

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Revision Date 20.11.2019

Version 7.15

**SECTION 1. Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Catalogue No.	102404
Product name	Potassium iodate volumetric standard, secondary reference material for iodometry, traceable to NIST SRM Certipur®
REACH Registration Number	01-2119920996-25-XXXX
CAS-No.	7758-05-6

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses	Reagent for analysis For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merckgroup.com">www.merckgroup.com</a> ).
-----------------	---

**1.3 Details of the supplier of the safety data sheet**

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone: +49 6151 72-0
Responsible Department	LS-QHC * e-mail: <a href="mailto:prodsafe@merckgroup.com">prodsafe@merckgroup.com</a>

**1.4 Emergency telephone number** **Please contact the regional company representation in your country.****SECTION 2. Hazards identification****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Oxidizing solid, Category 2, H272  
Acute toxicity, Category 4, Oral, H302  
Serious eye damage, Category 1, H318

For the full text of the H-Statements mentioned in this Section, see Section 16.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.  
Product name

102404  
Potassium iodate volumetric standard, secondary reference  
material for iodometry, traceable to NIST SRM Certipur®

## 2.2 Label elements

### Labelling (REGULATION (EC) No 1272/2008)

*Hazard pictograms*



*Signal word*  
Danger

*Hazard statements*

H272 May intensify fire; oxidizer.  
H302 Harmful if swallowed.  
H318 Causes serious eye damage.

*Precautionary statements*

Prevention

P221 Take any precaution to avoid mixing with combustibles, heavy-metal compounds, acids and alkalis.

P280 Wear eye protection.

Response

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

Remove contact lenses, if present and easy to do. Continue rinsing.

P313 Get medical advice/ attention.

### Reduced labelling ( $\leq 125$ ml)

*Hazard pictograms*



*Signal word*  
Danger

*Hazard statements*

H318 Causes serious eye damage.

*Precautionary statements*

P280 Wear eye protection.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P313 Get medical advice/ attention.

CAS-No. 7758-05-6

## 2.3 Other hazards

None known.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	102404
Product name	Potassium iodate volumetric standard, secondary reference material for iodometry, traceable to NIST SRM Certipur®

## SECTION 3. Composition/information on ingredients

### 3.1 Substance

Formula	KIO <sub>3</sub>	IKO3 (Hill)
EC-No.	231-831-9	
Molar mass	214 g/mol	

### Hazardous components (REGULATION (EC) No 1272/2008)

*Chemical name (Concentration)*

CAS-No.	Registration number	Classification
---------	---------------------	----------------

Potassium iodate (>= 80 % - <= 100 % )

7758-05-6	01-2119920996-25-XXXX	Oxidizing solid, Category 2, H272 Acute toxicity, Category 4, H302 Serious eye damage, Category 1, H318
-----------	-----------------------	---

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 3.2 Mixture

Not applicable

## SECTION 4. First aid measures

### 4.1 Description of first aid measures

After inhalation: fresh air.

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

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

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

### 4.2 Most important symptoms and effects, both acute and delayed

Irritation and corrosion, respiratory arrest, Cyanosis, Stomach/intestinal disorders, collapse

Risk of serious damage to eyes.

### 4.3 Indication of any immediate medical attention and special treatment needed

No information available.

## SECTION 5. Firefighting measures

### 5.1 Extinguishing media

*Suitable extinguishing media*

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	102404
Product name	Potassium iodate volumetric standard, secondary reference material for iodometry, traceable to NIST SRM Certipur®

---

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.

### 5.2 Special hazards arising from the substance or mixture

Not combustible.

Has a fire-promoting effect due to release of oxygen.

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of:  
hydrogen iodide

### 5.3 Advice for firefighters

#### *Special protective equipment 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/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

---

## SECTION 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

### 6.2 Environmental precautions

Do not let product enter drains.

### 6.3 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.

### 6.4 Reference to other sections

Indications about waste treatment see section 13.

---

## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

#### *Advice on safe handling*

Observe label precautions.

