

Safety Data Sheet **POTASSIUM IODIDE AQUEOUS SOLUTION**

SDS no. XKUDE8Y9 • Version 1.1 • Date of issue: 2023-02-01

SECTION 1: Identification

GHS Product identifier

Product name POTASSIUM IODIDE AQUEOUS SOLUTION

Recommended use of the chemical and restrictions on use

Laboratory reagent.

Supplier's details

Name ChemSupply Australia Pty Ltd
Address 38-50 Bedford Street
5013 Gillman South Australia
Australia

Telephone 08 8440 2000
email www.chemsupply.com

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Not classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Specific target organ toxicity following repeated exposure, Cat. 1

GHS label elements, including precautionary statements

Pictograms



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Signal word

Danger

Hazard statement(s)

H372

Causes damage to organs [thyroid] through prolonged or repeated exposure

Precautionary statement(s)

P260

Do not breathe dust/fume/gas/mist/vapors/spray.

P264

Wash hands thoroughly after handling.

P270

Do not eat, drink or smoke when using this product.

P314

Get medical advice/attention if you feel unwell.

P501

Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 166

Components

Component	CAS no.	Concentration
Water (EC no.: 231-791-2)	7732-18-5	50 - 90 % (weight)
Potassium iodide (EC no.: 231-659-4)	7681-11-0	10 - 50 % (weight)
CLASSIFICATIONS: Specific target organ toxicity following repeated exposure, Cat. 1. HAZARDS: H372 - Causes damage to organs [organs] through prolonged or repeated exposure [route].		

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

In case of skin contact

If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice if effects persist.

Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

Treat symptomatically based on judgement of doctor and individual reactions of the patient.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Small fire: Use dry chemical, CO₂, water spray or foam.

Large fire: Use water spray, fog or foam.

Specific hazards arising from the chemical

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Toxic fumes including hydrogen iodide (HI), oxides of potassium and iodine, possibly also free, or ionic iodine, toxic iodine vapours and iodate.

Material does not burn. May pollute waterways. Fire or heat may produce irritating, poisonous and/or corrosive fumes. Containers may explode when heated.

Special protective actions for fire-fighters

Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. Fight fire from safe location.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. For personal protection see section 8.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel). Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

Precautions for safe handling

Ensure adequate ventilation. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities

[4E] Conditions for safe storage, including any incompatibilities: Store in labelled, corrosion- and light-resistant, tightly closed containers, in a cool, dry, well-ventilated area and isolated from incompatible substances. Air, light, and moisture sensitive - accelerate decomposition. Protect against physical damage and exposure to air, light and humidity/water/moisture. Store away from reducing agents, acids. Iodine has a persistent and irritating odour and should not be stored near odour sensitive material. Prolonged storage is not recommended because of possible degradation problems, including yellowing of the potassium iodide product. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: 7681-11-0 (EC: 231-659-4)

Potassium iodide

ACGIH: 0.01 mg/m³ TWA inhalation

Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

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Hand Protection: Normally not required but if in doubt ensure hand protection should complies with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body protection

Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

Respiratory protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/ mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian Standards AS/ NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	Colourless to slightly yellow liquid (aqueous solution becomes yellow in time due to oxidation, but a small amount of alkali prevents it).
Color	No data available.
Odor	Odourless.
Odor threshold	No data available.
Melting point/freezing point	No data available.
Boiling point or initial boiling point and boiling range	No data available.
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Flash point	No data available.
Explosive properties	Potassium iodide solution and fluorine perchlorate will explode on contact.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	No data available.
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Soluble in water.
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	No data available.
Evaporation rate	No data available.
Density and/or relative density	No data available.
Relative vapor density	No data available.
Particle characteristics	No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

No data available.

SECTION 10: Stability and reactivity

Reactivity

None under normal use conditions.

Chemical stability

Stable in dry air, under ordinary conditions of use and storage. Air sensitive. Moisture sensitive. Light sensitive. On long exposure to air becomes yellow due to release of iodine.

Possibility of hazardous reactions

A sample of fluorine perchlorate exploded on contact with a potassium iodide solution. Moisture and light accelerate decomposition. Air causes decomposition to iodine. Reacts violently with strong oxidizers, bromotrifluorides, chlorotrifluorides, fluorine perchlorate, metallic salts.

Attacks metals in moist environments. Reactive with oxidizing agents, reducing agents, organic materials, acids.

