



Soda Ash (Light and Dense)

Material Safety Data Sheet

1. Company and Product Identification

1.1 Product Name: Soda Ash

Chemical Name: Sodium carbonate, anhydrous.

Synonyms: Soda salt, soda crystal, disodium carbonate.

Chemical Formula: Na₂CO₃

Molecular Weight: 105.99

CAS Number: 497_19_8

Grades/Trade Names: Dense soda ash; chemical grade soda ash.

1.2 Recommended Uses: Glass industry, chemical intermediates, metallurgy, soaps and detergents, pulp & paper, flue gas emissions, coal treatment, ion exchange

1.3 Supplier: Tianjin Red Triangle International Trading Co.,Ltd

No.3369, 10th Bohai Road, Harbour Economy Park, Binhai New Area(Tanggu), Tianjin 300452 China

1.4 Emergency Telephone Number: 86 22 59852926

2. Composition/Information on Ingredients

INGREDIENTS	FORMULA	MOLECULAR WT.	WT. PERCENT	CAS #
Sodium Carbonate	Na ₂ CO ₃	105.99	99.2	497_19_8
Water	H ₂ O	18.02	0.8	7732_18_5
Sodium Sulfate_	Na ₂ SO ₄	142.04	0.03	7757_82_6
Sodium Chloride_	NaCl	58.44	0.7	7647_14_5

3. Hazards Identification

Emergency Overview: Sodium carbonate is an odorless, white granular solid, irritating to mucous membranes and eyes.

3.1 Route of Entry: Inhalation: Yes Skin: Yes Ingestion: Yes

3.2 Potential Effects of exposure: Irritating to mucous membranes and eyes.

Inhalation: Irritating to mucous membranes and eyes.

Eyes: Severe eye irritation, watering, redness and swelling of the eyelids. Risk of serious or permanent eye lesions.

Skin contact: May cause skin irritation, seen as redness and swelling. In the presence of moisture or sweat, irritation may become more severe leading to rash. May cause dry and

chapped skin.

Ingestion: May cause severe irritation and risk of burns to the mouth, throat, esophagus and stomach. Ingestion of large quantities can cause nausea and vomiting (bloody) abdominal cramps and diarrhea (bloody).

Carcinogenicity: See section 11.3

4. First Aid Measures

General Recommendations: Skin irritation may be aggravated in persons with existing skin

lesions. Breathing of dust may aggravate asthma or other chronic pulmonary diseases.

4.1 Inhalation: Remove subject to a dust free environment and blow nose. If breathing is difficult or has stopped, administer artificial respiration. If any irritation is present, seek medical attention.

Eyes:

- In cases of splashing of concentrated solution in the eyes and face, treat the eyes first, and

then continue first aid as defined under "contact with the skin."

- WITHOUT LOSS OF TIME: Rinse the eyes with running water for 15 minutes, maintaining

the eyelids wide open to eliminate the product. Protect the eyes from strong light. Consult a physician or ophthalmologist in all cases. Transport subject to a medical facility.

Skin: Remove shoes and contaminated clothing, under a shower if necessary. Wash the affected area with luke-warm water. Dry carefully. In case of persistent pain or reddening,

consult a physician. Provide clean clothes.

Ingestion: SEEK MEDICAL ATTENTION.

If the subject is completely conscious:

- Do not induce vomiting.
- Remove any evidence of the product from the person's mouth.
- Give 8_12 ounces of water.

If the subject is unconscious:

- DO NOT ATTEMPT TO GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

5. Fire Fighting Measures

5.1 Flash point: Non combustible.

5.2 Auto-ignition Temperature: Not applicable.

5.3 Flammability Limits: Not applicable.

5.4 Unusual Fire and Explosion Hazards: None.

5.5 Extinguishing Methods

Common: In case of fire in close proximity, all means of extinguishing are acceptable.

Fire Fighting Procedures: Not applicable

6. Accidental Release Measures

6.1 Precautions: Avoid excessive dust.

6.2 Cleanup methods: Clean up uncontaminated material and recycle into process. Place unusable material into a closed, labeled container compatible with the product.

