Section 1: Product and Company Identification

1.1 Product Identifiers

Product Name: Sodium Carbonate, Anhydrous
Chemical Name: Sodium Carbonate
Synonyms/Common Name: Disodium Carbonate, Carbonic Acid Sodium Salt/Soda Ash
Trade Name: Dense Soda Ash, Soda Ash Light, Synthetic Light Soda Ash, Soda Ash Liquid, Natural Light Soda Ash, Natural Light HA Soda Ash
CAS Number: 497-19-8
Molecular Formula: Na₂CO₃

1.2 Relevant Uses

Glass manufacturing, Paper production, Detergents, Chemical processing and manufacturing, pH control

1.3 Manufacturer Address:

Tata Chemicals (Soda Ash) Partners
324 Allied Chemical Road
Green River, Wyoming  82935
United States
+1 307-875-3350
www.tatachemicals.com

1.4 Emergency Telephone Number

Emergency Response Information Provider: CHEMTREC
1 800-424-9300 (CHEMTREC-USA)
1 703-527-3887 (CHEMTREC – All other countries, collect)
Section 2: Hazard(s) Identification

2.1 Classification of the Substance or Mixture
Eye irritation, Category 2A, H319: Causes serious eye irritation

2.2 GHS Label Elements, including precautionary statements

Pictograms:

![Irritant](image)

Signal Word: Warning

Hazard Statements(s):
H319 Causes serious eye irritation

Precautionary Statement(s):
P264 Wash skin thoroughly after handling
P280 Wear eye protection/face protection
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/attention.

2.3 Hazards Not Otherwise Classified Or Not Covered By GNS
None

Section 3: Composition/Information On Ingredients

3.1 Substances
Chemical Family: Alkali salt
Formula: \( \text{Na}_2\text{CO}_3 \)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Carbonate</td>
<td>497-19-89</td>
<td>207-838-8</td>
<td>( \geq 99% )</td>
</tr>
</tbody>
</table>

Synonyms are provided in Section 1.
Section 4: First Aid Measures

4.1 Description of First-Aid Measures


Inhalation: Remove victim to fresh air. If symptoms persist, get medical attention.

Skin contact: Rinse with water. Soap may be used. Do not apply (chemical) neutralizing agents. If symptoms persist, get medical attention.

Eye contact: Rinse immediately with plenty of water, also under eyelids, for at least 15 minutes. If symptoms persist, get medical attention.

Ingestion: Rinse mouth with water. Do not induce vomiting. Never give anything to an unconscious victim. If symptoms occur, get medical attention.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed


Skin contact: Prolonged skin contact may cause irritation.

Eye contact: Inflammation/damage of the eye tissue. Corrosion of the eye tissue. Lacrimation.


4.3 Indication Of Any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically
**Section 5: Fire-Fighting Measures**

5.1 **Extinguishing Media**
Use extinguishing agent suitable for type of surrounding fire.

5.2 **Special Hazards Arising From The Substance Or Mixture**
Fumes of sodium oxide. Carbon oxides (CO₂)

5.3 **Advice For Firefighters**
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 **Special Protective Equipment For Firefighters**
Wear self-contained breathing apparatus and use personal protective equipment.

**Section 6: Accidental Release Measures**

6.1 **Personal Precautions, Protective Equipment and Emergency Procedures**
Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see Section 8.

6.2 **Environmental Precautions**
Contain released substance. Do not release into surface water or sanitary sewer systems. Violent exothermic reaction with some acids releasing harmful gases (carbon dioxide).

6.3 **Methods and Material For Containment and Cleaning Up**
Prevent dust cloud formation. Scoop solid spill material into closed containers. Carefully collect the spill. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

6.4 **Reference To Other Sections**
For disposal see Section 13.

**Section 7: Handling And Storage**

7.1 **Precautions For Safe Handling**
Avoid contact with skin and eyes. Use air conveying/mechanical systems for bulk transfer to storage. Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment if release of airborne dust is expected.
Section 7: Handling And Storage (cont.)

7.2 Conditions For Safe Storage, Including Any Incompatibles
Store in original container. Keep in properly labeled containers. Keep container tightly closed.

