Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/17/2006 Reviewed on 02/10/2006

1 Identification of substance:

- **Product details:**

- **Product name: Acrylic acid, stabilized**

- **Stock number:** 43359

- **Manufacturer/Supplier:**

Alfa Aesar, A Johnson Matthey Company
Johnson Matthey Catalog Company, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Emergency Phone: (978) 521-6300
CHEMTREC: (800) 424-9300
Web Site: www.alfa.com

- **Information Department:** Health, Safety and Environmental Department

- **Emergency information:**

During normal hours the Health, Safety and Environmental Department.
After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:

- **Chemical characterization:**

Description: (CAS#)

Acrylic acid (CAS# 79-10-7), 100%

- **Identification number(s):**

- **EINECS Number:** 201-177-9

- **EU Number:** 607-061-00-8

- **Additional information:**

Stabilized with 200ppm hydroquinone monomethyl ether (CAS# 150-76-5)

- **3 Hazards identification**

- **Hazard description:**

C Corrosive
N Dangerous for the environment

- **Information pertaining to particular dangers for man and environment**

R 10 Flammable.
R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R 35 Causes severe burns.
R 50 Very toxic to aquatic organisms.

- **Classification system**

- **HMIS ratings (scale 0-4)**

(Hazardous Materials Identification System)
Health (acute effects) = 3
Flammability = 1
Reactivity = 3

- **4 First aid measures**

  - **General information**

    Immediately remove any clothing soiled by the product.

  - **After inhalation**

    Supply fresh air. If required, provide artificial respiration. Keep patient warm.
    Seek immediate medical advice.

  - **After skin contact**

    Immediately wash with water and soap and rinse thoroughly.
    Seek immediate medical advice.

  - **After eye contact**

    Rinse opened eye for several minutes under running water. Then consult a doctor.

  - **After swallowing** Seek immediate medical advice.

- **5 Fire fighting measures**

  - **Suitable extinguishing agents**

    Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

  - **Special hazards caused by the material, its products of combustion or**

resulting gases:
Danger of containers bursting upon heating.
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide

- **Protective equipment:**

Wear self-contained respirator.
Wear fully protective impervious suit.

- **Additional information** Cool endangered receptacles with water spray.

- **6 <u>Accidental release measures</u>**

- **Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources

- **Measures for environmental protection:**

Do not allow material to be released to the environment without proper governmental permits.

- **Measures for cleaning/collecting:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Keep away from ignition sources.

- **Additional information:**

See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**

- **Information for safe handling:**

Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.

- **Information about protection against explosions and fires:**

Keep ignition sources away.
Protect against electrostatic charges.
Fumes can combine with air to form an explosive mixture.

- **Storage**

- **Requirements to be met by storerooms and receptacles:**

No special requirements.

- **Information about storage in one common storage facility:**

Keep away from heat and direct sunlight.
Store away from oxidizing agents.
Do not store together with alkalies (caustic solutions).

- **Further information about storage conditions:**

Protect from heat and direct sunlight.
Protect from frost.
Store in a cool place. Heat will increase pressure and may lead to the receptacle bursting.
Keep container tightly sealed.

8 Exposure controls and personal protection

- **Additional information about design of technical systems:**

  Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

- **Components with limit values that require monitoring at the workplace:**

  Acrylic acid

	ppm
ACGIH TLV	2; A4
Belgium TWA	10
Denmark TWA	10
France TWA	10
Germany TWA	10 mg/m3; 20 mg/m3-STEL
Ireland TWA	10; 20-STEL
Netherlands TWA	2
Russia TWA	5 mg/m3-STEL
Sweden TWA	5
United Kingdom TWA	10; 20-STEL

  Components with limit values that require monitoring at the workplace:

- **Additional information:** No data

- **Personal protective equipment**

- **General protective and hygienic measures**

  The usual precautionary measures for handling chemicals should be followed.
  Keep away from foodstuffs, beverages and feed.
  Remove all soiled and contaminated clothing immediately.
  Wash hands before breaks and at the end of work.
  Avoid contact with the eyes and skin.

- **Breathing equipment:**

  Use suitable respirator when high concentrations are present.

- **Protection of hands:** Impervious gloves

- **Eye protection:**

  Safety glasses
  Tightly sealed goggles
  Full face protection

- **Body protection:** Protective work clothing.

- **9 Physical and chemical properties:**

- **General Information**

- **Form:** Liquid

- **Color:** Colorless

- **Odor:** Acrid

	Value/Range	Unit	Method

- **Change in condition**

- **Melting point/Melting range:** 14 ° C
- **Boiling point/Boiling range:** 141 ° C
- **Sublimation temperature / start:** Not determined
- **Flash point:** 54 ° C
- **Ignition temperature:** 390 ° C
- **Decomposition temperature:** Not determined
- **Danger of explosion:**

  Product is not explosive. However, formation of explosive air/vapor mixtures is possible.