6.3 Precautions for protection of the environment: Clean up residual material by washing area with water. Do not flush to drain. Prevent material from entering public sewer systems or any waterways. Dispose of waste in accordance with applicable federal, state, and local environmental laws and regulations.

7. Handling and Storage

7.1 Handling: Avoid prolonged or repeated contact with the skin or eyes. Do not wear contact lenses without proper eye protection when using this product. Avoid prolonged or repeated breathing of dusts. Use vacuum or wet mop to clean up dust.

7.2 Storage: Keep in a closed, properly labeled container in a dry area away from acids. Protect from physical damage.

7.3 Specific Uses: See Section 1.2

7.4 Other precautions: None.

7.5 Packaging: jumbo bag or PP-PE small bag

8. Exposure Controls/Personal Protection

8.1 Exposure Limit Values

Authorized limit Values TLV ACGIH USA (2002) OSHA PEL NIOSH REL (1994)
Soda Ash — Nuisance Dust —
5mg/m³ (Respirable Fraction),
15 mg/m³ (Total Dust).

ACGIH and TLV are registered trademarks of the American Conference of Governmental Industrial Hygienists.

8.2 Exposure Controls:

8.2.1 Occupational Exposure Controls:

8.2.1.1 Ventilation: In places with the possibility for creating excessive dust in excess of exposure

limits, ventilation should be provided.

8.2.1.2 Respiratory protection: In case of significant or accidental dust emissions, a NIOSH/MSHA approved dust respirator should be worn.

8.2.1.3 Hand protection: Chemical resistant gloves.

8.2.1.4 Eye protection: In cases of significant dust, dust proof goggles are recommended.

8.3 Other precautions: Chemical protective clothing in dusty areas. An eyewash and safety

shower should be nearby and ready for use. Use good hygiene practices when handling this

product including changing work clothes after use. Do not eat, drink or smoke in areas where this material is handled.

9. Physical and Chemical Properties

9.1 Appearance: Granular solid

Color: White

Odor: Slightly pungent

9.2 Important Health, Safety and Environmental information:

pH: 11.6 (1% solution)

Change of state:

Melting point: 851°C (1564°F).

Boiling point: Not Applicable.

Decomposition Temperature: Beginning at 400°C (752°F).

Flash Point: Not Applicable.

Flammability: Not Applicable.

(solid, gas)

Explosive Properties: Not Applicable.

Oxidizing Properties: None; Mild corrosive

Vapor Pressure: Not Applicable.

Relative Density:

Specific gravity (H₂O=1): 2.533 @ 25°C (77°F)

Solubility:

Water: 33% maximum by weight in water.

Fat: Not Applicable.

Partition coefficient: P (n₂-octanol/water): Not applicable

Viscosity: Not Applicable.

Vapor Density (air=1): Not Applicable.

Evaporation Rate: Not Applicable.

9.3 Other Information: Bulk Density: 62.0 lbs/ft³ (1000 kg/m³).

10. Stability and Reactivity

Stability: Stable at ambient temperature and atmospheric pressure.

10.1 Conditions to avoid: Hygroscopic; protect from moisture. Mixing of acid and sodium carbonate

solutions could cause CO₂ evolution and severe splattering.

10.2 Materials and substances to avoid: Reacts with strong acids. Under certain conditions,

may react with Al, P₂O₅, F₂, Li and 2, 4, 6-trinitrotoluene. Reacts with acids and releases

large volumes of CO₂ gas and heat. Soda ash and lime dust in the presence of moisture may form caustic soda, which may cause burns.

10.3 Hazardous decomposition products: Carbon dioxide (CO₂) is evolved at very high temperatures (1000°C, 1832°F) or when mixed with acids.

10.4 Hazardous Polymerization: Not Applicable.

11. Toxicological Information

11.1 Acute toxicity:

Inhalation: LC50, 2 h, rat, 2.3 mg/l

Oral: LD50, rat, >2,000 mg/kg

Dermal: LD50, rabbit, >2,000 mg/kg

Irritation: Rabbit, non_ irritant (skin). Rabbit, irritant (eyes).

