



# SAFETY DATA SHEET

## POTASSIUM SULPHATE

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1. PRODUCT IDENTIFIER

Product name: Potassium Sulphate  
Product No.: POTSU  
CAS-No.: 7778-80-5  
EC No.: 231-915-5  
REACH No.: 01-2119489441-34  
Synonym: Potassium sulfate, Sulphate of potash, Sulfate of potash  
Chemical Formula:  $K_2SO_4$

#### 1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Recommended use: As a fertilizer, e.g. helps improve the quality of fruit and flowers and strengthens plant resistance to diseases;  
Drilling applications, e.g. used to formulate water-based drilling fluids;  
As a flash reducer in artillery propellant charges. It reduces muzzle flash, flareback and blast overpressure;  
Is used in pyrotechnics in combination with potassium nitrate to generate a purple flame;  
Sometimes used as an alternative blast media similar to soda in soda blasting as it is harder and similarly water-soluble.

#### 1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

HD Chemicals LTD  
UNIT 9 Scott Business Park  
PL2 2PB Plymouth UK

Contact Person responsible for SDS: Mr Peter Konefal, e-mail: [contact@hdchemicals.co.uk](mailto:contact@hdchemicals.co.uk)

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification 67/548/EEC: Xn; R22

**Classification – EC 1272/2008:** Skin corrosion/irritation; Category 1B (H314)  
Serious eye damage/eye irritation; Category 1 (H318)

## 2.2. LABEL ELEMENTS



### SIGNAL WORDS

Danger

### RISK PHRASES

R22 Harmful if swallowed

### HAZARD PHRASES

H314 Causes severe skin burns and eye damage

H318 Causes serious eye damage

### PROTECTION PHRASES

P280 Wear protective gloves/protective clothing/eye protection/face protection

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 doctor/ physician

### SAFETY PHRASES

S36 Wear suitable protective clothing

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

67/548/EEC/1999/45/EC

*Composition information – main constituents*

Substance name	Mol. Formula	REACH	EINECS No.	CAS-No.	Classification
Potassium Sulphate	K <sub>2</sub> SO <sub>4</sub>	01-2119489441-34	231-915-5	7778-80-5	Xn; R22

EC 1272/2008

*Composition information – main constituents*

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Potassium Sulphate	K <sub>2</sub> SO <sub>4</sub>	01-2119489441-34	231-915-5	7778-80-5	H314, H318

**SECTION 4: FIRST AID MEASURES****4.1. DESCRIPTION OF FIRST AID MEASURES**

**First-aid measures general:** Consult a physician when you feel unwell. Show this safety data sheet to the doctor in attendance.

**Inhalation:** Move the exposed person to fresh air at once. If there is difficulty in breathing, give oxygen. If breathing stops or shows signs of failing, give artificial respiration. Obtain medical attention urgently.

**Ingestion:** Rinse mouth thoroughly. Get medical attention if any discomfort continues. Do not induce vomiting.

**Skin contact:** Wash skin with soap and water. Get medical attention if irritation persists after washing.

**Eye contact:** Make sure to remove any contact lenses from the eyes before rinsing. Rinse eye with water immediately. Get medical attention if any discomfort continues.



## 4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

<b>Inhalation:</b>	Coughing.
<b>Ingestion:</b>	Gastrointestinal complaints, nausea, diarrhoea. Irritation of the gastric/intestinal mucosa. Decreased renal function. Disturbances of heart rate.
<b>Skin contact:</b>	Slight irritation.
<b>Eye contact:</b>	Redness of the eye tissue. Irritation of the eye tissue.

## 4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. EXTINGUISHING MEDIA

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Adjust extinguishing media to the surrounding fire.

Unsuitable extinguishing media: None.

### 5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Product is non-flammable, but thermal decomposition can lead to release of irritating and toxic gases and vapours. Hazardous combustion products sulphur oxides, metal oxides.

