MSDS Material Safety Data Sheet

From: Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865

J.T.Baker®

24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300
National Response in Canada
CANUTEC: 613-996-6666
Outside U.S. And Canada
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

ACRYLIC ACID

1. Product Identification

Synonyms: 2-Propenoic acid; vinyl formic acid; Ethylenecarboxylic acid
CAS No.: 79-10-7
Molecular Weight: 72.06
Chemical Formula: H2C = CHCO2H
Product Codes: A397

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Acrylic Acid	79-10-7	100%	Yes

3. Hazards Identification

Emergency Overview

DANGER! MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. CAUSES BURNS. FLAMMABLE LIQUID AND VAPOR.

SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating: 4 - Extreme
Flammability Rating: 2 - Moderate
Reactivity Rating: 2 - Moderate
Contact Rating: 4 - Extreme (Corrosive)
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER
Storage Color Code: Red (Flammable)

Potential Health Effects

Inhalation:
May be destructive to the mucous membranes and upper respiratory tract. Symptoms may include burning, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. May be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.
Ingestion:
Highly toxic! May cause pain and burning in the mouth, pharynx, and stomach, vomiting diarrhea, and fall in blood pressure. Asphyxia may occur from edema of the glottis. May be destructive to the gastro-intestinal tract. Estimated lethal dose 5 milliliters.
Skin Contact:
Toxic! Corrosive! May cause irritation, inflammation, burns, and skin rashes. Absorption through the skin may cause systemic poisoning, nausea, and vomiting.
Eye Contact:
Corrosive! Vapors may cause irritation. Splashes from dilute solutions may cause burns and serious eye damage.
Chronic Exposure:
No information found.

Aggravation of Pre-existing Conditions:
No information found.

---

4. First Aid Measures

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
Ingestion:
DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Call a physician immediately.
Skin Contact:
Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
Eye Contact:
Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

---

5. Fire Fighting Measures

Fire:
Flash point: 51C (124F)
Autoignition temperature: 438C (820F)
Flammable limits in air % by volume:
lel: 2; uel: 8
Flammable.
Explosion:
Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Vapors can flow along surfaces to distant ignition source and flash back. An explosion may occur upon polymerization.
Fire Extinguishing Media:
Dry chemical, foam, water or carbon dioxide. Water spray may be used to keep fire exposed containers cool.
Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

---

6. Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

J. T. Baker NEUTRASORB?acid neutralizers are recommended for spills of this product.

---

7. Handling and Storage

Protect against physical damage. Detached storage is preferred. Store in a cool, dry, well-ventilated, non-combustible area. The acid may be stored safely for extended periods if kept below its melting point 13C (54F). Separate from oxidizing materials. Do not store in inert atmosphere. If acrylic acid has been stored below its melting point, first allow the whole batch to melt and stir before discharging. Acrylic acid vapor contains no inhibitor; the condensate may therefore polymerize inside exhaust or ventilation equipment, with the risk of disturbances. Do not use any heating systems to thaw solidified monomer. Use only in a chemical fume hood. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

---

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:
-ACGIH Threshold Limit Value (TLV):
2 ppm (TWA) (skin)
Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the

contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):
If the exposure limit is exceeded and engineering controls are not feasible, a full facepiece respirator with organic vapor cartridge may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:
Use chemical safety goggles and/or a full face shield where splashing is possible.

---

9. Physical and Chemical Properties

Appearance:
Clear, colorless liquid.

Odor:
Acrid odor.

Solubility:
Infinitely soluble.

Density:
1.05

pH:
No information found.

% Volatiles by volume @ 21C (70F):
100

Boiling Point:
141C (286F)

Melting Point:
13C (55F)

Vapor Density (Air=1):
2.5

Vapor Pressure (mm Hg):
3.1 @ 20C (68F)

Evaporation Rate (BuAc=1):
1

---

10. Stability and Reactivity

Stability:
Stable under ordinary conditions of use and storage. See Hazardous Polymerization and Storage Information.

Hazardous Decomposition Products:
Carbon dioxide and carbon monoxide may form when heated to decomposition.

