Section 1 - Chemical Product and Company Identification

MSDS Name: ACRYLIC ACID（GLACIAL）

Synonyms: 2-Propenoic acid; vinyl formic acid; Ethylene carboxylic acid

Company Identification

Name : Bloomchemag BV

Address : Sint-Antoniusstraat 16 b1
B-2400, Mol, Belgium

Phone No. : +91 72919 74484 / 72919 74050

E-mail : info@loomchemg.com

Chemical Family: Unsaturated aliphatic acid

Molecular Wt.: 72.0

Section 2 – Composition/Information on Ingredients

Chemical Name: Acrylic Acid（GLACIAL）

CAS No.: 79-10-7

Hazardous ingredients

Acrylic acid

Content (W/W): 99.9 %

CAS Number: 79-10-7

Flam. Liq.: Cat. 3
Acute tox.: Cat. 4 (Inhalation -vapour)
Acute tox.: Cat. 4 (oral)
Acute tox.: Cat. 3 (dermal)
Skin corr./irr.: Cat. 1A
STOT single: Cat. 3 (irr. to respiratory syst.)
Eco acute: Cat. 1
Eco chronic: Cat. 1

Section 3 - Hazard identification

EMERGENCY OVERVIEW

Flammable. Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact.Light sensitive.

Potential Health Effects

Eye:

Causes eye irritation.

Skin:

Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident
upon re-exposure to this material.

May be harmful if absorbed through the skin.

Ingestion:

Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed.

Inhalation:

Causes respiratory tract irritation. May cause central nervous system effects such as nausea and headache.

Chronic:

No information found.

Section 4 First-Aid Measures

General advice:

Immediately remove contaminated clothing. If danger of loss of consciousness, place patient in recovery position and transport accordingly. Apply artificial respiration if necessary. First aid personnel should pay attention to their own safety.

If inhaled:

Immediately inhale corticosteroid dose aerosol. Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:

Flush with copious amounts of water for at least 15 minutes. Sterile protective dressing. Immediate medical attention required.

On contact with eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Immediately rinse mouth and then drink plenty of water, do not induce vomiting, seek medical attention.

Note to physician:

Symptoms: skin corrosion

Hazards: Risk of pulmonary edema. Symptoms can appear later.

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote, administer corticosteroid dose aerosol to prevent pulmonary odema.

Section 5 Fire-Fighting Measures

Suitable extinguishing media:

carbon dioxide, dry extinguishing media, water spray, foam

Specific hazards:

Risk of violent self-polymerization if overheated in a container. Explosive-like polymerization

Further information:

Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure build up due to heat. The product or its combustible parts are soluble in water. Contaminated extinguishing water must be disposed of in accordance with official regulations.

In case of a fire in the vicinity a restabilization system should be used if the temperature in the storage container reaches 45°C. Evacuate area of all unnece ssary personnel. In case of a fire in the vicinity evacuate all personnel in a greater area if the temperature in the storage container reaches 60°C.

Section 6 Accidental Release Measures

Personal precautions:

Use personal protective clothing.

Environmental precautions:

Do not discharge into waterways or sewer systems without proper authorization. Contain contaminated water/firefighting water.

Methods for cleaning up or taking up:

For small amounts: Neutralize with lime. For large amounts: Pump off product. Pick up with suitable absorbent material (e.g. acid binder). Dispose of absorbed material in accordance with regulations. For residues: Pick up with suitable absorbent material (e.g. acid binder). Dispose of absorbed material in accordance with regulations. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

Section 7 Handling and Storage

Handling

Handle in accordance with good industrial hygiene and safety practice. The substance/ product may be handled only by appropriately trained personnel.

Ensure thorough ventilation of stores and work areas. When filling, transferring, or emptying of containers, adequate local exhaust ventilation is necessary. Vent waste air to atmosphere only through suitable separators. Check the condition of seals and connector screw threads.

Protect contents from the effects of light. Protect from direct sunlight. Protect against heat. Do not open warm or swollen product containers. Remove persons to safety and alert fire brigade.

