

## Safety Data Sheet

according to UK REACH Regulation

### Sulfate solution 1000 mg SO<sub>4</sub>/l Potassium sulfate R in ethanol 30 % R for the preparation of the sulf

Revision date: 11.09.2023

Product code: 31686

Page 1 of 11

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

##### 1.1. Product identifier

Sulfate solution 1000 mg SO<sub>4</sub>/l Potassium sulfate R in ethanol 30 % R for the preparation of the sulf

UFI: WDR-TM27N-A00W-R1SF

##### 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  
E-mail: info@analytichem.de  
Contact person: Abteilung Produktsicherheit  
E-mail: produktsicherheit@analytichem.de  
Internet: www.analytichem.de  
Responsible Department: Abteilung Produktsicherheit

Telefax: 0203/5194-290

Telephone: 0203/5194-107/117

##### 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

Flam. Liq. 3; H226

Full text of hazard statements: see SECTION 16.

##### 2.2. Label elements

###### GB CLP Regulation

Signal word: Warning

Pictograms:



###### Hazard statements

H226 Flammable liquid and vapour.

###### Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

## Safety Data Sheet

according to UK REACH Regulation

### Sulfate solution 1000 mg SO<sub>4</sub>/l Potassium sulfate R in ethanol 30 % R for the preparation of the sulf

Revision date: 11.09.2023

Product code: 31686

Page 2 of 11

P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P403+P235	Store in a well-ventilated place. Keep cool.

#### 2.3. Other hazards

No data available

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
64-17-5	ethanol			20 - < 25 %
	200-578-6	603-002-00-5	01-2119457610-43	
	Flam. Liq. 2, Eye Irrit. 2; H225 H319			

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		
64-17-5	200-578-6	ethanol	20 - < 25 %
	inhalation: LC50 = 124,7 mg/l (vapours); oral: LD50 = 10470 mg/kg Eye Irrit. 2; H319: >= 50 - 100		

##### 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.

##### After contact with skin

Wash immediately with: Water

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

##### 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.

##### After ingestion

Rinse mouth immediately and drink plenty of water.

## Safety Data Sheet

according to UK REACH Regulation

### Sulfate solution 1000 mg SO<sub>4</sub>/l Potassium sulfate R in ethanol 30 % R for the preparation of the sulf

Revision date: 11.09.2023

Product code: 31686

Page 3 of 11

Observe risk of aspiration if vomiting occurs.  
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**

Combustible liquids

Hazardous combustion products

In case of fire may be liberated: Carbon dioxide (CO<sub>2</sub>), Carbon monoxide

In case of warming: Vapours are heavier than air, spread along floors and form explosive mixtures with air.

#### **5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

In case of fire and/or explosion do not breathe fumes.

Avoid contact with skin, eyes and clothes.

#### **Additional information**

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**

##### **General advice**

Keep away from sources of ignition - No smoking.

This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe).

Take action to prevent static discharges.

##### **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

#### **6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.

Danger of explosion

## Safety Data Sheet

according to UK REACH Regulation

### Sulfate solution 1000 mg SO<sub>4</sub>/l Potassium sulfate R in ethanol 30 % R for the preparation of the sulf

Revision date: 11.09.2023

Product code: 31686

Page 4 of 11

#### **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.
- Do not breathe gas/fumes/vapour/spray.
- Provide adequate ventilation.

##### **Advice on protection against fire and explosion**

- Take action to prevent static discharges. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

##### **Advice on general occupational hygiene**

- Keep away from food, drink and animal feedingstuffs.

##### **Further information on handling**

- Take off immediately all contaminated clothing and wash it before reuse.
- Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. 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**

- Keep in a cool, well-ventilated place.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

##### **Hints on joint storage**

- national regulations

##### **Further information on storage conditions**

- Keep cool. Protect from sunlight.

