SAFETY DATA SHEET

SODIUM METABISULPHITE - BASF (NON-FOOD GRADE)

CAS No.: 7681-57-4

This Safety Data Sheet is issued by Suraj Chemicals as the distributor/supplier of record, based on manufacturer and published GHS / regulatory reference data for this substance. Users should also consult the specific manufacturer's SDS where available.

1. IDENTIFICATION

GHS Product identifier

SODIUM METABISULPHITE — BASF (NON-FOOD GRADE)
Synonyms: Sodium Metabisulfite; Sodium pyrosulfite; Disodium disulfite; Sodium disulphite
CAS: 7681-57-4

Other means of identification

Not relevant

Recommended use of the chemical and restrictions on use

Relevant uses: Reducing agent, dechlorination agent (water/effluent treatment), bleaching agent, photographic and leather industry, industrial preservative/antioxidant intermediate. Non-food industrial grade only – not for food, feed or pharmaceutical use. For industrial user only.

Uses advised against: All uses not specified in this section or in section 7.3.

Supplier's details

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS:
Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Acute Tox. 4	Acute oral toxicity, Category 4, H302
Eye Irrit. 2	Eye irritation, Category 2, H319
STOT SE 3	Respiratory tract irritation, single exposure, Category 3, H335

GHS label elements, including precautionary statements

GHS: Warning

Hazard statements

Acute Tox. 4: H302 – Harmful if swallowed.
Eye Irrit. 2: H319 – Causes serious eye irritation.
STOT SE 3: H335 – May cause respiratory irritation.

Precautionary statements

P261: Avoid breathing dust.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/eye protection.
P301+P312: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P501: Dispose of the contents/containers in accordance with regulations on hazardous waste.

Other hazards which do not result in classification

Releases sulphur dioxide (SO_2) gas on contact with acids or moisture over time; may trigger reactions in sulphite-sensitive/asthmatic individuals. Does not meet the PBT/vPvB criteria.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances

Chemical description: Sodium Metabisulphite (technical/industrial, BASF-manufactured grade)

In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 7681-57-4	Sodium Metabisulphite — Acute Tox. 4: H302; Eye Irrit. 2: H319; STOT SE 3: H335 – Warning	≥ 97%

To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

Mixtures

Non-applicable

4. FIRST AID MEASURES

Description of necessary first-aid measures

Request medical assistance immediately, showing the SDS of this product.

By inhalation

Remove the person affected from the area of exposure, provide fresh air and keep at rest. SO_2 fumes may irritate airways – seek medical attention if breathing difficulty or wheezing (especially in sulphite-sensitive individuals) occurs.

By skin contact

Remove contaminated clothing, rinse skin thoroughly with plenty of water and soap. Seek medical attention if irritation persists.

By eye contact

Rinse eyes thoroughly with lukewarm water for at least 15 minutes, holding eyelids open. Remove contact lenses if present and easy to do. Seek medical attention.

By ingestion/aspiration

Rinse out the mouth with water. Do not induce vomiting. Give water to drink if the person is conscious. Seek medical attention, showing the SDS of the product.

Most important symptoms/effects, acute and delayed

Acute and delayed effects are indicated in sections 2 and 11.

Indication of immediate medical attention and special treatment needed, if necessary

Not relevant

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Suitable: Water spray/fog, foam, carbon dioxide, dry chemical powder – extinguishing media appropriate to the surrounding fire
Unsuitable: None known

Specific hazards arising from the chemical

Non-combustible itself. On heating or in contact with fire, decomposes releasing toxic and irritating sulphur dioxide (SO_2) gas. Reacts with acids to liberate SO_2.

Special protective actions for fire-fighters

Evacuate all non-essential personnel. Intervention only by capable personnel who are trained and aware of the hazards of the product. In all cases wear self-contained breathing apparatus. When intervention in close proximity, wear full protective chemical-resistant suit. After intervention, proceed to clean the equipment (take a shower, remove clothing carefully, clean and check).

Additional provisions

If safe to do so, remove exposed containers or cool with water spray from a safe distance. Approach from upwind. Use self-contained breathing apparatus due to SO_2 generation risk.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Avoid generating dust. Sweep up spilled material into containers, provided there is no additional risk. Ventilate the area if SO_2 odour is noticeable. Use appropriate PPE (see section 8).

For emergency responders

Wear protective equipment. Keep unprotected persons away. See section 8.

Environmental precautions

Avoid release to drains, watercourses or soil – sulphite can deplete dissolved oxygen in water bodies. Notify the relevant authority in case of significant release to the environment.

Methods and materials for containment and cleaning up

Sweep or vacuum up (avoid generating dust) and place in a labelled, dry container for reuse (preferred) or disposal. Wash the contaminated area with water after collection.

Reference to other sections

See sections 8 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling

A. General precautions for safe use

Avoid generating and inhaling dust and SO_2 fumes; use local exhaust ventilation. Keep away from acids and strong oxidizers. Keep containers tightly closed to prevent moisture ingress and slow decomposition.

