

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Iodine solution 0.02365 mol I<sub>2</sub>/l - 0.0473 N solution based on ASTM D 1510

Revision date: 06.09.2022

Product code: 03960

Page 1 of 10

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

### 1.1. Product identifier

Iodine solution 0.02365 mol I<sub>2</sub>/l - 0.0473 N solution based on ASTM D 1510

UFI: M0YA-G022-700S-A03P

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

#### Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

#### Uses advised against

Do not use for private purposes (household).

### 1.3. Details of the supplier of the safety data sheet

|                         |                                 |                              |
|-------------------------|---------------------------------|------------------------------|
| Company name:           | Fa. Bernd Kraft GmbH            |                              |
| Street:                 | Stempelstraße 6                 |                              |
| Place:                  | D-47167 Duisburg                |                              |
| Telephone:              | 0203/5194-0                     | Telefax: 0203/5194-290       |
| e-mail:                 | info@berndkraft.de              |                              |
| Contact person:         | Abteilung Produktsicherheit     | Telephone: 0203/5194-107/117 |
| e-mail:                 | produktsicherheit@berndkraft.de |                              |
| Internet:               | www.berndkraft.de               |                              |
| Responsible Department: | Abteilung Produktsicherheit     |                              |

### 1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

### Further Information

This product is a mixture. REACH Registration Number see section 3.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008  
STOT RE 2; H373

Full text of hazard statements: see SECTION 16.

### 2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling  
potassium iodide

Signal word: Warning

Pictograms:



Hazard statements

H373 May cause damage to organs (thyroid gland) through prolonged or repeated exposure if swallowed.

**Iodine solution 0.02365 mol I<sub>2</sub>/l - 0.0473 N solution based on ASTM D 1510**

Revision date: 06.09.2022

Product code: 03960

Page 2 of 10

**Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P314 Get medical advice/attention if you feel unwell.

**2.3. Other hazards**

No data available

**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

**Chemical characterization**

Mixtures in aqueous solution

**Hazardous components**

| CAS No    | Chemical name  |              |                  | Quantity   |
|-----------|--|--------------|------------------|------------|
|           | EC No  | Index No     | REACH No         |            |
|           | Classification (Regulation (EC) No 1272/2008)  |              |                  |            |
| 7681-11-0 | potassium iodide   |              |                  | 5 - < 10 % |
|           | 231-659-4  |              | 01-2119906339-35 |            |
|           | STOT RE 1; H372  |              |                  |            |
| 7553-56-2 | iodine   |              |                  | < 1 %      |
|           | 231-442-4  | 053-001-00-3 | 01-2119485285-30 |            |
|           | Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3, STOT RE 1, Aquatic Acute 1; H332 H312 H315 H319 H335 H372 H400 |              |                  |            |

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

| CAS No    | EC No     | Chemical name  | Quantity   |
|-----------|-----------|--|------------|
|           |           | Specific Conc. Limits, M-factors and ATE   |            |
| 7681-11-0 | 231-659-4 | potassium iodide   | 5 - < 10 % |
|           |           | oral: LD50 = 3118 mg/kg  |            |
| 7553-56-2 | 231-442-4 | iodine   | < 1 %      |
|           |           | inhalation: ATE = 11 mg/l (vapours); inhalation: LC50 = > 4,588 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg |            |

**Further Information**

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 = 0.1 % (w/w).

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**General information**

No data available

**After inhalation**

Provide fresh air.

**After contact with skin**

Wash immediately with: Water  
Take off immediately all contaminated clothing and wash it before reuse.

**After contact with eyes**

Rinse immediately carefully and thoroughly with eye-bath or water.

**After ingestion**

Rinse mouth immediately and drink plenty of water.

**Iodine solution 0.02365 mol I<sub>2</sub>/l - 0.0473 N solution based on ASTM D 1510**

Revision date: 06.09.2022

Product code: 03960

Page 3 of 10

Call a physician immediately.

**4.2. Most important symptoms and effects, both acute and delayed**

No data available

**4.3. Indication of any immediate medical attention and special treatment needed**

No data available

**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

**Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

**Unsuitable extinguishing media**

no restriction

**5.2. Special hazards arising from the substance or mixture**

Non-combustible liquids

**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

**Additional information**

Use water spray jet to protect personnel and to cool endangered containers.

