

ALFAA39307

## Mercury potassium iodide

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

<b>产品说明:</b> <b>Product Description:</b>	<b>碘化钾汞(II)</b> <b>Mercury potassium iodide</b>
<b>Cat No. :</b>	<b>39307</b>
<b>Synonyms</b>	Nessler's reagent
<b>CAS No</b>	7783-33-7
<b>Molecular Formula</b>	K <sub>2</sub> Hg I <sub>4</sub>
<b>Supplier</b>	Avocado Research Chemicals Ltd. (Part of Thermo Fisher Scientific) Shore Road, Heysham Lancashire, LA3 2XY, United Kingdom Office Tel: +44 (0) 1524 850506 Office Fax: +44 (0) 1524 850608
<b>Emergency Telephone Number</b>	For information <b>US</b> call: 001-800-227-6701 / <b>Europe</b> call: +32 14 57 52 11 Emergency Number <b>US</b> :001-201-796-7100 / <b>Europe</b> : +32 14 57 52 99 <b>CHEMTREC</b> Tel. No. <b>US</b> :001-800-424-9300 / <b>Europe</b> :001-703-527-3887
<b>E-mail address</b>	begel.sdsdesk@thermofisher.com
<b>Recommended Use</b>	Laboratory chemicals.
<b>Uses advised against</b>	No Information available

### SECTION 2. HAZARD IDENTIFICATION

Physical State	Appearance	Odor
Powder Solid	Yellow	No information available
<b>Emergency Overview</b>		
Fatal in contact with skin. Harmful to aquatic life. Very toxic to aquatic life with long lasting effects. Fatal if swallowed. Fatal if inhaled. May cause damage to organs through prolonged or repeated exposure. Sensitivity to light. Hygroscopic.		

#### Classification of the substance or mixture

Acute Oral Toxicity	Category 2
Acute Dermal Toxicity	Category 1
Acute Inhalation Toxicity - Dusts and Mists	Category 2
Specific target organ toxicity - (repeated exposure)	Category 2
Acute aquatic toxicity	Category 1 Category 3
Chronic aquatic toxicity	Category 1

#### Label Elements

## Mercury potassium iodide

**Signal Word****Danger****Hazard Statements**

H410 - Very toxic to aquatic life with long lasting effects

H373 - May cause damage to organs through prolonged or repeated exposure

H300 + H310 + H330 - Fatal if swallowed, in contact with skin or if inhaled

**Precautionary Statements****Prevention**

P262 - Do not get in eyes, on skin, or on clothing

P264 - Wash face, hands and any exposed skin thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

P271 - Use only outdoors or in a well-ventilated area

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P284 - Wear respiratory protection

**Response**

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P310 - Immediately call a POISON CENTER or doctor

P330 - Rinse mouth

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P361 + P364 - Take off immediately all contaminated clothing and wash it before reuse

**Storage**

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P405 - Store locked up

**Disposal**

P501 - Dispose of contents/ container to an approved waste disposal plant

**Physical and Chemical Hazards**

Hygroscopic.

**Health Hazards**

Fatal in contact with skin. Very toxic if swallowed. Fatal if inhaled. May cause damage to organs through prolonged or repeated exposure.

**Environmental hazards**

Harmful to aquatic life. Very toxic to aquatic life with long lasting effects. Will likely be mobile in the environment due to its water solubility. The product is water soluble, and may spread in water systems.

Toxic to terrestrial vertebrates. This product does not contain any known or suspected endocrine disruptors.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS No	Weight %
Mercury (II) potassium iodide	7783-33-7	>95

**Note**

Note 1: The concentration stated or, in the absence of such concentrations, the generic concentrations of this Regulation (Table 3.1) or the generic concentrations of Directive 1999/45/EC (Table 3.2), are the percentages by weight of the metallic element calculated with reference to the total weight of the mixture

**SECTION 4. FIRST AID MEASURES****Eye Contact**

Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

**Mercury potassium iodide****Skin Contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

**Inhalation**

Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial respiration. Immediate medical attention is required.

**Ingestion**

Call a physician immediately. Clean mouth with water.

**Most important symptoms and effects**

No information available.

**Self-Protection of the First Aider**

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

**Notes to Physician**

Treat symptomatically.

**SECTION 5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Chemical foam.

**Extinguishing media which must not be used for safety reasons**

No information available.