Hazardous Polymerization:
May occur if contaminated, if heated, if in low oxygen atmosphere, or if not inhibited. Light may promote polymerization once started.

Incompatibilities:
Strong oxidizing agents, strong bases, 2-aminoethanol, ammonium hydroxide, chlorosulfonic acid, ethylene diamine, ethyleneimine, and oleum.

Conditions to Avoid:
Air, light, heat, insufficient inhibitor.

---

11. Toxicological Information

Oral rat LD50: 33.5 mg/kg Skin rabbit LD50: 280 mg/kg. Inhalation rat LC50: 1200 ppm/4hr. Investigated as a tumorigen, mutagen, and reproductive effector.

--------\Cancer Lists\----------

Ingredient	---NTP Carcinogen--- Known	Anticipated	IARC Category
Acrylic Acid (79-10-7)	No	No	3

---

12. Ecological Information

Environmental Fate:
When released into the soil, this material is expected to leach into groundwater. When released into the soil,

this material may biodegrade to a moderate extent. When released into water, this material may biodegrade to a moderate extent. When released into water, this material is not expected to evaporate significantly. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life of less than 1 day. This material is not expected to significantly bioaccumulate. This material has a log octanol-water partition coefficient of less than 3.0.

Environmental Toxicity:
No information found.

---

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

---

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: ACRYLIC ACID, STABILIZED
Hazard Class: 8, 3
UN/NA: UN2218
Packing Group: II
Information reported for product/size: 500ML

International (Water, I.M.O.)

Proper Shipping Name: ACRYLIC ACID, STABILIZED
Hazard Class: 8, 3
UN/NA: UN2218
Packing Group: II
Information reported for product/size: 500ML

International (Air, I.C.A.O.)

Proper Shipping Name: ACRYLIC ACID, STABILIZED
Hazard Class: 8, 3
UN/NA: UN2218
Packing Group: II
Information reported for product/size: 500ML

---

15. Regulatory Information

--------\Chemical Inventory Status - Part 1\---------------------------------

Ingredient	TSCA	EC	Japan	Australia
Acrylic Acid (79-10-7)	Yes	Yes	Yes	Yes

--------\Chemical Inventory Status - Part 2\---------------------------------

		--Canada--		
Ingredient	Korea	DSL	NDSL	Phil.
Acrylic Acid (79-10-7)	Yes	Yes	No	Yes

--------\Federal, State & International Regulations - Part 1\----------------

	-SARA 302-		------SARA 313------	
Ingredient	RQ	TPQ	List	Chemical Catg.
Acrylic Acid (79-10-7)	No	No	Yes	No

--------\Federal, State & International Regulations - Part 2\----------------

		-RCRA-	-TSCA-
Ingredient	CERCLA	261.33	8(d)
Acrylic Acid (79-10-7)	5000	U008	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: Yes
SARA 311/312: Acute: Yes Chronic: Yes Fire: Yes Pressure: No
Reactivity: Yes (Pure / Liquid)

Australian Hazchem Code: 2PE
Poison Schedule: None allocated.

WHMIS:
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

---

16. Other Information

NFPA Ratings: Health: **3** Flammability: **2** Reactivity: **2**
Label Hazard Warning:
DANGER! MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. CAUSES BURNS. FLAMMABLE LIQUID AND VAPOR.
Label Precautions:
Do not get in eyes, on skin, or on clothing.
Do not breathe vapor or mist.
Keep container closed.
Wash thoroughly after handling.
Do not enter storage areas unless adequately ventilated.
Keep away from heat, sparks and flame.
Label First Aid:
If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. In all cases call a physician.
Product Use:
Laboratory Reagent.
Revision Information:
MSDS Section(s) changed since last revision of document include: 3.
Disclaimer:
****
Mallinckrodt Baker, Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. MALLINCKRODT BAKER, INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, MALLINCKRODT BAKER, INC. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.
****
Prepared by: Environmental Health & Safety
Phone Number: (314) 654-1600 (U.S.A.)