Conditions to avoid

Moisture, light, dust generation, prolonged exposure to air, and incompatible materials.

Incompatible materials

Ammonia, halogen-halogen compounds, fluorine, hydrogen peroxide, salts of alkaloids, chloral hydrate, calomel (mercurous chloride), potassium chlorate, tartaric and other acids, diazonium salts, charcoal, ozone, strong reducers, alkali metals, most metals (brass, aluminium/aluminium alloys, magnesium, zinc, cadmium, copper, tin/tin oxides, nickel, steel (all types and surface treatments)), metal powders, metallic salts, organic materials, light, oxidizing agents, water/moisture, bromine trifluoride, fluorine perchlorate, diisopropyl peroxydicarbonate, perchloryl fluoride, chlorine trifluoride

Potassium iodide: Strong reducing agents, Nickel, Strong acids, and its alloys, Steel (all types and surface treatments), Aluminum, Alkali metals, Brass, Magnesium, Zinc, cadmium, Copper

Hazardous decomposition products

Toxic fumes including hydrogen iodide (HI), oxides of potassium and iodine, possibly also free, or ionic iodine, toxic iodine vapours and iodate.

Potassium iodide: Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Acute Toxicity - Oral: LD50 (rat): 2779 mg/kg;

LDLo (mouse): 1862 mg/kg;

LDLo (rabbit): 916 mg/kg.

Ingestion: May be harmful if swallowed. Ingestion may result in a metallic taste, increased salivary and bronchial secretions, gastrointestinal tract irritation with nausea, vomiting, diarrhoea, abdominal pain, parotitis and/or convulsions. Acute poisoning by potassium salts is likely to give rise to irritation of the throat, general stomach upset and vomiting which may lead to weakness, agitation and confusion, hypotension, paralysis and possible circulatory disturbances including cardiac arrhythmias, heart block and cardiac arrest. May affect behaviour (somnolence, muscle weakness), respiration (dyspnoea). Acute hypersensitivity reactions including angioedema, urticaria, Stevens Johnson syndrome, systemic vasculitis, serum-sickness-like reactions such as fever, arthralgia, lymph node enlargement, and eosinophilia may appear. Thrombotic thrombocytopenic purpura, and fatal periarteritis nodosa attributed to hypersensitivity to iodide has been described. Iodides have been known to cause drug-induced fevers, which are usually of short duration.

Inhalation: May be harmful if inhaled. Inhalation of product dusts may cause irritation of the mucous membranes of the nose, throat and respiratory system. Symptoms may include coughing and shortness of breath. May cause respiratory sensitization. May cause pulmonary oedema and inflammation of the tonsils.

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Skin corrosion/irritation

May cause irritation to skin and mucous membranes with redness, pain, and itching. May be harmful if absorbed through the skin. May cause allergic sensitization in certain individuals.

Serious eye damage/irritation

May cause irritation, redness, pain, itching and tearing.

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Bacterial mutagenicity: Salmonella typhimurium: negative, Escherichia coli: negative.

Mutagenic for mammalian somatic cells.

Mutagenic effects have occurred in experimental animals.

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

Specific target organ toxicity (STOT) - single exposure

No data available

Specific target organ toxicity (STOT) - repeated exposure

Causes damage to organs through prolonged or repeated exposure - Thyroid

Aspiration hazard

Not expected to be an aspiration hazard.

SECTION 12: Ecological information

Toxicity

Acute Toxicity - Fish: LC50 (Onchorhynchus mykiss): 3200 mg/l / 120 h (Potassium Iodide)

Acute Toxicity - Algae: Maximum permissible toxic concentration: Sc. quadricauda IC5: 2370 mg/l (sodium salt).

Acute Toxicity - Bacteria: Maximum permissible toxic concentration: Ps. putida EC5: 614 mg/l (sodium salt).

SECTION 13: Disposal considerations

Disposal methods

Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Other disposal recommendations

Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)

Not dangerous goods

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IMDG

Not dangerous goods

IATA

Not dangerous goods

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Canadian Domestic Substances List (DSL)

Chemical name: Potassium iodide (KI)

CAS: 7681-11-0

Drug Precursor

CAT 2

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

New Jersey Right To Know Components

Potassium iodide

CAS number: 7681-11-0

Pennsylvania Right To Know Components

Potassium iodide

CAS number: 7681-11-0

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SECTION 16: Other information

20/5/24 - V1.1 - Updated hazards listing (Section 3) for Potassium Iodide.

Further information/disclaimer

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