#### *Hygiene measures*

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	102404
Product name	Potassium iodate volumetric standard, secondary reference material for iodometry, traceable to NIST SRM Certipur®

---

## 7.2 Conditions for safe storage, including any incompatibilities

### *Storage conditions*

Tightly closed. Do not store near combustible materials.

Recommended storage temperature see product label.

## 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

---

## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

### 8.2 Exposure controls

#### **Engineering measures**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

#### **Individual protection measures**

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

#### *Eye/face protection*

Tightly fitting safety goggles

#### *Hand protection*

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	102404
Product name	Potassium iodate volumetric standard, secondary reference material for iodometry, traceable to NIST SRM Certipur®

---

*Other protective equipment*  
protective clothing

*Respiratory protection*  
required when dusts are generated.  
Recommended Filter type: Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful substances  
The entrepreneur 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.

## **Environmental exposure controls**

Do not let product enter drains.

---

## **SECTION 9. Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

Form	solid
Colour	white
Odour	odourless
Odour Threshold	Not applicable
pH	ca. 6 at 50 g/l 20 °C
Melting point	560 °C decomposes
Boiling point/boiling range	Not applicable
Flash point	does not flash
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapour pressure	No information available.
Relative vapour density	No information available.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	102404
Product name	Potassium iodate volumetric standard, secondary reference material for iodometry, traceable to NIST SRM Certipur®

---

Density	3,98 g/cm <sup>3</sup> at 20 °C
Relative density	No information available.
Water solubility	92 g/l at 25 °C
Partition coefficient: n-octanol/water	Not applicable
Auto-ignition temperature	No information available.
Decomposition temperature	> 560 °C
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	The substance or mixture is classified as oxidizing with the category 2.

## 9.2 Other data

Ignition temperature	not combustible
Bulk density	ca.2.000 kg/m <sup>3</sup>

---

## SECTION 10. Stability and reactivity

### 10.1 Reactivity

See section 10.3

### 10.2 Chemical stability

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

### 10.3 Possibility of hazardous reactions

Risk of explosion with:

oxidisable substances, combustible substances, Powdered metals, Sulphides, phosphorus, sulfur, Alkali metals, hydrides, Cyanides, arsenic, carbon/soot, Alkaline earth metals, powdered aluminium, metallic oxides, Isocyanates, Reducing agents

Exothermic reaction with:

Organic Substances

### 10.4 Conditions to avoid

Temperatures above melting point.

### 10.5 Incompatible materials

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	102404
Product name	Potassium iodate volumetric standard, secondary reference material for iodometry, traceable to NIST SRM Certipur®

---

no information available

## 10.6 Hazardous decomposition products

in the event of fire: See section 5.

---

## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

#### *Acute oral toxicity*

Acute toxicity estimate: 500,1 mg/kg

Expert judgement

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

#### *Acute inhalation toxicity*

Symptoms: Possible damages:, mucosal irritations

#### *Acute dermal toxicity*

LD50 Rat: > 2.000 mg/kg

OECD Test Guideline 402

#### *Skin irritation*

Rabbit

Result: No irritation

OECD Test Guideline 404

#### *Eye irritation*

Rabbit

Risk of permanent damage due to staining of the cornea.

Causes serious eye damage.

#### *Sensitisation*

Sensitisation possible in predisposed persons.

#### *Germ cell mutagenicity*

#### *Genotoxicity in vivo*

In vivo micronucleus test

Result: negative

(Lit.)

#### *Genotoxicity in vitro*

Ames test

Result: negative

(Lit.)

Mutagenicity (mammal cell test): micronucleus.

Result: negative

Method: OECD Test Guideline 487



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	102404
Product name	Potassium iodate volumetric standard, secondary reference material for iodometry, traceable to NIST SRM Certipur®

---

In vitro mammalian cell gene mutation test

Mouse lymphoma test

Result: negative

Method: OECD Test Guideline 476

*Carcinogenicity*

This information is not available.

*Reproductive toxicity*

This information is not available.

