

## Safety Data Sheet

according to UK REACH Regulation

### Bromide bromate solution 0.05 mol Br<sub>2</sub>/l = 1/60 mol KBrO<sub>3</sub>/l 0.1 N solution concentrated solution ac

Revision date: 24.08.2022

Product code: 22140

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

##### 1.1. Product identifier

Bromide bromate solution 0.05 mol Br<sub>2</sub>/l = 1/60 mol KBrO<sub>3</sub>/l 0.1 N solution concentrated solution ac

UFI: 1U9Y-11C3-H00R-682K

##### 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

inapplicable, this product is a mixture REACH registration number see section 3

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### GB CLP Regulation

Carc. 1B; H350

Full text of hazard statements: see SECTION 16.

##### 2.2. Label elements

###### GB CLP Regulation

###### Hazard components for labelling

potassium bromate

Signal word: Danger

Pictograms:



###### Hazard statements

H350

May cause cancer.

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**Precautionary statements**

- P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P405 Store locked up.

**Special labelling of certain mixtures**

Restricted to professional users.

**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 (GB CLP Regulation)	
7758-02-3	potassium bromide	1 - < 5 %
	231-830-3	01-2119962195-33
	Eye Irrit. 2; H319	
7758-01-2	potassium bromate	< 1 %
	231-829-8	035-003-00-6
	01-2119518844-34	
	Ox. Sol. 1, Carc. 1B, Acute Tox. 3; H271 H350 H301	

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	
7758-02-3	231-830-3	potassium bromide	1 - < 5 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 5000 mg/kg	
7758-01-2	231-829-8	potassium bromate	< 1 %
		oral: LD50 = 157 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**

Take off immediately all contaminated clothing.

**After inhalation**

Provide fresh air.  
 Call a physician immediately.

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**After contact with skin**

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

**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**

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  
Hazardous combustion products

**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.  
Move undamaged containers from immediate hazard area if it can be done safely.  
Use water spray jet to protect personnel and to cool endangered containers.

**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  
Consult an expert  
Do not breathe dust/fume/gas/mist/vapours/spray.

**For emergency responders**

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

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**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

**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.
- When using do not eat, drink, smoke, sniff. Keep container tightly closed.
- Use personal protection equipment. Use extractor hood (laboratory).
- Provide adequate ventilation. Do not breathe vapour/aerosol.
- 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.
- Store in a place accessible by authorized persons only.

**Hints on joint storage**

national regulations

**Further information on storage conditions**

- Store in a dry place.
- storage temperature > 15°C

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

Laboratory chemicals

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

**8.1. Control parameters**

**DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
7758-02-3	potassium bromide			
Worker DNEL, long-term		inhalation	systemic	4,75 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	95 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	95 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	1,66 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	95 mg/kg bw/day
Consumer DNEL, acute		dermal	systemic	95 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,475 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	50 mg/kg bw/day

**PNEC values**

CAS No	Substance	Value
7758-02-3	potassium bromide	
Freshwater		0,52 mg/l
Freshwater (intermittent releases)		109 mg/l
Marine water		41 mg/l
Micro-organisms in sewage treatment plants (STP)		100 mg/l
Soil		3,2 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 gas/fumes/vapour/spray.

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

**Eye/face protection**

goggles

Wear eye/face protection.

**Hand protection**

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) with the following specification (test according to EN 374):

By long-term hand contact

Trade name/designation KCL 741 Dermatril® L

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

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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).

**Skin protection**

Wear suitable protective clothing.

Take off immediately all contaminated 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:	colourless	
Odour:	odourless	
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:		6,2
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 (at 20 °C):		1,00744 g/cm <sup>3</sup>
Relative density:		No data available

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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: Sustaining combustion  
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**

### **10.1. Reactivity**

No data available

### **10.2. Chemical stability**

No data available

### **10.3. Possibility of hazardous reactions**

No data available

### **10.4. Conditions to avoid**

No data available

### **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 GB CLP Regulation**

**Toxicokinetics, metabolism and distribution**

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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
7758-02-3	potassium bromide				
	oral	LD50 > 5000 mg/kg	Rat	Study report (1992)	EPA OPP 81-1
	dermal	LD50 > 2000 mg/kg	Rabbit	Study report (1988)	other: EPA FIFRA 81-6
7758-01-2	potassium bromate				
	oral	LD50 157 mg/kg	Rat	Eisei Kagaku 1991, 37, (4), 258-265. (19	OECD Guideline 401

**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**

May cause cancer. (potassium bromate)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: 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**

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

**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.

**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 mixture itself.



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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
7758-02-3	potassium bromide					
	Acute fish toxicity	LC50 > 440 mg/l	96 h	Scophthalmus maximus	Study report (2000)	OECD Guideline 203
	Acute algae toxicity	ErC50 > 440 mg/l	72 h	Skeletonema costatum	Study report (2000)	OECD Guideline 201
	Acute crustacea toxicity	EC50 > 100 mg/l	48 h	Daphnia magna	Study report (1996)	OECD Guideline 202
	Fish toxicity	NOEC 10 mg/l	124 d	Poecilia reticulata	Fd. Chem. Toxic. Vol. 21, No. 4, 369-378	Dutch Standardisation Organisation
	Crustacea toxicity	NOEC 7,5 mg/l	21 d	Daphnia magna	Ecotoxicology and Environmental Safety,	other: OECD
	Acute bacteria toxicity	(EC50 > 1000 mg/l)	3 h	activated sludge of a predominantly domestic sewage	Study report (2007)	OECD Guideline 209
7758-01-2	potassium bromate					
	Acute algae toxicity	ErC50 > 100 mg/l	72 h	Desmodesmus subspicatus	Study report (2010)	OECD Guideline 201

**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.

**BCF**

CAS No	Chemical name	BCF	Species	Source
7758-02-3	potassium bromide	0,23	Artemia salina	Environmental Toxico

**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 UK REACH.

There are no data available on the mixture itself.

**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 mixture itself.

**12.7. Other adverse effects**

There are no data available on the mixture itself.

**Further information**

Do not allow to enter into surface water or drains.

Discharge into the environment must be avoided.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

**Disposal recommendations**

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

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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.

Handle contaminated packages in the same way as the substance itself.

**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**

**EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 28, Entry 75

**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

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**SECTION 16: Other information**

**Changes**

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

**Classification for mixtures and used evaluation method according to GB CLP Regulation**

Classification	Classification procedure
Carc. 1B; H350	Calculation method

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

- H271 May cause fire or explosion; strong oxidiser.
- H301 Toxic if swallowed.
- H319 Causes serious eye irritation.
- H350 May cause cancer.

**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.)*