

1. IDENTIFICATION

Product Name Potassium Amyl Xanthate 90%

Other Names Potassium amyl xanthate [CAS#2720-73-2]; Potassium isopentyl dithiocarbonate

Uses A collector used in mining industry.

Chemical Family No Data Available

Chemical Formula C6H11KOS2

Chemical Name Potassium isoamyl xanthate

Product Description Technical Grade

Contact Details of the Supplier of this Safety Data Sheet

 Organisation
 Location
 Telephone

 Redox Ltd
 2 Swettenham Road
 +61-2-97333000

Minto NSW 2566 Australia

Redox Ltd 11 Mayo Road +64-9-2506222

Wiri Auckland 2104 New Zealand

Redox Inc. 3960 Paramount Boulevard +1-424-675-3200

Suite 107

Lakewood CA 90712

USA

Redox Chemicals Sdn Bhd Level 2, No. 8, Jalan Sapir 33/7 +60-3-5614-2111

Seksyen 33, Shah Alam Premier Industrial Park

40400 Shah Alam Sengalor, Malaysia

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation Location Telephone Poisons Information Centre Westmead NSW 1800-251525 131126 Chemcall Australia 1800-127406 +64-4-9179888 +64-4-9179888 Chemcall Malaysia Chemcall New Zealand 0800-243622 +64-4-9179888

+64-4-9179887
National Poisons Centre New Zealand 0800-764766

CHEMTREC USA & Canada 1-800-424-9300 CN723420

+1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) Not Scheduled



Globally Harmonised System

Hazard Classification Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of

Chemicals (GHS)

Hazard Categories Self-heating Substances and Mixtures - Category 1

Acute Toxicity (Oral) - Category 4

Acute Toxicity (Dermal) - Category 4

Skin Corrosion/Irritation - Category 2

Serious Eye Damage/Irritation - Category 2A

Long-term Hazard To The Aquatic Environment - Category 2

Pictograms







Signal Word Danger

Response

Hazard Statements H251 Self-heating; may catch fire.

H302 + H312 Harmful if swallowed or in contact with skin.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements Prevention P280 Wear protective gloves/protective clothing/eye protection/face protection.

P273 Avoid release to the environment.
P235 + P410 Keep cool. Protect from sunlight.

P270 Do not eat, drink or smoke when using this product.
P312 Call a POISON CENTER or doctor if you feel unwell.

P302 + P352 IF ON SKIN: Wash with plenty of water/...

P337 + P313 If eye irritation persists: Get medical advice/attention.

P391 Collect spillage.
P330 Rinse mouth.

P332 + P313 If skin irritation occurs: Get medical advice/attention.

P362 Take off contaminated clothing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses,

if present and easy to do. Continue rinsing.

Storage P407 Maintain air gap between stacks or pallets.

P420 Store separately.

Disposal P501 Dispose of contents/container in accordance with local / regional / national /

international regulations.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by

Road & Rail (ADG Code)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Potassium isoamyl xanthate	C6H11KOS2	2720-73-2	>=90 %
Water	H2O	7732-18-5	<=3 %
Potassium hydroxide	КОН	1310-58-3	<=0.2 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed IF SWALLOWED: Rinse mouth. Do not induce vomiting. Call a Poison Centre or doctor/physician for advice. Never give

anything by mouth to an unconscious person.

IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting Eye

the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye

irritation persists, get medical advice/attention.

Skin IF ON SKIN: Remove and isolate contaminated clothing and shoes. Immediately flush skin with running water for at least

15 minutes. Call a Poison Centre or doctor/physician for advice. Wash contaminated clothing and shoes before reuse. Get

medical advice/attention if skin irritation occurs or if you feel unwell.

Inhaled IF INHALED: Move victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms

> persist, get medical advice/attention. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with

a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult.

Advice to Doctor Treat symptomatically. Symptoms may be delayed. Immediate medical attention is required. Show this safety data sheet

(SDS) to the doctor in attendance. Ensure that medical personnel are aware of the material(s) involved and take

precautions to protect themselves. Keep victim calm and warm.

Medical Conditions Aggravated by No information available.

