

Potassium hexahydroxoantimonate(V)

sc-250755



The Power is Question

Material Safety Data Sheet

Hazard Alert Code Key: **EXTREME** **HIGH** **MODERATE** **LOW**

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

Potassium hexahydroxoantimonate(V)

STATEMENT OF HAZARDOUS NATURE

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

NFPA



SUPPLIER

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EMERGENCY

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SYNONYMS

H6-K-O6-Sb, KSb(OH)₆, "potassium hexahydroxyantimonate (V)", "potassium pyroantimonate, acid"

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability:	0	
Toxicity:	2	
Body Contact:	2	
Reactivity:	0	
Chronic:	2	

Min/Nil=0
Low=1
Moderate=2
High=3
Extreme=4



CANADIAN WHMIS SYMBOLS



EMERGENCY OVERVIEW

RISK

Harmful by inhalation and if swallowed.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

■ Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.

■ Antimony poisoning causes similar symptoms to arsenic poisoning although vomiting is more prominent.

There may be changes in the rhythm of the heart beat.

EYE

■ Although the material is not thought to be an irritant, direct contact with the eye may cause transient discomfort characterized by tearing or conjunctival redness (as with windburn).

Slight abrasive damage may also result.

SKIN

■ There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons.

■ Skin contact with antimony compounds may result in redness and severe irritation with the formation of itchy papules, pustules, skin lesions/ small septic blisters (antimony spots) within a few hours.

Rhinitis may also result from dermal contact.

■ Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.

Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

■ Inhalation of dusts, generated by the material, during the course of normal handling, may be harmful.

■ The material is not thought to produce respiratory irritation (as classified using animal models).

Nevertheless inhalation of dusts, or fume, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.

■ Inhalation of antimony can cause breathing difficulties and gastrointestinal upset including sore throat, shallow breathing, dizziness, weight loss, gum bleeds and anemia.

Lung swelling and congestion can occur.

CHRONIC HEALTH EFFECTS

■ There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.

Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.

Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung.

Repeated or prolonged exposure to antimony and its compounds may produce inflammation of the mouth cavity, dry throat, metallic taste, gum infection, perforation of the nasal septum and throat, laryngitis, headache, difficulty breathing, indigestion, nausea, vomiting, diarrhea, loss of appetite, anemia, weight loss, tightness and pain in the chest, sleeplessness, muscular pain and weakness, dizziness, pharyngitis, bronchitis and pneumonia. Degenerative changes of the liver and kidney may occur.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
potassium antimonate hydrate	12208-13-8	>98

Section 4 - FIRST AID MEASURES

SWALLOWED

· IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY. · Where Medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:

EYE

■ If this product comes in contact with the eyes: · Wash out immediately with fresh running water. · Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

SKIN

■ If skin contact occurs: · Immediately remove all contaminated clothing, including footwear · Flush skin and hair with running water (and soap if available).

INHALED

· If fumes or combustion products are inhaled remove from contaminated area. · Lay patient down. Keep warm and rested.

NOTES TO PHYSICIAN

· Chelation with British Anti-Lewisite (BAL) for serious antimony exposures should be employed.

· Dialyse as needed. The role of exchange diffusion is not clear.

Section 5 - FIRE FIGHTING MEASURES

Vapour Pressure (mmHG):	Not applicable
Upper Explosive Limit (%):	Not Applicable
Specific Gravity (water=1):	Not available
Lower Explosive Limit (%):	Not Applicable

EXTINGUISHING MEDIA

- Water spray or fog.
- Foam.

FIRE FIGHTING

- Alert Emergency Responders and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.

When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 800 metres in all directions.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS

- Non combustible.
 - Not considered to be a significant fire risk, however containers may burn.
- Decomposition may produce toxic fumes of: metal oxides.
May emit poisonous fumes.

FIRE INCOMPATIBILITY

- None known.

PERSONAL PROTECTION

- Glasses:
Chemical goggles.
- Gloves:
Respirator:
Particulate

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Control personal contact by using protective equipment.
- Use dry clean up procedures and avoid generating dust.
- Place in a suitable, labelled container for waste disposal.

MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Emergency Responders and tell them location and nature of hazard.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.

RECOMMENDED STORAGE METHODS

- Glass container.
- Lined metal can, Lined metal pail/drum
- Plastic pail.

For low viscosity materials

- Drums and jerricans must be of the non-removable head type.
- Where a can is to be used as an inner package, the can must have a screwed enclosure.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³	TWA F/CC	Notes
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

Canada - British Columbia Occupational Exposure Limits	potassium antimonate hydrate (Antimony and compounds, as Sb)	0.5
US - Minnesota Permissible Exposure Limits (PELs)	potassium antimonate hydrate (Antimony and compounds (as Sb))	0.5
Canada - Alberta Occupational Exposure Limits	potassium antimonate hydrate (Antimony & compounds, as Sb)	0.5
Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)	potassium antimonate hydrate (Antimony, metal and compounds (as Sb))	0.5
US OSHA Permissible Exposure Levels (PELs) - Table Z1	potassium antimonate hydrate (Antimony and compounds (as Sb))	0.5
US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants	potassium antimonate hydrate (Antimony and compounds (as Sb))	0.5
US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants	potassium antimonate hydrate (Antimony and compounds (as Sb))	0.5
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	potassium antimonate hydrate (Antimony and compounds (as Sb))	0.5
US - California Permissible Exposure Limits for Chemical Contaminants	potassium antimonate hydrate (Antimony and compounds, as Sb)	0.5
US - Idaho - Limits for Air Contaminants	potassium antimonate hydrate (Antimony and compounds (as Sb))	0.5
US - Hawaii Air Contaminant Limits	potassium antimonate hydrate (Antimony and compounds (as Sb))	0.5

US - Alaska Limits for Air Contaminants	potassium antimonate hydrate (Antimony and compounds (as Sb))		0.5			
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	potassium antimonate hydrate (Antimony and compounds, (as Sb))		0.5		1.5	
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	potassium antimonate hydrate (Antimony and compounds (as Sb))	-	0.5	-	0.75	
US - Washington Permissible exposure limits of air contaminants	potassium antimonate hydrate (Antimony and compounds (as Sb))		0.5		1.5	
Canada - Nova Scotia Occupational Exposure Limits	potassium antimonate hydrate (Antimony - Compounds)		0.5			Measured as Sb. TLV Basis: skin & upper respiratory tract irritation
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants	potassium antimonate hydrate (Antimony and compounds(as Sb))		0.5			
Canada - Northwest Territories Occupational Exposure Limits (English)	potassium antimonate hydrate (Antimony and compounds (as Sb))		0.5		1.5	
US - Michigan Exposure Limits for Air Contaminants	potassium antimonate hydrate (Antimony and compounds (as Sb))		0.5			
US - Oregon Permissible Exposure Limits (Z-1)	potassium antimonate hydrate (Antimony & Compounds (as Sb))	-	0.5			

ENDOELTABLE

PERSONAL PROTECTION



RESPIRATOR

Particulate

Consult your EHS staff for recommendations

EYE

- Safety glasses with side shields.
- Chemical goggles.

HANDS/FEET

- Wear chemical protective gloves, eg. PVC.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended.
- Contaminated gloves should be replaced.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

OTHER

- Overalls.
- Eyewash unit.

ENGINEERING CONTROLS

- Local exhaust ventilation usually required. If risk of overexposure exists, wear an approved respirator.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Solid.

Does not mix with water.

State	Divided solid	Molecular Weight	262.90
Melting Range (°F)	Not available.	Viscosity	Not Applicable
Boiling Range (°F)	Not available	Solubility in water (g/L)	Partly miscible
Flash Point (°F)	Not applicable	pH (1% solution)	Not available.
Decomposition Temp (°F)	Not Available	pH (as supplied)	Not applicable
Autoignition Temp (°F)	Not applicable	Vapour Pressure (mmHG)	Not applicable
Upper Explosive Limit (%)	Not Applicable	Specific Gravity (water=1)	Not available
Lower Explosive Limit (%)	Not Applicable	Relative Vapor Density (air=1)	Not applicable
Volatile Component (%vol)	Not applicable	Evaporation Rate	Not applicable

APPEARANCE

White powder; does not mix well with water.