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

- Laboratory chemicals

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

#### **8.1. Control parameters**

## Safety Data Sheet

according to UK REACH Regulation

### Sulfate solution 1000 mg SO<sub>4</sub>/l Potassium sulfate R in ethanol 30 % R for the preparation of the sulf

Revision date: 11.09.2023

Product code: 31686

Page 5 of 11

#### Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
64-17-5	Ethanol	1000	1920		TWA (8 h)	WEL

#### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
64-17-5	ethanol			
Worker DNEL, long-term		inhalation	systemic	950 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	343 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	114 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	206 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	87 mg/kg bw/day

#### PNEC values

CAS No	Substance	Value
64-17-5	ethanol	
Freshwater		0,96 mg/l
Freshwater (intermittent releases)		2,75 mg/l
Marine water		0,79 mg/l
Freshwater sediment		3,6 mg/kg
Marine sediment		2,9 mg/kg
Secondary poisoning		380 mg/kg
Micro-organisms in sewage treatment plants (STP)		580 mg/l
Soil		0,63 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.

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

##### Eye/face protection

goggles  
Face protection umbrella

##### Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

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

## Safety Data Sheet

according to UK REACH Regulation

### Sulfate solution 1000 mg SO<sub>4</sub>/l Potassium sulfate R in ethanol 30 % R for the preparation of the sulf

Revision date: 11.09.2023

Product code: 31686

Page 6 of 11

Trade name/designation KCL 897 Butoject®  
Suitable material: Butyl caoutchouc (butyl rubber) 0,3 mm  
Wearing time with permanent contact: > 480 min

By short-term hand contact  
Trade name/designation KCL 720 Camapren®  
Suitable material: CR (polychloroprene, chloroprene rubber) 0,65 mm  
Wearing time with occasional contact (splashes): > 60 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](http://www.kcl.de)).

#### Skin protection

Take off immediately all contaminated clothing and wash it before reuse.  
Wear fire resistant or flame retardant clothing.  
Wash hands and face before breaks and after work and take a shower if necessary.  
Draw up and observe skin protection programme.

#### Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

#### Environmental exposure controls

Do not allow to enter into surface water or drains.  
Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.  
Danger of explosion

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	colourless	
Odour:	characteristic	
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:	29 °C	
Auto-ignition temperature:		No data available
Decomposition temperature:		No data available
pH-Value:	5,0	
Viscosity / kinematic:		No data available
Water solubility:		No data available
Solubility in other solvents		No data available
Partition coefficient n-octanol/water:		No data available
Vapour pressure:		No data available
Density (at 20 °C):	0,9633 g/cm <sup>3</sup>	
Bulk density:		No data available
Relative vapour density:		No data available

## Safety Data Sheet

according to UK REACH Regulation

### Sulfate solution 1000 mg SO<sub>4</sub>/l Potassium sulfate R in ethanol 30 % R for the preparation of the sulf

Revision date: 11.09.2023

Product code: 31686

Page 7 of 11

#### 9.2. Other information

##### Information with regard to physical hazard classes

###### Explosive properties

In case of warming: Vapours are heavier than air, spread along floors and form explosive mixtures with air.

###### 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

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

In case of warming: Vapours may form explosive mixtures with air.

### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

Oxidising agent

### 10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

### 10.6. Hazardous decomposition products

SECTION 5: Firefighting measures

##### 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

There are no data available on the mixture itself.

#### Acute toxicity

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

#### ATE<sub>mix</sub> 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 UK REACH Regulation

**Sulfate solution 1000 mg SO4/l Potassium sulfate R in ethanol 30 % R for the preparation of the sulf**

Revision date: 11.09.2023

Product code: 31686

Page 8 of 11

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
64-17-5	ethanol				
	oral	LD50 mg/kg	10470	Rat	Study report (1976) OECD Guideline 401
	inhalation (4 h) vapour	LC50 mg/l	124,7	Rat	Study report (1980) 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**

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 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**

**Other information**

There are no data available on the mixture itself.

**Further information**

There are no data available on the mixture itself.

**SECTION 12: Ecological information**

**12.1. Toxicity**

There are no data available on the mixture itself.



