

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Potassium fluoride solution 30 % for analysis

Revision date: 08.09.2021

Product code: 11092

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

### 1.1. Product identifier

Potassium fluoride solution 30 % for analysis

### 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

Acute Tox. 3; H311

Acute Tox. 3; H331

Acute Tox. 4; H302

Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

### 2.2. Label elements

#### Regulation (EC) No 1272/2008

#### Hazard components for labelling

potassium fluoride

Signal word: Danger

#### Pictograms:



#### Hazard statements

H302 Harmful if swallowed.

H311+H331 Toxic in contact with skin or if inhaled.

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H318 Causes serious eye damage.

**Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
 P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310 Immediately call a POISON CENTER/doctor.  
 P361+P364 Take off immediately all contaminated clothing and wash it before reuse.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.

**Additional advice on labelling**

No information available.

**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)			
7789-23-3	potassium fluoride			30 - < 35 %
	232-151-5	009-005-00-2	01-2119555273-40	
	Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Eye Dam. 1; H331 H311 H301 H318			

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		
7789-23-3	232-151-5	potassium fluoride	30 - < 35 %
	inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = ca. 148,5 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**

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down.  
 Call a physician immediately.

**After inhalation**

Provide fresh air.  
 If breathing is irregular or stopped, administer artificial respiration.  
 Call a physician immediately.

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#### After contact with skin

Rinse with plenty of water for at least 10 minutes. Immediately remove contaminated clothes. Apply calcium gluconate gel (preparation: boil 5 g of calcium gluconate in 85 ml of hot distilled water, add 10 g glycerol. Allow 5 g of Carmellose-sodium to swell in the hot solution. Stable for 6 months, store in a cool place) and massage into the skin until the pain subsides, in between rinse with water and apply fresh gel. Continue gel therapy for another 15 minutes after the pain has subsided. If no calcium gluconate gel is available, apply several dressings thoroughly moistened with 20 % calcium gluconate solution. Medical advice absolutely required!

#### 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

Never give anything by mouth to an unconscious person or a person with cramps.

Rinse mouth immediately and drink plenty of water.

Adverse human health effects and symptoms:

Gastric perforation

Remove casualty to fresh air and keep warm and at rest.

Call a physician immediately.

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

Irritant

Causes burns.

Dyspnoea

Respiratory complaints

Unconsciousness

Spasms

Corneal opacity.

Agitation

Cardiac arrhythmias

Circulatory collapse

## 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 fluoride

### 5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

In case of fire and/or explosion do not breathe fumes. Use water spray jet to protect personnel and to cool endangered containers.

#### 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.

## SECTION 6: Accidental release measures

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

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**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

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

**Advice on safe handling**

- Avoid exposure - obtain special instructions before use.
- Do not breathe vapour/aerosol.
- 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.
- 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**

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**Requirements for storage rooms and vessels**

- Keep container tightly closed.
- Keep locked up.
- Store in a place accessible by authorized persons only.
- Provide adequate ventilation as well as local exhaustion at critical locations.
- storage temperature +5°C - +30°C

**Further information on storage conditions**

- Store in a dry place.
- Suitable container/equipment material: plastic
- Unsuitable container/equipment material: Metal Glass

**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
7789-23-3	potassium fluoride			
	Worker DNEL, long-term	inhalation	systemic	3 mg/m <sup>3</sup>
	Worker DNEL, acute	inhalation	systemic	12 mg/m <sup>3</sup>
	Worker DNEL, long-term	inhalation	local	3 mg/m <sup>3</sup>
	Worker DNEL, acute	inhalation	local	12 mg/m <sup>3</sup>
	Worker DNEL, long-term	dermal	systemic	0,44 mg/kg bw/day
	Worker DNEL, acute	dermal	systemic	0,44 mg/kg bw/day

**PNEC values**

CAS No	Substance	Value
7789-23-3	potassium fluoride	
	Freshwater	0,89 mg/l
	Micro-organisms in sewage treatment plants (STP)	51 mg/l
	Soil	11 mg/kg