B. Technical recommendations for the prevention of fires and explosions

No special fire-prevention measures are required as the product is non-combustible; keep away from strong acids to prevent SO_2 gas release.

C. Technical recommendations on general occupational hygiene

Do not eat or drink during the process; wash hands afterwards with suitable cleaning products.

D. Technical recommendations to prevent environmental risks

Provide tight electrical equipment well protected against corrosion. Avoid atmospheric emissions. Warn people about the dangers of the product. Follow the protective measures given in the exposure controls/personal protection section. In industrial installations, apply the rules for the prevention of major accidents (consult an expert).

Conditions for safe storage, including any incompatibilities

A. Specific storage requirements

Minimum Temp.	Ambient
Maximum Temp.	30°C (store in a cool, dry place, away from direct sunlight)
Maximum time	12 Months in original sealed packaging (degrades slowly with moisture/air exposure, releasing SO_2)

B. General conditions for storage

Store in a dry, cool, well-ventilated area in tightly sealed containers, away from acids and oxidizing agents to prevent gradual decomposition and SO_2 release. For additional information see subsection 10.5.

Specific end use(s)

Except for the instructions already specified, it is not necessary to provide any special recommendation regarding the uses of this product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Substances whose occupational exposure limits have to be assessed in the workplace, per the Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987):

Identification	Occupational Exposure Limit Type	Value
Sodium Metabisulphite (as sulphite) CAS: 7681-57-4	OSHA PEL – TWA (8 hrs)	5 mg/m³
Sulphur Dioxide (decomposition product)	ACGIH TLV – TWA (8 hrs) / STEL (15 min)	0.25 ppm / 0.5 ppm

Appropriate engineering controls

It is recommended to use localized extraction in the work area as a collective protection measure to avoid exceeding occupational exposure limits, in addition to individual protective equipment (PPE) as needed. Consult the manufacturer's information leaflet for storage, use, cleaning and maintenance of PPE.

B. Respiratory protection

Particulate filter (FFP2/P2) mask for dust; combination particulate/acid-gas cartridge respirator where SO_2 fumes are possible.

C. Specific protection for the hands

Protective gloves against minor risks (nitrile or PVC). Replace at any sign of damage.

D. Eye and face protection

Chemical splash goggles.

E. Bodily protection

Standard work clothing / coveralls; safety footwear for bulk handling.

F. Additional emergency measures

Emergency shower (ANSI Z358-1, ISO 3864-1:2011, ISO 3864-4:2011) and eyewash stations (DIN 12 899, ISO 3864-1:2011, ISO 3864-4:2011) should be available.

Environmental exposure controls

Avoid environmental spillage of both the product and its container. See subsection 7.1.D.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	
Physical state at 20°C	Solid (crystalline powder)
Appearance	White to slightly yellowish crystalline powder
Color	White to off-white
Odor	Pungent, sulfurous (SO_2-like)
Odour threshold	Available on request
Volatility	
Boiling point at atmospheric pressure	Non-applicable (solid; decomposes before boiling)
Vapour pressure at 20°C	Negligible (solid); SO_2 evolves slowly on exposure to air/moisture
Evaporation rate at 20°C	Not relevant *
Product Description	
Density / Relative density at 20°C	~1.48 g/cm³
Bulk density	~1000–1300 kg/m³
Concentration	≥ 97% (as $Na_2S_2O_5$)
pH (5% aqueous solution, 20°C)	~4.0–5.5 (acidic)
Partition coefficient n-octanol/water	Not applicable (inorganic salt)
Solubility in water at 20°C	~540 g/L (highly soluble)
Decomposition temperature	~150°C (releases SO_2)
Melting point/freezing point	Decomposes before melting (~150°C)
Flammability	
Flash Point	Non-applicable (solid, non-flammable)
Flammability (solid, gas)	Non-flammable
Autoignition temperature	Not relevant *
Lower / Upper flammability limit	Not relevant *
Particle Characteristics	
Median equivalent diameter	Available on request (grade-dependent)

** Not relevant due to the nature of the product, not providing information on the properties of its hazards.*

Other information

Explosive properties	Not explosive
Oxidising properties	Not classified (this is a reducing agent, not an oxidizer)
Corrosive to metals	Can be mildly corrosive to certain metals in moist/aqueous conditions due to SO_2/sulfurous acid formation
Heat of combustion	Not relevant (non-combustible)
Surface tension at 20°C	Not relevant *
Refraction index	Not relevant *

10. STABILITY AND REACTIVITY

Reactivity

A strong reducing agent. Reacts with acids to liberate sulphur dioxide gas. Slowly oxidised on prolonged exposure to air/moisture, gradually releasing SO_2.

Chemical stability

Chemically stable under the indicated conditions of storage, handling and use.

Possibility of hazardous reactions

Contact with strong acids or strong oxidizing agents may cause a vigorous reaction and release of SO_2 gas. Under recommended dry storage conditions no hazardous reactions are expected.