- **Explosion limits:**
- **Lower:** 2 Vol %
- **Upper:** 8 Vol %
- **Vapor pressure:** Not determined

- **Density:** at 20 ° C 1.052 g/cm³

- **Solubility in / Miscibility with**

- **Water:** Fully miscible

- **10 Stability and reactivity**

- **Thermal decomposition / conditions to be avoided:**

  Danger of containers bursting upon heating.

- **Materials to be avoided:**

  Oxidizing agents
  Bases
  Heat
  Amines

- **Dangerous reactions**

  Spontaneous polymerization can be caused in unstabilized product e.g. by ambient heat

- **Dangerous products of decomposition:** Carbon monoxide and carbon dioxide

- **11 Toxicological information**

- **Acute toxicity:**

  LD/LC50 values that are relevant for classification:

Oral: LD50: 2400 mg/kg (mus)
LD50: 33500 µg/kg (rat)
Dermal: LD50: 280 µg/kg (mus)
Inhalative: LC50/2H: 5300 mg/m3/2H (mus)
Irritation of skin: moderate: 5 mg/24H (rbt)
severe: 500 mg (rbt)
Irritation of eyes: severe: 1 mg (rbt)

- **Primary irritant effect:**

- **on the skin:**

Corrosive effect on skin and mucous membranes.
Irritant to skin and mucous membranes.

- **on the eye:**

Strong corrosive effect.
Irritating effect.

- **Sensitization:** No sensitizing effects known.

- **Subacute to chronic toxicity:**

Corrosive materials are acutely destructive to the respiratory tract, eyes, skin and digestive tract. Eye contact may result in permanent damage and complete vision loss. Inhalation may result in respiratory effects such as inflammation, edema, and chemical pneumonitis. May cause coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Ingestion may cause damage to the mouth, throat and esophagus. May cause skin burns or irritation depending on the severity of the exposure.
Acrylic acid is corrosive to skin, eyes and mucous membranes.
Inhalation has resulted in nasal lesions in rats and mice. Teratogenic and reproductive effects in laboratory rats has been reported.

- **Additional toxicological information:**

Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
IARC-3: Not classifiable as to carcinogenicity to humans.
ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

- **12 Ecological information:**

  - **Ecotoxical effects:**

  - **Remark:** Very toxic for fish

  - **General notes:**

    Also poisonous for fish and plankton in water bodies.
    Do not allow material to be released to the environment without proper governmental permits.
    Very toxic for aquatic organisms

- **13 Disposal considerations**

  - **Product:**

  - **Recommendation**

    Consult state, local or national regulations to ensure proper disposal.

  - **Uncleaned packagings:**

- **Recommendation:**

  Disposal must be made according to official regulations.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

- **14 Transport information**

- **DOT regulations:**

- **Hazard class:** 8

- **Identification number:** UN2218

- **Packing group:** II

- **Hazardous substance:** 5000 lbs, 2270 kg

- **Proper shipping name (technical name):**

  ACRYLIC ACID, STABILIZED

- **Label** 8+3

- **Land transport ADR/RID (cross-border)**

- **ADR/RID class:** 8 (CF1) Corrosive substances
- **Danger code (Kemler):** 839
- **UN-Number:** 2218
- **Packaging group:** II
- **Description of goods:** 2218 ACRYLIC ACID, STABILIZED
- **Maritime transport IMDG:**
- **IMDG Class:** 8
- **UN Number:** 2218
- **Label** 8+3
- **Packaging group:** II
- **Proper shipping name:** ACRYLIC ACID, STABILIZED

- **Air transport ICAO-TI and IATA-DGR:**

- **ICAO/IATA Class:** 8

- **UN/ID Number:** 2218

- **Label** 8+3

- **Packaging group:** II

- **Proper shipping name:** ACRYLIC ACID, STABILIZED

- **15 Regulations**

- **Product related hazard informations:**

- **Hazard symbols:**

C Corrosive N Dangerous for the environment

- **Risk phrases:**

10 Flammable.
20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
35 Causes severe burns.
50 Very toxic to aquatic organisms.

- **Safety phrases:**

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
45 In case of accident or if you feel unwell, seek medical advice immediately.
61 Avoid release to the environment. Refer to special instructions/Safety data sheets

- **National regulations**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
All components of this product are listed on the Canadian Domestic Substances List (DSL).

- **Information about limitation of use:**

For use only by technically qualified individuals.
This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

- **16 Other information:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

- **Department issuing MSDS:** Health, Safety and Environmental Department.

- **Contact:** Darrell R. Sanders