Exposure

5. FIRE FIGHTING MEASURES

General Measures Move containers from fire area if you can do it without risk. Fight fire from maximum distance or use unmanned hose

holders or monitor nozzles. Do not get water inside containers or in contact with substance. Cool containers with flooding

quantities of water until well after fire is out.

Flammability Conditions Spontaneously combustible material. Self-heating; may catch fire.

Extinguishing Media Do NOT use water, Carbon dioxide (CO2) or foam on material itself. For Xanthates, use FLOODING AMOUNTS OF WATER

for small and large fires to stop the reaction. Smothering will NOT work for these materials - they do not need air to burn.

*CAUTION: UN3342, when flooded with water will continue to evolve flammable Carbon disulfide vapours.

Fire and Explosion Hazard Risk of violent reaction or explosion! May burn with rapid flare-burning effect. May react vigorously or explosively on

contact with water. May decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished.

Containers may explode when heated.

*Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is

a potential dust explosion hazard.

Combustion

Hazardous Products of

Fire will produce irritating, corrosive and/or toxic gases, including Carbon disulfide.

Special Fire Fighting Instructions Contain runoff from fire control or dilution water - Runoff may pollute waterways. Runoff may create fire or explosion

hazard.

Personal Protective Equipment Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters protective clothing will provide

thermal protection but provides only limited chemical protection.

Flash Point No Data Available
Lower Explosion Limit No Data Available
Upper Explosion Limit No Data Available
Auto Ignition Temperature No Data Available

Hazchem Code 1Y

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure Ensure adequate ventilation. ELIMINATE all ignition sources (no smoking, sparks or flames in immediate area). Do not

touch or walk through spilled material. Avoid generating dust. Avoid breathing vapours/dust and contact with eyes, skin

and clothing.

Clean Up Procedures Use clean, non-sparking tools to collect material and place it into loosely covered containers for later disposal (see

SECTION 13).

*For spills of Xanthates (UN3342), dissolve in 5 parts water and collect for proper disposal.

Containment Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with dry

earth, dry sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.

Decontamination After cleaning, flush away any residual traces with water.

Environmental Precautionary

Measures

Spillages and decontamination runoff should be prevented from entering drains and watercourses. If contamination of

sewers or waterways has occurred advise local emergency services.

Evacuation Criteria Immediately isolate spill or leak area. Evacuate personnel to safe areas. Stay upwind and/or uphill. Keep unauthorized

personnel away.

Personal Precautionary Measures Wear protective equipment to prevent skin and eye contact and breathing in vapours/dust (see SECTION 8). Fully

encapsulating, vapour protective clothing should be worn for spills and leaks with no fire.

7. HANDLING AND STORAGE

Handling Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure

adequate ventilation, especially in confined areas. Handle in accordance with good industrial hygiene and safety practice. Minimise dust generation and accumulation. Avoid breathing vapours/dust and contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). WARNING: May form combustible dust concentrations in air (during processing). Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking. To prevent fire caused by electrostatic discharge, ground and bond container and receiving equipment. Use explosion-proof equipment and non-sparking tools. Take action to prevent static

discharges. Avoid release to the environment - Collect spillage (see SECTION 6).

Storage Store in a cool, dry and well-ventilated place. Protect from direct sunlight. Keep containers tightly closed when not in use

- check regularly for spills. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking. Keep away from incompatible materials (see SECTION 10) and foodstuff containers. Maintain air gap between

stacks/pallets.

*Keep dry - reacts with water, may lead to drum rupture.

Container Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General No value assigned for this specific material by Safe Work Australia.

DECOMPOSITION PRODUCT: Carbon disulphide (CAS No. 75-15-0):

- Safe Work Australia Exposure Standard: TWA = 10 ppm (31 mg/m3); Absorption through the skin may be a significant

source of exposure (Sk).

Exposure Limits No Data Available

No information available. **Biological Limits**

Use explosion-proof electrical/ventilating/lighting equipment. Ensure ventilation is adequate and that air concentrations **Engineering Measures**

of components are controlled below quoted Workplace Exposure Standards. Design equipment to avoid the build up or

dust. Explosions are controlled by containment, venting or inerting.