### 5.3. ADVICE FOR FIRE-FIGHTERS

Wear full protective clothing must be worn in case of fire and self-contained positive pressure breathing apparatus.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Wear suitable protective equipment (splash goggles, protective suit, boots, gloves and self-contained breathing apparatus) to prevent any contamination of skin, eyes and personal clothing. Ensure adequate ventilation of the working area. Avoid contact with skin and eyes. Avoid breathing vapours, mist or gas. Avoid formation of dust. Keep unprotected persons away. Evacuate personnel to a safe area.

For personal protection see section 8.1.



## 6.2. ENVIRONMENTAL PRECAUTIONS

Avoid release to the environment. Do not allow to enter sewers/ surface or ground water. Do not allow to enter into soil/subsoil. Prevent further leakage or spillage if safe to do so. Use appropriate container to avoid environmental contamination. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

## 6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Sweep or shovel spills into appropriate sealable container for disposal. Avoid dust production. Clean contaminated surfaces with an excess of water.

## SECTION 7: HANDLING AND STORAGE

### 7.1. PRECAUTIONS FOR SAFE HANDLING

Handle in accordance with good industrial hygiene and safety practice. Avoid formation of dust. Do not inhale dust/smoke/mist. Ensure adequate ventilation of the working area. Wear personal protective equipment. Avoid contact with eyes and skin. Do not eat or drink during the process, washing hands afterwards with suitable cleaning products. Remove contaminated clothing and shoes. Wash clothing before re-using. Avoid the formation or spread of mists in the air.

### 7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Keep in a cool, dry, well ventilated area. Keep in original tightly closed containers. Keep away from food, drink and animal feeding stuffs. Keep away from air contact, moisture, direct sunlight and other heat sources.

### 7.3. SPECIFIC END USE(S)

See section 1.2.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. CONTROL PARAMETERS/EXPOSURE GUIDELINES

Occupational Exposure Limit Values (Potassium Sulphate):

CAS NO	Exposure limit	Value	Name of Agent
7778-80-5	TWA – 8 Hrs	37.6 mg/m <sup>3</sup>	inhalation
7778-80-5	STEL – 15 Min	N/A	N/A

**Engineering controls:** Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before breaks and at the end of the working day. Use as far as possible in a closed system. Provide a regular control of the atmosphere.



EYE PROTECTION



FACE SHIELD



RESPIRATOR



PROTECTION WEAR



HAND PROTECTION

**Protective equipment:** Use protective tightly fitting safety goggles (European standard - EN 166), gloves (European standard - EN 374) and long sleeved clothing to prevent skin, body and eyes exposure.

**Respiratory equipment:** Wear suitable dust respirator if dusts are generated and there is insufficient ventilation or extraction. Use respiratory protection mask according to EN 140 or EN 405 with filter type P3 according to EN 143:2000 or FFP3 according to EN 149:2001.

**Skin and body protection:** Wear appropriate protective gloves and clothing to prevent skin exposure. The glove material has to be impermeable and resistant to the product. Protective gloves should be replaced at first signs of wear. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact.

**Eye/Face protection:** Wear safety glasses with side shields. Ensure eye bath is to hand.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Solid
Colour:	White
Odour:	Odourless



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Initial boiling point (°C):	No data available
Melting point (°C):	1069 °C
Freezing point:	No data available
Relative density:	2.66 g/cm <sup>3</sup>
Specific gravity / density:	Not available
Vapour density:	Not available
Vapour pressure:	Not available
Flash point (°C):	Not available
Molecular mass:	174.259 g/mol
Auto-ignition temperature:	Not applicable
Oxidizing properties:	Not available
Decomposition temperature:	Not available
Molecular formula:	K <sub>2</sub> SO <sub>4</sub>

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. REACTIVITY

Potassium Sulphate is stable under normal conditions of use, storage and transport.

### 10.2. CHEMICAL STABILITY

This product is stable under normal conditions and under recommended usage and storage.

### 10.3. POSSIBILITY OF HAZARDOUS REACTIONS

When heated can decompose. May liberate toxic gases. See section 10.5.

