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Material Safety Data Sheet (MSDS)

Sodium Metabisulfite ($Na_2S_2O_5$)

Document Type: Material Safety Data Sheet (MSDS)
Product Name: Sodium Metabisulfite
Chemical Name: Sodium Metabisulfite
CAS Number: 7681-57-4
EC Number: 231-673-0
Molecular Formula: $Na_2S_2O_5$
Molecular Weight: 190.10 g/mol
UN Number: Not Regulated (most transport regulations)
Recommended Use: Water treatment, food processing, pulp & paper, mining, textile, leather, photography, pharmaceutical manufacturing, chemical processing.

Section 1: Identification

Product Identifier

Product Name: Sodium Metabisulfite

Synonyms

- Sodium Pyrosulfite
- Disodium Metabisulfite
- Sodium Bisulfite Dimer

Recommended Uses

- Water dechlorination
- Oxygen scavenger
- Food preservative (where permitted)
- Bleaching agent
- Reducing agent
- Chemical intermediate
- Textile processing
- Leather processing
- Mining flotation
- Pharmaceutical manufacturing

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Supplier Information

Supplier: Basekim Chemical Company

Emergency Contact:
Provide local emergency telephone number.

Section 2: Hazard Identification

GHS Classification

- Acute Toxicity (Oral) – Category 4
- Serious Eye Damage – Category 1
- Skin Irritation – Category 2
- Respiratory Sensitization – Category 1
- Specific Target Organ Toxicity (Single Exposure) – Category 3 (Respiratory Tract Irritation)

GHS Label Elements

Signal Word

DANGER

Hazard Statements

- Harmful if swallowed.
- Causes skin irritation.
- Causes serious eye damage.
- May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- May cause respiratory irritation.
- Contact with acids releases toxic sulfur dioxide gas.

Precautionary Statements

Prevention

- Avoid breathing dust.
- Wear suitable protective gloves and eye protection.
- Use only with adequate ventilation.
- Wash thoroughly after handling.
- Keep container tightly closed.

Response

If inhaled:

- Remove person to fresh air.
- Seek medical attention if breathing difficulties occur.

If in eyes:

- Immediately rinse cautiously with water for at least 15 minutes.
- Remove contact lenses if present.
- Obtain immediate medical attention.

If on skin:

- Wash thoroughly with soap and water.
- Remove contaminated clothing.

If swallowed:

- Rinse mouth.
- Do not induce vomiting.
- Seek immediate medical attention.

Storage

- Store in a cool, dry, well-ventilated area.
- Protect from moisture.
- Keep away from acids and oxidizing agents.

Disposal

Dispose according to local, national, and international regulations.

Section 3: Composition / Information on Ingredients

Component	CAS Number	Concentration
Sodium Metabisulfite	7681-57-4	≥97%
Water	7732-18-5	≤1%

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Component	CAS Number	Concentration
Sodium Sulfate (trace)	7757-82-6	≤2%

Section 4: First Aid Measures

Eye Contact

Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open.

Seek immediate medical attention.

Skin Contact

Wash affected skin with soap and water.

Remove contaminated clothing.

Seek medical advice if irritation develops.

Inhalation

Move victim to fresh air.

Keep warm and at rest.

If breathing is difficult, administer oxygen by trained personnel.

Obtain immediate medical attention.

Ingestion

Rinse mouth thoroughly.

Give water if conscious.

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Do not induce vomiting.

Seek immediate medical attention.

Most Important Symptoms

- Eye burns
- Skin irritation
- Coughing
- Wheezing
- Shortness of breath
- Allergic asthma reactions
- Gastrointestinal irritation

Section 5: Fire Fighting Measures

Suitable Extinguishing Media

- Water spray
- Dry chemical
- Carbon dioxide (CO_2)
- Foam

Unsuitable Media

No specific restrictions.

Hazardous Combustion Products

Heating or decomposition may produce:

- Sulfur dioxide (SO_2)
- Sulfur oxides
- Sodium oxides

Protective Equipment

Firefighters should wear:

- Self-contained breathing apparatus (SCBA)
- Full protective clothing

Section 6: Accidental Release Measures

Personal Precautions

- Avoid dust generation.
- Avoid inhalation.
- Wear PPE.
- Ensure adequate ventilation.

Environmental Precautions

Prevent entry into:

- Drains
- Surface water
- Groundwater

Cleanup Methods

Sweep carefully without generating dust.

Collect in suitable containers.

Wash contaminated area with water after cleanup.

Dispose according to regulations.

