Shanghai Macklin Biochemical Technology Co., Ltd.
TEL:400-623-8666
FAX:021-50706099
E-mail:sales@macklin.cn
WEB:www.macklin.cn

1. IDENTIFICATION

Product name: 2-Bromo-2-(Bromomethyl)Pentanedinitrile
CAS No. : 35691-65-7
Brand: Macklin
Company: Shanghai Macklin Biochemical Co.,Ltd.
Address: Shanghai Pudong Zhangjiang High-tech Park; 1st Building, 68 Huatuo Road; SHANGHAI CHINA
Zip code: 201206
Telephone: +86 21-50706066
Fax: +86 21-50706099
E-mail: sales@macklin.cn; tech@macklin.cn
Revision date: 2019/12/12

2. HAZARDS IDENTIFICATION

GHS classification

PHYSICAL HAZARDS

no data available

HEALTH HAZARDS

no data available

ENVIRONMENTAL HAZARDS

no data available

GHS label elements, including precautionary statements

Pictograms or hazard symbols

Signal word

no data available

Hazard statements

no data available

Precautionary statements

Prevention

no data available

Response

no data available

Storage

no data available

Disposal

no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components:2-Bromo-2-(Bromomethyl)Pentanedinitrile
CAS No.:35691-65-7
Chemical Formula:$C_6H_6Br_2N_2$

4. FIRST AID MEASURES

4.1

Description of necessary first-aid measures

If inhaled
Fresh air, rest.
Following skin contact
Remove contaminated clothes. Rinse and then wash skin with water and soap.
Following eye contact
First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.
Following ingestion
Rinse mouth. Give one or two glasses of water to drink. Refer for medical attention .
4.2
Most important symptoms/effects, acute and delayed
Excerpt from ERG Guide 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: TOXIC; inhalation, ingestion or skin contact with material may cause severe injury or death. Contact with molten substance may cause severe burns to skin and eyes. Avoid any skin contact. Effects of contact or inhalation may be delayed. Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution. (ERG, 2016)
4.3
Indication of immediate medical attention and special treatment needed, if necessary
Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR if necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on the left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Poisons A and B

5. FIRE-FIGHTING MEASURES

5.1
Suitable extinguishing media
Excerpt from ERG Guide 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO_2 or water spray. LARGE FIRE: Dry chemical, CO_2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2016)
5.2
Specific hazards arising from the chemical
Excerpt from ERG Guide 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For electric vehicles or equipment, ERG Guide 147 (lithium ion batteries) or ERG Guide 138 (sodium batteries) should also be consulted. (ERG, 2016)
5.3
Special protective actions for fire-fighters
Use water spray, powder, foam, carbon dioxide.

6. ACCIDENTAL RELEASE MEASURES

6.1
Personal precautions, protective equipment and emergency procedures
Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.
6.2
Environmental precautions

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

6.3

Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

NO open flames. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure limit values
MAK sensitization of skin (SH)
Biological limit values
no data available
Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

Personal protective equipment

Eye/face protection
Wear safety goggles.
Skin protection
Protective gloves. Protective clothing.
Respiratory protection
Use local exhaust or breathing protection.
Thermal hazards
no data available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state
coa
Colour
Yellowish-white granular solid
Odour
Slightly sweet odor
Melting point/freezing point
51 - 52°C
Boiling point or initial boiling point and boiling range
338.6°C at 760 mmHg
Flammability
Combustible. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit
no data available
Flash point
158.6°C
Auto-ignition temperature
no data available
Decomposition temperature
no data available
pH

no data available
Kinematic viscosity
no data available
Solubility
Very soluble in chloroform, ethyl acetate. Soluble in methanol, ethanol, ether.
Partition coefficient n-octanol/water
log Kow = 1.63 (est)
Vapour pressure
6.7E-3 Pascal /SRC: 5.025X10-5 mm Hg/ at 25 deg C
Density and/or relative density
1.889 g/cm3
Relative vapour density
no data available
Particle characteristics
no data available

