

Sodium Metasilicate

1. Chemical Product and Company Identification

- **Product Name:** Sodium Metasilicate
 - **Synonyms:** Disodium Trioxosilicate, Water Glass
 - **CAS No:** 6834-92-0
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2. Composition and Information on Ingredients

Component	CAS Number	Concentration
Sodium Metasilicate	6834-92-0	100% (Pure form)

3. Hazards Identification

- **Hazard Classification:** Corrosive (Skin & Eyes), Irritant
 - **GHS Label Elements:**
 - **Signal Word:** DANGER
 - **Hazard Statements:**
 - Causes severe skin burns and eye damage.
 - Harmful if swallowed or inhaled.
 - **Precautionary Statements:**
 - Wear protective gloves/eye protection.
 - Avoid breathing dust.
 - Wash hands thoroughly after handling.
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4. First-Aid Measures

- **Inhalation:** Move to fresh air. Seek medical attention if symptoms persist.
 - **Skin Contact:** Immediately wash with plenty of water for at least 15 minutes. Remove contaminated clothing.
 - **Eye Contact:** Rinse thoroughly with water for at least 15 minutes. Seek medical attention.
 - **Ingestion:** Do **not** induce vomiting. Rinse mouth. Seek medical help immediately.
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5. Fire-Fighting Measures

- **Suitable Extinguishing Media:** Water spray, CO₂, dry chemical.

- **Hazards from Combustion:** Non-combustible, but may emit toxic fumes (e.g., sodium oxides).
 - **Protective Equipment:** Wear full protective gear and self-contained breathing apparatus (SCBA).
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6. Accidental Release Measures

- **Personal Precautions:** Avoid dust formation. Wear protective equipment.
 - **Environmental Precautions:** Prevent from entering drains or water sources.
 - **Clean-Up Method:** Sweep up dry material and place in suitable containers. Wash spill site after material pickup.
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7. Handling and Storage

- **Handling:** Avoid contact with skin and eyes. Use with adequate ventilation.
 - **Storage:** Store in tightly closed containers in a dry, well-ventilated area. Keep away from acids.
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8. Exposure Controls / Personal Protection

- **Engineering Controls:** Use local exhaust ventilation.
 - **Personal Protective Equipment (PPE):**
 - Gloves (rubber or neoprene)
 - Safety goggles or face shield
 - Protective clothing
 - Respirator (if dust is present)
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9. Physical and Chemical Properties

- **Appearance:** White crystalline powder or granules
 - **Odor:** Odorless
 - **pH:** Alkaline (pH ~12 in 1% solution)
 - **Solubility:** Soluble in water
 - **Boiling Point:** Not applicable
 - **Melting Point:** ~1088 °C (anhydrous)
 - **Density:** ~2.6 g/cm³
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10. Stability and Reactivity

- **Stability:** Stable under normal conditions
 - **Incompatible Materials:** Acids, aluminum, zinc
 - **Hazardous Decomposition:** Sodium oxides, silica fumes
 - **Reactivity:** Reacts with acids to form heat and gas
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11. Toxicological Information

- **Routes of Exposure:** Inhalation, ingestion, skin and eye contact
 - **Acute Toxicity:**
 - Oral LD₅₀ (rat): ~600 mg/kg
 - **Effects:**
 - Skin: Burns, irritation
 - Eyes: Serious damage, possible blindness
 - Inhalation: Irritation to respiratory tract
 - Ingestion: Burns to mouth and stomach
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12. Ecological Information

- **Toxicity:** Harmful to aquatic life in large quantities
 - **Persistence/Degradability:** Inorganic – does not degrade biologically
 - **Mobility in Soil:** Highly soluble, can leach through soil
 - **Precautions:** Avoid release into the environment
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13. Disposal Considerations

- **Waste Disposal Method:** Dispose in accordance with local, regional, and national regulations. Neutralize before disposal if required.
 - **Contaminated Packaging:** Wash thoroughly before reuse or dispose of properly.
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