name: Organic Peroxide Type D, Liquid
(Methyl Ethyl Ketone Peroxide, < 45%)

Hazard Class: 5.2

ID Number: UN3105

Packing Group: II

Additional Information If Applicable

See section 6 for Reportable Quantity (RQ) information

Section 15 – Regulatory Information

U.S. Federal Regulations:

Toxic Substances Control Act (TSCA) Inventory- Yes
Superfund Amendments and Reauthorization Act (SARA 313)-2-butanone (MEK), Dimethyl Phthalate
Clean Air Act (Section 111) Volatile Organic Compound- 2-butanone (MEK)
Clean Air Act (Section 112) Statutory Air Pollutants- 2-butanone (MEK)
Clean Water Act (Section 311) Hazardous Substances- N/A
Clean Water Act (Section 307) Priority Pollutant- N/A
Clean Water Act (Section 304) Water Quality Criteria Substances- N/A

State Regulations:

Pennsylvania Hazardous Substance List- 2-butanone (E)
New Jersey Hazardous Substance List- 2-butanone
Massachusetts Substance List- 2-butanone
California Proposition 65 List.
This product does not any chemicals listed by the State of California to cause cancer and/or birth defects or other reproductive harm.

International Regulations:

Canadian Inventory (DSL)- Yes

SARA Hazards:

Acute: Yes **Chronic:** Yes
Reactive: Yes **Fire:** No
Pressure: No

Additional Information If Applicable

Section 16 – Other Information

NFPA Codes:

Health: 3

Flammability: 2

HMIS Codes:

Health: 3

Flammability: 2

Material Safety Data Sheet

MSDS Number: C8601A

Issue Date: 08/12/2003

Product Name: Catalyst MEKP-9

Revised Date: 12/14/2006

Reactivity: 2 **Reactivity:** 2

Label Statements:

WARNING! CAUSES SEVERE IRRITATION. Cause eye, skin and upper respiratory tract irritation. May cause burns or blindness. Exposure to high concentrations of mists or vapors may cause vertigo. Skin contact may cause dermatitis.

Avoid contact with eyes, skin and clothing

Avoid breathing vapors.

Wash thoroughly after handling.

Laundry contaminated clothing before re-use.

Use only with adequate ventilation.

Wear chemical safety goggles and face shield, gloves, approved respirator for protection against organic vapors and other protective equipment while handling (consult MSDS).

Keep away from heat, sparks and flame.

Keep container closed

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: EH&S Review

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

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