**Safety Data Sheet**

according to UK REACH Regulation

**Sulfate solution 1000 mg SO<sub>4</sub>/l Potassium sulfate R in ethanol 30 % R for the preparation of the sulf**

Revision date: 11.09.2023

Product code: 31686

Page 9 of 11

CAS No	Chemical name		[h]   [d]		Species	Source	Method
64-17-5	ethanol						
	Aquatic toxicity	Dose					
	Acute fish toxicity	LC50 15400 mg/l	96 h	Lepomis macrochirus	Bulletin of Environmental Contamination	other: EPA-660/3-75-00 9, 1975	
	Acute algae toxicity	ErC50 ca. 22000 mg/l	96 h	Pseudokirchneriella subcapitata	Ecotoxicology and Environmental Safety 7	OECD Guideline 201	
	Acute crustacea toxicity	EC50 > 10000 mg/l	48 h	Daphnia magna	Water Research 23(4): 495-499 (1989)	other: DIN 38412 Teil 11	
	Algae toxicity	NOEC 5400 mg/l	5 d	Skeletonema costatum	Environ Toxicol Chem 8(5):451-455. (1989)	Study to determine the sensitivity of a	
	Crustacea toxicity	NOEC 2 mg/l	10 d	Ceriodaphnia dubia	Arch Environ Contam Toxicol 20(2):211-21	Follows the basic methodology for the th	

**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
64-17-5	ethanol	-0,77

**BCF**

CAS No	Chemical name	BCF	Species	Source
64-17-5	ethanol	1	Cyprinus carpio	Comparative Biochemi

**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.

**12.7. Other adverse effects**

Do not allow to enter into surface water or drains.

**Further information**

Avoid release to the environment.

**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 empty into drains.

## Safety Data Sheet

according to UK REACH Regulation

### Sulfate solution 1000 mg SO4/I Potassium sulfate R in ethanol 30 % R for the preparation of the sulf

Revision date: 11.09.2023

Product code: 31686

Page 10 of 11

#### Contaminated packaging

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 1170
<b>14.2. UN proper shipping name:</b>	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	III
Hazard label:	3
Classification code:	F1
Special Provisions:	144 601
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	30
Tunnel restriction code:	D/E

##### Inland waterways transport (ADN)

<b>14.1. UN number or ID number:</b>	UN 1170
<b>14.2. UN proper shipping name:</b>	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	III
Hazard label:	3
Classification code:	F1
Special Provisions:	144 601
Limited quantity:	5 L
Excepted quantity:	E1

##### Marine transport (IMDG)

<b>14.1. UN number or ID number:</b>	UN 1170
<b>14.2. UN proper shipping name:</b>	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	III
Hazard label:	3
Special Provisions:	144, 223
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-E, S-D

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

<b>14.1. UN number or ID number:</b>	UN 1170
<b>14.2. UN proper shipping name:</b>	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	III
Hazard label:	3
Special Provisions:	A3 A58 A180
Limited quantity Passenger:	10 L
Passenger LQ:	Y344
Excepted quantity:	E1
IATA-packing instructions - Passenger:	355
IATA-max. quantity - Passenger:	60 L

**Safety Data Sheet**

according to UK REACH Regulation

**Sulfate solution 1000 mg SO4/I Potassium sulfate R in ethanol 30 % R for the preparation of the sulf**

Revision date: 11.09.2023

Product code: 31686

Page 11 of 11

IATA-packing instructions - Cargo:

366

IATA-max. quantity - Cargo:

220 L

**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 40

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

P5c FLAMMABLE LIQUIDS

**National regulatory information**

Water hazard class (D):

1 - slightly hazardous to water

**SECTION 16: Other information**

**Changes**

This data sheet contains changes from the previous version in section(s): 3,9.

**Abbreviations and acronyms**

Flam. Liq: Flammable liquids

Eye Irrit: Eye irritation

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

Classification	Classification procedure
Flam. Liq. 3; H226	On basis of test data

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

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H319 Causes serious eye irritation.

**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.)*