Section 10 - CHEMICAL STABILITY

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.

STORAGE INCOMPATIBILITY

- Contact with acids produces toxic fumes.
- Metals and their oxides or salts may react violently with chlorine trifluoride and bromine trifluoride.
- These trifluorides are hypergolic oxidisers. They ignites on contact (without external source of heat or ignition) with recognised fuels - contact with these materials, following an ambient or slightly elevated temperature, is often violent and may produce ignition.
- The state of subdivision may affect the results.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

potassium antimonate hydrate

TOXICITY AND IRRITATION

POTASSIUM ANTIMONATE HYDRATE:

- No significant acute toxicological data identified in literature search.

Section 12 - ECOLOGICAL INFORMATION

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
This material and its container must be disposed of as hazardous waste.
Avoid release to the environment.
Refer to special instructions/ safety data sheets.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Instructions

All waste must be handled in accordance with local, state and federal regulations.

‡ Puncture containers to prevent re-use and bury at an authorized landfill.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

DO NOT allow wash water from cleaning equipment to enter drains. Collect all wash water for treatment before disposal.

For small quantities:

- Dissolve the material (in water or acid solution as appropriate) or convert it to a water soluble state with appropriate oxidizing agent.
- Precipitate as the sulfide, adjusting the pH to neutral to complete the precipitation.
- Recycle wherever possible or consult manufacturer for recycling options.
- Consult Waste Management Authority for disposal.

Section 14 - TRANSPORTATION INFORMATION



DOT:

Symbols: None Hazard class or Division: 6.1

Identification Numbers: UN1549 PG: III

Label Codes: 6.1 Special provisions: 35, IB8,

IP3, T1,

TP33

Packaging: Exceptions: 153 Packaging: Non- bulk: 213

Packaging: Exceptions: 153 Quantity limitations: 100 kg

Passenger aircraft/rail:

Quantity Limitations: Cargo 200 kg Vessel stowage: Location: A
aircraft only:

Vessel stowage: Other: None

Hazardous materials descriptions and proper shipping names:

Antimony compounds, inorganic, solid, n.o.s.

Air Transport IATA:

ICAO/IATA Class: 6.1 ICAO/IATA Subrisk: None

UN/ID Number: 1549 Packing Group: III

Special provisions: A12

Cargo Only

Packing Instructions: 200 kg Maximum Qty/Pack: 100 kg

Passenger and Cargo Passenger and Cargo

Packing Instructions: 619 Maximum Qty/Pack: 619

Passenger and Cargo Limited Quantity Passenger and Cargo Limited Quantity

Packing Instructions: 10 kg Maximum Qty/Pack: Y619

Shipping Name: ANTIMONY COMPOUND, INORGANIC, SOLID,
N.O.S.(CONTAINS POTASSIUM ANTIMONATE HYDRATE)

Maritime Transport IMDG:

IMDG Class: 6.1 IMDG Subrisk: None

UN Number: 1549 Packing Group: III

EMS Number: F-A , S-A Special provisions: 45

Limited Quantities: 5 kg Marine Pollutant: Yes

Shipping Name: ANTIMONY COMPOUND, INORGANIC, SOLID, N.O.S.

Section 15 - REGULATORY INFORMATION

potassium antimonate hydrate (CAS: 12208-13-8,63994-33-2) is found on the following regulatory lists;

"Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS (English)", "US DOE Temporary Emergency Exposure Limits (TEELs)"

Section 16 - OTHER INFORMATION

Ingredients with multiple CAS Nos

Ingredient Name CAS potassium antimonate hydrate 12208-13-8, 63994-33-2

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■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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