



# Safety Data Sheet according to OSHA-GHS (29 CFR part 1910.1200 HCS 2012)

## PRODUCT NAME

POTASSIUM SULFATE

Product Code:

005/04-US

Date of issue:

November 2012

Supersedes: July 2008

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product identifier**  
Potassium sulfate  
Sulphate of potash  
QROP™ SOP  
Ultrasol™ SOP  
Ultrasol™ SOP 52  
Ultrasol™ SOP-WS

### Recommended uses:

Industrial use of the product for formulation of preparations or mixtures of fertilizers and other agricultural chemicals.  
Consumer end-use of fertilizers, plant protection products.

### Restrictions on uses:

None identified

### Supplier

SQM North America  
2727 Paces Ferry Rd, Bldg Two, Suite 1425  
Atlanta, GA 30339

### Company Telephone/Fax

(770) 916 9400 / (770) 916 9404

### Emergency Telephone Number

(800) 424 9300 (CHEMTREC)

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Classification of the chemical in accordance with 29CFR §1910.1200

Not classified as hazardous.

### Label elements

**Hazard pictograms** None applicable

**Signal word** None applicable

**Hazard Statements** None applicable

**Precautionary Statements** None applicable

### Other hazards

None

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance name	CAS No	EC No	Concentration
Potassium sulfate	7778-80-5	231-915-5	> 94%

## 4. FIRST AID MEASURES

### Description of first aid measures

#### General information

In case of persisting adverse effects consult a physician.

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

#### In case of inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

#### In case of skin contact

Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention.

#### In case of eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation occurs: Get medical advice/attention.

#### In case of ingestion

Rinse mouth and drink plenty of water.

Call a POISON CENTER or doctor/physician if you feel unwell.



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

The following symptoms may occur:

In case of inhalation	May be irritant to the respiratory tract
In case of skin contact	May cause skin irritation
In case of eye contact	May cause eye irritation
In case of ingestion	Ingestion of large amounts may cause:      Gastrointestinal disturbances

### Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### Extinguishing media

Suitable extinguishing media:

Use any suitable mean for extinguishing surrounding fire.

Unsuitable material:

None, but attention should be paid to compatibility with chemicals surrounding.

### Specific hazards arising from the chemical

Thermal decomposition can lead to the escape of toxic/irritating gases and vapours.

Thermal decomposition products: Sulfur oxides fumes by extreme heating.

### Protective equipment and precautions for firefighters

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

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions

Provide adequate ventilation. Wear personal protection equipment.

### Environmental precautions

Do not allow to enter into surface water or drains. Ensure waste is collected and contained.

### Methods for containment and cleaning up

Take up mechanically, placing in appropriate containers for disposal or recovery.

Unsuitable material for taking up:

None specified

### Other information

None

## 7. HANDLING AND STORAGE

### Precautions for Safe Handling

Avoid generation of dust. Provide adequate ventilation. Wear personal protective equipment, when required.

Do not breathe dust. Wash hands before breaks and at the end of workday.

Do not eat, drink or smoke when using this product.

Keep away from food, drink and animal feeding stuff. Good hygiene practices and housekeeping measures.

### Conditions for safe storage, including any incompatibilities

Reseal carefully any opened container and set upright to avoid leakages.

Keep/store only in original container. Keep the product tightly closed in a dry, in well-ventilated and cool place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

#### Occupational exposure limits

Potassium sulfate:

OSHA      PEL

Not Established

STEL/ceiling

Not Established

ACGIH      TWA

Not Established

(2012 TLVs® and BEIs®)

STEL/ceiling

Not Established

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### Derived No-Effect Level (DNEL) suggested by the manufacturer

Workers (industrial/professional):	
DNEL Human, dermal, long term :	21.3 mg/kg bw/day (systemic)
DNEL Human, inhalation, long term:	37.6 mg/m <sup>3</sup> /day (systemic)

Derived No-Effect Level (DNEL) is the level of exposure to the substance above which humans should not be exposed

### Engineering controls

Containment as appropriate. Good standard of general ventilation. Effective contaminant extraction.

### Personal protective equipment

Eye / face protection

Chemical goggles.

Hand protection

Nitrile rubber gloves, suggested but not required to control risk.

Respiratory protection

Dust mask required in dusty environments or exceeding total dust limits.

