

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Iodine solution R Reag. Ph. Eur., chapter 4.1.1

Revision date: 07.12.2023

Product code: 22595

Page 1 of 11

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

### 1.1. Product identifier

Iodine solution R Reag. Ph. Eur., chapter 4.1.1

### 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:	AnalytiChem GmbH	
Street:	Stempelstraße 6	
Place:	D-47167 Duisburg	
Telephone:	0203/5194-0	Telefax: 0203/5194-290
E-mail:	info@analytichem.de	
Contact person:	Abteilung Produktsicherheit	Telephone: 0203/5194-107/117
E-mail:	produktsicherheit@analytichem.de	
Internet:	www.analytichem.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

iodine

#### Signal word:

Warning

#### Pictograms:



#### Hazard statements

H373

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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Iodine solution R Reag. Ph. Eur., chapter 4.1.1

Revision date: 07.12.2023

Product code: 22595

Page 2 of 11

**Precautionary statements**

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P314	Get medical advice/attention if you feel unwell.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

**2.3. Other hazards**

No data available

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****Chemical characterization**

Mixtures in aqueous solution

**Relevant ingredients**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7681-11-0	potassium iodide			1 - < 5 %
	231-659-4		01-2119906339-35	
	STOT RE 1; H372			
7553-56-2	iodine			1 - < 5 %
	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	1 - < 5 %
	oral: LD50 = 3118 mg/kg		
7553-56-2	231-442-4	iodine	1 - < 5 %
	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.  
If breathing is irregular or stopped, administer artificial respiration.  
Call a physician immediately.

**After contact with skin**

Take off immediately all contaminated clothing and wash it before reuse.  
Call a physician immediately.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Iodine solution R Reag. Ph. Eur., chapter 4.1.1

Revision date: 07.12.2023

Product code: 22595

Page 3 of 11

#### After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
Protect uninjured eye.

#### After ingestion

Rinse mouth immediately and drink plenty of water.  
Call a physician immediately.

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

Irritant  
Conjunctival oedema (chemosis).  
Asthmatic complaints  
Fever  
Gastrointestinal complaints  
Circulatory collapse

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

Give sodium sulfate as laxative (1 tablespoon in 1 glass of water).

### 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  
Hazardous combustion products  
In case of fire may be liberated: Hydrogen iodide (HI)

#### 5.3. Advice for firefighters

Do not inhale explosion and combustion gases.  
Avoid contact with skin, eyes and clothes.  
In case of fire: Wear self-contained breathing apparatus.

#### Additional information

Suppress gases/vapours/mists with water spray jet.  
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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Iodine solution R Reag. Ph. Eur., chapter 4.1.1

Revision date: 07.12.2023

Product code: 22595

Page 4 of 11

#### 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

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advice on safe handling

- Read label before use. Handle and open container with care.
- Do not breathe vapour/aerosol.
- When using do not eat, drink, smoke, sniff. Keep container tightly closed.
- Use personal protection equipment. Use extractor hood (laboratory).
- Provide adequate ventilation. Avoid contact with skin, eyes and clothes.

#### Advice on protection against fire and explosion

- Usual measures for fire prevention.

#### Advice on general occupational hygiene

- Keep away from food, drink and animal feedingstuffs. Make available sufficient washing facilities
- Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.
- Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

#### Further information on handling

- Draw up and observe skin protection programme.
- Wash hands and face before breaks and after work and take a shower if necessary.
- Take off immediately all contaminated clothing and wash it before reuse.
- If handled uncovered, arrangements with local exhaust ventilation have to be used.

### 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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Iodine solution R Reag. Ph. Eur., chapter 4.1.1**

Revision date: 07.12.2023

Product code: 22595

Page 5 of 11

**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			
DNEL type	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	

**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.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Do not breathe vapour/aerosol.

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

**Eye/face protection**

goggles

Wear eye/face protection.

**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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Iodine solution R Reag. Ph. Eur., chapter 4.1.1**

Revision date: 07.12.2023

Product code: 22595

Page 6 of 11

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).