7.3 Suitable Packaging Material
No data available

7.4 Incompatible Products
Aluminum, powdered aluminum and acids

Section 8: Exposure Controls/Personal Protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Components With Workplace Control Parameters
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. Local nuisance dust standards apply.

8.2 Exposure Controls
Where practical, provide general mechanical and/or local exhaust ventilation to prevent release of airborne dust into the work environment. An eye wash facility should be provided in storage and general work areas.

8.3 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. Under these conditions do not wear contact lenses. Otherwise, appropriate ANZI approved eye and face protection equipment should be selected for the particular use intended for this material. Safety glasses with side shields are recommended.

Skin and Body: Wear suitable protective clothing. Wear protective shoes or boots. Wear impervious gloves when handling solutions (rubber, neoprene).

Respiratory: In cases of inadequate ventilation, wear respirators and components approved by government bodies like NIOSH/MSHA or EU CEN.
Section 8: Exposure Controls/Personal Protection (cont.)

8.4 Control of Environmental Exposure
Prevent leaks and spills when it can be done safely. For further information, see sections 6.2, 6.3 and 13.

Section 9: Physical and Chemical Properties

9.1 Information On Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White, granular solid</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>105.99</td>
</tr>
<tr>
<td>pH</td>
<td>11.3 (1% solution in water)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>854°C (1569°F)</td>
</tr>
<tr>
<td>Boiling point/range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid/gas)</td>
<td>Not combustible but may decompose to produce corrosive and/or toxic fumes</td>
</tr>
<tr>
<td>Flammability in air</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No information available</td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
<tr>
<td>Bulk density (g/l)</td>
<td>Dense grade: 0.9 – 1.1&lt;br&gt;Natural light grade: 0.7 – 0.9&lt;br&gt;Synthetic light grade: 0.5 – 0.7</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>2.53 (vs water)</td>
</tr>
<tr>
<td>Water solubility</td>
<td>212.5 g/l @20°C</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No information available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>400°C</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>Non-oxidizing</td>
</tr>
</tbody>
</table>

9.2 Physical Hazards
No data available
Section 10: Stability and Reactivity

10.1 Reactivity
None under normal use conditions.

10.2 Chemical Stability
Stable. Decomposes by reaction with strong acid.

10.3 Possibility of Hazardous Reactions
None under normal processing.

10.4 Conditions to Avoid
Exposure to air or moisture over prolonged periods.

10.5 Incompatible Materials
Aluminum, powdered aluminum and acids.

10.6 Hazardous Decomposition
Sodium Oxides, Carbon oxides (COx)

Other precautions: When dissolving add to water cautiously and with stirring as solutions can get hot.

Section 11: Toxicological Information

11.1 Information On Toxicological Effects

11.1.1 Acute toxicity
LD$_{50}$ Oral: 2,800 mg/kg, rat
LD$_{50}$ Dermal: >2,000 mg/kg, rabbit
LC$_{50}$ Inhalation: 2.3 mg/l, 2 hour exposure time, rat

11.1.2 Corrosion/Irritation
Skin, rabbit
Mild irritant, 24 hours

11.1.3 Serious eye damage/eye irritation
Severe irritant, 24 hours

11.1.4 Respiratory or skin sensitization
No data available
Section 11: Toxicological Information (cont.)

11.1.5 Germ cell mutagenicity
No data available

11.1.6 Carcinogenicity
No data available. Not recognized as carcinogenic by ACGIH, IARC, NTP or OSHA

11.1.7 Reproductive toxicity
No data available

11.1.8 Specific target organ toxicity – single exposure
No data available

11.1.9 Specific target organ toxicity – repeated exposure
No data available

11.1.10 Chronic effects from short and long-term exposure

11.1.11 Aspiration hazard
No data available

Section 12: Ecological Information

12.1 Toxicity

Sodium Carbonate (497-19-8)

