# Safety Data Sheet

# Potassium iodate

## Section 1: Chemical Product and Company Identification

**Product Name:** Potassium iodate

**Catalog Codes:**

**CAS#:** 7758-05-6

**RTECS: -**

**TSCA: -**

**Synonym: -**

**Chemical Name:** Potassium iodate

**Chemical Formula:** $KIO_3$

**Contact Information:**

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## Section 2: Composition and Information on Ingredients

**Composition:**

| Name | CAS # | % by Weight |
|---|---|---|
| Potassium iodate | 7758-05-6 | 100 % |

**Toxicological Data on Ingredients:** LD50 Dermal - Rat - male and female - > 2.000 mg/kg

## Section 3: Hazards Identification

**Classification of the substance or mixture**

| | |
|---|---|
| Oxidizing solids, (Category 1) | H271: May cause fire; strong oxidizer. |
| Acute toxicity, (Category 4) | H302: Harmful if swallowed.. |
| Eye irritation, (Category 2) | H319: Causes serious eye irritation |
| Reproductive toxicity, (Category 2) | H361fd: Suspected of damaging fertility. |

| | |
|---|---|
| | Suspected of damaging the unborn child |

**Label elements**
**Labelling according Regulation (EC) No 1272/2008**

| | |
|---|---|
| **Pictogram** |  |
| Signal Word | Danger |
| Hazard Statements | |
| H272 | May intensify fire; oxidizer. |
| H302 | Harmful if swallowed. |
| H319 | Causes serious eye irritation. |
| H361fd | Suspected of damaging fertility. Suspected of damaging the unborn child. |
| Precautionary Statements | |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P220 | Keep away from clothing and other combustible materials. |
| P301 + P312 | IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. |
| P308 + P313 | IF exposed or concerned: Get medical advice/ attention. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| Supplemental Hazard Statements | none |

**Reduced Labelling (<= 125 ml)**

| | |
|---|---|
| Pictogram |  |
| Signal Word | danger |
| Hazard Statements | none |
| H361fd | Suspected of damaging fertility. Suspected of damaging the unborn child. |
| Precautionary Statements | none |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P308 + P313 | IF exposed or concerned: Get medical advice/ attention. |
| Supplemental Hazard Statements | none |

**Other hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## Section 4: First Aid Measures

**Description of first-aid measures**

**General advice**
Show this material safety data sheet to the doctor in attendance.
**If inhaled**
After inhalation: fresh air. Call in physician.

**In case of skin contact**
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

**In case of eye contact**
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

**If swallowed**
After swallowing: make victim drink water (two glasses at most).Consult a physician.

**Most important symptoms and effects, both acute and delayed**
The most important known symptoms and effects are described in the labelling (see section 3.2) and/or in section 11

**Indication of any immediate medical attention and special treatment needed**
No data available

## Section 5: Fire and Explosion Data

**Extinguishing media**

**Suitable extinguishing media**
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media**
For this substance/mixture no limitations of extinguishing agents are given.

**Special hazards arising from the substance or mixture**
Hydrogen iodide
Potassium oxides
Not combustible.
Has a fire-promoting effect due to release of oxygen.
Ambient fire may liberate hazardous vapours.

**Advice for firefighters**
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

**Further information**
Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## Section 6: Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures**
Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

**Environmental precautions**
Do not let product enter drains.

**Methods and materials for containment and cleaning up**
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.
**Reference to other sections**
For disposal see section 13.

## Section 7: Handling and Storage

**Precautions for safe handling**
**Advice on protection against fire and explosion**
Keep away from open flames, hot surfaces and sources of ignition.

**Hygiene measures**
Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.
For precautions see section 3.2.

**Conditions for safe storage, including any incompatibilities**
**Storage conditions**
Tightly closed. Do not store near combustible materials.

**Storage class**
Storage class (TRGS 510): 5.1B: Oxidizing hazardous materials

## Section 8: Exposure Controls/Personal Protection

**Control parameters**
**Ingredients with workplace control parameters**

**Exposure controls**
**Personal protective equipment**

**Eye/face protection**
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

**Skin protection**
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0,11 mm
Break through time: 480 min
Material tested: KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and

for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0,11 mm
Break through time: 480 min
Material tested: KCL 741 Dermatril® L

**Body Protection**
protective clothing

**Respiratory protection**
required when dusts are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.
Recommended Filter type: Filter type P3

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.
These measures have to be properly documented.