**Skin protection**

Wear suitable protective clothing.  
Take off immediately all contaminated clothing.  
Wash hands before breaks and after work.

**Respiratory protection**

Respiratory protection necessary at: aerosol or mist formation

**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:	dark brown	
Odour:	characteristic	
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:		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:		No data available
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
Density:	1,04219 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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Iodine solution R Reag. Ph. Eur., chapter 4.1.1

Revision date: 07.12.2023

Product code: 22595

Page 7 of 11

Oxidizing properties

No data available

#### Other safety characteristics

Evaporation rate:

No data available

Solvent separation test:

No data available

Solvent content:

No data available

Solid content:

No data available

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

### 10.1. Reactivity

No data available

### 10.2. Chemical stability

Protect against: Light

### 10.3. Possibility of hazardous reactions

Reducing agent, Alkali metals, Acetylene, Ammonia (NH<sub>3</sub>), boron mercury (Hg), Metal powder, Fluorine, Formaldehyde  
White/yellow phosphor, SULPHUR, titanium, Combustible substance,  
Gasoline, Diethyl ether, Alkaline earth metal, Chlorine (Cl<sub>2</sub>), Zinc, Iron.

### 10.4. Conditions to avoid

Light

### 10.5. Incompatible materials

No data available

### 10.6. Hazardous decomposition products

In case of fire may be liberated:  
SECTION 5: Firefighting measures

#### 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 mixture itself.

#### Acute toxicity

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

#### ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Iodine solution R Reag. Ph. Eur., chapter 4.1.1**

Revision date: 07.12.2023

Product code: 22595

Page 8 of 11

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

**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 mixture itself.

**Specific effects in experiment on an animal**

There are no data available on the mixture itself.

**Additional information on tests**

There are no data available on the mixture itself.

**Practical experience**

There are no data available on the mixture itself.

**11.2. Information on other hazards**

**Endocrine disrupting properties**

There are no data available on the mixture itself.

**Other information**

There are no data available on the mixture itself.

**Further information**

- Irritant
- Conjunctival oedema (chemosis).
- Asthmatic complaints
- Fever
- Gastrointestinal complaints
- Circulatory collapse

**SECTION 12: Ecological information**

**12.1. Toxicity**

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



**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Iodine solution R Reag. Ph. Eur., chapter 4.1.1**

Revision date: 07.12.2023

Product code: 22595

Page 9 of 11

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

**12.3. Bioaccumulative potential**

There are no data available on the 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 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.

**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.

**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.  
Send to a physico-chemical treatment facility under observation of official regulations.  
Do not allow to enter into surface water or drains.

**Contaminated packaging**

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.  
Handle contaminated packages in the same way as the substance itself.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Iodine solution R Reag. Ph. Eur., chapter 4.1.1**

Revision date: 07.12.2023

Product code: 22595

Page 10 of 11

**SECTION 14: Transport information**

**Land transport (ADR/RID)**

<b>14.1. UN number or ID number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

**Inland waterways transport (ADN)**

<b>14.1. UN number or ID number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

**Marine transport (IMDG)**

<b>14.1. UN number or ID number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

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

<b>14.1. UN number or ID number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	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**

**EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

Information according to Directive 2012/18/EU (SEVESO III):

Not subject to 2012/18/EU (SEVESO III)

**National regulatory information**

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D):

3 - highly hazardous to water

**SECTION 16: Other information**

**Changes**

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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Iodine solution R Reag. Ph. Eur., chapter 4.1.1**

Revision date: 07.12.2023

Product code: 22595

Page 11 of 11

**Abbreviations and acronyms**

Acute Tox: Acute toxicity  
Skin Irrit: Skin irritation  
Eye Irrit: Eye irritation  
STOT SE: Specific target organ toxicity - single exposure  
STOT RE: Specific target organ toxicity - repeated exposure  
Aquatic Acute: Acute aquatic hazard

**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 through prolonged or repeated exposure.  
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 relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*