

MATERIAL SAFETY DATA SHEET

North American Version

Soda Ash

1. PRODUCT AND COMPANY IDENTIFICATION

1.1. Identification of the substance/preparation

Product Name : Soda Ash
Chemical Name : Sodium carbonate, anhydrous
Synonyms : Soda salt, soda crystal, disodium carbonate.
Chemical Formula : Na_2CO_3
Molecular Weight : 105.99
CAS Number : 497-19-8
Grades/Trade Names : Dense soda ash; chemical grade soda ash

1.2. Use of the Substance/Preparation

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

1.3. Company/Undertaking Identification

Address : Solvay Chemicals, Inc.
PO BOX 27328 Houston, TX 77227-7328
3333 Richmond Ave. Houston, Texas 77098

1.4. Emergency telephone numbers

General: 1-800-765-8292 (Solvay Chemicals, Inc.,)

All Emergencies (USA): 1-800-424-9300 (CHEMTREC®)

Transportation Emergencies (INTERNATIONAL/MARITIME): 1-703-527-3887 (CHEMTREC®)

Transportation Emergencies (CANADA): 1-613-996-6666 (CANUTEC)

Transportation Emergencies (MEXICO-SETIQ): 01-800-00-214-00 (MEX. REPUBLIC)
525-559-1588 (Mexico City and metro area)

2. HAZARDS IDENTIFICATION

2.1. Emergency Overview:

General Information

Appearance : granules, powder
Color : white
Odor : odorless

Main effects

- Serious damage to eyes.
- Irritating to skin and mucous membranes

2.2. Potential Health Effects:

Inhalation

- Product Dust may be irritating to eyes, skin and respiratory tract.
- Irritating to mucous membranes
- Repeated or prolonged exposure: Risk of sore throat, nose bleeds.

- (In case of higher concentration): Cough.

Eye contact

- Severe eye irritation
- Lachrymation
- Redness
- Swelling of tissue
- May cause irreversible eye damage.

Skin contact

- When in contact with damp skin, irritation.
- Itching
- Repeated exposure may cause skin dryness or cracking.

Ingestion

- Severe irritation
- Irritation of the mouth and throat
- Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Other toxicity effects

- See section 11: Toxicological Information

2.3. Environmental Effects:

- See section 12: Ecological Information

3. COMPOSITION OF/INFORMATION ON INGREDIENTS

Sodium Carbonate

CAS-No. : 497-19-8
Concentration : >=99.80 %

4. FIRST AID MEASURES

4.1. Inhalation

- Remove the subject from dusty environment and let him blow his nose.
- If symptoms persist, call a physician.

4.2. Eye contact

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- Consult with an ophthalmologist immediately in all cases.

4.3. Skin contact

- Remove and wash contaminated clothing before re-use.
- Wash off with plenty of water.
- If symptoms persist, call a physician.

4.4. Ingestion

The following actions are recommended :

- Call a physician immediately.

If victim is conscious:

- If swallowed, rinse mouth with water (only if the person is conscious).
- Do NOT induce vomiting.

If victim is unconscious but breathing:

- Artificial respiration and/or oxygen may be necessary.
- Never give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

5.1. Suitable extinguishing media

- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2. Extinguishing media which must not be used for safety reasons

- None

5.3. Special exposure hazards in a fire

- Not combustible.

5.4. Special protective equipment for fire-fighters

- No special precautions required.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions

Refer to protective measures listed in sections 7 and 8.

6.2. Environmental precautions

- Do not flush into surface water or sanitary sewer system.
- If the product contaminates rivers and lakes or drains inform respective authorities.

6.3. Methods for cleaning up

- Sweep up and shovel into suitable containers for disposal.
- Avoid dust formation.
- Keep in properly labeled containers.
- Keep in suitable, closed containers for disposal.
- Treat recovered material as described in the section "Disposal considerations".

7. HANDLING AND STORAGE

7.1. Handling

- Use only in well-ventilated areas.
- Keep away from Incompatible products.

7.2. Storage

- Keep in a dry place.
- Store in original container.
- Keep container closed.
- Keep away from incompatible products.

7.3. Packaging material

- Polyethylene
- Woven plastic material + PE.

7.4. Other information

- Avoid dust formation.
- Refer to protective measures listed in sections 7 and 8.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Exposure Limit Values

OSHA PEL

SAEL

Sodium Carbonate

10 mg/m³ Total Dust

Nuisance Dust

5mg/m³ (Respirable fraction)

15 mg/m³ (Total dust)

SAEL is Solvay Acceptable Exposure Limit, Time Weighted Average for 8 hour workdays. No specific TLV-STEL (Short Term Exposure Level) has been set. Excursions in exposure level may exceed 3 times the TLV-TWA for no more than a total of 30 minutes during a workday and under no circumstances should they exceed 5 times the TLV-TWA.

8.2. Engineering controls

- Ensure adequate ventilation.
- Provide adequate exhaust ventilation at places where dust is formed.
- Refer to protective measures listed in sections 7 and 8.
- Apply technical measures to comply with the occupational exposure limits.

8.3. Personal protective equipment

8.3.1. Respiratory protection

- Use only respiratory protection that conforms to international/ national standards.
- In case of insufficient ventilation, wear suitable respiratory equipment.
- Use NIOSH approved respiratory protection.
- Respirator with a dust filter

8.3.2. Hand protection

- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
- Wear suitable gloves.
- Suitable material: Neoprene, Natural Rubber.