Ensure adequate inhibitor and dissolved oxygen level.

Because of the possible separation from the stabilizer the product should never be partially melted and taken. Ensure that there is no crystallized product in the container before use. Obtain Information from supplier/ manufacturer before dissolving totally or partially crystallized product. The ambient temperature of the container may not exceed the stated temperature limit when melting the product or keeping it at moderate

temperature.

Protection against fire and explosion:

Ground all transfer equipment properly to prevent electrostatic discharge. Containers should be grounded against electrostatic charge. It is recommended that all conductive parts of the machinery are grounded. Vapours may form ignitable mixture with air. Avoid all sources of ignition: heat, sparks, open flame.

Heated containers should be cooled to prevent polymerization. If exposed to fire, keep containers cool by spraying with water.

Temperature class: T2 (Autoignition temperature >300 °C).

Storage

Suitable materials for containers: Stainless steel 1.4401, Stainless steel 1.4301 (V2), High density polyethylene (HDPE), glass, Low density polyethylene (LDPE)

Unsuitable materials for containers: aluminum, zinc coated, lead coated, paper, board, carbon steel (iron), tin (tinplate)

Further information on storage conditions: Prior to storage ensure that the transfer equipment used and the intended storage containers do not contain other substances/products. Before transfer to stock the identity of the product must be proved to be without doubt. The entrance to storage rooms is to be granted only to appropriately trained personnel.

The stabilizer is only effective in the presence of oxygen. Maintain contact with atmosphere containing 5-21% oxygen. Never use tanks with inert-gas installation for storage. Risk of polymerization. Protect against heat. Avoid UV-light and other radiation with high energy.

Protect against contamination.

All storage containers should at least be equipped with two high temperature alert devices. Do not store product below the indicated minimum temperature, because crystallization should be absolutely avoided.

Even if the product is stored and handled as prescribed/indicated it should be used up within the indicated duration of storage.

Storage stability:

Storage temperature: 15 -25 °C

Storage duration: 12 Months

The stated storage temperature should be noted. Avoid prolonged storage.

This product should be processed as soon as possible.

During storage, an unavoidable dimerization takes place, which reaction rate can be reduced by a storage temperature as low as possible.

It is recommended to keep a safe distance of +2 degrees above the crystallization range.

The product is stabilized, the shelf life should be noted.

Do not store with less than 10 % headspace above liquid.

Ensure adequate inhibitor and dissolved oxygen level.

Storage temperature: 45 °C

A restabilization system should be used if the temperature in the storage container

reaches the indicated value.
Storage temperature: 60 °C
All personnel in a greater area should be evacuated if the temperature in the storage container reaches the indicated value.

Section 8 Exposure controls and personal protection

Personal protective equipment

Respiratory protection:

Suitable respiratory protection for lower concentrations or short-term effect: Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Hand protection:

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): butyl rubber (butyl) -0.7 mm coating thickness

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing. Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Tightly fitting safety goggles (cage goggles) (e.g. EN 166) and face shield., Wear face shield if splashing hazard exists.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust)., protection boots (f.e. according to EN 20346), antistatic

General safety and hygiene measures:

Avoid contact with skin. Avoid inhalation of vapour.

Section 9 Physical and Chemical Properties

Form: liquid
Colour: colourless
Odour: pungent odour
pH value: not applicable
Melting temperature: approx. 13 °C (DIN 51751)
boiling temperature: approx. 141 °C(1.013 bar)
Flash point: 54 °C (closed cup)
Flammability (solid/gas): Flammable. (other)
Lower explosion limit: 2.0 %(V) (47.5 °C)
Upper explosion limit: 15.9 %(V) (88.5 °C)
Ignition temperature: 390 °C (DIN 51794)