11.2 Chronic toxicity: Inhalation, rat, Target Organ: lungs, 0.07 mg/l, observed effect.

In vitro, no mutagenic effect. Oral route (gavage), various species, 179 mg/kg, 10 days, no teratogenic effect.

11.3 Carcinogenic Designation: None.

12. Ecological Information

12.1 Acute ecotoxicity:

- Crustaceans, Daphnia magna, EC50, 48 hours, 265 mg/l.

- Fishes, Lepomis macrochirus, LC50, 96 hours, 300 mg/l.

- Algae, Nitzscheria linearis, EC50, 5 day, 242 mg/l.

12.2 Chronic ecotoxicity: Phytoplankton, EC, biomass, 7 day, 14 mg/l.

12.3 Mobility: Considerable solubility and mobility

12.4 Degradation

Abiotic:

- Water, hydrolysis. Degradation's products: carbonate (pH.10/bicarbonate (pH 6_10)/carbonic acid/carbon dioxide (pH<6))

- Soil_result: Not applicable (inorganic compound).

Biotic: Not Applicable (inorganic compound).

12.5 Potential for bioaccumulation: Log Po/w: Result_ Not Applicable (inorganic compound).

12.6 Other adverse effects /Comments: Observed effects are related to alkaline properties of product. Product is not significantly hazardous for the environment.

13. Disposal Considerations

13.1 Waste treatment: Sodium Carbonate is not a listed hazardous waste under 40 CFR 261.

However, state and local regulations for waste disposal may be more restrictive. Spilled product should be disposed of in an EPA approved disposal facility in accordance with applicable national, state and local environmental laws and regulations.

13.2 Packaging treatment: To avoid treatments, use dedicated containers where possible. Rinse the empty containers and treat the effluent in the same way as waste. Consult current

federal, state and local regulations regarding the proper disposal of emptied containers

13.3 RCRA Hazardous Waste: Not Listed.

14. Transport Information

Mode DOT IMDG IATA

UN Number Not a regulated Not a regulated Not a regulated
hazardous material hazardous material hazardous material

Other It is recommended that ERG guide # 111 be used for all non DOT regulated material.

STCC#: 28_123_22

15. Regulatory Information

National Regulations (US)

TSCA Inventory 8(b): Yes

SARA Title III Sec. 302/303 Extremely Hazardous Substances (40 CFR355): No

SARA Title III Sec. 311/312 (40 CFR 370):

Hazard Category: Acute health hazard; Chronic health hazard.

Threshold planning quantity: 10,000 pounds

SARA Title III Sec. 313 Toxic Chemical Emissions Reporting (40 CFR 372): No

CERCLA Hazardous Substance (40CFR Part 302)

Listed: No

Unlisted Substance: No

Characteristic: Not Applicable.

State Component Listing:

State Comment: No Data.

National Regulations (Canada) Canadian DSL Registration: Yes

WHMIS Classification: D_2_B — Material causing other toxic effects.

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the

MSDS contains all the information required by the *Controlled Products Regulations*.

EEC Labeling: Name of dangerous products_sodium carbonate. According to Annex I of Dir.

67/548/EEC (19th ATP: Dir. 93/72/EEC)

Symbols Xi Irritant

Phrases R 36 Irritating to eyes

Phrases S (2) Keep out of reach of children

22 Do not breathe dust

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Labeling "Dangerous for the environment". Not dangerous

Provisional classification of WG from EU_DGXI_1/3_04_98.

16. Other Information

The previous information is based upon our current knowledge and experience of our product and is not exhaustive. It applies to the product as defined by the specifications. In case of combinations of mixtures, one must confirm that no new hazards are likely to

exist. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and integrity of the work environment. (Unless noted to the contrary, the technical information applies only to pure product). To our actual knowledge, the information contained herein is accurate as of the date of this document. However, neither Tianjin Soda Plant nor any of its affiliates makes any warranty, express or implied, or accepts any liability in connection with this information or its use. This information is for use by technically skilled persons at their own discretion and risk and does not relate to the use of this product in combination with any other substance or any other process. This is not a license under any patent or other proprietary right. The user alone must finally determine suitability of any information or material for any contemplated use, the manner of use and whether any patents are infringed. This information gives typical properties only and is not to be used for specification purposes.