

Safety data sheet

Page: 1/15

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

Date / Revised: 21.05.2025

Version: 4.0

Product: **Potassium Metabisulfite food grade (E224)**

(ID no. 30042359/SDS_GEN_00/EN)

Date of print 11.10.2025

1. Identification

Product identifier

Potassium Metabisulfite food grade (E224)

Chemical name: Dipotassium disulphite; potassium metabisulfite

CAS Number: 16731-55-8

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

Relevant identified uses: food additive(s)

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

Acute Tox. 5 (oral)

Skin Irrit. 2

Eye Dam. 1

Aquatic Acute 3

For the classifications not written out in full in this section the full text can be found in section 16.

Label elements

Globally Harmonized System (GHS)

Pictogram:



Signal Word:

Danger

Hazard Statement:

H318 Causes serious eye damage.

H315 Causes skin irritation.

H303 May be harmful if swallowed.

H402 Harmful to aquatic life.

Precautionary Statements (Prevention):

P280 Wear protective gloves and eye protection or face protection.

P273 Avoid release to the environment.

P264 Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

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 POISON CENTER or physician.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P332 + P313 If skin irritation occurs: Get medical attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

Precautionary Statements (Disposal):

P501 Dispose of contents and container to hazardous or special waste collection point.

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

According to UN GHS criteria

| Hazard determining component(s) for labelling: Dipotassium disulphite

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

Chemical nature

| Dipotassium disulphite

CAS Number: 16731-55-8

EC-Number: 240-795-3

K₂S₂O₅

For the classifications not written out in full in this section the full text can be found in section 16.

Mixtures

Not applicable

4. First-Aid Measures

Description of first aid measures

Remove contaminated clothing.

If inhaled:

If difficulties occur after dust has been inhaled, remove to fresh air and 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:

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

Date / Revised: 21.05.2025

Version: 4.0

Product: **Potassium Metabisulfite food grade (E224)**

(ID no. 30042359/SDS_GEN_00/EN)

Date of print 11.10.2025

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

Unsuitable extinguishing media for safety reasons:

water jet

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:

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. Avoid dust formation.

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

Sweep/shovel up. Dispose of absorbed material in accordance with regulations.

7. Handling and Storage

Precautions for safe handling

Use only in well-ventilated areas. Avoid dust formation. 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 1.4571, Stainless steel 1.4541, Low density polyethylene (LDPE), High density polyethylene (HDPE), Carbon steel (Iron), rubberized, Polyester resin, glass reinforced (Palatal A410)

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)

See exposure scenario(s) in the attachment to this safety data sheet.

8. Exposure Controls/Personal Protection

Control parameters

Components with occupational exposure limits

7446-09-5: Sulphur dioxide

7681-57-4: Disodium disulphite

Exposure controls

Personal protective equipment

Respiratory protection:

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

Date / Revised: 21.05.2025

Version: 4.0

Product: **Potassium Metabisulfite food grade (E224)**

(ID no. 30042359/SDS_GEN_00/EN)

Date of print 11.10.2025

Breathing protection if dusts are formed. Suitable respiratory protection for lower concentrations or short-term effect: Particle filter with low efficiency for solid particles (e.g. EN 143 or 149, Type P1 or FFP1) Breathing protection if gases/vapours are formed. Combination filter for gases/vapours of organic, inorganic, acid inorganic, alkaline compounds and toxic particles (e. g. EN 14387 Type ABEK-P3)

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 inhale vapours or dust. 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:	solid	
Form:	powder	
Colour:	white	
Odour:	faint odour, of sulfur dioxide	
Odour threshold:	Not determined due to potential health hazard by inhalation.	
decomposition point:	approx. 150 °C	
	Literature data.	
Melting point:	The substance / product decomposes therefore not determined.	
Boiling point:	(1.013 hPa)	
	not applicable	
Flammability:	not flammable, not self-igniting	(other)
Lower explosion limit:	For solids not relevant for classification and labelling.	

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

Date / Revised: 21.05.2025

Version: 4.0

Product: **Potassium Metabisulfite food grade (E224)**

(ID no. 30042359/SDS_GEN_00/EN)

Date of print 11.10.2025

Upper explosion limit:	For solids not relevant for classification and labelling.	
Flash point:	not applicable, the product is a solid	
Self-ignition temperature:		Test type: Self-ignition at high temperatures.
Thermal decomposition:	not self-igniting > 150 °C	
pH value:	To avoid thermal decomposition, do not overheat. 3,8 - 4,6 (water, 5 %(m), 20 °C)	
Viscosity, kinematic:	No data available.	
Viscosity, dynamic:	not applicable, the product is a solid	
Solubility in water:	not applicable Literature data. 495 g/l (25 °C)	
Partitioning coefficient n-octanol/water (log Kow):	not applicable	
Vapour pressure:	not applicable	
Relative density:	2,3 (20 °C)	
Density:	2,3 g/cm ³ (20 °C) Literature data.	
<u>Particle characteristics</u>		
Particle size distribution:	65 µm 228 µm 523 µm	(D10, ISO 13320-1) (D50, ISO 13320-1) (D90, ISO 13320-1)
Particle size distribution:	fine particles -	
Specific Surface Area:	4,6 m ² /g 10,8 m ² /cm ³	(MSSA, ISO 9227) (VSSA, derived from BET)

9.2. Other information

Information with regard to physical hazard classes

Explosives

Explosion hazard: Based on the chemical structure there is no indication of explosive properties.

Impact sensitivity: Based on the chemical structure there is no shock-sensitivity.