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

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

**For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment: see section 8

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

**6.3. Methods and material for containment and cleaning up**

**For containment**

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

**For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

**Other information**

Provide adequate ventilation.

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

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

**Iodine solution 0.02365 mol I<sub>2</sub>/l - 0.0473 N solution based on ASTM D 1510**

Revision date: 06.09.2022

Product code: 03960

Page 4 of 10

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

**Advice on safe handling**

Handle and open container with care.  
Keep container tightly closed.  
Avoid contact with skin, eyes and clothes.

**Advice on protection against fire and explosion**

Usual measures for fire prevention.

**Advice on general occupational hygiene**

Wash contaminated clothing prior to re-use.  
Do not breathe vapour/aerosol.  
Avoid contact with skin, eyes and clothes.

**Further information on handling**

Wash contaminated clothing before reuse.  
Wash hands before breaks and after work.

**7.2. Conditions for safe storage, including any incompatibilities**

**Requirements for storage rooms and vessels**

Store in a well-ventilated place. Keep container tightly closed.

**Hints on joint storage**

No data available

**Further information on storage conditions**

Store in a dry place.  
Protect against: Light

**7.3. Specific end use(s)**

Laboratory chemicals

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Occupational exposure limits**

| CAS No    | Substance                              | ppm  | mg/m <sup>3</sup> | fib/cm <sup>3</sup> | Category      | Origin |
|-----------|--|------|-------------------|---------------------|---------------|--------|
| 7553-56-2 | Iodine (Inhalable Fraction and Vapour) | 0.01 | -                 |                     | TWA (8 h)     |        |
|           |  | 0.1  | -                 |                     | STEL (15 min) |        |

**DNEL/DMEL values**

| CAS No                 | Substance | Exposure route | Effect   | Value                  |
|------------------------|-----------|----------------|----------|------------------------|
| 7553-56-2              | iodine    |                |          |                        |
| Worker DNEL, long-term |           | inhalation     | systemic | 0,07 mg/m <sup>3</sup> |
| Worker DNEL, long-term |           | dermal         | systemic | 0,01 mg/kg bw/day      |

**Iodine solution 0.02365 mol I<sub>2</sub>/l - 0.0473 N solution based on ASTM D 1510**

Revision date: 06.09.2022

Product code: 03960

Page 5 of 10

**PNEC values**

| CAS No   | Substance |              |
|--|-----------|--------------|
| Environmental compartment                        |           | Value        |
| 7553-56-2  | iodine    |              |
| Freshwater                                       |           | 0,01813 mg/l |
| Marine water                                     |           | 0,06001 mg/l |
| Freshwater sediment                              |           | 3,99 mg/kg   |
| Marine sediment                                  |           | 20,22 mg/kg  |
| Micro-organisms in sewage treatment plants (STP) |           | 11 mg/l      |
| Soil   |           | 5,95 mg/kg   |

**8.2. Exposure controls**

**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

goggles

**Hand protection**

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) With specification (test according to EN374):

By long-term hand contact

Trade name/designation KCL 741 Dermatril® L

Suitable material: NBR (Nitrile rubber) 0,11 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation KCL 741 Dermatril® L

Suitable material: NBR (Nitrile rubber) 0,11 mm

Wearing time with occasional contact (splashes): > 480 min

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)).

**Skin protection**

Wear suitable protective clothing.

Wash hands before breaks and after work.

**Respiratory protection**

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

**Environmental exposure controls**

Do not allow to enter into surface water or drains.

**SECTION 9: Physical and chemical properties**

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

|                 |                |
|-----------------|----------------|
| Physical state: | Liquid         |
| Colour:         | brown          |
| Odour:          | characteristic |