**Specific Hazards Arising from the Chemical**

Do not allow run-off from fire-fighting to enter drains or water courses.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**SECTION 6. ACCIDENTAL RELEASE MEASURES****Personal Precautions**

Ensure adequate ventilation.

**Environmental Precautions**

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Should not be released into the environment.

**Methods for Containment and Clean Up**

Wear self-contained breathing apparatus and protective suit. Sweep up and shovel into suitable containers for disposal. Do not let this chemical enter the environment.

Refer to protective measures listed in Sections 8 and 13.

**SECTION 7. HANDLING AND STORAGE****Handling**

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Handle product only in closed system or provide appropriate exhaust ventilation.

## Mercury potassium iodide

**Storage**

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. To maintain product quality: Store contents under argon.

**Specific Use(s)**

Use in laboratories

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control Parameters**

Component	China	Taiwan	Thailand	Hong Kong
Mercury (II) potassium iodide	-	TWA: 0.05 mg/m <sup>3</sup>		-

Component	ACGIH TLV	OSHA PEL	NIOSH	The United Kingdom	European Union
Mercury (II) potassium iodide	TWA: 0.025 mg/m <sup>3</sup> Skin	(Vacated) Ceiling: 0.1 mg/m <sup>3</sup>	IDLH: 10 mg/m <sup>3</sup> TWA: 0.05 mg/m <sup>3</sup> Ceiling: 0.1 mg/m <sup>3</sup>	STEL: 0.06 mg/m <sup>3</sup> 15 min TWA: 0.02 mg/m <sup>3</sup> 8 hr	

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

**Monitoring methods**

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust MDHS16/2 Mercury and its inorganic divalent compounds in air Laboratory method using Hydrar diffusive badges or pumped sorbent tubes, acid dissolution and analysis by cold vapour atomic absorption spectrometry or cold vapour atomic fluorescence spectrometry

**Exposure Controls****Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

**Personal protective equipment**

**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Natural rubber	See manufacturers	-	EN 374	(minimum requirement)
Nitrile rubber	recommendations			
Neoprene				
PVC				

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure

**Respiratory Protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

## Mercury potassium iodide

	To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly
<b>Large scale/emergency use</b>	Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced <b>Recommended Filter type:</b> Particulates filter conforming to EN 143
<b>Small scale/Laboratory use</b>	Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. <b>Recommended half mask:-</b> Particle filtering: EN149:2001 When RPE is used a face piece Fit Test should be conducted
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Environmental exposure controls</b>	Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Yellow	
<b>Physical State</b>	Powder Solid	
<b>Odor</b>	No information available	
<b>Odor Threshold</b>	No data available	
<b>pH</b>	No information available	
<b>Melting Point/Range</b>	No data available	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	No information available	
<b>Flash Point</b>	No information available	<b>Method -</b> No information available
<b>Evaporation Rate</b>	Not applicable	Solid
<b>Flammability (solid,gas)</b>	No information available	
<b>Explosion Limits</b>	No data available	
<b>Vapor Pressure</b>	No information available	
<b>Vapor Density</b>	Not applicable	Solid
<b>Specific Gravity / Density</b>	No data available	
<b>Bulk Density</b>	No data available	
<b>Water Solubility</b>	Soluble	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Autoignition Temperature</b>	No data available	
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	Not applicable	Solid
<b>Explosive Properties</b>	No information available	
<b>Oxidizing Properties</b>	No information available	
<b>Molecular Formula</b>	K <sub>2</sub> Hg I <sub>4</sub>	
<b>Molecular Weight</b>	786.39	

## SECTION 10. STABILITY AND REACTIVITY

<b>Stability</b>	Light sensitive, Hygroscopic.
<b>Hazardous Reactions</b>	No information available.
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Conditions to Avoid</b>	Exposure to light. Incompatible products. Exposure to moist air or water.

**Mercury potassium iodide**

**Materials to avoid** Strong oxidizing agents.

**Hazardous Decomposition Products** Hydrogen iodide. Mercury oxide.

### SECTION 11. TOXICOLOGICAL INFORMATION

**Product Information**

**(a) acute toxicity;**

**(b) skin corrosion/irritation;** No data available

**(c) serious eye damage/irritation;** No data available

**(d) respiratory or skin sensitization;**

**Respiratory** No data available

**Skin** No data available

**(e) germ cell mutagenicity;** No data available

**(f) carcinogenicity;** No data available

There are no known carcinogenic chemicals in this product

**(g) reproductive toxicity;** No data available

**(h) STOT-single exposure;** No data available

**(i) STOT-repeated exposure;** Category 2

**Target Organs** Kidney, Central nervous system (CNS).

**(j) aspiration hazard;** Not applicable  
Solid

**Other Adverse Effects** The toxicological properties have not been fully investigated.

**Symptoms / effects, both acute and delayed** No information available

### SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity effects** Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

**Persistence and Degradability** Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary based on information available, May persist.

