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1. IDENTIFICATION

Product name: Potassium binoxalate
CAS No. : 127-95-7
Brand: Macklin
Company: Shanghai Macklin Biochemical Co.,Ltd.
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Revision date: 2019/12/12

2. HAZARDS IDENTIFICATION

GHS classification

PHYSICAL HAZARDS

HEALTH HAZARDS

ENVIRONMENTAL HAZARDS

GHS label elements, including precautionary statements

Pictograms or hazard symbols

Signal word

Danger

Hazard statements

H302 Harmful if swallowed
H312 Harmful in contact with skin

Precautionary statements

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name
Potassium hydrogen oxalate

Components:Potassium binoxalate
CAS No.:127-95-7
Chemical Formula:KHC_2O_4

4. FIRST AID MEASURES

4.1
Description of necessary first-aid measures
If inhaled
Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.
Following skin contact
Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

4.2

Most important symptoms/effects, acute and delayed

Inhalation of dust causes irritation of nose and throat. Ingestion causes burning pain in throat, esophagus, and stomach; exposed areas of mucous membrane turn white; vomiting, severe purging, weak pulse, and cardiovascular collapse; if death is delayed, neuromuscular symptoms develop. Contact with dust irritates eyes and may cause mild irritation of skin. (USCG, 1999)

4.3

Indication of immediate medical attention and special treatment needed, if necessary

Minimum/Potential Fatal Human Dose

4. 4= very toxic: probable oral lethal dose (human) 50-500 mg/kg, between 1 teaspoon & 1 oz for 70 kg person (150 lb). oxalate salts

Absorption, Distribution and Excretion

Oxalates are well absorbed from intestine...not burned in body, but unite with tissue & blood calcium & are excreted by kidney. oxalates

5. FIRE-FIGHTING MEASURES

5.1

Suitable extinguishing media

Use dry chemical, carbon dioxide or alcohol-resistant foam.

5.2

Specific hazards arising from the chemical

no data available

5.3

Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

6.1

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours.Avoid contacting with skin and eye. Use personal protective equipment.Wear chemical impermeable gloves. Ensure adequate ventilation.Remove all sources of ignition. Evacuate personnel to safe areas.Keep people away from and upwind of spill/leak.

6.2

Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

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

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

Materials which are toxic as stored or which can decompose into toxic components...should be stored in a cool well ventilated place, out of direct rays of sun, away from areas of high fire hazard, and should be periodically inspected... incompatible materials should be isolated... oxalates

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure limit values
no data available
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 tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).
Skin protection
Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Respiratory protection
If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.
Thermal hazards
no data available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state
Solid. Crystalline.
Colour
White.
Odour
no data available
Melting point/freezing point
195 °C.
Boiling point or initial boiling point and boiling range
365.1ºC at 760 mmHg
Flammability
no data available
Lower and upper explosion limit/flammability limit
no data available
Flash point
188.8ºC
Auto-ignition temperature
> 400 °C. Remarks:At atmospheric pressure.
Decomposition temperature
no data available
pH
no data available
Kinematic viscosity
no data available
Solubility
In water: 0.415 mol/L. Temperature:25 °C. Remarks:Taking into account that the potassium hydrogen oxalagte molecular weight is 128,13, we can easily calculate the water solubility in g/L: 0.415 mol/L * 128.13 g/mol = 53.17 g/L.
Partition coefficient n-octanol/water
log Pow = -1.7. Temperature:23 °C.
Vapour pressure
Ca. 0.002 Pa. Temperature:20 °C.
Density and/or relative density
2.054 g/cm³. Temperature:20 °C.
Relative vapour density
no data available

Particle characteristics
no data available

10. STABILITY AND REACTIVITY

10.1
Reactivity
Hygroscopic. Gives basic solution, below 50°C dissolves in water and reacts to form the much less soluble potassium tetraoxalate, which separates out.
10.2
Chemical stability
no data available
10.3
Possibility of hazardous reactions
Salts, basic, such as POTASSIUM HYDROGEN OXALATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. POTASSIUM HYDROGEN OXALATE is a weak reducing agent, and may release carbon dioxide upon reaction with oxidizing agents.
10.4
Conditions to avoid
no data available
10.5
Incompatible materials
no data available
10.6
Hazardous decomposition products
Dangerous; when heated to decomposition, they emit toxic and irritating fumes. oxalates

11. TOXICOLOGICAL INFORMATION

Acute toxicity
Oral: LD50 - rat (male) - 9.5 mL/kg bw. Remarks:(475 mg/kg bw).
Inhalation: no data available
Dermal: LD50 - rabbit - 20 000 mg/kg bw.
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
no data available
STOT-repeated exposure
no data available
Aspiration hazard
no data available

12. ECOLOGICAL INFORMATION

12.1
Toxicity
Toxicity to fish: LC0 - Leuciscus idus melanotus - 250 mg/L - 48 h.
Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - 162.2 mg/L - 48 h.
Toxicity to algae: Toxicity threshold - Microcystis aeruginosa - 80 mg/L - 8 d.

Toxicity to microorganisms: Toxicity Threshold - Pseudomonas putida - 1 550 mg/L - 16 h.
12.2
Persistence and degradability
no data available
12.3
Bioaccumulative potential
no data available
12.4
Mobility in soil
no data available
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: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)
14.2
UN Proper Shipping Name
ADR/RID: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)
14.3
Transport hazard class(es)
ADR/RID: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)
14.4
Packing group, if applicable
ADR/RID: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)
14.5
Environmental hazards
ADR/RID: No
IMDG: No
IATA: No
14.6
Special precautions for user
no data available
14.7
Transport in bulk according to IMO instruments
no data available

15. REGULATORY INFORMATION

15.1
Safety, health and environmental regulations specific for the product in question
Chemical name
Common names and synonyms
CAS number
EC number
Potassium hydrogen oxalate
Potassium hydrogen oxalate
127-95-7
204-873-0
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)
Not 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.