SAFETY DATA SHEET

SODIUM BI-SULPHITE

CAS No.: 7631-90-5

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 BI-SULPHITE
Sodium hydrogen sulfite; Sodium bisulfite
CAS: 7631-90-5

Other means of identification

Not relevant

Recommended use of the chemical and restrictions on use

Relevant uses: Water treatment (dechlorination/reducing agent), textile bleaching auxiliary (antichlor), pulp and paper processing, food/beverage preservative (permitted grades), leather tanning, ore flotation. 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 Dam. 1	Serious eye damage, Category 1, H318
STOT SE 3	Respiratory tract irritation, Category 3, H335

GHS label elements, including precautionary statements

GHS: Danger

Hazard statements

Acute Tox. 4: H302 – Harmful if swallowed.
Eye Dam. 1: H318 – Causes serious eye damage.
STOT SE 3: H335 – May cause respiratory irritation.
EUH031: Contact with acids liberates toxic gas (sulfur dioxide).

Precautionary statements

P261: Avoid breathing dust.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P280: Wear protective gloves/eye protection/face 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.
P310: Immediately call a POISON CENTER/doctor.
P501: Dispose of contents/container in accordance with local/national regulations.

Other hazards which do not result in classification

Liberates sulfur dioxide gas on contact with acids (EUH031). Not classified as PBT or vPvB.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances

Chemical description: SODIUM BI-SULPHITE

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

Identification	Chemical Name / Classification	Concentration
CAS: 7631-90-5	SODIUM BI-SULPHITE — Acute Tox. 4: H302; Eye Dam. 1: H318; STOT SE 3: H335; EUH031 – Danger	≥ 98% (technical/industrial grade; grade-specific assay available on request)

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 to fresh air and keep at rest. If dust has been inhaled and irritation or breathing difficulty persists, seek medical attention.

By skin contact

Remove contaminated clothing and footwear. Wash affected skin thoroughly with plenty of water and soap. If irritation develops or persists, seek medical attention.

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 if irritation persists.

By ingestion/aspiration

Rinse mouth with water. Do NOT induce vomiting. If conscious, give plenty of water to drink. Seek medical attention immediately, especially if large quantities were ingested.

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 – treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Suitable: Water spray, dry chemical powder, carbon dioxide – product itself is non-combustible.
Unsuitable: None known.

Specific hazards arising from the chemical

Non-combustible. On heating or contact with acids, decomposes/reacts to release sulfur dioxide (SO2) – a toxic, corrosive gas.

Special protective actions for fire-fighters

Wear self-contained breathing apparatus and full acid-resistant protective clothing due to SO2 evolution risk.

Additional provisions

If safe to do so, remove exposed containers from the fire area. Use water spray to cool fire-exposed containers/structures. Avoid generating and inhaling dust.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Avoid raising and inhaling dust. Use personal protective equipment as described in Section 8. Evacuate the area and keep unprotected persons away.

For emergency responders

Wear appropriate protective equipment as described in Section 8. Ensure adequate ventilation.

Environmental precautions

Prevent entry into drains, watercourses or soil. Exerts a high oxygen demand and is toxic to aquatic organisms in the affected pH range.

Methods and materials for containment and cleaning up

Sweep up or vacuum spilled material (avoid generating dust) and place in a suitable closed, labelled container for recovery or disposal. Wash the spill area with water after solid material has been removed.

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 breathing dust. Avoid all contact with skin and eyes. Keep away from acids to prevent SO2 gas release. Keep away from incompatible materials (see section 10).

B. Technical recommendations for the prevention of fires and explosions

Product is non-combustible; provide good ventilation to disperse any SO2 evolved from accidental decomposition.

C. Technical recommendations on general occupational hygiene

Do not eat, drink or smoke during handling. Wash hands and exposed skin thoroughly after handling and before breaks/meals.

D. Technical recommendations to prevent environmental risks

Avoid release to the environment. Follow the protective measures given in Section 8. For bulk storage/handling, consult Suraj Chemicals.

Conditions for safe storage, including any incompatibilities

A. Specific storage requirements

Minimum Temp.	Ambient (no minimum requirement)
Maximum Temp.	25°C
Maximum time	12 Months in original, unopened packaging

B. General conditions for storage

Store in a cool, dry, well-ventilated place in tightly closed, corrosion-resistant containers, away from acids, oxidisers and food products. Product is subject to slow air oxidation – use within recommended shelf life.

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
Sulfur dioxide (decomposition product)	Time Weighted average concentration (8 hrs)	0.5 ppm / 1.3 mg/m³

Appropriate engineering controls

Use local exhaust ventilation or general dilution ventilation to keep airborne concentrations below occupational exposure limits. Consult the manufacturer's information leaflet for storage, use, cleaning and maintenance of PPE.

B. Respiratory protection

Filter mask for acid gases (type E) recommended where dust or SO2 fume may be generated.

C. Specific protection for the hands

Chemical-resistant gloves (nitrile or neoprene).

D. Eye and face protection

Chemical splash goggles; face shield for bulk handling.

E. Bodily protection

Acid-resistant apron/overalls for bulk handling; safety footwear.

F. Additional emergency measures

Emergency eyewash station and safety shower should be available in the immediate work area (ANSI Z358-1 / ISO 3864 or equivalent).

