

Safety data sheet

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BASF Safety data sheet according to the United Nations' Globally Harmonized System (UN GHS)

Date / Revised: 26.09.2024

Version: 3.0

Product: **Potassium Sulfite Solution 45%**

(ID no. 30042357/SDS_GEN_00/EN)

Date of print 12.10.2025

1. Identification

Product identifier

Potassium Sulfite Solution 45%

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

Relevant identified uses: Chemical

Recommended use: inorganic reducing agents, initial product for chemical syntheses, process chemical

Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Division Monomers

Telephone: +49 621 60 42737

E-mail address: pss.monomers@basf.com

Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

2. Hazards Identification

Classification of the substance or mixture

According to UN GHS criteria

No need for classification according to GHS criteria for this product.

Label elements

Globally Harmonized System (GHS)

The product does not require a hazard warning label in accordance with GHS criteria.

Labeling of special preparations (GHS):
Contact with acids liberates toxic gas.

Other hazards

According to UN GHS criteria

No specific dangers known, if the regulations/notes for storage and handling are considered. If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition/Information on Ingredients

Substances

Not applicable

Mixtures

Chemical nature

Potassium sulphite (Content (W/W): 45 %)

K₂SO₃

CAS: 10117-38-1 EINECS: 233-321-1

dissolved in: Water

4. First-Aid Measures

Description of first aid measures

Immediately remove contaminated clothing.

If inhaled:

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Keep patient calm, remove to fresh air, seek medical attention. After inhalation of decomposition products: Immediately administer a corticosteroid from a controlled/metered dose inhaler. Seek medical attention.

On skin contact:

Wash thoroughly with soap and water

On contact with eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., Many individuals are sensitive to sulphite additives and may experience a range of symptoms, including dermatitis, urticaria, angio-oedema, abdominal pain, diarrhoea, bronchoconstriction and anaphylaxis.

Hazards: Risk of sulfur dioxide formation by reaction with gastric acid after swallowing.

Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:

water spray, carbon dioxide, foam, dry powder

Additional information:

Product will not burn.

Use extinguishing measures to suit surroundings.

Special hazards arising from the substance or mixture

Sulphur dioxide

The substances/groups of substances mentioned can be released if the product is involved in a fire.

Advice for fire-fighters

Special protective equipment:

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

Further information:

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Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered. Contaminated extinguishing water must be disposed of in accordance with official regulations. In case of fire and/or explosion do not breathe fumes.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Avoid contact with the skin, eyes and clothing. Use personal protective clothing. Ensure adequate ventilation.

Environmental precautions

Do not discharge into drains/surface waters/groundwater. Do not discharge into the subsoil/soil. Retain and dispose of contaminated wash water.

Methods and material for containment and cleaning up

For small amounts: Pick up with suitable absorbent material.

For large amounts: Pump off product.

Dispose of absorbed material in accordance with regulations.

7. Handling and Storage

Precautions for safe handling

Use only in well-ventilated areas. Do not inhale vapours / aerosols. Avoid contact with skin and eyes.

Protection against fire and explosion:

The substance/product is non-combustible. No special precautions necessary.

Conditions for safe storage, including any incompatibilities

Segregate from acids and acid forming substances. Segregate from oxidants.

Suitable materials for containers: Stainless steel 1.4401, Stainless steel 1.4404, Stainless steel 1.4301 (V2), Stainless steel 1.4541, Stainless steel 1.4571, High density polyethylene (HDPE), rubberized

Further information on storage conditions: Keep away from heat. Keep container tightly closed in a cool, well-ventilated place. Keep container dry. The product consumes oxygen. Danger of lack of oxygen in containers and tanks.

Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

8. Exposure Controls/Personal Protection

Control parameters

Components with occupational exposure limits

No occupational exposure limits known.

The substance mentioned develops if the regulation/notes for storage and handling are not observed.

7446-09-5: Sulphur dioxide

Exposure controls

Personal protective equipment

Respiratory protection:

Respiratory protection in case of release of decomposition products. Suitable respiratory protection for lower concentrations or short-term effect: Gas filter for gases/vapours of inorganic compounds (e.g. EN 14387 Type B) Suitable respiratory protection for higher concentrations or long-term effect: Self-contained breathing apparatus.

Hand protection:

Chemical resistant protective gloves (EN ISO 374-1)

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1):

| e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) and other

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Do not breathe vapour/spray. Hands and/or face should be washed before breaks and at the end of the shift.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

State of matter:	liquid
Form:	aqueous solution
Colour:	colourless
Odour:	odourless
Odour threshold:	not applicable, odour not perceivable
crystallization temperature:	approx. -30 °C
Boiling point:	135 °C (1.013 hPa)

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Lower explosion limit:	For liquids not relevant for classification and labelling.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Flash point:	not applicable	
Auto-ignition temperature:	No data available.	
Thermal decomposition:	It is not a self-decomposable substance.	
pH value:	9 - 10,5	(other)
Viscosity, kinematic:	not determined	
Viscosity, dynamic:	4,15 mPa.s (20 °C)	(internal method)
Solubility in water:	505 g/l (20 °C)	(OECD Guideline 105)
<i>Information on: Potassium sulphite</i>		
<i>Partitioning coefficient n-octanol/water (log Kow):</i>		
<i>Study scientifically not justified.</i>		

Vapour pressure:	approx. 14 mbar (20 °C)	(measured)
	approx. 81 mbar (50 °C)	(measured)
	approx. 100 mbar (55 °C)	(measured)
Relative density:	No data available.	
Density:	1,445 - 1,460 g/cm ³ (20 °C)	(DIN 51757)
<u>Particle characteristics</u>		
Particle size distribution:	The substance / product is marketed or used in a non solid or granular form. -	

9.2. Other information

Information with regard to physical hazard classes

Explosives

Explosion hazard: not explosive

Oxidizing properties

Fire promoting properties: not fire-propagating

Other safety characteristics

Miscibility with water: completely (e.g. >=90%)

Evaporation rate: Value can be approximated from Henry's Law Constant or vapor pressure.