**8.2. Exposure controls**

**Appropriate engineering controls**

- If handled uncovered, arrangements with local exhaust ventilation have to be used.
- Do not breathe vapour/aerosol.
- 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**

- Suitable eye protection:
- goggles
- Face protection umbrella

**Hand protection**

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

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specification (test according to EN374):

By long-term hand contact

Recommended glove articles: KCL 741 Dermatril® L

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

Wearing time with permanent contact: > 480 min

By short-term hand contact

Recommended glove articles: KCL 741 Dermatril® L

Recommended 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**

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:	colourless
Odour:	odourless
Odour threshold:	No data available

**Changes in the physical state**

Melting point/freezing point:	No data available
Boiling point or initial boiling point and boiling range:	No data available
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
No data available:	
Flash point:	X

**Flammability**

Solid/liquid:	not applicable
Gas:	not applicable

**Explosive properties**

No data available

Lower explosion limits:	not determined
Upper explosion limits:	not determined
Auto-ignition temperature:	No data available

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**Self-ignition temperature**

Solid: not applicable  
Gas: not applicable

Decomposition temperature: not determined

pH-Value: No data available

Viscosity / dynamic: not determined

Viscosity / kinematic: not determined

Flow time: not determined

Water solubility: No data available

**Solubility in other solvents**

not determined

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: not determined

Density: 1,284 g/cm<sup>3</sup>

Relative density: No data available

Bulk density: No data available

Relative vapour density: not determined

Particle characteristics: No data available

**9.2. Other information**

**Information with regard to physical hazard classes**

Sustaining combustion: No data available

Oxidizing properties  
Not oxidising.

**Other safety characteristics**

Solvent separation test: No data available

Solvent content: No data available

Solid content: not determined

Evaporation rate: not determined

**Further Information**

No data available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

No data available

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

Oxidising agent, strong  
Acid

**10.4. Conditions to avoid**

Heat

**10.5. Incompatible materials**

No data available

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**10.6. Hazardous decomposition products**

In case of fire:  
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**

Avoid exposure - obtain special instructions before use.

**Acute toxicity**

Toxic in contact with skin.  
Toxic if inhaled.  
Harmful if swallowed.

**ATEmix calculated**

ATE (oral) 495,0 mg/kg; ATE (dermal) 1000,0 mg/kg; ATE (inhalation vapour) 10,00 mg/l; ATE (inhalation dust/mist) 1,667 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7789-23-3	potassium fluoride				
	oral	LD50 ca. 148,5 mg/kg	Rat	Other company data (1984)	EPA OPPTS 870.1100
	dermal	LD50 > 2000 mg/kg	Rat	Study report (1995)	EPA OPPTS 870.1200
	inhalation vapour	ATE 3 mg/l			
	inhalation dust/mist	ATE 0,5 mg/l			

**Irritation and corrosivity**

Causes serious eye damage.  
Skin corrosion/irritation: 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**

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

**Aspiration hazard**

Based on available data, the classification criteria are not met.  
No data available

**Specific effects in experiment on an animal**

No data available

**Additional information on tests**

No data available

**Practical experience**

No data available

**11.2. Information on other hazards**



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**Endocrine disrupting properties**

No data available

**Other information**

No data available

**Further information**

Irritant  
Causes burns.  
Dyspnoea  
Respiratory complaints  
Unconsciousness  
Spasms  
Corneal opacity.  
Agitation  
Cardiac arrhythmias  
Circulatory collapse

**SECTION 12: Ecological information**

**12.1. Toxicity**

No information available.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
7789-23-3	potassium fluoride					
	Acute algae toxicity	ErC50 43 mg/l	96 h	various algae species	European Union Risk Assessment Report, V	Methods not detailed in the review.
	Fish toxicity	NOEC 4 mg/l	21 d	Oncorhynchus mykiss	EU RAR Hydrogen Fluoride, Volume 8, 2001	other: no guideline stated
	Algae toxicity	NOEC 50 mg/l	7 d	various	Appendix to Report 785484010, RIVM (1989)	The review includes summaries of a numbr
	Crustacea toxicity	NOEC 3,7 mg/l	21 d	Daphnia magna	European Union Risk Assessment Report, V	The publication is a review article of v

**12.2. Persistence and degradability**

No information available.