### Environmental exposure controls

Do not allow to enter into surface water or drains. Ensure waste is collected and contained.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Appearance	Solid granular or crystalline	
Colour	White (crystalline); tan (granular)	
Odour	Odourless	
Odour Threshold	Not applicable	
Physical state	Solid	
pH value	4.5 – 8.5 (5% aqueous solution)	
Melting point / freezing point	1067°C / 1953°F at 1013 hPa	(Literature information)
Boiling temperature / boiling range	1689°C / 3072°F at 1013 hPa	(Literature information)
Flash point	Not applicable	
Vapourisation rate / Evaporation rate	Non volatile	
Flammability	Non flammable	(Based on chemical structure)
Explosion limits (LEL, UEL)	Not applicable	
Vapour pressure	Not applicable	
Vapour density	No data available	
Density (bulk)	1.2 - 1.5 ton (metric)/m <sup>3</sup>	
Solubility	> 100 g/L at 20°C / 68°F (water)	
Partition coefficient n-octanol /water	Not applicable	(Based on chemical structure)
Auto Ignition temperature (AIT)	Not applicable	
Decomposition temperature	Not available	
Viscosity	Not applicable	
Explosive properties	Not explosive	(Based on chemical structure)
Oxidising properties	Not oxidising	(Based on chemical structure)

### Other information

None

## 10. STABILITY AND REACTIVITY

### Reactivity

No hazardous reaction when handled and stored according to provisions.

### Chemical stability

Stable under normal storage and temperature conditions.

### Possibility of hazardous reactions

None identified

### Conditions to avoid

None specific identified.



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### Incompatible materials

None identified.

### Hazardous decomposition products

Sulfur oxides fumes by extreme heating

## 11. TOXICOLOGICAL INFORMATION

### Likely routes of exposure (inhalation, ingestion, skin and eye contact)

Eye contact, skin contact and inhalation.

Exposure by ingestion is not expected to occur through normal industrial or professional use.

### Symptoms related to the physical, chemical and toxicological characteristics

May be irritant to the skin, eyes and the respiratory tract. Ingestion of large amounts may cause gastrointestinal disturbances.

### Information on toxicological effects from short and long term exposure

#### Acute toxicity

Acute oral toxicity	LD50:	> 2000 mg/kg bw	Species: Rat.	Method: OECD Guideline 423
		Data obtained by analogy conclusion		
Acute dermal toxicity	LD50:	> 2000 mg/kg bw	Rat.	OECD Guideline 402/EU B.3
Assessment / classification:		Based on available data, the classification criteria are not met		

#### Irritant and corrosive effects

Primary irritation to the skin	Result:	Species:
EU Method B.46 ( <i>In vitro</i> skin irritation)	Not irritating	Not applicable
Irritation to eyes	Result:	Species:
OECD guideline 405	Not irritating	Rabbit (New Zealand White)
Assessment / classification:	Based on available data, the classification criteria are not met	

#### Respiratory or skin sensitisation

Skin sensitization	Method: OECD Guideline 429	Result: Not sensitising
	Data obtained by analogy conclusion	
Respiratory sensitisation	No information available.	
Assessment / classification:	Based on available data, the classification criteria are not met	

#### Germ cell mutagenicity / Genotoxicity

<i>In-vitro</i> genotoxicity	Method:	Result:
Gene-mutations microorganisms	OECD Guideline 471	negative
Gene-mutations mammalian cells	OECD Guideline 476	negative
	Data obtained by analogy conclusion	
Chromosome aberrat. mammalian cells	OECD Guideline 473	negative
Assessment / classification:	Based on available data, the classification criteria are not met	

#### Reproductive toxicity

Adverse effects on reproduction	
OECD guideline 422	NOAEL: $\geq 1500$ mg/kg bw/day
No effects were found on reproduction parameters, neither embryotoxic or developmental effects at highest dose tested. In 90-d and one generation studies with chemically related substances, no effects on fertility were observed.	
Developmental toxicity / teratogenicity	
OECD guideline 422	NOAEL(development): $\geq 1500$ mg/kg bw/day
No effects were found on reproduction parameters, neither embryotoxic or developmental effects at highest dose tested. In 90-d and one generation studies with chemically related substances, no effects were observed.	
Assessment / classification:	Based on available data, the classification criteria are not met

#### Specific target organ toxicity (single exposure)

Practical experience / human evidence	
No relevant effects have been described after single exposure to the substance.	
Assessment / classification:	Based on available data, the classification criteria are not met



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#### Specific target organ toxicity (repeated exposure)

OECD guideline 422

NOAEL(C): > 1500 mg/kg bw/day

No effects were observed at highest dose tested.