Section 7: Handling and Storage

Handling

- Avoid breathing dust.
- Avoid contact with eyes.
- Avoid skin contact.
- Do not eat, drink, or smoke while handling.

- Wash hands after use.

Storage

Store:

- Cool
- Dry
- Well ventilated

Keep away from:

- Moisture
- Acids
- Oxidizing agents
- Heat

Recommended storage temperature:

Below 30°C.

Section 8: Exposure Controls / Personal Protection

Occupational Exposure Limits

Sulfur Dioxide (generated upon decomposition)

Organization	Limit
OSHA PEL	5 ppm
ACGIH TLV	0.25 ppm TWA

Engineering Controls

- Local exhaust ventilation
- Dust collection systems

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Personal Protective Equipment

Eyes

Chemical safety goggles.

Face shield when necessary.

Hands

Chemical-resistant gloves:

- Nitrile
- PVC
- Neoprene

Body

Protective clothing.

Safety shoes.

Respiratory

Dust mask (P2/P3).

Respirator where exposure exceeds limits.

Section 9: Physical and Chemical Properties

Property	Value
Appearance	White crystalline powder
Odor	Slight sulfur dioxide odor
pH (5% solution)	4.0–4.8
Melting Point	Decomposes above 150°C
Boiling Point	Not applicable
Density	1.4–1.5 g/cm³
Bulk Density	1.0–1.3 g/cm³

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Property	Value
Solubility	Highly soluble in water
Flash Point	Not applicable
Flammability	Non-flammable
Vapor Pressure	Negligible
Relative Vapor Density	Not applicable
Auto-Ignition Temperature	Not applicable
Explosive Properties	None
Oxidizing Properties	None

Section 10: Stability and Reactivity

Reactivity

Stable under recommended storage conditions.

Chemical Stability

Stable when dry.

Conditions to Avoid

- Moisture
- Heat
- Humidity
- Acidic conditions

Incompatible Materials

- Strong acids
- Strong oxidizers
- Nitrates
- Peroxides

Hazardous Decomposition Products

- Sulfur dioxide
- Sulfur oxides

- Sodium oxide

Section 11: Toxicological Information

Acute Toxicity

Route	Data
Oral LD_{50} (Rat)	Approximately 1,540 mg/kg
Dermal	Low toxicity
Inhalation	Dust may irritate respiratory tract

Skin Corrosion/Irritation

Causes irritation.

Serious Eye Damage

Causes serious eye damage.

Respiratory Sensitization

May trigger asthma symptoms in sensitive individuals.

Carcinogenicity

Not classified.

Mutagenicity

Not classified.

Reproductive Toxicity

No evidence of reproductive toxicity under normal industrial use.

STOT

May cause respiratory irritation.

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Section 12: Ecological Information

Ecotoxicity

Large releases may reduce dissolved oxygen and affect aquatic organisms.

Persistence

Rapidly oxidizes to sulfate in the environment.

Bioaccumulation

Not expected to bioaccumulate.

Mobility

Highly soluble in water.

Environmental Precautions

Avoid uncontrolled discharge into waterways.

Section 13: Disposal Considerations

Dispose through licensed waste contractors.

Follow:

- Local regulations
- National regulations
- International regulations

Do not dispose into drains.

Section 14: Transport Information

Item	Information
UN Number	Not regulated (for most transport modes)

Item	Information
Proper Shipping Name	Sodium Metabisulfite
Hazard Class	Not classified as dangerous goods under ADR/RID, IMDG, or IATA under normal conditions*
Packing Group	Not applicable
Marine Pollutant	No

*Transport classification may vary depending on package size, purity, and applicable national regulations. Verify with the current transport regulations for your destination.

Section 15: Regulatory Information

The product should be handled according to applicable regulations, including:

- OSHA Hazard Communication Standard (29 CFR 1910.1200)
- GHS (Globally Harmonized System)
- REACH (EU), where applicable
- CLP Regulation (EC) No. 1272/2008, where applicable
- Local environmental and occupational safety regulations

Section 16: Other Information

Typical Industrial Applications

- Water treatment
- Food processing
- Mining
- Textile manufacturing
- Leather processing
- Pulp and paper
- Chemical manufacturing
- Pharmaceutical production
- Photography
- Oil and gas operations

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Storage Life

Typically **24 months** when stored in the original unopened packaging under cool, dry conditions.

Recommended Storage Conditions

- Temperature below 30°C
- Relative humidity below 60%
- Keep containers tightly sealed
- Protect from moisture, direct sunlight, and incompatible chemicals

Revision Information

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