

Chemical Safety Data Sheet MSDS / SDS

POTASSIUM (POLY)SULFIDE

Revision Date:2026-05-31 Revision Number:1

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

Product identifier

Product name	: POTASSIUM (POLY)SULFIDE
CBnumber	: CB6179469
CAS	: 37199-66-9
EINECS Number	: 253-390-1
Synonyms	: Potassium (poly)sulfide,Potassium (poly)sulfide >=42% K2S basis

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	: For R&D use only. Not for medicinal, household or other use.
Uses advised against	: none

Company Identification

Company	: Chemicalbook
Address	: Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone	: 010-86108875

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

Precautionary statements

P235 Keep cool.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P273 Avoid release to the environment.

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

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continuerinsing.

Hazard statements

H252 Self-heating in large quantities; may catch fire

H314 Causes severe skin burns and eye damage

H335 May cause respiratory irritation

H400 Very toxic to aquatic life

SECTION 3: Composition/information on ingredients

Substance

Product name	: POTASSIUM (POLY)SULFIDE
Synonyms	: Potassium (poly)sulfide,Potassium (poly)sulfide >=42% K2S basis
CAS	: 37199-66-9
EC number	: 253-390-1
MF	: H2KS+
MW	: 73.1792

SECTION 4: First aid measures

General advice

First aiders need to protect themselves. Show this safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

Protection of first-aiders

For personal protection see section 8.

Notes to physician

No data available

SECTION 5: Firefighting measures

Suitable extinguishing media

Water Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Specific hazards during fire fighting

Combustible. Development of hazardous combustion gases or vapours possible in the event of fire.

Hazardous combustion products

Nature of decomposition products not known.

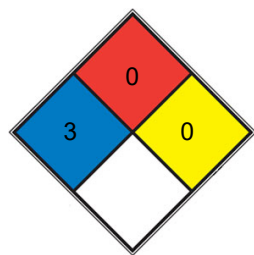
Specific extinguishing methods

Prevent fire extinguishing water from contaminating surface water or the ground water system.

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

NFPA 704



◆ HEALTH	3	Short exposure could cause serious temporary or moderate residual injury (e.g. liquid hydrogen , sulfuric acid , calcium hypochlorite , hexafluorosilicic acid)
◆ FIRE	0	Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)
◆ REACT	0	Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, N2)
◇ SPEC.		
◇ HAZ.		

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: For personal protection see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7: Handling and storage

Handling

Avoidance of contact

Strong oxidizing agents Strong acids Flammable materials Fluorine Oxygen Air

Storage

Further information on storage conditions

Tightly closed. Keep away from heat and sources of ignition.

Materials to avoid

Do not store near acids.

Storage class

4.2, Pyrophoric and self-heating hazardous materials

Recommended storage temperature

Recommended storage temperature see product label.

Further information on storage stability

Air and light sensitive.

SECTION 8: Exposure controls/personal protection



Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures

No data available

Personal protective equipment

Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type

Filter type P2

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Tightly fitting safety goggles

Skin and body protection

protective clothing

Hand protection

Material

Nitrile rubber

Break through time

480 min

Glove thickness

0.11 mm

Protective index

Full contact

Manufacturer

KCL 741 L

Material

Nitrile rubber

Break through time

480 min

Glove thickness

0.11 mm

Protective index

Splash contact

Manufacturer

KCL 741 L

Remarks

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 EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D- 36124 Eichenzell, Internet: www.kcl.de).

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

SECTION 9: Physical and chemical properties



Information on basic physicochemical properties

crystalline

Color

white, yellow-orange

Odor

rotten-egg like

Odor Threshold

No data available

pH

No data available

Melting point/ range

400 °C

Boiling point/boiling range

No data available

Flash point

>200 °C

Evaporation rate

No data available

Flammability (solid, gas)

No data available

Flammability (liquids)

No data available

Burning rate

No data available

Self-ignition

The substance or mixture is classified as self heating with the category 2.

Upper explosion limit / Upper flammability limit

No data available

Lower explosion limit / Lower flammability limit

No data available

Vapor pressure

No data available

Relative vapor density

No data available

Relative density

No data available

Density

No data available

Water solubility

soluble

Partition coefficient: n-octanol/water

No data available

Autoignition temperature

> 400 °C

Decomposition temperature

> 460 °C

Viscosity, dynamic

No data available

Viscosity, kinematic

No data available

Flow time

No data available

Explosive properties

During processing, dust may form explosive mixture in air.

Oxidizing properties

none

Molecular weight

110.26 g/mol

Particle characteristics Particle size

No data available

Physical state

solid

SECTION 10: Stability and reactivity



Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

Reactivity

Contact with acids liberates toxic gas.

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions

Generates dangerous gases or fumes in contact with: Acids

Conditions to avoid

no information available

Incompatible materials

Strong oxidizing agents Strong acids Flammable materials Fluorine Oxygen Air

Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information



11.1 Information on toxicological effects

Acute toxicity

Oral: No data available

Inhalation: No data available

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Dermal: No data available

Skin corrosion/irritation

Remarks: Causes skin burns.

Serious eye damage/eye irritation

Remarks: Causes serious eye damage.

