

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended 2015/830.

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

1.1 Product identifier

Product name: Iodine Solution 0,05 mol/l
Product No. 5623

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

Identified uses: For Laboratory, Research or Manufacturing Use.
Uses advised against: Not determined.

1.3 Details of the supplier of the safety data sheet

Avantor Performance Materials Poland S.A.
Sowinskiego 11str., 44-101 Gliwice,
Poland

Telephone: 48 32 239-20-00
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Contact person: Environmental Health & Safety
E-mail: export@avantormaterials.com

E-mail address of person responsible for this SDS: SDS@avantormaterials.com

1.4 Emergency telephone number: CHEMTREC: (44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

The product has been classified according to the legislation in force.

Classification according to Regulation (EC) No 1272/2008 as amended.

Health Hazards

| | | |
|---|------------|---|
| Specific Target Organ Toxicity - Repeated Exposure | Category 2 | H373: May cause damage to organs through prolonged or repeated exposure. |
|---|------------|---|

2.2 Label Elements

Contains: Iodine



Signal Word: Warning

Hazard Statement(s): H373: May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements

Prevention: P260: Do not breathe dust/fume/gas/mist/vapours/spray.

Disposal: P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3 Other hazards No data available.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

| Chemical name | Concentration | CAS-No. | EC No. | REACH Registration No. | M-Factor: | Notes |
|------------------|---------------|-----------|-----------|------------------------|--------------------|-------|
| Potassium iodide | 1 - <5% | 7681-11-0 | 231-659-4 | 01-2119966161-40-XXXX | No data available. | |
| Iodine | 1 - <5% | 7553-56-2 | 231-442-4 | No data available. | No data available. | # |

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

This substance has workplace exposure limit(s).

Classification

| Chemical name | Classification | Notes |
|------------------|---|--------------------|
| Potassium iodide | none | |
| Iodine | Acute Tox. 4 H332, Acute Tox. 4 H312, Aquatic Acute 1 H400, Acute Tox. 4 H302, Eye Dam. 2 H319, Skin Corr. 2 H315, STOT SE 3 H335, STOT RE 1 H372 | No data available. |

The full text for all H-statements is displayed in section 16.

CLP: Regulation No. 1272/2008.

SECTION 4: First Aid Measures

General: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

4.1 Description of first aid measures

Inhalation: Move to fresh air.

Skin Contact: Wash skin thoroughly with soap and water. If skin irritation occurs: Get medical advice/attention.

Eye contact: If eye irritation persists: Get medical advice/attention. Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses.

Ingestion: Rinse mouth. Get medical attention if symptoms occur. Never give liquid to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed: May cause irritation to skin, eyes, and respiratory tract.

4.3 Indication of any immediate medical attention and special treatment needed
Hazards: No information about adverse effects due to exposure.
Treatment: Treat symptomatically. Symptoms may be delayed.

SECTION 5: Firefighting Measures

General Fire Hazards: No unusual fire or explosion hazards noted.

5.1 Extinguishing media
Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture: None known.

5.3 Advice for firefighters
Special fire fighting procedures: In case of fire and/or explosion do not breathe fumes.

Special protective equipment for firefighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures: Keep unauthorised personnel away.

6.2 Environmental Precautions: Do not contaminate water sources or sewer. Avoid release to the environment.

6.3 Methods and material for containment and cleaning up: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Dyke far ahead of larger spill for later recovery and disposal.

6.4 Reference to other sections: No data available.

SECTION 7: Handling and Storage:

7.1 Precautions for safe handling: Use personal protective equipment as required. Wear protective gloves/protective clothing/eye protection/face protection. Remove contaminated clothing and wash the skin thoroughly with soap and water after work. See Section 8 of the SDS for Personal Protective Equipment. Do not eat, drink or smoke when using the product. Wash at the end of each work shift and before eating, smoking or using the toilet.

7.2 Conditions for safe storage, including any incompatibilities: Store in cool, dry place.

7.3 Specific end use(s): No data available.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

Occupational Exposure Limits

| Chemical name | Type | Exposure Limit Values | Source |
|---------------|------|-----------------------|--|
| Iodine | STEL | 0,1 ppm 1,1 mg/m3 | UK. EH40 Workplace Exposure Limits (WELs) (2007) |

| | | | | |
|------------------|--------------------|------------|---|------------------------|
| Potassium iodide | General population | Inhalation | Systemic, long-term; 0,035 mg/m3 0,01 mg/kg bw/day | Repeated dose toxicity |
|------------------|--------------------|------------|---|------------------------|

8.2 Exposure controls

Appropriate Engineering Controls: No special requirements under ordinary conditions of use and with adequate ventilation.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory and eye protection may be needed in special circumstances, such as poorly ventilated spaces, heating, evaporation of liquids from large surfaces, spraying of mists, mechanical generation of dusts, drying of solids, etc.

Eye/face protection: Use personal protective equipment as required.

