Safety Data Sheet
Sodium Metabisulfite food grade (E223)

1. Identification

Product identifier used on the label

Sodium Metabisulfite food grade (E223)

Recommended use of the chemical and restriction on use

Recommended use*: food additive(s)
Recommended use*: food additive(s); inorganic reducing agents
Unsuitable for use: Not intended for sale to or use by the general public.

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number
24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification
Chemical family: salt of inorganic acids

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Acute Tox.	4 (oral)	Acute toxicity
Eye Dam./Irrit.	1	Serious eye damage/eye irritation
Aquatic Acute	3	Hazardous to the aquatic environment - acute

Label elements

Pictogram:

Signal Word:
Danger

Hazard Statement:

H318	Causes serious eye damage.
H302	Harmful if swallowed.
H402	Harmful to aquatic life.

Precautionary Statements (Prevention):

P280	Wear eye and face protection.
P273	Avoid release to the environment.
P270	Do not eat, drink or smoke when using this product.
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.
P330	Rinse mouth.

Precautionary Statements (Disposal):

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

Hazards not otherwise classified

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.

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

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Sodium metabisulfite
CAS Number: 7681-57-4
Content (W/W): >= 75.0 - <= 100.0%
Synonym: Disulfurous acid disodium salt; Disodium disulfite

sodium sulphite
CAS Number: 7757-83-7
Content (W/W): >= 0.0 - < 3.0%
Synonym: Sodium sulfite

4. First-Aid Measures

Description of first aid measures

General advice:
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.

If on skin:
Wash thoroughly with soap and water

If in eyes:
Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. Seek medical attention.

If swallowed:
Rinse mouth and then drink 200-300 ml of water.

Most important symptoms and effects, both acute and delayed

Symptoms: Overexposure may cause:, vomiting, asthmatic complaints, abdominal cramps, dyspnea, nausea, diarrhea, coughing

Information on: Sodium metabisulfite
Symptoms: Overexposure may cause:, vomiting, asthmatic complaints, abdominal cramps, dyspnea, nausea, diarrhea, coughing
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Indication of any immediate medical attention and special treatment needed

Note to physician

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

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
foam

Unsuitable extinguishing media for safety reasons:
No data available.

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
Sulphur dioxide,

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

Advice for fire-fighters
Protective equipment for fire-fighting:
Wear a self-contained breathing apparatus.

Further information:
Contaminated extinguishing water must be disposed of in accordance with official regulations. In case of fire and/or explosion do not breathe fumes.

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

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Use personal protective clothing. Ensure adequate ventilation. Avoid dust formation. Avoid contact with eyes.

Environmental precautions
Do not discharge into drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

Methods and material for containment and cleaning up
Spills should be contained and placed in suitable containers for disposal.

7. Handling and Storage

Precautions for safe handling
Use only in well-ventilated areas. Avoid dust formation.

Protect against moisture. Protect against heat.

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.
Do not store with: Sodium nitrate, sodium nitrite, sodium sulfide

Suitable materials for containers: rubberized, Polyester resin, glass reinforced (Palatal A410), Stainless steel 1.4541, Stainless steel 1.4571, High density polyethylene (HDPE)

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place. Keep container in a well-ventilated place.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

Sodium metabisulfite	ACGIH, US:	TWA value 5 mg/m3 ;

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

Sulphur dioxide	ACGIH, US:	STEL value 0.25 ppm ;
	OSHA Z1:	PEL 5 ppm 13 mg/m3 ;

Personal protective equipment

Respiratory protection:
Wear a NIOSH-certified (or equivalent) particulate respirator.

Hand protection:
Chemical resistant protective gloves, nitrile rubber (NBR) - 0.4 mm coating thickness, polyvinylchloride (PVC) - 0.7 mm coating thickness

Eye protection:
Tightly fitting safety goggles (chemical goggles).

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:
Hands and/or face should be washed before breaks and at the end of the shift.

9. Physical and Chemical Properties

Form:	powder, crystalline	
Odour:	faint odour, of sulfur dioxide	
Odour threshold:	Not determined due to potential health hazard by inhalation.	
Colour:	white to slightly yellow	
pH value:	4.0 - 4.8 (5 %(m), 20 °C)	(pH Meter)
Melting point:	The substance / product decomposes.not applicable	
Freezing point:	not applicable	
Boiling point:	The substance / product decomposes therefore not determined.	
Boiling range:	not applicable	
Flash point:	not applicable, the product is a solid	
Flammability:	not flammable	(other)
Lower explosion limit:	For solids not relevant for classification and labelling.	
Upper explosion limit:	For solids not relevant for classification and labelling.	
Vapour pressure:	The vapour pressure of the aqueous solution consists of the partial pressure for water and the partial pressure for sulphur dioxide.	
Density:	2.36 g/cm3 (20 °C)	(OECD Guideline 109)

Bulk density:	1,000 - 1,200 kg/m3	
Partitioning coefficient n-octanol/water (log Pow):	not applicable	
Thermal decomposition:	150 °C To avoid thermal decomposition, do not overheat.	
Viscosity, dynamic:	not applicable, the product is a solid	
Particle size:	D50 169.68 - 173.41 µm	(ISO 13320-1)
	D90 422.29 - 443.58 µm	(ISO 13320-1)
	D10 49.49 - 51.34 µm	(ISO 13320-1)
Solubility in water:	667 g/l (25 °C) Literature data.	
Evaporation rate:	The product is a non-volatile solid.	