8.3.3. Eye protection

- Dust proof goggles, if dusty.

8.3.4. Skin and body protection

- Long sleeved clothing
- Dust impervious protective suit
- Rubber or plastic boots
- Rubber or plastic apron

8.3.5. Hygiene measures

- Use only in an area equipped with a safety shower.
- When using do not eat, drink or smoke.
- Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. General Information

Appearance	: Granules, Powder
Color	: White
Odor	: Odorless

9.2. Important Health Safety and Environmental Information

pH	: 11.1
	<i>Concentration: 4.016 g/l Temperature: 25 °C (77 °F)</i>
Boiling point/range	: Not applicable
Flash point	: Not applicable
Flammability	: Not applicable
Explosive properties	: Not applicable
Oxidizing properties	: Not applicable

Vapor pressure	: Not applicable
Relative density / Density	: 2.5
Partition coefficient (n-octanol/water)	: Not applicable
Viscosity	: Not applicable
Vapor density	: Not applicable
Bulk density	: from 0.5 - 0.8 kg/dm ³ (approx 62 lbs/ft ³) Method: Free flow
Solubility	: Water : 71 g/l Temperature: 0 °C (32 °F) : 215 g/l Temperature: 20 °C (68 °C)

9.3 Other information

Melting point/range	: 851 °C (1,564 °F)
Decomposition temperature	: > 400 °C (752 °F)
Granulometry	: 95-100 % < 180 µm 0-5 % > 180 µm

10. STABILITY AND REACTIVITY

10.1. Stability

- Stable under recommended storage conditions.

10.2. Conditions to avoid

- Exposure to moisture.

10.3. Materials to avoid

- Finely divided aluminum

10.4. Hazardous decomposition products

- None

11. TOXICOLOGICAL INFORMATION

11.1 Toxicological data

Acute oral toxicity

- LD50, rat, > 2,000 mg/kg

Acute inhalation toxicity

- LC50, 2 h, rat, 2.3 mg/l

Acute dermal irritation/corrosion

- LD50, rabbit, 2,000 mg/kg

Skin irritation

- rabbit, No skin irritation

Eye irritation

- rabbit, irritant effects

11.2 Chronic toxicity/ Carcinogenic Designation:

Chronic toxicity

- Inhalation, rat, Target Organs: Lungs, NOEL: 0.07 mg/l, observed effect

Genetic toxicity in vitro

- Remarks: no observed effect

Teratogenicity

- Oral route (gavage), 10 days, Various species, NOAEL teratog. : 179 mg/kg, Did not show teratogenic effects in animal experiments.

Remarks

- Irritating to eyes.

12. ECOLOGICAL INFORMATION

12.1. Ecotoxicity effects

Acute toxicity

- Fishes, *Lepomis macrochirus*, LC50, 96 h, 300 mg/l
- Fishes, *Gambusia affinis*, LC50, 96 h, 740 mg/l
- Crustaceans, *Ceriodaphnia dubia*, EC50, 48 h, 200 - 227 mg/l

Chronic toxicity

- Phytoplankton, EC50, biomass, 7 Days, 14 mg/l

12.2. Mobility

- Air
Remarks: not applicable
- Water
Remarks: Solubility
- Water
Remarks: Mobility
- Soil/sediments
Remarks: not significant

12.3. Persistence and degradability

Abiotic degradation

- Water, Hydrolysis
- Result: acid/base equilibrium as a function of pH.
Degradation products: carbonic acid /bicarbonate/ carbonate

Biodegradation

- Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

12.4. Bioaccumulative potential

- Not Applicable

12.5. Other adverse effects

- No data available

12.6. Remarks

- Ecological injuries are not known or expected under normal use.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment: Soda Ash 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 accordance with applicable federal, 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

<u>Mode</u>	<u>DOT</u>	<u>IMDG</u>	<u>IATA</u>
UN Number	Not a regulated hazardous material	Not a regulated hazardous material	Not a regulated 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

15.1 National Regulations (US)

TSCA Inventory 8(b): Yes

SARA Title III Sec. 302/303 Extremely Hazardous Substances (40 CFR 355): No

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

Hazard Category:

- Acute Health Hazard, Chronic Health Hazard
- Threshold planning quantity – 10,000 lbs.

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

CERCLA Hazardous Substance (40CFR Part 302)

Listed: No

Unlisted Substance: No

State Component Listing: None identified

15.2 National Regulations (Canada):

Canadian NSN Registration: DSL

WHMIS Classification: D2B - Material causing other toxic effect.

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**.

15.3 National Regulations (Europe)

EINECS # : 207-838-8

Labeling according to Directive 67/548/EEC.

Name of dangerous products- sodium carbonate

Symbols	Xi	Irritant
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.

16. OTHER INFORMATION

16.1 Ratings:

NFPA (NATIONAL FIRE PROTECTION ASSOCIATION)

Health = 2 Fire = 0 Instability = 0 Special = None

HMIS (HAZARDOUS MATERIAL INFORMATION SYSTEM)

Health = 2 Fire = 0 Reactivity = 0 PPE = Supplied by User; dependent on local conditions

16.2 Other Information:

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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).

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16.3 Reason for revision:

Supersedes edition: Solvay Chemicals, Inc. MSDS Sodaash-1104, dated:11-24-04

Purpose of revision: Periodic review and update.