Skin protection

Hand Protection: Material: Chemical resistant gloves

Other: Wear suitable protective clothing.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Hygiene measures: Do not eat, drink or smoke when using the product. Wash hands before breaks and immediately after handling the product.

Environmental Controls: No data available.

SECTION 9: Physical And Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state: Liquid

Form: Liquid

Colour: Brown

Odour: Characteristic

Odour Threshold: No data available.

pH: No data available.

Freezing point: No data available.

| | |
|---|-------------------------------|
| Boiling Point: | 100 °C |
| Flash Point: | No data available. |
| Evaporation Rate: | No data available. |
| Flammability (solid, gas): | No data available. |
| Flammability limit - upper (%) | No data available. |
| Flammability limit - lower (%) | No data available. |
| Vapour pressure: | 1.100 hPa (50 °C) |
| Vapour density (air=1): | No data available. |
| Density: | 1,1 g/cm ³ (20 °C) |
| Relative density: | No data available. |
| Solubility(ies) | |
| Solubility in Water: | No data available. |
| Solubility (other): | No data available. |
| Partition coefficient (n-octanol/water): | No data available. |
| Autoignition Temperature: | No data available. |
| Decomposition Temperature: | No data available. |
| Viscosity: | No data available. |
| Explosive properties: | No data available. |
| Oxidising Properties: | No data available. |

SECTION 10: Stability and Reactivity

| | |
|---|---|
| 10.1 Reactivity: | No dangerous reaction known under conditions of normal use. |
| 10.2 Chemical Stability: | Material is stable under normal conditions. |
| 10.3 Possibility of Hazardous Reactions: | Hazardous polymerization does not occur. |
| 10.4 Conditions to Avoid: | No special precautions. |
| 10.5 Incompatible Materials: | None known. |
| 10.6 Hazardous Decomposition Products: | Not determined. |

SECTION 11: Toxicological Information

Information on likely routes of exposure

| | |
|----------------------|--|
| Inhalation: | None known or expected under normal use. |
| Skin Contact: | None known or expected under normal use. |
| Eye contact: | None known or expected under normal use. |
| Ingestion: | None known or expected under normal use. |

11.1 Information on toxicological effects

Acute toxicity

Oral

| | |
|--|-------------------------|
| Product: Specified substance(s) | ATEmix: 38.461,54 mg/kg |
|--|-------------------------|

| | |
|---|--|
| Potassium iodide | LD 50 (Various): 2.484 - 3.129 mg/kg |
| Iodine | LD 50 (Rat): 14 g/kg |
| Dermal | |
| Product: | ATEmix 109.615,38 mg/kg |
| Specified substance(s) | |
| Potassium iodide | No data available. |
| Iodine | LD 50 (Rabbit) : 1.425 mg/kg |
| Inhalation | |
| Product: | ATEmix115,38 mg/l Dusts, mists and fumes |
| Specified substance(s) | |
| Potassium iodide | No data available. |
| Iodine | LC 50 (Rat, 4 h): > 4,588 mg/l |
| Repeated dose toxicity | |
| Product: | None known. |
| Specified substance(s) | |
| Potassium iodide | LOAEL (Rat(Female, Male), Oral): 100 mg/l NOAEL (Human(Female, Male), Oral): 0,01 mg/kg LOAEL (Rat(Male), Oral, 28 d): 500 mg/kg NOAEL (Rat(Female, Male), Oral, 15 - 90 d): 0,5 ppm(m) LOAEL (Rat(Female, Male), Oral, 2 yr): 55,03 - 66,59 mg/kg |
| Iodine | No data available. |
| Skin Corrosion/Irritation: | |
| Product: | Not known. |
| Specified substance(s) | |
| Potassium iodide | No data available. |
| Iodine | No data available. |
| Serious Eye Damage/Eye Irritation: | |
| Product: | Not known. |
| Specified substance(s) | |
| Potassium iodide | in vivo (Rabbit, 24 hrs): Moderately irritating |
| Iodine | Irritating |
| Respiratory or Skin Sensitisation: | |
| Product: | Not a skin nor a respiratory sensitizer. |
| Specified substance(s) | |
| Potassium iodide | No data available. |
| Iodine | No data available. |
| Germ Cell Mutagenicity | |
| In vitro | |
| Product: | No mutagenic components identified |
| Specified substance(s) | |
| Potassium iodide | No data available. |
| Iodine | No data available. |
| In vivo | |
| Product: | No mutagenic components identified |

| | |
|---|--|
| Specified substance(s) | |
| Potassium iodide | No data available. |
| Iodine | No data available. |
| Carcinogenicity | |
| Product: | This substance has no evidence of carcinogenic properties. |
| Specified substance(s) | |
| Potassium iodide | No data available. |
| Iodine | No data available. |
| Reproductive toxicity | |
| Product: | No components toxic to reproduction |
| Specified substance(s) | |
| Potassium iodide | No data available. |
| Iodine | No data available. |
| Specific Target Organ Toxicity - Single Exposure | |
| Product: | None known. |
| Specified substance(s) | |
| Potassium iodide | No data available. |
| Iodine | No data available. |
| Specific Target Organ Toxicity - Repeated Exposure | |
| Product: | No data available. |
| Specified substance(s) | |
| Potassium iodide | No data available. |
| Iodine | No data available. |
| Aspiration Hazard | |
| Product: | Not classified |
| Specified substance(s) | |
| Potassium iodide | No data available. |
| Iodine | No data available. |
| Other Adverse Effects: | None known. |

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| SECTION 12: Ecological Information |
|---|

General information: Not regulated

12.1 Toxicity

Acute toxicity

Fish

Product: No data available.