10. STABILITY AND REACTIVITY

10.1
Reactivity
Decomposes on burning. This produces toxic fumes.
10.2
Chemical stability
The chemical was found to be stable when subjected to Al, Sn, Ni, Fe, thermal and photosensitivity tests. One year storage at room temperature did not produce any significant change regarding purity, color, specific gravity, and refractive index.
10.3
Possibility of hazardous reactions
1-BROMO-1-(BROMOMETHYL)-1,3-PROPANEDICARBONITRILE may polymerize in the presence of metals and some metal compounds. Incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents.
10.4
Conditions to avoid
no data available
10.5
Incompatible materials
no data available
10.6
Hazardous decomposition products
no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity
Oral: LD50 Rat (male) oral 0.77 g/kg /Technical 99.9%/ from table
Inhalation: no data available
Dermal: no data available
Skin corrosion/irritation
no data available
Serious eye damage/irritation
no data available
Respiratory or skin sensitization
no data available
Germ cell mutagenicity
no data available
Carcinogenicity

no data available
Reproductive toxicity
no data available
STOT-single exposure
The substance is irritating to the eyes and skin.
STOT-repeated exposure
Repeated or prolonged contact may cause skin sensitization.
Aspiration hazard
A harmful concentration of airborne particles can be reached quickly.

12. ECOLOGICAL INFORMATION

12.1
Toxicity
Toxicity to fish: LC50; Species: Lepomis macrochirus (Bluegill); Conditions: freshwater, static; Concentration: 29000 ug/L for 96 hr (95% confidence interval: 27000-31000 ug/L) /10% purity
Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna (Water flea) age <24 hr; Conditions: freshwater, static; Concentration: 2200 ug/L for 48 hr (95% confidence interval: 1600-3200 ug/L); Effect: intoxication, immobilization /98% purity
Toxicity to algae: no data available
Toxicity to microorganisms: no data available
12.2
Persistence and degradability
no data available
12.3
Bioaccumulative potential
An estimated BCF of five was calculated in fish for 1,2-dibromo-2,4-dicyanobutane(SRC), using an estimated log Kow of 1.63(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).
12.4
Mobility in soil
At concentrations of 0.1 to 1.0 ug/mL, 1,2-dibromo-2,4-dicyanobutane exhibited Koc values of 528 in sand, 87.8 in sandy loam soil, 72.9 in clay loam, and 33.4 in silt loam soil, corresponding to Freundlich coefficients of 0.264, 0.351, 0.474, and 0.701, respectively(1). According to a classification scheme(2), this Koc range suggests that 1,2-dibromo-2,4-dicyanobutane is expected to have moderate to very high mobility in soil.
12.5
Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS

Product
The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging
Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14. TRANSPORT INFORMATION

14.1
UN Number
ADR/RID: no data available
IMDG: no data available
IATA: no data available
14.2
UN Proper Shipping Name

ADR/RID: no data available
IMDG: no data available
IATA: no data available
14.3
Transport hazard class(es)
ADR/RID: no data available
IMDG: no data available
IATA: no data available
14.4
Packing group, if applicable
ADR/RID: no data available
IMDG: no data available
IATA: no data available
14.5
Environmental hazards
ADR/RID: no data available
IMDG:no data available
IATA:no data available
14.6
Special precautions for user
no data available
14.7
Transport in bulk according to IMO instruments
no data available

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question
EC number
252-681-0
European Inventory of Existing Commercial Chemical Substances (EINECS)
Listed.
EC Inventory
Listed.
United States Toxic Substances Control Act (TSCA) Inventory
Listed.
China Catalog of Hazardous chemicals 2015
Not Listed.
New Zealand Inventory of Chemicals (NZIoC)
Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)
Listed.
Vietnam National Chemical Inventory
Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)
Listed.
Korea Existing Chemicals List (KECL)
Listed.

16. OTHER INFORMATION

This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority.The products are supposed to be used promptly after purchase in consideration of safety.Some new information or amendments may be added afterwards.If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only.In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All

chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal.Safe usage conditions shall be set up on each user's own responsibility.