**12.3. Bioaccumulative potential**

log Pow: -0,77

No indication of bioaccumulation potential.

**BCF**

CAS No	Chemical name	BCF	Species	Source
7789-23-3	potassium fluoride	53 - 58		EU RAR Hydrogen Fluo

**12.4. Mobility in soil**

No information available.

**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.

No information available.

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**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.  
No information available.

**12.7. Other adverse effects**

No information available.

**Further information**

Avoid release to the environment.  
Do not allow to enter into surface water or drains.  
Do not allow to enter into soil/subsoil.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

**Disposal recommendations**

Dispose of waste according to applicable legislation.  
Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.  
Do not mix with other wastes.  
Do not empty into drains. Send to a physico-chemical treatment facility under observation of official regulations.

**Contaminated packaging**

This material and its container must be disposed of as hazardous waste.  
Handle contaminated packages in the same way as the substance itself.  
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)**

<b>14.1. UN number or ID number:</b>	UN 3422
<b>14.2. UN proper shipping name:</b>	POTASSIUM FLUORIDE SOLUTION
<b>14.3. Transport hazard class(es):</b>	6.1
<b>14.4. Packing group:</b>	III
Hazard label:	6.1
Classification code:	T4
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	2
Hazard No:	60
Tunnel restriction code:	E

**Inland waterways transport (ADN)**

<b>14.1. UN number or ID number:</b>	UN 3422
<b>14.2. UN proper shipping name:</b>	POTASSIUM FLUORIDE SOLUTION
<b>14.3. Transport hazard class(es):</b>	6.1
<b>14.4. Packing group:</b>	III
Hazard label:	6.1
Classification code:	T4
Special Provisions:	802
Limited quantity:	5 L
Excepted quantity:	E1

**Marine transport (IMDG)**

<b>14.1. UN number or ID number:</b>	UN 3422
<b>14.2. UN proper shipping name:</b>	POTASSIUM FLUORIDE SOLUTION
<b>14.3. Transport hazard class(es):</b>	6.1

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**14.4. Packing group:** III  
 Hazard label: 6.1  
 Special Provisions: 223  
 Limited quantity: 5 L  
 Excepted quantity: E1  
 EmS: F-A, S-A

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

**14.1. UN number or ID number:** UN 3422  
**14.2. UN proper shipping name:** POTASSIUM FLUORIDE SOLUTION  
**14.3. Transport hazard class(es):** 6.1  
**14.4. Packing group:** III  
 Hazard label: 6.1  
 Special Provisions: A3  
 Limited quantity Passenger: 2 L  
 Passenger LQ: Y642  
 Excepted quantity: E1  
 IATA-packing instructions - Passenger: 655  
 IATA-max. quantity - Passenger: 60 L  
 IATA-packing instructions - Cargo: 663  
 IATA-max. quantity - Cargo: 220 L

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

Warning: Toxic. strongly corrosive.

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

not applicable

**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

Information according to 2012/18/EU (SEVESO III): H2 ACUTE TOXIC

**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): 1 - slightly hazardous to water

Skin resorption/Sensitization: Permeates easily through outer skin and causes poisoning.

**SECTION 16: Other information**

**Changes**

This data sheet contains changes from the previous version in section(s): 1,8,9,11,12,13.

**Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

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GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 CAS: Chemical Abstracts Service  
 LC50: Lethal concentration, 50%  
 LD50: Lethal dose, 50%

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

Classification	Classification procedure
Acute Tox. 3; H311	Calculation method
Acute Tox. 3; H331	Calculation method
Acute Tox. 4; H302	Calculation method
Eye Dam. 1; H318	Calculation method

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

H301 Toxic if swallowed.  
 H302 Harmful if swallowed.  
 H311 Toxic in contact with skin.  
 H311+H331 Toxic in contact with skin or if inhaled.  
 H318 Causes serious eye damage.  
 H331 Toxic if inhaled.

**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.)*