Sodium/potassium isobutyl xanthate

1. PRODUCT AND COMPANY IDENTIFICATION

【Identification of the substance or preparation】
Product name: sodium/potassium isobutyl xanthate
Product grade(s): Technical Grade
Chemical Name: sodium/potassium isobutyl xanthate
Synonyms: SIBX; Carbonodithioic acid, O-(2-methylpropyl) ester, sodium salt.
Molecular formula: (CH₃)₂CHCH₂OCSSNa(K)
Molecular Weight: 172.23g/mol

【Company/Undertaking Identification】
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2. HAZARDS IDENTIFICATION

This material is hazardous according to criteria of NOHSC; HAZARDOUS SUBSTANCE.
Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by
Road and Rail; DANGEROUS GOODS.
Risk Phrases: Harmful in contact with skin and if swallowed. Irritating to eyes and skin.
Poisons Schedule: None allocated.

3. First Aid Measures

【Ingestion】
Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and
keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.

【Skin】
If skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water. If swelling, redness, blistering or irritation occurs seek medical assistance.

【Eyes】
If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.

【Ingestion】
Rinse mouth with water. If swallowed, give a glass of water to drink. If vomiting occurs give further water. Seek immediate medical assistance.

4. FIRE FIGHTING MEASURES

【Hazards from combustion products】:
Substance liable to spontaneous combustion.

【Precautions for fire fighters and special protective equipment】:
Avoid all ignition sources. Heating can cause expansion or decomposition of the material, which can lead to the containers exploding. If safe to do so, remove containers from the path of fire. Decomposes on heating emitting toxic fumes, including those of oxides of sulfur. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition.

【Suitable Extinguishing Media】:
Water jets, water fog (or if unavailable fine water spray), foam, dry agent (carbon dioxide, dry chemical powder).

【Hazchem Code】: 1[Y]

5. ACCIDENTAL RELEASE MEASURES
Emergency procedures: Shut off all possible sources of ignition. Clear area of all unprotected personnel. If contamination of sewers or waterways has occurred advise local emergency services.

Methods and materials for containment and clean up:
Wear protective equipment to prevent skin and eye contact and breathing in vapours/dust. DO NOT allow material to get wet. Air-supplied masks are recommended to avoid inhalation of toxic material. Vacuum solid spills instead of sweeping. Collect and seal in properly labelled containers or drums for disposal.

6. HANDLING AND STORAGE

Conditions for safe storage:
Store in a cool, dry, well ventilated place and out of direct sunlight. Store away from sources of heat or ignition. Store away from incompatible materials described in Section10. Keep dry - reacts with water, may lead to drum rupture. Keep containers closed when not in use - check regularly for spills.

Precautions for safe handling: Avoid skin and eye contact and breathing in dust. In common with many organic chemicals, may form flammable dust clouds in air. For precautions necessary refer to Safety Data Sheet "Dust Explosion Hazards".

7. EXPOSURE CONTROLS/PERSOINAL PROTECTION

Occupational Exposure Limits:
No value assigned for this specific material by the National Occupational Health and Safety Commission. However, Exposure Standard(s) for decomposition product(s):
Carbon disulfide: 8hr TWA = 31 mg/m3 (10 ppm), Sk

As published by the National Occupational Health and Safety Commission. TWA - The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.
'Sk' Notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

These Exposure Standards are guides to be used in the control of occupational health hazards. All
atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

**Engineering controls:**

Ensure ventilation is adequate and that air concentrations of decomposition product(s) is/are controlled below quoted Exposure Standards. Avoid generating and breathing in dusts. Use with local exhaust ventilation or while wearing dust mask. Keep containers closed when not in use.

**Personal Protective Equipment:**

The selection of PPE is dependant on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

Orica Personal Protection Guide No. 1, 1998: F - OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, DUST MASK.

Wear overalls, chemical goggles and impervious gloves. Avoid generating and inhaling dusts. If dust exists, wear dust mask/respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

**8. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state: Pellets

Molecular Formula: \((CH3)2CHCH2-O-(C=S)S.Na\)

Solubility: Soluble in water.

Specific Gravity: Not available Relative

Vapour Density (air=1): Not available

Vapour Pressure (20 °C): Not available

Flash Point (°C): Not available

Flammability Limits (%): Not available

Autoignition Temperature (°C): Not available

Melting Point/Range (°C): 150-250

pH: Not available
9. STABILITY AND REACTIVITY

Chemical stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Conditions to avoid: Avoid exposure to moisture.

Incompatible materials: Incompatible with oxidising agents.

Hazardous decomposition products:

Oxides of sulfur.

Hazardous reactions: Reacts exothermically with water.

10. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Ingestion: Swallowing may result in irritation of the gastrointestinal tract.

Eye contact: An eye irritant.

Skin contact: Contact with skin will result in irritation. Will liberate carbon disulfide upon contact with moist skin. Carbon disulfide can be absorbed through the skin with resultant adverse effects.

Inhalation: Breathing in dust may result in respiratory irritation.

Long Term Effects:

No information available for the product.

Toxicological Data:

No LD50 data available for the product.

11. ECOLOGICAL INFORMATION

Ecotoxicity Avoid contaminating waterways.

12. DISPOSAL CONSIDERATIONS

Disposal methods: Refer to Waste Management Authority. Advise flammable nature. Dispose of material through a licensed waste contractor.
13. TRANSPORT INFORMATION

Road and Rail Transport

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by
Road and Rail; DANGEROUS GOODS.
UN No: 3342
Class-primary 4.2 Spontaneously Combustible
Packing Group: II
Proper Shipping Name: XANTHATES
Hazchem Code: [Y]

Marine Transport

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.
UN No: 3342
Class-primary: 4.2 Spontaneously Combustible
Packing Group: II
Proper Shipping Name: XANTHATES

Air Transport

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN No: 3342
Class-primary: 4.2 Spontaneously Combustible
Packing Group: II
Proper Shipping Name: XANTHATES
15. REGULATORY INFORMATION

Classification: This material is hazardous according to criteria of NOHSC; HAZARDOUS SUBSTANCE.

Hazard Category:  Xn: Harmful
     Xi: Irritant

Risk Phrase(s):  R21/22:  Harmful in contact with skin and if swallowed.
   R36/38:  Irritating to eyes and skin.

Safety Phrase(s):  S22:  Do not breathe dust.
     S24/25:  Avoid contact with skin and eyes.
     S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
     S36/37/39:  Wear suitable protective clothing, gloves and eye/face protection.

Poisons Schedule:  None allocated.

This material is listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION
This material safety data sheet has been prepared by

XIAMEN JOYFORCE CHEMICAL INDUSTRIAL CO., LTD

Reason(s) for Issue:
Revised Primary MSDS

This MSDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Joyforce Chem. Co., Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Joyforce Chem. Co., Ltd representative or Joyforce Chem. Co., Ltd at the contact details on page 1.

Orica Limited's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.