Oxidizing properties

Fire promoting properties: Based on its structural properties the product is not classified as oxidizing.

Flammable solids

Burning rate: Study scientifically not justified.

Pyrophoric properties

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

Date / Revised: 21.05.2025

Version: 4.0

Product: **Potassium Metabisulfite food grade (E224)**

(ID no. 30042359/SDS_GEN_00/EN)

Date of print 11.10.2025

Self-ignition temperature:

Test type: Spontaneous self-ignition at room-temperature.

not self-igniting

Self-heating substances and mixtures

Self heating ability: It is not a substance capable of spontaneous heating.

Other safety characteristicsBulk density: 1.100 - 1.300 kg/m³

pKA:

not applicable

Adsorption/water - soil:

Study scientifically not justified.

Surface tension:

Based on chemical structure, surface activity is not to be expected.

(other)

Evaporation rate:

The product is a non-volatile solid.

10. Stability and Reactivity**Reactivity**

No hazardous reactions if stored and handled as prescribed/indicated.

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 humidity. 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**

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

Date / Revised: 21.05.2025

Version: 4.0

Product: **Potassium Metabisulfite food grade (E224)**

(ID no. 30042359/SDS_GEN_00/EN)

Date of print 11.10.2025

Acute toxicity

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 fully tested. The statements have been derived in parts from products of a similar structure or composition.

Experimental/calculated data:

LD50 rat (oral): approx. 2.300 mg/kg (similar to OECD guideline 401)

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

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

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

Assessment of irritating effects:

Causes serious eye damage. Causes skin irritation.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (BASF-Test)

Skin corrosion/irritation In vitro assay: Irritant. (OECD Guideline 439)

Skin corrosion/irritation In vitro assay: Non corrosive. (OECD Guideline 435)

Serious eye damage/irritation rabbit: irreversible damage (OECD Guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. 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.

Germ cell mutagenicity

Assessment of mutagenicity:

No mutagenic effect was found in various tests with bacteria and mammalian cell culture. The substance was not mutagenic in a test with mammals. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Carcinogenicity

Assessment of carcinogenicity:

In long-term animal studies in which the substance was given in the drinking water in high doses, a carcinogenic effect was not observed.

Reproductive toxicity

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

Assessment of teratogenicity:

No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Experiences in humans

Experimental/calculated data:

-

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

Specific target organ toxicity (single exposure)

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

No substance-specific organotoxicity was observed after repeated administration to animals. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aspiration hazard

not applicable

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms.

Toxicity to fish:

LC50 (96 h) 316 mg/l, *Leuciscus idus* (DIN 38412 Part 15, static)

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

Aquatic invertebrates:

EC50 (48 h) 89 mg/l, *Daphnia magna* (Directive 79/831/EEC, static)

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

Date / Revised: 21.05.2025

Version: 4.0

Product: **Potassium Metabisulfite food grade (E224)**

(ID no. 30042359/SDS_GEN_00/EN)

Date of print 11.10.2025

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.

Aquatic plants:

EC50 (72 h) 43,8 mg/l (growth rate), *Scenedesmus subspicatus* (Algal growth inhibition test, 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.

Microorganisms/Effect on activated sludge:

No observed effect concentration (180 min) \geq 1.000 mg/l, (OECD Guideline 209, aquatic)

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

Chronic toxicity to fish:

No observed effect concentration (34 d) \geq 316 mg/l, *Brachydanio rerio* (OECD Guideline 210, Flow through.)

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.

Chronic toxicity to aquatic invertebrates:

No observed effect concentration (21 d) > 10 mg/l, *Daphnia magna* (OECD Guideline 211, semistatic)

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

Assessment of terrestrial toxicity:

No data available.

Study does not need to be conducted.

Persistence and degradability

Assessment biodegradation and elimination (H₂O):

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

Study scientifically not justified.

Elimination information:

Study scientifically not justified.

Assessment of stability in water:

According to structural properties, hydrolysis is not expected/probable.

Study scientifically not justified.

Information on Stability in Water (Hydrolysis):

Study scientifically not justified.

Bioaccumulative potential

Assessment bioaccumulation potential:

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Bioaccumulation potential:

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Mobility in soil

Assessment transport between environmental compartments:

Volatility: The substance will not evaporate into the atmosphere from the water surface. Study scientifically not justified.

Adsorption in soil: Adsorption to solid soil phase is not expected. Study scientifically not justified.

Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Self classification

Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

Additional information

Sum parameter

Chemical oxygen demand (COD): (calculated) approx. 140 mg/g

Other ecotoxicological advice:

Higher concentrations of the substance may cause a strong chemical oxygen consumption in biological sewage-treatment plants and/or waterways. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

13. Disposal Considerations

Waste treatment methods

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

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

Date / Revised: 21.05.2025

Version: 4.0

Product: **Potassium Metabisulfite food grade (E224)**

(ID no. 30042359/SDS_GEN_00/EN)

Date of print 11.10.2025

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

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

Date / Revised: 21.05.2025

Version: 4.0

Product: **Potassium Metabisulfite food grade (E224)**

(ID no. 30042359/SDS_GEN_00/EN)

Date of print 11.10.2025

	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

Any other intended applications should be discussed with the manufacturer.

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Acute Tox.	Acute toxicity
Skin Irrit.	Skin irritation
Eye Dam.	Serious eye damage
Aquatic Acute	Hazardous to the aquatic environment - acute

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

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

Date / Revised: 21.05.2025

Version: 4.0

Product: **Potassium Metabisulfite food grade (E224)**

(ID no. 30042359/SDS_GEN_00/EN)

Date of print 11.10.2025

responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

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