Conditions to avoid

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Slow oxidation/SO_2 release over time	Avoid strong heating (decomposition ~150°C)	Not applicable	Avoid moisture – accelerates decomposition

Incompatible materials

Strong Acids	Strong Oxidizing Agents	Moisture
Avoid contact – releases SO_2 gas	Avoid contact – vigorous reaction	Avoid prolonged exposure – gradual decomposition

Hazardous decomposition products

Sulphur dioxide (SO_2) gas, especially on contact with acids, moisture or heat.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

In case of exposure that is repetitive, prolonged, or at concentrations higher than the recommended occupational exposure limits, adverse health effects may result depending on the means of exposure:

A. Ingestion (acute effect)

Harmful if swallowed. May cause gastrointestinal irritation, nausea and vomiting; sulphite-sensitive/asthmatic individuals may experience allergic-type reactions.

B. Inhalation (acute effect)

Dust and liberated SO_2 fumes are irritating to the respiratory tract; may cause coughing and breathing difficulty, particularly in sulphite-sensitive or asthmatic individuals.

C. Contact with skin and eyes (acute effect)

Causes serious eye irritation. May cause mild skin irritation on prolonged contact.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity)

Classification criteria for carcinogenicity, mutagenicity and reproductive toxicity are not met based on available data. IARC: Not classified.

E. Sensitizing effects

Not classified as a skin sensitizer. Known to provoke hypersensitivity/asthma-like reactions in sulphite-sensitive individuals via inhalation or ingestion, though this is not a formal GHS sensitisation classification.

F. Specific target organ toxicity (STOT) – single exposure

May cause respiratory irritation (H335) due to SO_2 release.

G. Specific target organ toxicity (STOT) – repeated exposure

Classification criteria are not met based on available data.

H. Aspiration hazard

Non-applicable (solid).

Product-specific toxicological information

Identification	Acute Toxicity	Genus
Sodium Metabisulphite (technical/industrial, BASF-manufactured grade) CAS: 7681-57-4	LD50 oral: ~1500 mg/kg	Rat
	LD50 dermal: >2000 mg/kg	Rabbit
	LC50 inhalation: Available on request	–

12. ECOLOGICAL INFORMATION

Not classified as hazardous to the aquatic environment under standard GHS criteria, but sulphite can deplete dissolved oxygen in water.

Toxicity

Identification	Acute Toxicity	Species	Genus
Sodium Metabisulphite CAS: 7681-57-4	LC50: ~200 mg/L (96h)	Various	Fish
	EC50: Available on request	–	Crustacean

Persistence and degradability

Rapidly oxidised in the environment to sulphate; not persistent as the sulphite/metabisulphite ion, but can cause transient localized oxygen depletion (BOD) in receiving water.

Bioaccumulative potential

Not expected to bioaccumulate (highly water soluble inorganic salt).

Mobility in soil

Koc	Henry	Dry Soil	Moist Soil
Not applicable	Not applicable	No	Dissolves readily

Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of Annex XIII.

Other adverse effects

Not described

13. DISPOSAL CONSIDERATIONS

Disposal methods

Neutralise/oxidise under controlled conditions or collect for approved chemical waste disposal in accordance with local regulations. Avoid uncontrolled discharge to drains (oxygen depletion risk). For packaging: rinse containers with water before disposal or recycling.

Refer to national and local regulations on waste management, including the Hazardous and Other Wastes (Management and Transboundary Movement) Rules.

14. TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR 2023 / RID 2023)

14.1 UN number	Not regulated
14.2 UN proper shipping name	Non-applicable (solid form not assigned a UN number under ADR/IMDG/IATA)
14.3 Transport hazard class(es)	Non-hazardous for transport (solid)
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by sea (IMDG 41-22)

14.1 UN number	Not regulated
14.2 UN proper shipping name	Non-applicable (solid form not assigned a UN number under ADR/IMDG/IATA)
14.3 Transport hazard class(es)	Non-hazardous for transport (solid)
14.4 Packing group	N/A
14.5 Marine pollutant	No
14.6 Special precautions for user	EmS Codes: Not applicable | Limited quantities: Not applicable | Segregation group: Not relevant
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by air (IATA/ICAO 2024)

14.1 UN number	Not regulated
14.2 UN proper shipping name	Non-applicable (solid form not assigned a UN number under ADR/IMDG/IATA)
14.3 Transport hazard class(es)	Non-hazardous for transport (solid)
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
The Chemical Accidents (Emergency Planning, Preparedness, and Response) Rules, 1996
Public Liability Insurance Act, 1991

16. OTHER INFORMATION

Legislation related to safety data sheets

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3

H302: Harmful if swallowed.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3.

Advice related to training

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources

The United Nations Economic Commission for Europe (UNECE); European Chemicals Agency (ECHA) classification and labelling inventory; ACGIH Threshold Limit Values.

Abbreviations and acronyms

ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation | COD: Chemical Oxygen Demand | BOD5: 5-day biochemical oxygen demand | BCF: Bioconcentration factor | LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50 | Log-POW: Octanol-water partition coefficient | Koc: Partition coefficient of organic carbon | IARC: International Agency for Research on Cancer

Disclaimer: The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

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