

Material Safety Data Sheet – Sodium Carbonate, Anhydrous

Date Reviewed: December 2012

Supersedes: January 2010

1. Product and Company Identification

Product Name	Sodium Carbonate, Anhydrous
Alternate Product Name(s)	Soda Ash, Disodium Carbonate Also: Dense Soda Ash, Soda Ash Light, Synthetic Light Soda Ash, Soda Ash Liquid, Natural Light Soda Ash, Natural Light HA Soda Ash
Chemical Formula	Na ₂ CO ₃
Product Use	Glass manufacture, detergent manufacture, sodium chemicals and carbonate chemicals manufacture, pulp and paper, brine treatment, water hardness removal, pH adjustment in water or wastewater, flue gas desulphurization, coal treatment, ion exchange resin regeneration.
This chemical is certified to ANSI/NSF Standard 60, Drinking Water Chemicals – Health Effects (as packaged in the original, unopened container). Concentration not to exceed 100 ppm when used for corrosion control or scale control pH adjustment.	
Traders	PVS Global Trade Pvt Ltd 7/609-8B, NGO Colony, Kadapa-516002, Andhra Pradesh.
Emergency Telephone Numbers	+91 99666 02105, +9186888 78888, +91 98855 72178.

2. Composition / Information on Ingredients

Chemical Name	CAS #	Wt. %	EC No.	EC Class
Sodium Carbonate	497-19-8	99.8	207-838-8	Xi, R36

3. Hazards Identification

Emergency Overview: White, odorless, granular solid. Product is non-combustible. Reacts with acids to release carbon dioxide gas and heat. May irritate skin and eyes. Dusts may irritate respiratory tract. Not expected to be toxic to the environment, nor to aquatic organisms. Avoid simultaneous exposure to soda ash and lime dust. In the presence of moisture (i.e. perspiration) the two materials combine to form caustic soda (NaOH), which may cause burns.

Potential Health Effects:

Skin	Prolonged contact may cause skin irritation (red, dry, cracked skin).
Eyes	Irritating to the eyes.
Ingestions	Although low in toxicity, ingestion may cause nausea, vomiting, stomach ache, and diarrhea.
Inhalation	Prolonged inhalation of product dusts may irritate nose, throat, and lungs.

Chronic Effects	Excessive, long term contact may produce "soda ulcers" on hands and perforation of the nasal septum. Sensitivity reactions may occur from prolonged and repeated exposure. This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.
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4. First Aid Measures

Skin	Wash with plenty of soap and water. Get medical attention if irritation occurs and persists. Remove and wash contaminated clothing before re-use.
Eyes	Immediately flush with water for at least 15 minutes lifting the upper and lower eyelids intermittently. See a medical doctor or ophthalmologist as necessary.
Ingestions	Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. If symptoms persist, contact a doctor or poison control center.
Inhalation	Remove to fresh air. If breathing difficulty or discomfort occurs and persists, obtain medical attention.
Advice to Physician	While internal toxicity is low, irritant effects of high concentrations may produce corneal opacities, and vesicular skin reactions in humans with abraded skin only. Treatment is symptomatic and supportive.

5. Fire Fighting Measures

Extinguishing Media:	Not combustible, use extinguishing method suitable for surrounding fire.
Fire/Explosion Hazards:	Not applicable.
Fire Fighting Procedures:	Wear full protective clothing and self-contained breathing apparatus
Flammable Limits:	Not applicable
Auto ignition Temperature:	Not applicable
Hazardous Combustion Products:	Carbon dioxide.
Sensitivity to Impact:	None
Sensitivity to Static Discharge:	None

6. Accidental Release Measures

Personal Precautions:	Refer to Section 8 "Exposure Controls / Personal Protection"
Containment:	Prevent large quantities of this product from contacting vegetation or waterways; large spills could kill vegetation and fish.
Clean Up:	This product, if spilled, can be recovered and re-used if contamination does not present a problem. Vacuum or sweep up the material and collect in a suitable container for disposal. If the spilled product is unusable due to contamination, consult state or federal environmental agencies for acceptable disposal procedures and locations. See Section 13

Notification Requirements:	Federal regulations do not require notification for spills of this product. State and local regulations may contain different requirements; consult local authorities.
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7. Handling and Storage

Handling:	Use air conveying / mechanical systems for bulk transfer to storage. For manual handling of bulk transfer use mechanical ventilation to remove airborne dust from railcar, ship or truck. Use approved respiratory protection when ventilation systems are not available. Selection of respirators is based on the dust cloud generation. Keep material out of lakes, streams, ponds and sewer drains. Avoid eye contact or prolonged skin contact. Avoid breathing dusts. When dissolving, add to water cautiously and with stirring; solutions can get hot. Use good personal hygiene and housekeeping.
Storage:	Store in a cool dry area, away from incompatible products (acids). Prolonged storage may cause product to cake from atmospheric