**Persistence**  
**Degradation in sewage treatment plant** Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

## Mercury potassium iodide

<b>Bioaccumulative Potential</b>	May have some potential to bioaccumulate
<b>Mobility in soil</b>	The product is water soluble, and may spread in water systems Will likely be mobile in the environment due to its water solubility Highly mobile in soils
<b>Endocrine Disruptor Information</b>	This product does not contain any known or suspected endocrine disruptors
<b>Persistent Organic Pollutant</b>	This product does not contain any known or suspected substance
<b>Ozone Depletion Potential</b>	This product does not contain any known or suspected substance

**SECTION 13. DISPOSAL CONSIDERATIONS**

<b>Waste from Residues/Unused Products</b>	Should not be released into the environment. Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.
<b>Contaminated Packaging</b>	Dispose of this container to hazardous or special waste collection point.
<b>Other Information</b>	Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment.

**SECTION 14. TRANSPORT INFORMATION****Road and Rail Transport**

<b>UN-No</b>	UN1643
<b>Proper Shipping Name</b>	MERCURY POTASSIUM IODIDE
<b>Hazard Class</b>	6.1
<b>Packing Group</b>	II

**IMDG/IMO**

<b>UN-No</b>	UN1643
<b>Proper Shipping Name</b>	MERCURY POTASSIUM IODIDE
<b>Hazard Class</b>	6.1
<b>Packing Group</b>	II

**IATA**

<b>UN-No</b>	UN1643
<b>Proper Shipping Name</b>	MERCURY POTASSIUM IODIDE
<b>Hazard Class</b>	6.1
<b>Packing Group</b>	II

**Special Precautions for User** No special precautions required

**SECTION 15. REGULATORY INFORMATION****International Inventories**

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

Component	The Inventory of Hazardous	List of dangerous goods GB	TCSI	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	AICS	KECL

## Mercury potassium iodide

	Chemicals (2015 Edition)	12268 - 2012										
Mercury (II) potassium iodide	X	X	X	X	231-990-4	X	X	X	-		X	KE-12197

**Note**

Note 1: The concentration stated or, in the absence of such concentrations, the generic concentrations of this Regulation (Table 3.1) or the generic concentrations of Directive 1999/45/EC (Table 3.2), are the percentages by weight of the metallic element calculated with reference to the total weight of the mixture

**National Regulations****SECTION 16. OTHER INFORMATION****Prepared By**

Health, Safety and Environmental Department

**Revision Date**

27-Apr-2024

**Revision Summary**

New emergency telephone response service provider.

**Training Advice**

Chemical incident response training.

**Legend****CAS** - Chemical Abstracts Service**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**ENCS** - Japanese Existing and New Chemical Substances**IECSC** - Chinese Inventory of Existing Chemical Substances**AICS** - Australian Inventory of Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**NZIoC** - New Zealand Inventory of Chemicals**WEL** - Workplace Exposure Limit**TWA** - Time Weighted Average**ACGIH** - American Conference of Governmental Industrial Hygienists**IARC** - International Agency for Research on Cancer**DNEL** - Derived No Effect Level**PNEC** - Predicted No Effect Concentration**RPE** - Respiratory Protective Equipment**LD50** - Lethal Dose 50%**LC50** - Lethal Concentration 50%**EC50** - Effective Concentration 50%**NOEC** - No Observed Effect Concentration**POW** - Partition coefficient Octanol:Water**PBT** - Persistent, Bioaccumulative, Toxic**vPvB** - very Persistent, very Bioaccumulative**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road**MARPOL** - International Convention for the Prevention of Pollution from Ships**OECD** - Organisation for Economic Co-operation and Development**ATE** - Acute Toxicity Estimate**BCF** - Bioconcentration factor**VOC** - (Volatile Organic Compound)**Key literature references and sources for data**<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other



# SAFETY DATA SHEET

Mercury potassium iodide

---

materials or in any process, unless specified in the text

**End of Safety Data Sheet**