

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 31.07.2018

Version 11.1

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

| | |
|---------------------------|---|
| Catalogue No. | 105043 |
| Product name | Potassium iodide for analysis EMSURE® ISO, Reag. Ph Eur |
| REACH Registration Number | 01-2119906339-35-XXXX |
| CAS-No. | 7681-11-0 |

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 (www.merckgroup.com). |
|-----------------|---|

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: prodsafe@merckgroup.com |

| | |
|--------------------------------|---|
| 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)

Specific target organ toxicity - repeated exposure, Category 1, Oral, Thyroid, H372

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. 105043

Product name Potassium iodide for analysis EMSURE® ISO, Reag. Ph Eur

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Danger

Hazard statements

H372 Causes damage to organs (Thyroid) through prolonged or repeated exposure if swallowed.

Precautionary statements

Response

P314 Get medical advice/ attention if you feel unwell.

Reduced labelling (≤125 ml)

Hazard pictograms



Signal word

Danger

Hazard statements

H372 Causes damage to organs (Thyroid) through prolonged or repeated exposure if swallowed.

CAS-No. 7681-11-0

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

3.1 Substance

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105043
Product name Potassium iodide for analysis EMSURE® ISO, Reag. Ph Eur

Formula KI IK (Hill)
EC-No. 231-659-4
Molar mass 166,00 g/mol

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

Chemical name (Concentration)

| CAS-No. | Registration number | Classification |
|--|---------------------|----------------|
| potassium iodide (>= 80 % - <= 100 %) | | |

| | | |
|-----------|-----------------------|--|
| 7681-11-0 | 01-2119906339-35-XXXX | Specific target organ toxicity - repeated exposure, Category 1, H372 |
|-----------|-----------------------|--|

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. Call in physician.

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. 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

irritant effects, paralysis symptoms, agitation, Vomiting

The following applies to iodides in general: Sensitisation possible in predisposed persons.

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105043

Product name Potassium iodide for analysis EMSURE® ISO, Reag. Ph Eur

SECTION 5. Firefighting measures

5.1 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.

5.2 Special hazards arising from the substance or mixture

Not combustible.

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 generation and inhalation of dusts in all circumstances. 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.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105043

Product name Potassium iodide for analysis EMSURE® ISO, Reag. Ph Eur

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

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

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.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105043

Product name Potassium iodide for analysis EMSURE® ISO, Reag. Ph Eur

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

Safety glasses

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).

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105043
Product name Potassium iodide for analysis EMSURE® ISO, Reag. Ph Eur

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 | off-white |
| Odour | odourless |
| Odour Threshold | Not applicable |
| pH | ca. 6,9 at 50 g/l 20 °C |
| Melting point | 685 °C at ca.975 hPa |
| Boiling point/boiling range | 1.325 °C at 1.013 hPa |
| Flash point | does not flash |
| Evaporation rate | No information available. |
| Flammability (solid, gas) | The product is not flammable. |
| Lower explosion limit | No information available. |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105043
Product name Potassium iodide for analysis EMSURE® ISO, Reag. Ph Eur

| | |
|--|---|
| Upper explosion limit | No information available. |
| Vapour pressure | ca. 1 hPa at 745 °C |
| Relative vapour density | No information available. |
| Density | 3,23 g/cm ³ at 25 °C |
| Relative density | No information available. |
| Water solubility | ca. 1.430 g/l at 20 °C |
| Partition coefficient: n-octanol/water | Not applicable for inorganic substances |
| Auto-ignition temperature | No information available. |
| Decomposition temperature | No information available. |
| Viscosity, dynamic | No information available. |
| Explosive properties | Not classified as explosive. |
| Oxidizing properties | none |

9.2 Other data

| | |
|--------------|-----------------------------|
| Bulk density | ca. 1.500 kg/m ³ |
|--------------|-----------------------------|

SECTION 10. Stability and reactivity

10.1 Reactivity

See section 10.3

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105043

Product name Potassium iodide for analysis EMSURE® ISO, Reag. Ph Eur

10.2 Chemical stability

Sensitivity to light

10.3 Possibility of hazardous reactions

Risk of explosion with:

Alkali metals, Ammonia, halogen-halogen compounds, hydrogen peroxide, perchloryl fluoride

Exothermic reaction with:

Oxidizing agents

Risk of ignition or formation of inflammable gases or vapours with:

Fluorine

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

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

LD50 Rat: 2.779 mg/kg

(own results)

Acute inhalation toxicity

This information is not available.

Acute dermal toxicity

LD50 Rat: > 2.000 mg/kg

OECD Test Guideline 402

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105043

Product name Potassium iodide for analysis EMSURE® ISO, Reag. Ph Eur

Skin irritation

Rabbit

Result: No skin irritation

OECD Test Guideline 404

Eye irritation

Rabbit

Result: No eye irritation

OECD Test Guideline 405

Sensitisation

Patch test: human

Result: negative

(ECHA)

Germ cell mutagenicity

Genotoxicity in vitro

Ames test

Salmonella typhimurium

Result: negative

(Lit.)

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.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105043

Product name Potassium iodide for analysis EMSURE® ISO, Reag. Ph Eur

Specific target organ toxicity - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Exposure routes: Ingestion

Target Organs: Thyroid

Aspiration hazard

This information is not available.

11.2 Further information

After absorption of toxic quantities:

drop in blood pressure, paralysis symptoms, agitation, Vomiting

The following applies to iodides in general: Sensitisation possible in predisposed persons.

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 fish

static test LC50 Danio rerio (zebra fish): > 100 mg/l; 96 h

OECD Test Guideline 203

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 for inorganic substances

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. 105043
Product name Potassium iodide for analysis EMSURE® ISO, Reag. Ph Eur

SECTION 13. Disposal considerations

Waste treatment methods

See 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)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

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 Not applicable

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.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105043
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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 6.1 D

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.

H372 Causes damage to organs through prolonged or repeated exposure if swallowed.

Training advice

Provide adequate information, instruction and training for operators.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 105043

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Precautionary statements

Response

P314 Get medical advice/ attention if you feel unwell.

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.

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.