*Teratogenicity*

This information is not available.

*Specific target organ toxicity - single exposure*

This information is not available.

*Specific target organ toxicity - repeated exposure*

This information is not available.

*Aspiration hazard*

This information is not available.

## 11.2 Further information

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

### 12.1 Toxicity

*Toxicity to daphnia and other aquatic invertebrates*

EC50 Daphnia magna (Water flea): > 100 mg/l; 48 h

OECD Test Guideline 202

### 12.2 Persistence and degradability

*Biodegradability*

The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.3 Bioaccumulative potential

*Partition coefficient: n-octanol/water*

Not applicable

### 12.4 Mobility in soil

No information available.

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

### 12.6 Other adverse effects

Discharge into the environment must be avoided.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	102404
Product name	Potassium iodate volumetric standard, secondary reference material for iodometry, traceable to NIST SRM Certipur®

## SECTION 13. Disposal considerations

### *Waste treatment methods*

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

## SECTION 14. Transport information

### Land transport (ADR/RID)

<b>14.1 UN number</b>	UN 1479
<b>14.2 Proper shipping name</b>	OXIDIZING SOLID, N.O.S. (POTASSIUM IODATE)
<b>14.3 Class</b>	5.1
<b>14.4 Packing group</b>	II
<b>14.5 Environmentally hazardous</b>	--
<b>14.6 Special precautions for user</b>	yes
Tunnel restriction code	E

### Inland waterway transport (ADN)

Not relevant

### Air transport (IATA)

<b>14.1 UN number</b>	UN 1479
<b>14.2 Proper shipping name</b>	OXIDIZING SOLID, N.O.S. (POTASSIUM IODATE)
<b>14.3 Class</b>	5.1
<b>14.4 Packing group</b>	II
<b>14.5 Environmentally hazardous</b>	--
<b>14.6 Special precautions for user</b>	no

### Sea transport (IMDG)

<b>14.1 UN number</b>	UN 1479
<b>14.2 Proper shipping name</b>	OXIDIZING SOLID, N.O.S. (POTASSIUM IODATE)
<b>14.3 Class</b>	5.1
<b>14.4 Packing group</b>	II
<b>14.5 Environmentally hazardous</b>	--
<b>14.6 Special precautions for user</b>	yes
EmS	F-A S-Q

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	102404
Product name	Potassium iodate volumetric standard, secondary reference material for iodometry, traceable to NIST SRM Certipur®

---

## 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

---

## SECTION 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### *EU regulations*

Major Accident Hazard	SEVESO III
Legislation	OXIDIZING LIQUIDS AND SOLIDS P8 Quantity 1: 50 t Quantity 2: 200 t

Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.
---------------------------	---

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC	not regulated
---	---------------

Substances of very high concern (SVHC)	This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of $\geq 0.1\%$ (w/w).
--	--

#### *National legislation*

Storage class	5.1B
---------------	------

### 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

---

## SECTION 16. Other information

### Full text of H-Statements referred to under sections 2 and 3.

H272	May intensify fire; oxidizer.
H302	Harmful if swallowed.
H318	Causes serious eye damage.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	102404
Product name	Potassium iodate volumetric standard, secondary reference material for iodometry, traceable to NIST SRM Certipur®

---

## Training advice

Provide adequate information, instruction and training for operators.

## Labelling

*Hazard pictograms*



*Signal word*

Danger

## *Hazard statements*

H272 May intensify fire; oxidizer.

H302 Harmful if swallowed.

H318 Causes serious eye damage.

## *Precautionary statements*

Prevention

P221 Take any precaution to avoid mixing with combustibles, heavy-metal compounds, acids and alkalis.

P280 Wear eye protection.

Response

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

Remove contact lenses, if present and easy to do. Continue rinsing.

P313 Get medical advice/ attention.

## Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

## Regional representation

This information is given on the authorised Safety Data Sheet for your country.

---

*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*

The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact [mlsbranding@sial.com](mailto:mlsbranding@sial.com).