10. Stability and Reactivity

Possibility of hazardous reactions

Reacts with nitrites. Reacts with nitrates. Reacts with oxidizing agents. Generation of sulphur dioxide upon exposure to acids. (or conditions.) The product consumes oxygen.

Conditions to avoid

avoid atmospheric oxygen

Incompatible materials

Substances to avoid:

nitrites, nitrates, oxidizing agents, acids

Hazardous decomposition products

Hazardous decomposition products:

Sulphur dioxide

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Experimental/calculated data:

LD50 rat (oral): > 2.000 mg/kg

The data on toxicology refer to the active ingredient.

Information on: Potassium sulphite

Assessment of acute toxicity:

Of low toxicity after single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Information on: Potassium sulphite

Experimental/calculated data:

LD50 rat (oral): approx. 2.610 mg/kg (BASF-Test)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Information on: Potassium sulphite

Experimental/calculated data:

LC50 rat (by inhalation): > 5,5 mg/l 4 h (similar to OECD guideline 403)

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The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. Tested as dust aerosol.

Information on: Potassium sulphite

Experimental/calculated data:

LD50 rat (dermal): > 2.000 mg/kg (OECD Guideline 402)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Irritation

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (OECD Guideline 404)

The product has not been tested. The statement has been derived from the properties of the individual components.

Serious eye damage/irritation rabbit: non-irritant

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Respiratory/Skin sensitization

Assessment of sensitization:

A sensitizing effect on particularly sensitive individuals cannot be excluded.

Experimental/calculated data:

Mouse Local Lymph Node Assay (LLNA) mouse: Non-sensitizing. (OECD Guideline 429)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Information on: Potassium sulphite

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies. A sensitizing effect on particularly sensitive individuals cannot be excluded. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Germ cell mutagenicity

Assessment of mutagenicity:

The substance was not mutagenic in bacteria.

Carcinogenicity

Information on: Potassium sulphite

Assessment of carcinogenicity:

In long-term studies in rats in which the substance was given by feed, a carcinogenic effect was not observed. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Reproductive toxicity

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*Information on: Potassium sulphite**Assessment of reproduction toxicity:**The results of animal studies gave no indication of a fertility impairing effect. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.*

Developmental toxicity

*Information on: Potassium sulphite**Assessment of teratogenicity:**No indications of a developmental toxic / teratogenic effect were seen in animal studies. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.*

Experiences in humans

Experimental/calculated data:

-

With sensitive persons it can lead to an over sensitive reaction.

Aspiration hazard

not applicable

12. Ecological Information

Toxicity

*Information on: Potassium sulphite**Assessment of aquatic toxicity:**There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.*
-----*Information on: Potassium sulphite**Toxicity to fish:**LC50 (96 h) 316 mg/l, *Leuciscus idus* (DIN 38412 Part 15, static)**The details of the toxic effect relate to the nominal concentration.*
-----*Information on: Potassium sulphite**Aquatic invertebrates:**EC50 (48 h) 74 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, static)**The details of the toxic effect relate to the nominal concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.**EC50 (48 h) 230 mg/l, *Daphnia magna* (other, static)**The details of the toxic effect relate to the nominal concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.*

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Information on: Potassium sulphite

*Aquatic plants:**EC50 (72 h) 40 mg/l (growth rate), Scenedesmus subspicatus (ISO 8692, static)**Nominal concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.**EC50 (72 h) > 100 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)**Nominal concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.*

Information on: Potassium sulphite

*Microorganisms/Effect on activated sludge:**EC50 (3 h) > 1.000 mg/l, (OECD Guideline 209, static)**The details of the toxic effect relate to the nominal concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.*

Persistence and degradability

Assessment biodegradation and elimination (H₂O):

Inorganic product which cannot be eliminated from water by biological purification processes.

Bioaccumulative potential

Bioaccumulation potential:

No significant accumulation in organisms is expected as a result of the distribution coefficient of n-octanol/water (log Pow).

Mobility in soil

Assessment transport between environmental compartments:

Adsorption in soil: Adsorption to solid soil phase is not expected.

Other adverse effects

The product does not contain substances that are listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

Additional information

Other ecotoxicological advice:

Do not release untreated into natural waters.

13. Disposal Considerations

Waste treatment methods

Must be disposed of or incinerated in accordance with local regulations.
Observe national and local legal requirements.

Contaminated packaging:

Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

14. Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport

ADN

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

15. Regulatory Information**Safety, health and environmental regulations/legislation specific for the substance or mixture**

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

16. Other Information

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

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Vertical lines in the left hand margin indicate an amendment from the previous version.