10. Stability and Reactivity

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

Corrosion to metals:
No corrosive effect on metal.

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

Chemical stability
The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions
The product is stable if stored and handled as prescribed/indicated.
Reacts with nitrites. Reacts with nitrates. Reacts with oxidizing agents.

Conditions to avoid
Avoid humidity.

Incompatible materials
acids, oxidizing agents, nitrites, nitrates, sulfides

Hazardous decomposition products

Decomposition products:
Hazardous decomposition products: Sulphur dioxide

Thermal decomposition:
150 °C
To avoid thermal decomposition, do not overheat.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity
Assessment of acute toxicity: Of moderate 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.

Information on: Sodium metabisulfite
Assessment of acute toxicity:Of moderate 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.

Oral
Type of value: LD50
Species: rat (male/female)
Value: 1,540 mg/kg (OECD Guideline 401)

Inhalation
Type of value: LC50
Species: rat (male/female)
Value: > 5.5 mg/l (IRT)
Exposure time: 4 h
Tested as dust aerosol.
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Dermal
Type of value: LD50
Species: rat (male/female)
Value: > 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.

Assessment other acute effects
Assessment of STOT single:
Apart from effects causing lethality, no specific target organ toxicity was observed in experimental studies.

Irritation / corrosion
Assessment of irritating effects: Risk of serious damage to eyes. Not irritating to the skin.

Information on: Sodium metabisulfite
Assessment of irritating effects: Not irritating to the skin. May cause severe damage to the eyes.

Skin
Species: rabbit
Result: non-irritant
Method: OECD Guideline 404

Eye
Species: rabbit
Result: Risk of serious damage to eyes.

Method: OECD Guideline 405

Sensitization
Assessment of sensitization: Skin sensitizing effects were not observed in animal studies. A sensitizing effect on particularly sensitive individuals cannot be excluded.

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

Aspiration Hazard
not applicable

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: No substance-specific organtoxicity was observed after repeated administration to animals.

Genetic toxicity
Assessment of mutagenicity: No mutagenic effect was found in various tests with bacteria and mammalian cell culture. The substance was not mutagenic in studies with mammals.

Carcinogenicity
Assessment of carcinogenicity: In long-term studies in rats in which the substance was given by feed, 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.

Teratogenicity
Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies.

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

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. 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)
Nominal concentration.

Aquatic plants
EC50 (72 h) 43.8 mg/l (growth rate), algae (other, static)
Nominal concentration.

Chronic toxicity to fish
No observed effect concentration (34 d) > 316 mg/l, Brachydanio rerio (OECD Guideline 210, Flow through.)
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 202, part 2, semistatic)
Nominal concentration.

Assessment of terrestrial toxicity
Study scientifically not justified.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms
OECD Guideline 209 aquatic
activated sludge of a predominantly domestic sewage/No observed effect concentration (3 h): > 1,000 mg/l
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.

Assessment of stability in water
According to structural properties, hydrolysis is not expected/probable.
Study scientifically not justified.

Bioaccumulative potential

Assessment bioaccumulation potential
Accumulation in organisms is not to be expected.

Bioaccumulation potential
Study scientifically not justified.

Mobility in soil

Assessment transport between environmental compartments
The substance will not evaporate into the atmosphere from the water surface.
Adsorption to solid soil phase is not expected.

Additional information

Sum parameter

Chemical oxygen demand (COD): (calculated) 165 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.

13. Disposal considerations

Waste disposal of substance:
Dispose of in accordance with national, state and local regulations. This material and its container must be disposed of in a safe way.

Container disposal:
Empty containers with less than 1 inch of residue may be landfilled at a licensed facility.

14. Transport Information

Land transport
USDOT

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:

Chemical	TSCA, US	released / listed
Food	TSCA, US	released / exempt

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

NFPA Hazard codes:
Health: 3 Fire: 0 Reactivity: 0 Special:

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Acute Tox.	4 (oral)	Acute toxicity
Eye Dam./Irrit.	1	Serious eye damage/eye irritation
Aquatic Acute	3	Hazardous to the aquatic environment - acute

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2024/04/17

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