Personal Protection Equipment - Respiratory protection: If exposure limits are exceeded or if irritation or other symptoms are experienced, wear

respiratory protection. Recommended: Use a full-face respirator with multi-purpose combination or type AXBEK respirator

cartridges (refer to AS/NZS 1715 & 1716).

- Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Tightly fitting safety goggles.

- Hand protection: Wear protective gloves. Recommended: Butyl rubber.

- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Wear

fire/flame resistant/retardant clothing and antistatic boots.

Special Hazards Precaustions

No information available.

Work Hygienic Practices

Do not eat, drink or smoke when using this product. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State Solid

Appearance Granules, pellets

Odour Irritant

Colour Yellowish or laurel-green

рΗ No Data Available **Vapour Pressure** No Data Available **Relative Vapour Density** No Data Available **Boiling Point** No Data Available **Melting Point** No Data Available **Freezing Point** No Data Available Solubility No Data Available **Specific Gravity** No Data Available **Flash Point** No Data Available No Data Available **Auto Ignition Temp Evaporation Rate** No Data Available **Bulk Density** No Data Available No Data Available **Corrosion Rate Decomposition Temperature** No Data Available Density No Data Available **Specific Heat** No Data Available **Molecular Weight** No Data Available **Net Propellant Weight** No Data Available

Octanol Water Coefficient No Data Available **Particle Size** No Data Available **Partition Coefficient** No Data Available **Saturated Vapour Concentration** No Data Available

Viscosity No Data Available **Volatile Percent** No Data Available

No Data Available

VOC Volume No Data Available

Vapour Temperature

Additional Characteristics No information available.

Potential for Dust Explosion Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a

potential dust explosion hazard.

Fast or Intensely Burning

Characteristics

Risk of violent reaction or explosion! May burn with rapid flare-burning effect. May decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished.

Flame Propagation or Burning

Rate of Solid Materials

No information available.

Non-Flammables That Could Contribute Unusual Hazards to a Fire

May react vigorously or explosively on contact with water.

Properties That May Initiate or Contribute to Fire Intensity

Spontaneously combustible material. Self-heating; may catch fire.

Reactions That Release Gases or Vapours

Fire/decomposition will produce irritating, corrosive and/or toxic gases, including Carbon disulfide.

Release of Invisible Flammable Vapours and Gases

No information available.

10. STABILITY AND REACTIVITY

General Information Reacts exothermically on dilution with water. Can react with water producing carbon disulfide.

Chemical Stability Stable under proper operation and storage conditions.

Conditions to Avoid Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

Materials to Avoid Incompatible/reactive with oxidising agents, combustible materials, acids, water, phosgene, sulfur chlorides, copper,

copper alloys.

Hazardous Decomposition

Products

Fire/decomposition will produce irritating, corrosive and/or toxic gases, including Carbon disulfide, Hydrogen sulfide,

oxide of Sulfur, oxides of Carbon.

Hazardous Polymerisation Hazardous polymerisation will not occur.

11. TOXICOLOGICAL INFORMATION

General Information

- Acute toxicity: Harmful if swallowed and in contact with skin. Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain, convulsions and loss of consciousness. Death may occur if large amounts are ingested. Will liberate Carbon disulfide upon contact with moist skin. Carbon disulfide can be absorbed through the skin with resultant adverse effects.
- Skin corrosion/irritation: Causes skin irritation. Corrosive to skin in aqueous solution (based on the pH, which is > 11.5 at maximum concentration of 25 % water solution).
- Eye damage/irritation: Causes serious eye irritation. Corrosive to eyes in aqueous solution (based on the pH, which is > 11.5 at maximum concentration of 25 % water solution).
- Respiratory/skin sensitisation: No information available.
- Germ cell mutagenicity: No information available.
- Carcinogenicity: Not listed as carcinogenic according to the International Agency for Research on Cancer (IARC).
- Reproductive toxicity: DECOMPOSITION PRODUCT: Carbon disulfide (CAS No. 75-15-0) Suspected of damaging fertility. Suspected of damaging the unborn child. The weight of evidence on decomposition of the target substance and the measured and estimated exposure of workers during mining application indicates safe use of the substance. Based on this data there is currently no need for classification of potassium isoamyl xanthate concerning toxicity to reproduction or teratogenicity [ECHA].
- STOT (single exposure): Breathing in dust may result in respiratory irritation. Breathing in high concentrations can produce central nervous system depression, which can lead to loss of co-ordination, impaired judgement and if exposure is prolonged.
- unconsciousness. Breathing in high concentrations may result in an irregular heart beat and prove suddenly fatal.
- STOT (repeated exposure): Substance accumulation in the human body may occur and may cause some concern following repeated or log-term occupational exposure. DECOMPOSITION PRODUCT: Carbon disulfide (CAS No. 75-15-0) Causes damage to organs through prolonged or repeated exposure if inhaled. The intrinsic properties of potassium