Self ignition: Self-ignition at high temperatures Temperature: 390 °C
Pressure: 1,013 hPa
Spontaneous self-ignition at room-temperature. not self-igniting
Explosion hazard: not explosive (other)
Fire promoting properties: not fire-propagating (other)
Vapour pressure:
3.8 mbar (20 °C)
40 mbar (60 °C)
Density: 1.04 g/cm3 (DIN 51757) (20 °C)
1.0161 g/cm3 (DIN 51757) (50 °C)
Solubility in water: miscible
Solubility (qualitative) solvent(s): organic solvents Miscible
Partitioning coefficient n-octanol/water (log Pow): 0.46 (OECD Guideline 107)(25 °C)
Surface tension: 69.6 mN/m (Directive 92/69/EEC, A.5 (20 °C ; 1 g/l)
OECD harmonized ring method)
Viscosity, dynamic: 1.3 mPa.s (DIN EN ISO 3219) (20 °C)
Molar mass: 72.06 g/mol

Section 10 Stability and Reactivity

Conditions to avoid:

Avoid heat. Avoid oxygen content above the product of less than 5 %. Avoid UV-light and other radiation with high energy. Avoid direct sunlight. Avoid prolonged storage. Avoid inhibitor loss.
Avoid excessive temperatures.
Avoid temperatures below the crystallization range.

Substances to avoid:

radical formers, free radical initiators, peroxides, mercaptans, nitro-compounds, perborates, azides, ether, ketones, aldehydes, amines, nitrates, nitrites, oxidizing agents, reducing agents, strong bases, alkaline reactive substances, acid anhydrides, acid chlorides, concentrated mineral acids, metal salts Inert gas

Hazardous reactions:

Explosion and fire hazard exists under confined conditions. Ignitable air mixtures can form when the product is heated above the flash point and/or when sprayed or atomized.
Risk of spontaneous and violent self-polymerization if inhibitor is lost or product is exposed to excessive heat. Risk of spontaneous polymerization when heated or in the presence of UV radiation. With unstabilised product, spontaneous polymerisation may occur e.g. through ambient heat. Polymerization coupled with heat formation. Polymerization produces gases which may burst closed or confined containers. Reactions may cause ignition.
Risk of spontaneous polymerization by oxygen depletion of the liquid phase.
Radical formation can cause exothermic polymerization. Reacts with peroxides and other radical components. Risk of spontaneous polymerization in the presence of starters for

radical chain reactions (e.g. peroxides). Reacts with nitric acid. Polymerizes explosively in contact with strong oxidizing agents.

Hazardous reactions in presence of mentioned substances to avoid.
The product is stabilized against spontaneous polymerization prior to despatch. The product is stable if stored and handled as prescribed/indicated. Possible thermal decomposition products:
No hazardous decomposition products known.

Section 11 Toxicological Information

Acute toxicity

Assessment of acute toxicity:

Of moderate toxicity after short-term inhalation. Of pronounced toxicity after short-term skin contact. Of moderate toxicity after single ingestion. The inhalation of a highly enriched/saturated vapor-air-mixture represents a potential acute hazard.
Experimental/calculated data: LD50 rat (oral): 1,500 mg/kg
LC50 rat (by inhalation): > 5.1 mg/l 4 h (OECD Guideline 403)
LD50 rat (dermal): approx. 640 mg/kg

Irritation

Assessment of irritating effects:
Highly corrosive! Damages skin and eyes. Causes temporary irritation of the respiratory tract.
Experimental/calculated data:
Skin corrosion/irritation rabbit: Corrosive.
Serious eyes damages/irritation rabbit: irreversible damage

Respiratory/Skin sensitization

Assessment of sensitization:
Skin sensitizing effects were not observed in animal studies. The substance did not cause skin sensitization in humans.
Experimental/calculated data:
Freund's complete adjuvant test (FCA) guinea pig: Non-sensitizing.

Germ cell mutagenicity

Assessment of mutagenicity:
In the majority of tests performed (bacteria/microorganisms/cell cultures) a mutagenic effect was not found. A mutagenic effect was also not observed in in-vivo assays.

Carcinogenicity

Assessment of carcinogenicity:
Results from a number of long-term carcinogenity studies are available. Taking into account all of the information, there is no indication that the substance is carcinogenic.