**Control of environmental exposure**
Do not let product enter drains.

## Section 9: Physical and Chemical Properties

| | |
|---|---|
| **Physical state** | solid |
| **Color** | No data available |
| **Odor** | odorless |
| **pH** | ca.6 at 50 g/l at 20 °C |
| **Melting point/freezing point** | Melting point/ range: 560 °C - lit. |
| **Initial boiling point and boiling range** | Not applicable |
| **Flash point** | does not flash |
| **Evaporation rate** | No data available |

| | |
|---|---|
| **Flammability (solid, gas)** | No data available |
| **Upper/lower flammability or explosive limits** | No data available |
| **Vapor pressure** | No data available |
| **Density** | 3,93 g/cm3 at 25 °C - lit. |
| **Relative density** | No data available |
| **Water solubility** | 70 g/l at 25 °C |
| **Partition coefficient: n-octanol/water** | log Pow: -1 at 25 °C - Bioaccumulation is not expected. |
| **Autoignition Temperature** | does not ignite |
| **Decomposition Temperature** | > 560 °C |
| **Viscosity** | Viscosity, kinematic: No data available<br>Viscosity, dynamic: No data available |
| **Relative vapor density** | No data available |
| **Explosive properties** | Not classified as explosive. |
| **Oxidizing properties** | The substance or mixture is classified as oxidizing with the category 2 |
| **Other safety information** | |
| Dissociation constant | 0,05 |

## Section 10: Stability and Reactivity Data

**Reactivity**
No data available

**Chemical stability**
The product is chemically stable under standard ambient conditions (room temperature) .

**Possibility of hazardous reactions**
Risk of explosion with:
oxidisable substances
combustible substances
Powdered metals
Sulfides
Phosphorus
Sulfur
Alkali metals
Hydrides
Cyanides
Arsenic
carbon/soot
Alkaline earth metals
powdered aluminium
metallic oxides
Isocyanates
Reducing agents
Exothermic reaction with:
Organic Substances

**Conditions to avoid**
no information available

**Incompatible materials**
No data available

**Hazardous decomposition products**
No additional information available

## Section 11: Toxicological Information

**Information on toxicological effects**
**Mixture**
**Acute toxicity**
Acute toxicity estimate Oral - 500,1 mg/kg
(Expert judgment)
Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.
Symptoms: Possible damages:, mucosal irritations
LD50 Dermal - Rat - male and female - > 2.000 mg/kg
(OECD Test Guideline 402)

**Skin corrosion/irritation**

Skin – Rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)

**Serious eye damage/eye irritation**
Eyes - In vitro study
Result: Irritating to eyes. - 2 - 12 h

**Respiratory or skin sensitization**
Sensitisation possible in predisposed persons

**Germ cell mutagenicity**
Test Type: Ames test
Result: negative
Remarks: (Lit.)
Test Type: Mutagenicity (mammal cell test): micronucleus.
Metabolic activation: without metabolic activation
Method: OECD Test Guideline 487
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: Mouse lymphoma test
Metabolic activation: without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Test Type: In vivo micronucleus test Result: negative Remarks: (Lit.)

**Carcinogenicity**
No data available

**Reproductive toxicity**
Suspected of damaging the unborn child.
Suspected of damaging fertility

**Specific target organ toxicity - single exposure**
No data available

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

**Additional Information**
**Endocrine disrupting properties**
**Product:**

**Assessment:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

RTECS: NN1350000
Nausea, Vomiting, Diarrhea, Rash
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption:
Stomach/intestinal disorders
Collapse
respiratory arrest
Cyanosis

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice

## Section 12: Ecological Information

**Toxicity**
**Mixture**

| | |
|---|---|
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202) |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | semi-static test NOEC - Daphnia magna (Water flea) - 14 mg/l - 21 d (OECD Test Guideline 211) Remarks: The value is given in analogy to the following substances: sodium fluoride |

**Persistence and degradability**
The methods for determining the biological degradability are not applicable to inorganic substances

**Bioaccumulative potential**
No data available

**Mobility in soil**
No data available

**Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**Endocrine disrupting properties**
**Product:**
**Assessment:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**Other adverse effects**
No data available

## Section 13: Disposal Considerations

**Waste treatment methods**
No data available

## Section 14: Transport Information

**UN number**
ADR/RID: 1479 IMDG: 1479 IATA: 1479

**UN proper shipping name**

ADR/RID: OXIDIZING SOLID, N.O.S. (Potassium iodate)
IMDG: OXIDIZING SOLID, N.O.S. (Potassium iodate)
IATA: Oxidizing solid, n.o.s. (Potassium iodate))

**Transport hazard class(es)**
ADR/RID: 5.1 IMDG: 5.1 IATA: 5.1

**Packaging group**
ADR/RID: II IMDG: II IATA: II

**Environmental hazards**
ADR/RID: no IMDG Marine pollutant: no IATA: no

**Special precautions for user**
Tunnel restriction code: (E)
Further information: No data available

**Maritime transport in bulk according to IMO instruments**
Not applicable for product as supplied.

## Section 15: Other Regulatory Information

**Safety, health and environmental regulations/legislation specific for the substance or mixture**
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

**National legislation**

| | | |
|---|---|---|
| Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances | P8 | OXIDISING LIQUIDS AND solids |

**Chemical safety assessment**
For this product a chemical safety assessment was not carried out

## Section 16: Other Information

**References:** Not available

**Other Special Considerations:** Not available

**Created:** 02/2026

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