

## Material Safety Data Sheet

### According to 91/155 EC (2001/58 EC)

Printing date: 28.10.2003

Reviewed on: 27.10.2003

#### 1 Identification of substance:

- **Product details:**

- **Trade name:** acrylic acid

- **Application of the substance / the preparation** Production of acrylate

- **Supplier:**

ADAKEM KIMYA SAN TIC LTD STI  
SAHAP GURLER CAD. CAKIROGLU IS MERKEZI NO:22/5

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- **Information department:** see above

- **Emergency information:** National Poisons Information Centre      Tel.: +44 (0)870 6006266

#### 2 Composition/Data on components:

- **Chemical characterization:**

- **CAS No. Description:**

79-10-7 acrylic acid

- **Identification number(s):**

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

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

#### 3 Hazards identification

- **Hazard description:**



C Corrosive  
N Dangerous for the environment

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

Acid burns have to treated immediately, as it may otherwise cause badly curing wounds.

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:**

The classification was made according to the latest editions of the EU-lists, and expanded using company data and specialized literature.

- **Additional information:**

Formation of explosive vapour-air mixtures. Strong exothermic polymerisation. In case of uncontrolled polymerisation bursting of receptacles.

#### 4 First aid measures

- **General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may occur even after several hours; therefore medical observation is suggested for at least 48 hours after the accident.

Take affected persons out of danger area and lay them down.

- **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

In case of unconsciousness, place patients on their side in a stable position for transportation.

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- **After skin contact:**  
Immediately wash with water and soap and rinse thoroughly.  
Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.
- **After eye contact:**  
Rinse opened eye for several minutes under running water.  
Immediate admittance to ophthalmic clinic.
- **After swallowing:**  
Drink plenty of water, but never give anything to an unconscious person.  
Do not induce vomiting; call for medical help immediately.
- **Information for doctor:**
- **Treatment:** In cases of irritation to the lungs, initial treatment with Dexametason metered aerosol.

### 5 Fire fighting measures

- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water
- **Special hazards caused by the material, its products of combustion or resulting gases:**  
Dangerous decomposition product see chapter 10: stability and reactivity
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Wear fully protective suit.  
During clearance wear protective clothing and rubber boots.
- **Additional information:**  
Cool endangered receptacles with water spray.  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.  
Collect contaminated fire fighting water separately. It must not enter the sewage system.

### 6 Accidental release measures

- **Person-related safety precautions:**



Wear protective equipment. Keep unprotected persons away.

- Ensure adequate ventilation
- Do not smoke - keep ignition sources away
- Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Measures for environmental protection:**  
Do not allow product to reach sewage system or any water course.  
Do not allow to penetrate the ground/soil.
- **Measures for cleaning/collecting:**  
Absorb with non-combustible material like sand, soil or diatomite.  
Use neutralizing agent.  
Ensure adequate ventilation.  
Send for recovery or disposal in suitable receptacles.  
Dispose contaminated material as waste according to item 13.

### 7 Handling and storage

- **Handling**
- **Information for safe handling:**  
Ensure good ventilation/exhaustion at the workplace.  
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).  
When diluting, always stir the product into standing water, do not add water to product.  
Avoid inhalation of vapours.  
Keep away from heat and direct sunlight.

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



Keep ignition sources away - Do not smoke.

Protect against electrostatic charges  
 Danger of explosion if fluid enters the sewage system

- **Storage**

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

Store only in unopened original receptacles.  
 Suitable material for receptacles and pipes: Stainless steel.  
 Provide acid-resistant floor.  
 Observe national regulations for storage of flammable liquids.

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

Store away from foodstuffs.  
 Follow regulations for flammable liquids.

- **Further information about storage conditions:**

Keep receptacle tightly sealed.  
 Protect from heat and direct sunlight.

- **Storage class** 3A Flammable Liquids

## 8 Exposure controls and personal protection

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

Install appropriate mechanical ventilation.  
 Keep away from open flames and other ignition sources.

- **Components with limit values that require monitoring at the workplace:** Not required.

