



MATERIAL SAFETY DATA SHEET

Sodium Sulphate

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Sodium Sulphate

SYNONYM: sulphuric acid disodium salt

MOLECULAR FORMULA: Na₂O₄S

MOLECULAR WEIGHT: 142.04 g/mol

CREATION DATE: Mar 02 2007

CONTACT PERSON:

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REVISION DATE: Jan 13 2016

2. HAZARDS IDENTIFICATION

Potential Acute Health Effects:

Hazardous in case of eye contact (irritant). Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available. Repeated or prolonged exposure is not known to aggravate medical condition.

3. COMPOSITION, INFORMATION ON INGREDIENTS

CAS No.	EC No.	Chemical Name	Percent
7757-82-6	231-820-9	Sodium sulphate	>99

4. FIRST AID MEASURES

General Information

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin Contact:

Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Serious Skin Contact: Not available.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion: Not available

5. FIRE FIGHTING MEASURES

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: At a temperature of 800 C, sodium sulfate and aluminum will explode.

6. ACCIDENTAL RELEASE MEASURES

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

7. HANDLING AND STORAGE

Precautions:

Do not ingest. Do not breathe dust. Avoid contact with eyes. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, metals.

Storage:

Keep container tightly closed. Keep container in a cool, well-ventilated area. Hygroscopic.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance:	Solid (Crystals solid. Crystalline powder. Granular solid. Powdered solid.)
Odor:	Odorless
Taste:	Bitter. Saline
Color:	White
pH (1% soln/water):	Not available
Boiling Point:	>1700 °C - Decomposition
Melting Point:	884 °C
Critical Temperature:	Not available
Bulk Density:	1.400 Kg/m ³
Vapor Pressure:	Not applicable
Vapor Density:	Not available
Volatility:	Not available
Odor Threshold:	Not available
Water/Oil Dist. Coeff.:	Not available
Ionicity (in Water):	Not available
Dispersion Properties:	See solubility in water

Solubility: Soluble in cold water, hydrogen iodide, and glycerol.. Insoluble in alcohol

10. STABILITY AND REACTIVITY

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Excess dust generation, incompatible materials

Incompatibility with various substances: Reactive with oxidizing agents, metals.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:

Hygroscopic. Sodium sulfate reacts violently with magnesium. Also incompatible with aluminum, potassium, mercury, lead, calcium, silver, barium, ammonium ions, and strontium. Sulfates give precipitates with salts of lead, barium, strontium, and calcium. Silver and mercury form slightly soluble salts. Alcohol precipitates most sulfates out of solution.

Special Remarks on Corrosivity:

The rates of corrosion of iron and steel in water are a function of the specific mineral quality as well as the alkalinity and pH values. Sodium sulfate ... is a strong contributor to the rate of corrosion. For example, in water with 400 mg/l of alkalinity (as CaCO₃) at pH 7, the corrosion rate will be zero at 200 mg/l of Na₂SO₄, but when the concentration of sodium sulfate is 400 mg/l, the corrosion rate will be about 100 mg per square cm per day.

Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD₅₀): 5989 mg/kg [Mouse].

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:

May cause adverse reproductive effects (fetotoxicity) based on animal studies. Human human data found May cause cancer (tumorigenic) based on animal studies. No human data found. Placental absorption of sulfate ion has been characterized.

Sulfate ion levels at term are somewhat higher in fetal than in maternal blood.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: May cause irritation, although it is not known to be an irritant. Eyes: May cause eye irritation. Ingestion: Saline cathartics (laxatives) are poorly absorbed from the gastrointestinal tract; hence, systemic toxicity is unlikely unless massive amounts have been ingested. Ingestion of large amounts may cause gastrointestinal (digestive) tract irritation with abdominal pain, nausea, vomiting, diarrhea. Low hazard for usual industrial handling. Inhalation: May cause respiratory tract irritation. Low hazard for usual industrial handling.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. TRANSPORT INFORMATION

DOT Classification: Not a DOT controlled material (United States)

Identification: Not applicable

Special Provisions for Transport: Not applicable

15. REGULATORY INFORMATION

Federal and State Regulations:

Pennsylvania RTK: Sodium sulfate anhydrous Massachusetts RTK: Sodium sulfate anhydrous TSCA 8(b) inventory: Sodium sulfate anhydrous

Other Regulations: EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC):

R36- Irritating to eyes. S36- Wear suitable protective clothing. S46- If swallowed, seek medical advice immediately and show this container or label.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Splash goggles.

16. OTHER INFORMATION

The information in this safety data sheet is based on data and samples provided. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Old versions must be destroyed. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes.

The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. Godavari Biorefineries Limited does not guarantee the accuracy or exhaustiveness of the information provided.