### 10.4. CONDITIONS TO AVOID

Keep away from food, drink and animal feeding stuffs. Keep away from air contact, moisture, direct sunlight and other heat sources.

### 10.5. INCOMPATIBLE MATERIALS

May liberate toxic gases. Materials to avoid: strong oxidising agents, aluminium, magnesium.

### 10.6. HAZARDOUS DECOMPOSITION

Product is non-flammable, but thermal decomposition can lead to release of irritating and toxic gases and vapours. Hazardous combustion products sulphur oxides, metal oxides.



## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

**TOXIC DOSE**                      **LD50 Oral – Rat– 6600 mg/kg**

**Inhalation:**                      Coughing.

**Ingestion:**                      Gastrointestinal complaints, nausea, diarrhoea. Irritation of the gastric/intestinal mucosa. Decreased renal function. Disturbances of heart rate.

**Skin contact:**                      Slight irritation.

**Eye contact:**                      Redness of the eye tissue. Irritation of the eye tissue.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. TOXICITY

#### Aquatic Toxicity:

Toxicity to freshwater fish:    LC50: 680 mg/l, 96h (Pimephales promelas)

Toxicity to water flea:        EC50: 720 mg/l, 48h (Daphnia magna)

Toxicity to algae:                EC50: 2900 mg/l, 72h

### 12.2. PERSISTENCE AND DEGRADABILITY

Persistence and degradability is unlikely.

### 12.3. BIOACCUMULATIVE POTENTIAL

No data available.

### 12.4. MOBILITY

Potassium Sulphate may move with surface or groundwater flows because its water solubility is high.

### 12.5. RESULTS OF PBT AND vPvB ASSESSMENT

No data available.

### 12.6. OTHER ADVERSE EFFECTS

No information available.





## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste disposal recommendations:** Disposal of potassium sulphate should be in accordance with local and national legislation. Processing, use or contamination of this product may change the waste management options. Should not be released into the environment. Empty packaging can have residues or dusts and are subject to proper waste disposal. Dispose of container and unused contents in accordance with applicable member state and local requirements.

**Uncleaned packaging:** Disposal must be made according to official regulations.

## SECTION 14: TRANSPORT INFORMATION

### IMDG

UN number	N/A
UN proper shipping name	N/A
Transport hazard class(es)	N/A
Packing group	N/A

### ADR/RID

UN number	N/A
UN proper shipping name	N/A
Transport hazard class(es)	N/A
Packing group	N/A

### IATA

UN number	N/A
UN proper shipping name	N/A
Transport hazard class(es)	N/A
Packing group	N/A

## SECTION 15: REGULATORY INFORMATION

### 15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).



Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

## 15.2 CHEMICAL SAFETY ASSESSMENT

For this product a chemical safety assessment was not carried out.

## SECTION 16: OTHER INFORMATION

### General information

The information contained in this safety data sheet is provided in accordance with the requirements of the regulations. The product should not be used for purposes other than those shown in section 1 without first referring to the supplier and obtaining written handling instruction. As the specific conditions of use of the product are outside the suppliers control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.

### Revision Comments

This information is provided in a revised format to that previously produced.

Revision Date: 01/10/2018

Revision: 01

Safety Data Sheet Status Approved.

Date printed 01/10/2018

Signature Initials P.K.

### DISCLAIMER:

If this product is re-distributed and re-formulated for sale, details of its hazards and recommended methods for safe handling must be passed to customers. Customers are urged to ensure that the product is entirely suitable for their own purpose. It is the customer's responsibility to ensure that a suitable and sufficient assessment of the risks created by a work activity using this product is undertaken before this product is used.

### NOTE:

The information contained in this Safety Data Sheet does not constitute the users own assessment of workplace risk as required by other Health & Safety Legislation (e.g. the Health and Safety at Work Act, 1974; the Control of Substances Hazardous to Health Regulations, 1988). The data given here is based on current knowledge and experience. The purpose of this data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the product's properties.