

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/10/2021

Reviewed on 11/10/2021

## 1 Identification

- **Product identifier**
- **Trade name:** Potassium Fluoride  
40% w/v Solution
- **Article number:** MAT037
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Aqua Solutions, Inc.  
6913 Highway 225  
DEER PARK, TX 77536  
USA  
800-256-2586
- **Information department:**  
Technical Coordinator  
Sherman Nelson [shermann@aquasolutions.org](mailto:shermann@aquasolutions.org)
- **Emergency telephone number:**  
Chemtrec: 800-424-9300  
Canutec: 613-996-6666



## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS06 Skull and crossbones

Acute Tox. 3 H311 Toxic in contact with skin.

Acute Tox. 3 H331 Toxic if inhaled.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS06

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
Potassium Fluoride Anhydrous
- **Hazard statements**  
Harmful if swallowed.  
Toxic in contact with skin or if inhaled.
- **Precautionary statements**  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/10/2021

Reviewed on 11/10/2021

**Trade name: Potassium Fluoride  
40% w/v Solution**

(Contd. of page 1)

Use only outdoors or in a well-ventilated area.  
Wear protective gloves / protective clothing.  
If swallowed: Call a poison center/doctor if you feel unwell.  
Rinse mouth.  
If on skin: Wash with plenty of water.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Call a poison center/doctor.  
Specific treatment (see on this label).  
Take off immediately all contaminated clothing and wash it before reuse.  
Store in a well-ventilated place. Keep container tightly closed.  
Store locked up.  
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2  
Fire = 0  
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2  
Fire = 0  
Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 7789-23-3	Potassium Fluoride Anhydrous	32.275%
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· **Table of Nonhazardous Ingredients**

CAS: 7732-18-5	Water	67.725%
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### 4 First-aid measures

· **Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Remove breathing apparatus only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After inhalation:**

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/10/2021

Reviewed on 11/10/2021

**Trade name: Potassium Fluoride**  
**40% w/v Solution**

(Contd. of page 2)

- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· <b>PAC-1:</b>		
CAS: 7789-23-3	Potassium Fluoride Anhydrous	23 mg/m <sup>3</sup>
· <b>PAC-2:</b>		
CAS: 7789-23-3	Potassium Fluoride Anhydrous	250 mg/m <sup>3</sup>
· <b>PAC-3:</b>		
CAS: 7789-23-3	Potassium Fluoride Anhydrous	1,500 mg/m <sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/10/2021

Reviewed on 11/10/2021

**Trade name: Potassium Fluoride  
40% w/v Solution**

(Contd. of page 3)

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling.
- **Body protection:** Protective work clothing

US

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/10/2021

Reviewed on 11/10/2021

**Trade name: Potassium Fluoride**  
40% w/v Solution

(Contd. of page 4)

## 9 Physical and chemical properties

· <b>Information on basic physical and chemical properties</b>	
· <b>General Information</b>	
· <b>Appearance:</b>	
<b>Form:</b>	Liquid
<b>Color:</b>	Clear
· <b>Odor:</b>	Odorless
· <b>Odor threshold:</b>	Not determined.
· <b>pH-value:</b>	Not determined.
· <b>Change in condition</b>	
<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)
· <b>Flash point:</b>	Not applicable.
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure at 20 °C (68 °F):</b>	23 hPa (17.3 mm Hg)
· <b>Density at 20 °C (68 °F):</b>	1.48089 g/cm <sup>3</sup> (12.35803 lbs/gal)
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible.
· <b>Partition coefficient (n-octanol/water):</b> Not determined.	
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Water:</b>	67.7 %
<b>VOC content:</b>	0.00 %
	0.0 g/l / 0.00 lb/gal
<b>Solids content:</b>	32.3 %
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/10/2021

Reviewed on 11/10/2021

**Trade name: Potassium Fluoride**  
40% w/v Solution

(Contd. of page 5)

- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

### ATE (Acute Toxicity Estimate)

Oral	LD50	310 mg/kg
Dermal	LD50	930 mg/kg
Inhalative	LC50/4h	1.55 mg/l

### CAS: 7789-23-3 Potassium Fluoride Anhydrous

Oral	LD50	100 mg/kg (ATE)
Dermal	LD50	300 mg/kg (ATE)
Inhalative	LC50/4h	0.5 mg/l (ATE)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Toxic  
Harmful

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

CAS: 7789-23-3	Potassium Fluoride Anhydrous	3
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- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/10/2021

Reviewed on 11/10/2021

**Trade name: Potassium Fluoride**  
40% w/v Solution



(Contd. of page 6)

- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |  |   |
|--|---|
| <b>· UN-Number</b>                                   |   |
| <b>· DOT, IMDG, IATA</b>                             | UN3422  |
| <b>· UN proper shipping name</b>                     |   |
| <b>· DOT</b>   | Potassium fluoride solution   |
| <b>· IMDG, IATA</b>                                  | POTASSIUM FLUORIDE SOLUTION   |
| <b>· Transport hazard class(es)</b>                  |   |
| <b>· DOT</b>   |   |
|  |  |
| <b>· Class</b>                                       | 6.1 Toxic substances  |
| <b>· Label</b>                                       | 6.1   |
|  |   |
| <b>· IMDG, IATA</b>                                  |   |
|  |  |
| <b>· Class</b>                                       | 6.1 Toxic substances  |
| <b>· Label</b>                                       | 6.1   |
| <b>· Packing group</b>                               |   |
| <b>· DOT, IMDG, IATA</b>                             | III   |
| <b>· Environmental hazards:</b>                      | Not applicable.   |
| <b>· Special precautions for user</b>                | Warning: Toxic substances   |
| <b>· Hazard identification number (Kemler code):</b> | 60  |
| <b>· EMS Number:</b>                                 | F-A,S-A   |
| <b>· Stowage Category</b>                            | A   |
| <b>· Segregation Code</b>                            | SG35 Stow "separated from" SGG1-acids   |

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/10/2021

Reviewed on 11/10/2021

**Trade name: Potassium Fluoride**  
40% w/v Solution

(Contd. of page 7)

- |  |  |
|--|--|
| <b>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.  |
| <b>· Transport/Additional information:</b>                                       |  |
| <b>· DOT</b>   |  |
| <b>· Quantity limitations</b>  | On passenger aircraft/rail: 60 L<br>On cargo aircraft only: 220 L  |
| <hr style="border-top: 1px dashed black;"/>                                      |  |
| <b>· IMDG</b>  |  |
| <b>· Limited quantities (LQ)</b>   | 5L   |
| <b>· Excepted quantities (EQ)</b>  | Code: E1<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 1000 ml |
| <b>· UN "Model Regulation":</b>  | UN 3422 POTASSIUM FLUORIDE SOLUTION, 6.1, III  |

## 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture**  
No further relevant information available.

**· Sara**

- Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

- Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

- TSCA (Toxic Substances Control Act):**

Water

ACTIVE

Potassium Fluoride Anhydrous

ACTIVE

- Hazardous Air Pollutants**

None of the ingredients is listed.

- Proposition 65**

- Chemicals known to cause cancer:**

None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- Carcinogenic categories**

- EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- TLV (Threshold Limit Value)**

CAS: 7789-23-3 Potassium Fluoride Anhydrous

A4

(Contd. on page 9)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/10/2021

Reviewed on 11/10/2021

**Trade name: Potassium Fluoride**  
**40% w/v Solution**

(Contd. of page 8)

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS06

- **Signal word** *Danger*
- **Hazard-determining components of labeling:**  
*Potassium Fluoride Anhydrous*
- **Hazard statements**  
*Harmful if swallowed.*  
*Toxic in contact with skin or if inhaled.*
- **Precautionary statements**  
*Avoid breathing dust/fume/gas/mist/vapors/spray*  
*Wash thoroughly after handling.*  
*Do not eat, drink or smoke when using this product.*  
*Use only outdoors or in a well-ventilated area.*  
*Wear protective gloves / protective clothing.*  
*If swallowed: Call a poison center/doctor if you feel unwell.*  
*Rinse mouth.*  
*If on skin: Wash with plenty of water.*  
*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*  
*Call a poison center/doctor.*  
*Specific treatment (see on this label).*  
*Take off immediately all contaminated clothing and wash it before reuse.*  
*Store in a well-ventilated place. Keep container tightly closed.*  
*Store locked up.*  
*Dispose of contents/container in accordance with local/regional/national/international regulations.*
- **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

- **Department issuing SDS:** *Environment protection department.*
- **Contact:**
- **Date of preparation / last revision**  
*Revision 0.0 11/10/2021: Creation date for SDS. STN*  
*11/10/2021 / -*
- **Abbreviations and acronyms:**  
*IMDG: International Maritime Code for Dangerous Goods*  
*DOT: US Department of Transportation*  
*IATA: International Air Transport Association*  
*EINECS: European Inventory of Existing Commercial Chemical Substances*  
*ELINCS: European List of Notified Chemical Substances*  
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*  
*NFPA: National Fire Protection Association (USA)*  
*HMIS: Hazardous Materials Identification System (USA)*  
*VOC: Volatile Organic Compounds (USA, EU)*

(Contd. on page 10)

**Safety Data Sheet**  
**acc. to OSHA HCS**

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**Trade name: Potassium Fluoride**  
**40% w/v Solution**

*LC50: Lethal concentration, 50 percent*  
*LD50: Lethal dose, 50 percent*  
*PBT: Persistent, Bioaccumulative and Toxic*  
*vPvB: very Persistent and very Bioaccumulative*  
*NIOSH: National Institute for Occupational Safety*  
*OSHA: Occupational Safety & Health*  
*TLV: Threshold Limit Value*  
*PEL: Permissible Exposure Limit*  
*REL: Recommended Exposure Limit*  
*Acute Tox. 4: Acute toxicity – Category 4*  
*Acute Tox. 3: Acute toxicity – Category 3*

(Contd. of page 9)

US