Respiratory or skin sensitization

Classified based on available data. For more details, see section 2

Germ cell mutagenicity

Classified based on available data. For more details, see section 2

Carcinogenicity

Classified based on available data. For more details, see section 2

Reproductive toxicity

Classified based on available data. For more details, see section 2

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

Classified based on available data. For more details, see section 2

Aspiration hazard

Classified based on available data. For more details, see section 2

11.2 Additional Information

RTECS: TT5950000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information



Ecotoxicity

Components:

potassium polysulfides:

Toxicity to fish

Remarks: No data available

M-Factor (Acute aquatic toxicity)

10

Ecotoxicology Assessment

Acute aquatic toxicity

Very toxic to aquatic life.

Persistence and degradability

Components:

potassium polysulfides:

Biodegradability

Remarks: No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13: Disposal considerations



Disposal methods

Waste from residues

Offer surplus and non-recyclable solutions to a licensed disposal company.

SECTION 14: Transport information



International Regulations

IATA-DGR

UN/ID No. : UN 1382

Proper shipping name : Potassium sulphide

Class : 4.2

Packing group : II

Labels : Division 4.2 - Substances liable to spontaneous combustion

Packing instruction (cargo aircraft) : 470

Packing instruction (passenger aircraft) : 467

IMDG-Code

UN number : UN 1382

Proper shipping name : POTASSIUM SULPHIDE

Class : 4.2

Packing group : II

Labels : 4.2

EmS Code : F-A, S-J

Marine pollutant : yes

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

Not applicable for product as supplied.

National Regulations

JT/T 617

UN number : UN 1382

Proper shipping name : POTASSIUM SULPHIDE

Class : 4.2

Packing group : II

Labels : 4.2

Environmentally hazardous : no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15: Regulatory information



Catalogue of Hazardous Chemicals : This product is not listed in the catalogue of hazardous chemicals, but it meets the definition of hazardous chemicals and its principles of determination.

Downstream users need to comply with the conditions of safe use of the chemical, understand the environmental and health hazard and risk management measures identified on the SDS as well as the local/national regulations concerning the chemical.

National regulatory information

Regulations on Safety Management of Hazardous Chemicals

Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)

Not listed

Hazardous Chemicals for Priority Management

Not listed under SAWS

Regulations on Labour Protection in Workplaces where Toxic Substances are Used

Catalogue of Highly Toxic Chemicals

Not listed

Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

China Severely Restricted Toxic Chemicals for Import and Export

Not listed

Measures on the Environmental Administration of New Chemical Substances Registration

Registration/Notification number

B1A222243494

SECTION 16: Other information



Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals

ANTT - National Agency for Transport by Land of Brazil

ASTM - American Society for the Testing of Materials

bw - Body weight

CMR - Carcinogen, Mutagen or Reproductive Toxicant

DIN - Standard of the German Institute for Standardisation

DSL - Domestic Substances List (Canada)

EC_x - Concentration associated with x% response

EL_x - Loading rate associated with x% response

EmS - Emergency Schedule

ENCS - Existing and New Chemical Substances (Japan)

ErC_x - Concentration associated with x% growth rate response

ERG - Emergency Response Guide

GHS - Globally Harmonised System

GLP - Good Laboratory Practice

IARC - International Agency for Research on Cancer

IATA - International Air Transport Association

IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

IC₅₀ - Half maximal inhibitory concentration

ICAO - International Civil Aviation Organization

IECSC - Inventory of Existing Chemical Substances in China

IMDG - International Maritime Dangerous Goods

IMO - International Maritime Organisation
 ISHL -Industrial Safety and Health Law (Japan)
 ISO - International Organisation forStandardisation
 KECI - Korea Existing Chemicals Inventory
 LC50 - Lethal Concen- tration to 50 % of a test population
 LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)
 MARPOL - International Convention for the Prevention of Pol- lution from Ships
 MERCOSUR - The Agreement for the Facilitation of the Transport of Dangerous Goods
 n.o.s. - Not Otherwise Specified
 Nch - Chilean Norm
 NO(A)EC - No Observed (Adverse) Effect Concentration
 NO(A)EL - No Observed (Adverse) Ef- fect Level
 NOELR - No Observable Effect Loading Rate
 NOM - Official MexicanNorm
 NTP - National Toxicology Program
 NZIoC - New Zealand Inventory of Chem- icals
 OECD - Organisation for Economic Co-operation and Development
 OPPTS - Of- fice of Chemical Safety and Pollution Prevention
 PBT - Persistent, Bioaccumulative and Toxic substance
 PICCS - Philippines Inventory of Chemicals and Chemical Sub- stances
 (Q)SAR - (Quantitative) Structure Activity Relationship
 REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning theRegistration, Evaluation, Authorisation and Restriction of Chemicals
 SADT - Self-Accelerating Decomposition Temperature
 SDS - Safety Data Sheet
 TCSI - TaiwanChemical Substance Inventory
 TDG - Transportation of Dangerous Goods
 TECI -Thailand Existing Chemicals Inventory
 TSCA - Toxic Substances Control Act (UnitedStates)
 UN - United Nations
 UNRTDG - United Nations Recommendations on theTransport of Dangerous Goods
 vPvB - Very Persistent and Very Bioaccumulative
 WHMIS - Workplace Hazardous Materials Information System

Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.