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Personal protective equipment**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.  
 Immediately remove all soiled and contaminated clothing  
 Wash hands before breaks and at the end of work.  
 Avoid contact with the eyes and skin.  
 Do not eat, drink, smoke or sniff while working.  
 Use skin protection cream for skin protection.  
 Be sure to clean skin thoroughly after work and before breaks.

- **Breathing equipment:**

Use respirator filter unit with gas filter DIN EN 141 Type A (colour coding brown):  
 Up to 0.1 Vol.% class 1;  
 up to 0.5 Vol.% class 2; up to 1 Vol.% class 3;  
 above 1% and if conditions are unclear, use respirator equipment which is independent of the ambient air.

- **Protection of hands:**

Protective gloves.  
 The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation  
 Check the permeability prior to each renewed use of the glove.  
 Preventive skin protection by use of skin-protecting agents is recommended.  
 After use of gloves apply skin-cleaning agents and skin cosmetics.

- **Material of gloves:**

Butyl rubber, BR  
 The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **Penetration time of glove material:**

8 hours(butylrubber > 0,5 mm)  
 The exact break-through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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- **Not suitable are gloves made of the following materials:**

Natural rubber, NR  
 Nitrile rubber, NBR  
 Polychloropren rubber (CR)  
 Fluorocarbon rubber (FKM)  
 PVC gloves

- **Eye protection:**

Tightly sealed goggles.  
 If a splashing of the product is possible wear full face protection.

- **Body protection:**

Flame retarding, antistatic protective clothing.  
 Apron  
 Boots

### 9 Physical and chemical properties:

- **General Information**

<b>Form:</b>	Fluid
<b>Colour:</b>	Colourless
<b>Odour:</b>	Pungent nauseous

- **Change in condition:**

**Melting point/Melting range:** 13°C  
**Boiling point/Boiling range:** 141°C

- **Flash point:** 54°C

- **Ignition temperature:** 374°C

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

- **Explosion limits:**

**Lower:** 5.3 Vol %  
**Upper:** 26 Vol %

- **Vapour pressure at 20°C:** 4.3 hPa

- **Density at 20°C:** 1.0511 g/cm<sup>3</sup>

- **Solubility in / Miscibility with**

**Water:** Fully miscible

### 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used and stored according to specifications.

- **Materials to be avoided:**

Oxidants  
 Metals  
 Organic substances

- **Dangerous reactions:**

Danger of polymerization  
 Spontaneous polymerisation can be caused in unstabilised product e.g. by ambient heat

- **Dangerous products of decomposition:** No dangerous decomposition products known

### 11 Toxicological information

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

**79-10-7 acrylic acid**

Oral LD<sub>50</sub> 250 mg/kg (rat)

Dermal LD<sub>50</sub> 280 mg/kg (rabbit)

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- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

## 12 Ecological information

- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **General notes:**  
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water.  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Must not reach sewage water or drainage ditch undiluted or unneutralized.  
Danger to drinking water if even small quantities leak into the ground.  
Also poisonous for fish and plankton in water bodies.  
Very toxic for aquatic organisms

## 13 Disposal considerations

- **Product:**
- **Recommendation:**



Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Must be specially treated adhering to official regulations.

- **Uncleaned packagings:**
- **Recommendation:**  
Disposal must be made according to official regulations.  
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

## 14 Transport information

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



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

- **Maritime transport IMDG:**



- **IMDG Class:** 8
- **UN Number:** 2218
- **Label:** 8+3
- **Packaging group:** II

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- **EMS Number:** F-E,S-C
- **Marine pollutant:** No
- **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

- **Markings according to EC guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials  
EC-labelling

- **Code letter and hazard designation of product:**



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 (show the label where possible).
- 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

- **Special labelling of certain preparations:**

Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Annex I to this Directive.  
However, such substances are sometimes placed on the market in a non-stabilised form. In this case, the manufacturer or any person who places such a substance on the market must state on the label the name of the substance followed by the words "non-stabilised".

- **National regulations**

- **Technical guidance (air):**

- **Class Share in %**

- I 100.0

- **Water hazard class:** Water hazard class 1 (Assessment by list): slightly hazardous for water.

### 16 Other information:

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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