isoamyl xanthate are related to the most hazardous degradation product; carbon disulphide. Based on the observations made after the subchronic carbon disulphide exposures in humans by inhalation route, exposure calculations and measured concentrations in mining processes there is no need for classification of the target substance [ECHA].

- Aspiration toxicity: No information available.

Carcinogen Category

None

12. ECOLOGICAL INFORMATION

Ecotoxicity Aquatic toxicity:

COMPONENT: Potassium amyl xanthate (CAS No. 928-70-1):

- LC50, Fish: 217 mg/L (96 h).

Persistence/Degradability
No information available.

Mobility
No information available.

Environmental Fate Toxic to aquatic life with long lasting effects - Avoid release to the environment.

Bioaccumulation Potential No information available.

Environmental Impact No Data Available

13. DISPOSAL CONSIDERATIONS

General Information Dispose of contents/container in accordance with local/regional/national regulations. The use of incineration disposal

recommended for waste chemicals.

Special Precautions for Land Fill Containers may still present a chemical hazard when empty. Keep away from heat, hot surfaces, sparks, open flames and

other ignition sources. Recycle, if possible.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name XANTHATES

Class 4.2 Flammable Solids - Substances liable to spontaneous combustion

Subsidiary Risk(s) No Data Available

EPG 25 Spontaneously Combustible Substances (Air And/Or Water Reactive)

UN Number 3342
Hazchem 1Y
Pack Group III

Special Provision No Data Available

Land Transport (Malaysia)

ADR Code

Proper Shipping Name XANTHATES

Class 4.2 Flammable Solids - Substances liable to spontaneous combustion

Subsidiary Risk(s) No Data Available

EPG 25 Spontaneously Combustible Substances (Air And/Or Water Reactive)

 UN Number
 3342

 Hazchem
 1Y

 Pack Group
 III

Special Provision No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name XANTHATES

Class 4.2 Flammable Solids - Substances liable to spontaneous combustion

Subsidiary Risk(s) No Data Available

EPG 25 Spontaneously Combustible Substances (Air And/Or Water Reactive)

UN Number 3342
Hazchem 1Y
Pack Group III

Special Provision No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name XANTHATES

Class 4.2 Flammable Solids - Substances liable to spontaneous combustion

Subsidiary Risk(s) No Data Available

ERG 135 Substances - Spontaneously Combustible

UN Number 3342 Hazchem 1Y Pack Group III

Special Provision No Data Available

Sea Transport

IMDG Code

Proper Shipping Name XANTHATES

Class 4.2 Flammable Solids - Substances liable to spontaneous combustion

Subsidiary Risk(s) No Data Available

 UN Number
 3342

 Hazchem
 1Y

 Pack Group
 III

Special Provision No Data Available

EMS F-A, S-J **Marine Pollutant** No

Air Transport

IATA DGR

Proper Shipping Name XANTHATES

Class 4.2 Flammable Solids - Substances liable to spontaneous combustion

Subsidiary Risk(s) No Data Available

UN Number 3342 Hazchem 1Y Pack Group III

Special Provision No Data Available

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods ClassificationDangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by

Road & Rail (ADG Code)

15. REGULATORY INFORMATION

General Information No Data Available
Poisons Schedule (Aust) Not Scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code Not Assessed