**Iodine solution 0.02365 mol I<sub>2</sub>/l - 0.0473 N solution based on ASTM D 1510**

Revision date: 06.09.2022

Product code: 03960

Page 6 of 10

|   |                   |                           |
|---|-------------------|---------------------------|
| Odour threshold:  | No data available |                           |
| Melting point/freezing point:                             |                   | No data available         |
| Boiling point or initial boiling point and boiling range: |                   | No data available         |
| Flammability  |                   |                           |
| Solid/liquid:   |                   | No data available         |
| Gas:  |                   | No data available         |
| Lower explosion limits:                                   |                   | No data available         |
| Upper explosion limits:                                   |                   | No data available         |
| Flash point:  |                   | No data available         |
| Auto-ignition temperature:                                |                   | No data available         |
| Decomposition temperature:                                |                   | No data available         |
| pH-Value:   |                   | 4,46                      |
| Viscosity / kinematic:                                    |                   | No data available         |
| Water solubility:   |                   | No data available         |
| Solubility in other solvents                              |                   |                           |
| No data available   |                   |                           |
| Dissolution rate:   |                   | No data available         |
| Partition coefficient n-octanol/water:                    |                   | No data available         |
| Dispersion stability:                                     |                   | No data available         |
| Vapour pressure:  |                   | No data available         |
| Vapour pressure:  |                   | No data available         |
| Density:  |                   | 1,04475 g/cm <sup>3</sup> |
| Relative density:   |                   | No data available         |
| Bulk density:   |                   | No data available         |
| Relative vapour density:                                  |                   | No data available         |
| Particle characteristics:                                 |                   | No data available         |

**9.2. Other information**

**Information with regard to physical hazard classes**

|                           |  |                   |
|---------------------------|--|-------------------|
| Explosive properties      |  |                   |
| No data available         |  |                   |
| Sustaining combustion:    |  | No data available |
| Self-ignition temperature |  |                   |
| Solid:                    |  | No data available |
| Gas:                      |  | No data available |
| Oxidizing properties      |  |                   |
| No data available         |  |                   |

**Other safety characteristics**

|                          |  |                   |
|--------------------------|--|-------------------|
| Evaporation rate:        |  | No data available |
| Solvent separation test: |  | No data available |
| Solvent content:         |  | 0                 |
| Solid content:           |  | 0                 |
| Sublimation point:       |  | No data available |
| Softening point:         |  | No data available |
| Pour point:              |  | No data available |
| No data available:       |  |                   |
| Viscosity / dynamic:     |  | No data available |
| Flow time:               |  | No data available |

**Further Information**

No data available

**SECTION 10: Stability and reactivity**

**Iodine solution 0.02365 mol I<sub>2</sub>/l - 0.0473 N solution based on ASTM D 1510**

Revision date: 06.09.2022

Product code: 03960

Page 7 of 10

**10.1. Reactivity**

No data available

**10.2. Chemical stability**

Protect against: Light

**10.3. Possibility of hazardous reactions**

No data available

**10.4. Conditions to avoid**

Light

**10.5. Incompatible materials**

No data available

**10.6. Hazardous decomposition products**

No data available

**Further information**

No data available

**SECTION 11: Toxicological information**

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

**Toxicokinetics, metabolism and distribution**

There are no data available on the preparation/mixture itself.

**Acute toxicity**

Based on available data, the classification criteria are not met.

| CAS No    | Chemical name              |                   |         |                     |                    |
|-----------|----------------------------|-------------------|---------|---------------------|--------------------|
|           | Exposure route             | Dose              | Species | Source              | Method             |
| 7681-11-0 | potassium iodide           |                   |         |                     |                    |
|           | oral                       | LD50 3118 mg/kg   | Rat     | Study report (1980) | OECD Guideline 401 |
| 7553-56-2 | iodine                     |                   |         |                     |                    |
|           | dermal                     | LD50 > 2000 mg/kg | Rabbit  | Study report (2006) | EPA OPPTS 870.1200 |
|           | inhalation vapour          | ATE 11 mg/l       |         |                     |                    |
|           | inhalation (4 h) dust/mist | LC50 > 4,588 mg/l | Rat     | Study report (2008) | OECD Guideline 403 |

**Irritation and corrosivity**

Based on available data, the classification criteria are not met.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

May cause damage to organs through prolonged or repeated exposure. (potassium iodide)

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Information on likely routes of exposure**

There are no data available on the preparation/mixture itself.

**Iodine solution 0.02365 mol I<sub>2</sub>/l - 0.0473 N solution based on ASTM D 1510**

Revision date: 06.09.2022

Product code: 03960

Page 8 of 10

**Specific effects in experiment on an animal**

There are no data available on the preparation/mixture itself.