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 pale yellow crystalline powder
Color	White to pale yellow
Odor	Faint sulfurous (SO2-like) odor
Odour threshold	Not established
Melting point/freezing point	Decomposes on heating (~150°C), releasing SO2; no distinct melting point
Boiling point at atmospheric pressure	Not relevant *
Density / Relative density at 20°C	1.48 g/cm³
Bulk density	1000 – 1250 kg/m³ (typical)
Solubility in water at 20°C	300 g/L
pH (5% aqueous solution)	3.5 – 5.0 (acidic)
Vapour pressure at 20°C	Not relevant *
Partition coefficient n-octanol/water	Not relevant (inorganic salt)
Decomposition temperature	~150°C
Flammability	
Flash Point	Non-applicable (non-combustible solid)
Flammability (solid, gas)	Not classified as flammable
Autoignition temperature	Not relevant *
Lower / Upper flammability limit	Not relevant *
Particle Characteristics	
Median particle size	Available on request (grade/mesh-size 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 oxidising – product is a reducing agent
Corrosive to metals	Not relevant *
Heat of combustion	Not relevant *
Surface tension at 20°C	Not relevant *
Refraction index	Not relevant *

10. STABILITY AND REACTIVITY

Reactivity

Reducing agent. Reacts with acids to liberate sulfur dioxide gas. May react with strong oxidising agents.

Chemical stability

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

Possibility of hazardous reactions

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

Conditions to avoid

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Not applicable	Avoid excessive heat	Not applicable	Avoid contact with moisture (may cake/hydrolyse)

Incompatible materials

Incompatible with	Reason/Effect
Acids	Liberates toxic sulfur dioxide gas (EUH031)
Strong oxidising agents	Exothermic reaction; risk of fire

Hazardous decomposition products

No hazardous decomposition products under normal conditions of storage and use.

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 (H302). May cause gastrointestinal irritation, nausea and vomiting.

B. Inhalation (acute effect)

Dust/fume may cause respiratory irritation (H335); may provoke breathing difficulty in sulfite-sensitive individuals (e.g. some asthmatics).

C. Contact with skin and eyes (acute effect)

Causes serious eye damage (H318). May cause 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 listed.

E. Sensitizing effects

Sulfite-sensitive individuals (including some asthmatics) may experience respiratory reactions; classification criteria for respiratory/skin sensitisation under GHS are not otherwise met based on available data.

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

Classification criteria are not met based on available data, except as noted in Section 2.

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

Classification criteria are not met based on available data.

H. Aspiration hazard

Classification criteria are not met based on available data (not a liquid hydrocarbon).

Product-specific toxicological information

Identification	Acute Toxicity	Genus
SODIUM BI-SULPHITE CAS: 7631-90-5	LD50 oral: 2000 mg/kg	Rat
	LD50 dermal: >2000 mg/kg	Rabbit
	LC50 inhalation: Not established	–

12. ECOLOGICAL INFORMATION

Toxic to aquatic organisms; exerts a high chemical/biological oxygen demand.

Toxicity

Identification	Acute Toxicity	Species	Genus
Sodium bisulphite CAS: 7631-90-5	LC50: 16 – 40 mg/L (96h, as SO2)	Fish (various species)	Fish
	EC50: >10 mg/L (48h)	Daphnia magna	Crustacean

Persistence and degradability

Not readily biodegradable in the organic sense (inorganic substance); not applicable/not relevant.

Bioaccumulative potential

Not expected to bioaccumulate (low log Pow / inorganic ionic species).

Mobility in soil

Koc	Henry	Dry Soil	Moist Soil
Not relevant	Not relevant	Soluble in water – may leach in soil	Soluble in water – may leach in soil

Results of PBT and vPvB assessment

Non-applicable – this substance is not organic and does not meet PBT/vPvB screening criteria (inorganic salt/mineral).

Other adverse effects

Not described

13. DISPOSAL CONSIDERATIONS

Disposal methods

Neutralise/oxidise before disposal (e.g. controlled addition to a dilute hydrogen peroxide or hypochlorite solution) under competent supervision, then dispose of via a permitted wastewater treatment facility subject to local discharge consent, or collect and dispose of via a licensed hazardous waste contractor.

Do not discharge to drains, soil or surface water. Dispose of via a licensed hazardous/industrial waste contractor in accordance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 (India) and other applicable national/local regulations. Empty containers may retain product residue – handle empty containers with the same precautions as full ones.

14. TRANSPORT INFORMATION

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

14.1 UN number	Not assigned
14.2 UN proper shipping name	Non-Dangerous Goods for transport under ADR/RID, IMDG and IATA/ICAO
14.3 Transport hazard class(es)	Not applicable
14.4 Packing group	Not applicable
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 assigned
14.2 UN proper shipping name	Non-Dangerous Goods for transport under ADR/RID, IMDG and IATA/ICAO
14.3 Transport hazard class(es)	Not applicable
14.4 Packing group	Not applicable
14.5 Marine pollutant	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 air (IATA/ICAO 2024)

14.1 UN number	Not assigned
14.2 UN proper shipping name	Non-Dangerous Goods for transport under ADR/RID, IMDG and IATA/ICAO
14.3 Transport hazard class(es)	Not applicable
14.4 Packing group	Not applicable
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. Aqueous solutions of sodium bisulfite at certain concentrations may be regulated for transport (see Section 14); the solid technical grade as supplied is not classified as a dangerous good.

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
Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016

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

Not applicable – no hazard statements apply to this product.

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; publicly available chemical safety literature for this substance.

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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