National/Regional Inventories

Australia (AIIC) Listed

Canada (DSL) Not Determined

Canada (NDSL) Not Determined

China (IECSC) Not Determined

Europe (EINECS) Not Determined

Europe (REACh) Not Determined

Japan (ENCS/METI) Not Determined

Korea (KECI) Not Determined

Malaysia (EHS Register) Not Determined

New Zealand (NZIoC) Not Determined

Philippines (PICCS) Not Determined

Switzerland (Giftliste 1) Not Determined

Switzerland (Inventory of Notified

Substances)

Not Determined

Taiwan (NCSR) Not Determined

USA (TSCA) Not Determined

16. OTHER INFORMATION

Related Product Codes

POAMXA1000, POAMXA1001, POAMXA1002, POAMXA1003, POAMXA1004, POAMXA1005, POAMXA1006, POAMXA1007, POAMXA1008, POAMXA1009, POAMXA1010, POAMXA1011, POAMXA1012, POAMXA1013, POAMXA1014, POAMXA1015, POAMXA1016, POAMXA1017, POAMXA1018, POAMXA1019, POAMXA1020, POAMXA1021, POAMXA1022, POAMXA1023, POAMXA1024, POAMXA1025, POAMXA1026, POAMXA1027, POAMXA1028, POAMXA1029, POAMXA1030, POAMXA1031, POAMXA1032, POAMXA1033, POAMXA1034, POAMXA1035, POAMXA1036, POAMXA1200, POAMXA1500, POAMXA2000, POAMXA2001, POAMXA2100, POAMXA2500, POAMXA2600, POAMXA2601, POAMXA3000, POAMXA3001, POAMXA4000, POAMXA4500, POAMXA5000, POAMXA5100, POAMXA5500, POAMXA6000, POAMXA7000, POAMXA8000, POAMXA8001, POAMXA8002, POAMXA8600, POAMXA8649, POAMXA8650, POAMXA8651, POAMXA8652, POAMXA8655, POAMXA8656, POAMXA8660, POAMXA8670, POAMXA8677, POAMXA8700, POAMXA9701, POAMXA9000, POAMXA9001, POAMXA9002, POAMXA9500, POAMXA9600, POAMXA9700

Revision 4

Revision Date 20 Aug 2021 Reason for Issue SDS updated Key/Legend < Less Than > Greater Than

AICS Australian Inventory of Chemical Substances

atm Atmosphere

CAS Chemical Abstracts Service (Registry Number)

cm² Square Centimetres CO2 Carbon Dioxide

COD Chemical Oxygen Demand deg C (°C) Degrees Celcius

EPA (New Zealand) Environmental Protection Authority of New Zealand

deg F (°F) Degrees Farenheit

q Grams

g/cm³ Grams per Cubic Centimetre

q/I Grams per Litre

HSNO Hazardous Substance and New Organism **IDLH** Immediately Dangerous to Life and Health immiscible Liquids are insoluable in each other.

inHg Inch of Mercury inH20 Inch of Water

K Kelvin kg Kilogram

kg/m³ Kilograms per Cubic Metre

Ib Pound

LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.

LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.

Itr or L Litre m³ Cubic Metre mbar Millibar mg Milligram

mg/24H Milligrams per 24 Hours mg/kg Milligrams per Kilogram mq/m³ Milligrams per Cubic Metre

Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present.

mm Millimetre

mmH20 Millimetres of Water mPa.s Millipascals per Second

N/A Not Applicable

NIOSH National Institute for Occupational Safety and Health **NOHSC** National Occupational Heath and Safety Commission **OECD** Organisation for Economic Co-operation and Development Oz Ounce

PEL Permissible Exposure Limit

Pa Pascal

ppb Parts per Billion ppm Parts per Million

ppm/2h Parts per Million per 2 Hours ppm/6h Parts per Million per 6 Hours

psi Pounds per Square Inch

R Rankine

RCP Reciprocal Calculation Procedure

STEL Short Term Exposure Limit

TLV Threshold Limit Value **tne** Tonne

TWA Time Weighted Average

ug/24H Micrograms per 24 Hours

UN United Nations

wt Weight