Equivalent or similar to OECD guideline 453

NOAEL(C): 256 mg/kg bw/day (male, rat)

Data obtained by analogy conclusion (ammonium sulphate)

Absolute spleen weights were decreased and relative liver weights were increased in high dose males.

Assessment / classification:

Based on available data, the classification criteria are not met

#### Aspiration hazard

Physicochemical and toxicological data does not indicate a potential aspiration hazard.

Assessment / classification:

Based on available data, the classification criteria are not met

#### Carcinogenicity

There is no evidence of carcinogenicity or genotoxicity with potassium sulphate. No evidence of a carcinogenic potential was observed in a study equivalent or similar to OECD guideline 453 with ammonium sulphate.

International Agency for Research on Cancer (IARC)

Not listed

National Toxicology Program (NTP)

Not listed

29 CFR part 1910, subpart Z

Not listed

Assessment / classification:

Based on available data, the classification criteria are not met

## 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

Aquatic toxicity

96-h LC50 680 mg/L

Fish (*Pimephales promelas*)

(US EPA Guideline EPA/600/4-90/027)

48-h EC50 720 mg/L

*Daphnia magna* (Big water flea).

(US EPA Guideline EPA/600/4-90/027)

18-d EC50 > 100 mg/L

*Chlorella vulgaris*

(literature information)

3-h EC50 > 100 mg/L

Aquatic micro-organisms

Data obtained by analogy conclusion

Conclusion obtained by structural analysis and intended use

Assessment / classification

Based on available data, the classification criteria are not met

#### Persistence and degradability

In aqueous solution, potassium sulphate is completely dissociated into the potassium ion ( $K^+$ ) and the sulfate anion ( $SO_4^{2-}$ ).

Hydrolysis of potassium sulfate does not occur.

Due to the inorganic nature of the substance standard testing systems are not applicable.

#### Bioaccumulative potential

Potassium sulfate completely dissociate in water forming potassium ions and sulfate anions. Potassium sulfate has a low potential for bioaccumulation based on physicochemical properties.

#### Mobility in soil

Based on the high water solubility and the ionic nature, potassium sulphate is not expected to adsorb, however, due to ion exchange process, sulfates can be retained in soil, both by incorporation into organic matter (e. g. as sulfate esters of humic acids) and adsorbed to soil particles such as hydrous iron and aluminum sesquioxides.

#### Other adverse effects

None specified.

## 13. DISPOSAL CONSIDERATIONS

Disposal should be in accordance with applicable federal and state laws.

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal method in compliance with applicable regulations.

Potassium sulfate is not listed as a dangerous waste in Resource Conservation and Recovery Act (RCRA) 40 CFR 261.



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## 14. TRANSPORTATION INFORMATION

### US DOT (ground)

UN-No.	Non dangerous good
UN Proper Shipping Name	Not applicable
Hazard class	Not applicable
Packing group	Not applicable
Marine pollutant	No
Hazard label	Not applicable

### International Maritime Organization (IMDG Code)

UN-No.	Non dangerous good
UN Proper Shipping Name	Not applicable
Hazard class	Not applicable
Packing group	Not applicable
Marine pollutant	No
Hazard label	Not applicable

### International Civil Aviation Organization (ICAO) and International Air Transport Association (IATA)

UN-No.	Non dangerous good
UN Proper Shipping Name	Not applicable
Hazard class	Not applicable
Packing group	Not applicable
Hazard label	Not applicable

### Special handling procedure

None

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

### Other special precautions

None

## 15. REGULATORY INFORMATION

### US Federal

#### SARA Title III Rules

##### Section 311/312 Hazard Classes

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Release of Pressure	No
Reactive Hazard	No

#### Section 313 Toxic Chemicals

No components listed

#### Section 302 Extremely Hazardous Substances (EHS)/CERCLA Hazardous Substances

No components listed

#### NFPA 704/2012: National Fire Protection Association

Health	1
Fire	0
Instability	0
Special	None

### US State Regulations

#### California Proposition 65

No components listed





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#### Canada

Ingredient Disclosure List:

No components listed

WHMIS Classification:

Not classified

This product has been classified according to the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

#### European Union

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Not classified as hazardous.

### 16. OTHER INFORMATION

This SDS complies with 29 CFR part 1910 subpart Z (2012), Canada Controlled Products Regulations (2010) and ANSI Standard Z400.1-2004

Prepared by

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Last revision date

November 2012

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#### Indication of changes

All sections were reviewed and modified to comply with 29CFR part 1910 subpart Z (2012).