Reproductive toxicity

Assessment of reproduction toxicity:
The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

Assessment of teratogenicity:
In animal studies the substance did not cause malformations.

Section 12 Ecological Information

Ecotoxicity
Assessment of aquatic toxicity:
Very toxic (acute effect) to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.
Toxicity to fish:
LC50 (96 h) 27 mg/l, Salmo gairdneri, syn. O. mykiss (EPA 72-1, Flow through.) The statement of the toxic effect relates to the analytically determined concentration. Aquatic invertebrates:
EC50 (48 h) 47 mg/l, Daphnia magna (Directive 92/69/EEC, C.2, static) The details of the toxic effect relate to the nominal concentration. Aquatic plants:

EC50 (72 h) 0.13 mg/l (growth rate), Scenedesmus subspicatus (Guideline 92/69/EEC, C.3, static) The details of the toxic effect relate to the nominal concentration.
Microorganisms/Effect on activated sludge:
EC20 (0.5 h) 900 mg/l, activated sludge, domestic (DIN EN ISO 8192, aquatic)
Nominal concentration.
Persistence and degradability
Elimination information:
90 -100 % DOC reduction (9 d) (OECD 301 A (new version)) (aerobic, activated sludge, domestic, non-adapted)
Information on Stability in Water (Hydrolysis):
t1/2 > 365 d (25 °C), (OECD Guideline 111, pH7)
In contact with water the substance will hydrolyse slowly.
Bioaccumulation potential:
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.
Additional information
Other ecotoxicological advice:
Very toxic (acute effect) to aquatic organisms.

Section 13 Disposal Considerations

Must be sent to a suitable incineration plant, observing local regulations.
Contaminated packaging:
Uncleaned empties should be disposed of in the same manner as the contents.

Section 14 Transport Information

Land transport

Road transport

Hazard class: 8
Packing group: II
ID number: UN 2218
Hazard label: 8, 3, EHSM
Proper shipping name: ACRYLIC ACID, STABILIZED
CN number: 81617

Rail transport

Hazard class: 8
Packing group: II
ID number: UN 2218
Hazard label: 8, 3, EHSM
Proper shipping name: ACRYLIC ACID, STABILIZED
CN number: 81617

Inland waterway transport

Hazard class: 8
Packing group: II
ID number: UN 2218
Hazard label: 8, 3, EHSM
Proper shipping name: ACRYLIC ACID, STABILIZED
CN number: 81617

Sea transport

IMDG
Hazard class: 8
Packing group: II
ID number: UN 2218
Hazard label: 8, 3, EHSM
Marine pollutant: YES
Proper shipping name: ACRYLIC ACID, STABILIZED

Air transport

IATA/ICAO
Hazard class: 8
Packing group: II
ID number: UN 2218
Hazard label: 8, 3
Proper shipping name: ACRYLIC ACID, STABILIZED

Section 15 Regulatory Information

National legislation/Regulations
Classification and Labeling of Dangerous Substances (China):

Hazard symbol(s)
C Corrosive.
F Highly flammable.
R-phrase(s)
R5.12 Exposure to open flame or excessive heat can readily cause fire.
R5.48 Exposure to light, heat or long storage can readily cause polymerization and may cause fire or explosion.
R5.71 Decomposes when exposed to heat; releases toxic gas.
R5.99Corrosive.
R5.111 Characteristic irritating odor.
Hazard determining component(s) for labelling: ACRYLIC ACID

Other regulations

Registration status:
IECSC, CN released / listed

This MSDS is prepared pursuant to the standard on General Rules for Classification and Hazard Communication of Chemicals.

It needs to comply with Regulations on the Safety Administration of Hazardous Chemicals (if the product is classified in accordance with GHS).

It needs to comply with Pharmaceutical Administration Law of The People's Republic of China (if the product is used for pharmaceuticals), Regulations on Administration of Animal Feed and Feed Additives (if the product is used for feed) and Food Hygiene Law of The People's Republic of China (if the product is used for food).

Section 16 Other Information

Recommended use: for industrial use only

Unsuitable for use: cosmetics, Pharmaceutical

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.