**Additional information on tests**

There are no data available on the preparation/mixture itself.

**Practical experience**

There are no data available on the preparation/mixture itself.

**11.2. Information on other hazards**

**Endocrine disrupting properties**

There are no data available on the preparation/mixture itself.

**Other information**

There are no data available on the preparation/mixture itself.

**Further information**

There are no data available on the preparation/mixture itself.

**SECTION 12: Ecological information**

**12.1. Toxicity**

There are no data available on the preparation/mixture itself.

| CAS No    | Chemical name            |                |           |         |   |                     |  |
|-----------|--------------------------|----------------|-----------|---------|---|---------------------|--|
|           | Aquatic toxicity         | Dose           | [h]   [d] | Species | Source  | Method              |  |
| 7681-11-0 | potassium iodide         |                |           |         |   |                     |  |
|           | Acute fish toxicity      | LC50<br>mg/l   | 3780      | 96 h    | Oncorhynchus mykiss                                 | Publication (1995)  | other: Protocol to d                     |
|           | Acute crustacea toxicity | EC50<br>mg/l   | 1,27      | 48 h    | Daphnia magna                                       | Study report (2012) | OECD Guideline 202                       |
| 7553-56-2 | iodine                   |                |           |         |   |                     |  |
|           | Acute fish toxicity      | LC50<br>mg/l   | 1,67      | 96 h    | Oncorhynchus mykiss                                 | Publication (1995)  | other: Ontario Ministry of the Environme |
|           | Acute algae toxicity     | ErC50<br>mg/l  | 0,13      | 72 h    | Desmodesmus subspicatus                             | Study report (2010) | OECD Guideline 201                       |
|           | Acute crustacea toxicity | EC50<br>mg/l   | 0,59      | 48 h    | Daphnia magna                                       | Publication (1995)  | other: Ontario Ministry of the Environme |
|           | Acute bacteria toxicity  | (EC50<br>mg/l) | 280       | 3 h     | activated sludge of a predominantly domestic sewage | Study report (2010) | OECD Guideline 209                       |

**12.2. Persistence and degradability**

There are no data available on the preparation/mixture itself.

**12.3. Bioaccumulative potential**

There are no data available on the preparation/mixture itself.

**Partition coefficient n-octanol/water**

| CAS No    | Chemical name | Log Pow |
|-----------|---------------|---------|
| 7553-56-2 | iodine        | 2,49    |

**12.4. Mobility in soil**

There are no data available on the preparation/mixture itself.

**12.5. Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.



**Iodine solution 0.02365 mol I<sub>2</sub>/l - 0.0473 N solution based on ASTM D 1510**

Revision date: 06.09.2022

Product code: 03960

Page 9 of 10

**12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

There are no data available on the preparation/mixture itself.

**12.7. Other adverse effects**

Discharge into the environment must be avoided.

**Further information**

Do not allow to enter into surface water or drains.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

**Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Do not allow to enter into surface water or drains.

Send to a physico-chemical treatment facility under observation of official regulations.

**Contaminated packaging**

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

**SECTION 14: Transport information**

**Land transport (ADR/RID)**

**14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**Inland waterways transport (ADN)**

**14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**Marine transport (IMDG)**

**14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**Air transport (ICAO-TI/IATA-DGR)**

**14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

No dangerous good in sense of this transport regulation.

**14.7. Maritime transport in bulk according to IMO instruments**

No dangerous good in sense of this transport regulation.

**SECTION 15: Regulatory information**

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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Iodine solution 0.02365 mol I<sub>2</sub>/l - 0.0473 N solution based on ASTM D 1510**

Revision date: 06.09.2022

Product code: 03960

Page 10 of 10

**EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

**National regulatory information**

Water hazard class (D): 3 - highly hazardous to water

**Additional information**

No data available

**SECTION 16: Other information**

**Changes**

This data sheet contains changes from the previous version in section(s): 9,12.

**Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]**

| Classification  | Classification procedure |
|-----------------|--------------------------|
| STOT RE 2; H373 | Calculation method       |

**Relevant H and EUH statements (number and full text)**

- 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 (thyroid gland) through prolonged or repeated exposure if swallowed.
- H373 May cause damage to organs (thyroid gland) through prolonged or repeated exposure if swallowed.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.

**Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*