8. Exposure Controls / Personal Protection

Engineering Controls:	Where possible, provide general mechanical and/or local exhaust ventilation to prevent release of airborne dust into the work environment. Eye wash facility should be provided in storage and general work area.
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Personal Protective Equipment:

Eyes and Face:	For dusty or misty conditions, or when handling solutions where there is reasonable probability of eye contact, wear chemical safety goggles and hardhat. Under these conditions do not wear contact lenses. Otherwise, appropriate eye and face protection equipment (ANSI Z87 approved) should be selected for the particular use intended for this material. Safety glasses with side shields are recommended.
Respiratory:	Whenever dust in the worker's breathing zone cannot be controlled with ventilation or other engineering means, workers should wear respirators or dust masks approved by NIOSH/MSHA, EU CEN or comparable certification organization to protect them against airborne dust.

Hands, Arms, and Body:	Wear long-sleeve shirt and trousers, and impervious gloves for routine product use. Cotton gloves are sufficient for dry product; wear impervious (e.g., rubber, neoprene, etc.) gloves when handling solutions.
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Exposure Guidelines: Federal guidelines treat the ingredient(s) in this product as a nuisance dust, as no product-specific guidelines have been issued for exposure. As with all nuisance dusts, worker breathing zone concentrations should be measured by validated sampling and analytical methods. The following limits (OSHA and MSHA) apply to this material:

Particulates Not Otherwise Regulated:

OSHA (PEL / TWA): 15 mg/m³ (total dust); 5 mg/m³ (rasp fraction)

MSHA (PEL / TWA): 10 mg/m³ (total dust)

Avoid simultaneous exposure to soda ash and lime dust. In the presence of moisture (i.e. perspiration) the two materials combine to form caustic soda (NaOH), which may cause burns.

The information noted above provides general guidance for handling this product. Specific work environments and material handling practices will dictate the selection and use of personal protective equipment (PPE).

9. Physical and Chemical Properties

Appearance:	White, granular solid
Odor:	Odorless
Formula:	Na ₂ CO ₃
Molecular Weight:	105.99
Bulk Density (g/l)	Dense grades: 0.9 – 1.1 Natural light grade: 0.7 – 0.9 Synthetic light grade: 0.5 – 0.7
Specific Gravity:	2.533 (vs. water)
Boiling Point:	Decomposes
Melting Point:	854°C (1569°F)
Evaporation Rate:	Not applicable
Percent Volatile:	0%
Vapor Density:	Not applicable
Vapor Pressure:	Not applicable
pH (1% solution)	11.3
Flash Point	None

10. Stability and Reactivity

Stability:	Stable
Conditions to Avoid:	Contract with acids will release carbon dioxide, heat. Contract with lime dust in the presence of moisture can produce corrosive sodium hydroxide.
Materials to avoid	May react with aluminum, acids, fluorine, lithium, and 2,4,6-Trinitrotoluene.
Polymerization:	Will not occur.
Hazardous Decomposition	When heated to decomposition, carbon dioxide is released.

Products	
Other Precautions:	When dissolving, add to water cautiously and with stirring; solutions can get hot.

11. Toxicological Information

Eye:	Severe irritant (50 mg, rabbit).
Skin:	Mild irritant (500 mg/24hr, rabbit). Minor irritation may occur on abraded skin. Not a sensitizer (tested at 0.25% solution).
Oral:	LD ₅₀ , rat: 4,090 mg/kg
Inhalation:	LC ₅₀ , rat, 2hr 2.3 mg/l 24 – hour LC ₅₀ : 800 mg/m ³ , 20 h exposure (guinea pig) (moderate toxicity)
Chronic:	Excessive, long term contact may produce “soda ulcers” on hands and perforation of the nasal septum. Sensitivity reactions may occur from prolonged and repeated exposure.
Carcinogenicity:	Not designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.

12. Ecological Information

Acute ecotoxicity:	96 – hour LC ₅₀ : 265 – 565 mg/l (daphnia magna) (low toxicity) 300 – 320 mg/l (blue gill sunfish) (low toxicity) 96 – hour TL _m : 1200 mg/l (mosquito-fish) 48 – hour TL _m : 840 mg/l (mosquito-fish) 48 – hour EC ₅₀ : 265 mg/l (daphnia magna) 5 Day EC ₅₀ : 242 mg/l (Nitzscheria linearis)
Chronic ecotoxicity:	7 Day EC, biomass: 14 mg/l (phytoplankton)
Mobility:	Air: Not Applicable Water: Considerable solubility and mobility. Soil / sediments: Non-significant adsorption
Abiotic degradation:	Water (hydrolysis): degradation's products: carbonate (pH>10) / carbonic acid / carbon dioxide (pH<6). Soil: Hydrolysis as a function of pH.
Biotic degradation:	Aerobic / anaerobic: Not applicable (inorganic compound)
Potential for bioaccumulation:	Not applicable (ionizable inorganic compound)

Observed effects are related to alkaline properties of the product. Product is not significantly hazardous for the environment.