<table>
<thead>
<tr>
<th>Duration</th>
<th>Species</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>96 hour, LC₅₀</td>
<td>Bluegill sunfish</td>
<td>300 – 320</td>
<td>mg/l</td>
</tr>
<tr>
<td>96 hour, TLₘ</td>
<td>Mosquito-fish</td>
<td>1200</td>
<td>mg/l</td>
</tr>
<tr>
<td>48 hour, TLₘ</td>
<td>Mosquito-fish</td>
<td>840</td>
<td>mg/l</td>
</tr>
<tr>
<td>48 hour, EC₅₀</td>
<td>Daphnia magna</td>
<td>265</td>
<td>mg/l</td>
</tr>
<tr>
<td>5 day, EC₅₀</td>
<td>Nitzscheria linearis</td>
<td>242</td>
<td>mg/l</td>
</tr>
</tbody>
</table>

12.2 Persistence and Degradability
Not applicable as an inorganic substance

12.3 Bioaccumulative Potential
Does not bioaccumulate.
Section 12: Ecological Information (cont.)

12.4 Mobility
Air: Not applicable
Water: Considerable solubility and mobility
Soil/sediments: Low potential for absorption

12.5 Results of PBT and vPvB Assessment
Not applicable, inorganic substance

12.6 Other adverse effects
No data available

Section 13: Disposal Considerations

When this product is discarded or disposed of as purchased, it is neither a 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 governmental 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.

Section 14: Disposal Considerations

14.1 United States Department of Transportation (DOT)
Not regulated

14.2 International Maritime Dangerous Goods (IMDG)
Not regulated

14.3 International Air Transport Association
Not regulated

14.4 TDG/ADN/RID/ADR
Not regulated

Note: The above regulatory prescriptions are those valid on the date of publication of this SDS. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.
Section 15: Regulatory Information

15.1 SARA Title III (Superfund Amendments and Reauthorization Act)
SARA 302 Extremely Hazardous Substances, 40CFR355, Appendix A: Not Listed
SARA 311 Hazard Class, 40CFR370: Immediate (Acute)
SARA 312 Threshold Planning Quantity (TPQ), 40CFR370 Not Listed
SARA 313 Reportable Ingredients, 40CFR372 Not Listed

15.2 CERCLA (Comprehensive Environmental Response Compensation and Liability Act)
40CFR302.4: There is no listed reportable quantity for this product.

15.3 TSCA (Toxic Substances Control Act)
This product is listed. No other TSCA rules affect this product.

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

15.5 Other
CWA (Clean Water Act), Section 301/311: Not Listed
CAA (Clean Air Act), Section 112: Not regulated

15.6 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

15.7 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)
German Water Classification: Hazard Class I, low hazard to waters
15.8 International
This product is also found in the chemical inventories of Australia, China, Korea, Japan and the Philippines.

Section 16: Regulatory Information

16.1 HMIS (Hazard Material Identification System)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>2</td>
</tr>
<tr>
<td>Flammability</td>
<td>0</td>
</tr>
<tr>
<td>Physical Hazard</td>
<td>0</td>
</tr>
<tr>
<td>Personal Protection (PPE)</td>
<td>Determined by user, dependent on local conditions</td>
</tr>
</tbody>
</table>

4: severe, 3: Serious, 2: Moderate, 0: Minimal

16.2 NFPA (National Fire Protection Association)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>2</td>
</tr>
<tr>
<td>Flammability</td>
<td>0</td>
</tr>
<tr>
<td>Reactivity</td>
<td>0</td>
</tr>
<tr>
<td>Special</td>
<td>None</td>
</tr>
</tbody>
</table>

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

16.3 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, size and shape of particles; which influence flow characteristics and angle of repose. Other physical properties, as well as chemical properties of solutions are common to each grade of soda ash.

16.4 Certifications
NSF/ANSI 60: This product is certified to NSF/ANSI 60 for use in drinking water treatment at the specified maximum use limit (MUL). The MUL is 200 mg/L when used for corrosion control or scale control pH adjustment.
Section 16: Regulatory Information (cont.)

Kosher:

Halal: IFANCA

16.5 Disclaimer
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 the 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, protection of human welfare and the environment. This Safety Data Sheet is offered for your information, consideration and investigation as required by the Federal Hazardous Products Act and related legislation. The information is believed to be accurate but Tata Chemicals provides no warranties, either expressed or implied.