Specified substance(s)

| | |
|------------------|--|
| Potassium iodide | LC 50 (Oncorhynchus mykiss, 96 h): 3.780 mg/l LC 0 (Danio rerio, 96 h): 100 mg/l LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss), 96 h): 896 mg/l |
| Iodine | LC 50 (Guppy (Poecilia reticulata), 24 h): 3 mg/l (Not reported) Mortality LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss), 96 h): 0,48 - 0,58 mg/l (Static) Mortality |

Aquatic Invertebrates

Product: No data available.

Specified substance(s)

Potassium iodide

EC 50 (Daphnia magna, 48 h): 1,27 mg/l (Static) Read-across from supporting substance (structural analogue or surrogate), Supporting study LC 50 (Water flea (Daphnia magna), 96 h): 0,51 - 0,68 mg/l (Static) Mortality

Iodine

Chronic toxicity

Fish

Product:

No data available.

Specified substance(s)

Potassium iodide

No data available.

Iodine

No data available.

Aquatic Invertebrates

Product:

No data available.

Specified substance(s)

Potassium iodide

No data available.

Iodine

No data available.

Toxicity to aquatic plants

Product:

No data available.

Specified substance(s)

Potassium iodide

No data available.

Iodine

No data available.

12.2 Persistence and Degradability

Biodegradation

Product:

There is no data on the degradability of this product.

Specified substance(s)

Potassium iodide

No data available.

Iodine

No data available.

BOD/COD Ratio

Product

Not determined.

Specified substance(s)

Potassium iodide

No data available.

Iodine

No data available.

12.3 Bioaccumulative Potential

Product:

Not known.

Specified substance(s)

Potassium iodide

Various, Bioconcentration Factor (BCF): 2,27 Aquatic sediment Estimated by calculation, Key study

Iodine

No data available.

12.4 Mobility in Soil:

No data available.

Known or predicted distribution to environmental compartments

Potassium iodide

No data available.

Iodine

No data available.

12.5 Results of PBT and vPvB assessment:

Not available.

Potassium iodide

No data available.

Iodine No data available.

12.6 Other Adverse Effects: No data available.

12.7 Additional Information: No data available.

SECTION 13: Disposal Considerations

13.1 Waste treatment methods

General information: No data available.

Disposal methods: Discharge, treatment, or disposal may be subject to national, state, or local laws. Do not allow to enter drains, sewers or watercourses.

SECTION 14: Transport Information

ADR

Not regulated.

RID

Not regulated.

IMDG

Not regulated.

IATA

Not regulated.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code: not applicable

SECTION 15: Regulatory information

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

EU Regulations

Regulation (EC) No. 2037/2000 Substances that deplete the ozone layer: none

Regulation (EC) No. 850/2004 on persistent organic pollutants: none

Regulation (EC) No. 689/2008 Import and export of dangerous chemicals: none

Regulation (EC) No. 1907/2006 REACH Annex XIV Substance subject to authorisation, as amended: none

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use: none

Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens and mutagens at work.: none

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breast feeding.: none

Directive 96/82/EC (Seveso III): on the control of major accident hazards involving dangerous

substances:

| Chemical name | CAS-No. | Concentration |
|---------------|-----------|---------------|
| Iodine | 7553-56-2 | 1,0 - 10% |

EU. Regulation No. 166/2006 PRTR (Pollutant Release and Transfer Registry), Annex II: Pollutants:
 none

Directive 98/24/EC on the protection of workers from the risks related to chemical agents at work:

| Chemical name | CAS-No. | Concentration |
|---------------|-----------|---------------|
| Iodine | 7553-56-2 | 1,0 - 10% |

15.2 Chemical safety assessment:

No Chemical Safety Assessment has been carried out.

| |
|--------------------------------------|
| SECTION 16: Other Information |
|--------------------------------------|

Revision Information: Not relevant.

References

PBT PBT: persistent, bioaccumulative and toxic substance.
 vPvB vPvB: very persistent and very bioaccumulative substance.

Key literature references and sources for data: No data available.

Wording of the H-statements in sections 2 and 3

| | |
|------|--|
| H302 | Harmful if swallowed. |
| H312 | Harmful in contact with skin. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life. |

Training information: No data available.

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SDS No.:

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