13. Disposal Considerations

Disposal	When this product is discarded or disposed of, as purchased, it is neither a
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Method:	characteristic nor a listed hazardous waste according to US Federal RCRA regulations (40 CFR 261). As a non-hazardous waste the material may be disposed of in a landfill in accordance with government regulations; check local or state regulations for applicable requirements prior to disposal. Any processing, usage, alteration, chemical additions to, or contamination of, the product may alter the disposal requirements. Under Federal regulations, it is the generator's responsibility to determine if a waste is a hazardous waste.
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14. Transportation Considerations

Proper Shipping Name:	Not regulated
Primary Hazard Class / Division:	Not regulated
UN / NA Number:	Not applicable
Label(s), Placard(s), Marking(s):	Not applicable
Reportable Quantity (RQ)	None
49 STCC Number:	Not Applicable
ADR (EU), TDG (Canada)	Not regulated
IMDG (sea) , ICAO (air), IATA (air)	Not regulated

15. Regulatory Information

UNITED STATES:

SARA Title III (Superfund Amendments and Reauthorization Act)

Section 302 Extremely Hazardous Substances: 40CFR355, Appendix A	Not listed
Section 311 Hazard Class 40CFR370	Immediate (acute)
Section 312 Threshold Planning Quantity (TPQ) 40CFR370	No TPQ listed for sodium carbonate.
Section 313 Reportable Ingredients 40CFR372	Not listed

CERCLA (Comprehensive Environmental Response Compensation and Liability Act):

40CFR302.4 –

There is no listed RQ (reportable quantity) for this product.

TSCA (Toxic Substance Control Act)

This product is listed on the TSCA Inventory of Chemical Substances. No other TSCA rules affect this product

State Regulations:


This product does not contain any components that are regulated under California Proposition 65.

Other:

Clean Water Act (CWA) – Section 301/ 311: Not listed

Clean Air Act (CAA) – Section 112: Not regulated

CANADA:

WHMIS Classification:	D2B Toxic Class E Corrosive Symbol:  This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.
WHMIS Ingredient Disclosure List	Listed
DSL Status (Domestic substances list)	Listed on DSL

EUROPEAN UNION:

EINECS Inventory	Listed: 207-838-8
Annex I (Substances Directive)	Listed: 011-005-00-2 Xi, R-36 (See label details in Section 16)
Greman Water Classificatin	hazard class 1, low hazard to waters
EU - Food Additives Directive (95/2/EC) - Annex I - Generally Permitted for Use in Foodstuff	E500

INTERNATIONAL:

This product is also found on the chemical inventories of Australia, China, Korea, Japan and the Philippines.

16. Other Information

HMIS (Hazardous Material Identification System)

Health	2
Flammability	0
Physical Hazard	0
Personal Protection (PPE)	B

Protection = B (Safety glasses and gloves)


4 = Severe, 3 = Serious, 2 = Moderate, 1 = Slight, 0 = Minimal

NEPA (National Fire Protection Association System)

Health	2
Flammability	0
Reactivity	0
Special	None

4 = Extreme, 3 = High, 2 = Moderate, 1 = Slight, 0 = Insignificant

EC Labeling

Name of substance to appear on label.	Soduim Carbonate
Symbol(s)	 Xi – irritating
Label Phrases	R36: Irritating to eyes. S2: Keep out of reach of children. S22: Do not breathe dust. S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Other Information: Soda ash is produced in three principal grades: Dense, natural light and synthetic light soda ash. When these products are mixed in water they may be known as liquid soda ash. These grades differ only in physical characteristics such as bulk density and size and shape of particles, which influence flow characteristics and angle of repose. Other physical properties, as well as chemical as chemical properties of solutions, are common to each grade of soda ash.

Certified to ANSI / NSF 60

Concentration not to exceed 100 ppm when used for corrosion control or scale control pH adjustment.



The information given corresponds to the current state of our knowledge and experience of the product, and is not exhaustive. This applies to product, which conforms to the specification, unless otherwise stated. In this case of combinations and mixtures one must make sure that no new dangers can arise. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and protection of human welfare and the environment.

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