SAFETY DATA SHEET

SODA ASH 58% LIGHT

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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Last Revision Date : 2018/06/06

EMERGENCY 24 HRS TELEPHONE NUMBER

For emergency assistance involving chemical call :
CANUTEC: (613) 996-6666

PRODUCT IDENTIFICATION

Product Name	:	SODA ASH/ SODIUM CARBONATE.
Chemical Name	:	Sodium Carbonate, Anhydrous
Synonyms	:	Sodium carbonate, soda salt, soda crystal, disodium carbonate,
Grades/Trade names	:	Light soda ash; Dense soda ash, chemical grade soda ash
Chemical Family	:	Sodium Salt
Molecular Formula	:	Na_2CO_3
Product Use	:	Glass manufacture, detergent manufacture, chemicals manufacture, pulp and paper, water and wastewater treatment, flue gas desulphurization.
CAS Nº	:	497-19-8

Read the entire SDS for the complete hazard evaluation of this product

2. HAZARD IDENTIFICATION

Classification of the substance Eye irritant category 2
May be corrosive to metals cat 1
Signal word : Warning **Hazard pictogram :**



Hazard statements:

H319 Causes serious eye irritation Cat 2A

Precautionary Statements:

P264 Wash hands thoroughly after handling
P280 Wear protective gloves/protective clothing/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.
This substance does not contain any PBT or vPvB

3. COMPOSITION, INFORMATION ON INGREDIENTS

Hazardous Ingredients	CAS Nº	Content %
Sodium Carbonate	497-19-8	99.1 % min Soda Ash 58% Light

4. FIRST AID MEASURES

Inhalation

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

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.

Skin contact

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

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

EXTINGUISHING MEDIA

Suitable extinguishing media

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

Extinguishing media which must not be used for safety reasons

- None

Special exposure hazards in a fire

- Not combustible.

Special protective equipment for fire-fighters

- No special precautions required.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Personal precautions

Refer to protective measures listed in sections 7 and 8.

Environmental precautions

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

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

Handling

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

Storage

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

Specific use(s)

- For further information, please contact: Supplier

Packaging material

- Exterior Woven PP+interior laminated

- Kraft

Other information

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

DNEL Values

In view of its physicochemical properties, the physiological role of its constituent ions, and its toxicological properties, exposure to Na2CO3 is considered to have no systemic effects. Sodium carbonate rapidly dissociates into Na+ (sodium) and CO32- (carbonate), when in contact with any body fluid. Sodium is an essential metal, present in vertebrates in relatively high levels under physiological conditions. Carbonate is a component of the extracellular buffer in the blood and the interstitial fluid of vertebrates, i.e. the bicarbonate buffer system. The uptake of sodium, via exposure to sodium carbonate via any route, is expected to be much less than the uptake of sodium via food (recommended daily dietary intake has been reported in the range of 3.1 to 6.0 g).

Systemic effects

Exposure to sodium carbonate is, therefore, not expected to result into systemic effects. This is supported by absence of any observed systemic effects in performed developmental toxicity studies. Therefore, no DNELacute, systemic and DNELlong term, systemic derivations are necessary.

Local effects

It may be thought that the substance could induce local effects upon contact with ports of entry at high concentration: dissolution of Na2CO3 may induce local pH changes, which may cause local effects upon a single or repeated exposure. Available studies to establish a DNELlocal for the various routes of exposure will be discussed hereafter.

Oral route

Oral uptake of reasonable amounts of sodium carbonate will result in a neutralization in the stomach due to the presence of gastric acid. Sodium carbonate is not classified for acute oral toxicity, due to its relatively low oral toxicity (LD50 = 2800 mg/kg, rat). Therefore, it is not considered necessary to derive a DNELlocal for oral exposure to sodium carbonate.

Dermal route

Several dermal irritation studies have been described, both with animals and human volunteers. Since no irritation has been observed when sodium carbonate was applied to intact skin, a DNELlocal is not considered necessary for dermal exposure.

Inhalation

Sodium carbonate was tested in a repeated dose rat inhalation study, showing local effects after 3.5 months at the only tested exposure of 70 mg/m3. However, this study was considered unreliable. Acute toxicity studies showed local effects at the lowest tested concentration of 500 mg/m3 in guinea pigs. As both studies suffer from clear short-comings, it is not considered possible to derive a DNELacute local and DNELlong term, local directly from this data. They do inform though on the location and type of lesions observed, and in that way support the view that the histopathological changes observed are the direct consequence of the alkaline nature of sodium carbonate, i.e. via generation of OH--cations upon contacting body fluids. In accordance with Chapter R.8 of REACH Guidance on information requirements and chemical safety assessment, a national Occupational Exposure Limit (OEL) can be used in place of a DNEL if an evaluation of the scientific background for its setting has been performed. Currently, no OEL has been set by any country authority. However, Occupational Exposure Limits have been derived for other well-known substances which have also local effects based on their alkaline properties. Sodium hydroxide (NaOH) is a well-known alkaline and corrosive substance and the OEL is 2 mg/m3 in most countries based on information from the Ariel database. Calcium hydroxide (CaOH2) is not corrosive but is irritating to the skin and the OEL is 5 mg/m3 in most countries (information from the Ariel database). Sodium carbonate is even less alkaline because it is not irritating to the skin but it is only irritating to the eyes. Therefore the OEL of sodium carbonate should be higher than 5 mg/m3. It is assumed that the estimated OEL of sodium carbonate is only a factor 2 higher than the OEL of calcium hydroxide and this results in an OEL of 10 mg/m3 for sodium carbonate. A value of 10 mg/m3 is similar to the general dust limit of inert dust (inhalable fraction).

Eye

Sodium carbonate is classified as an eye irritant. As eye irritation studies have been performed using undiluted test substance, no dose-response data could be obtained to derive a DNEL. Furthermore, no quantitative data on human eye irritation is available that could allow a DNEL to be set for eye exposure.

PNEC Values

Buffer capacity[A]	**Final pH[B]**		
	9. 0	**10.0**	**11.0**
0 mg/l HCO3- (distilled water)	1.1 (0.6)	16 (6.1)	603 (61)
20 mg/l HCO3- (10th percentile of 77 rivers)	2.7 (21)	32 (26)	766 (81)
106 mg/l HCO3- (mean value of 77 rivers)	9.7 (107)	102 (112)	1467 (167)
195 mg/l HCO3- (90th percentile of 77 rivers)	17 (196)	175 (201)	2192 (256)

Exposure Limit Values OSHA PEL SAEL
Sodium Carbonate 10 mg/m3 Total Dust
Nuisance Dust 5mg/m3 (Respirable fraction)
15 mg/m3 (Total dust)
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.

Exposure 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.

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

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.

Eye protection
- Dust proof goggles, if dusty.

Skin and body protection
- Long sleeved clothing
- Dust impervious protective suit
- Rubber or plastic boots
- Rubber or plastic apron

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.

Environmental Exposure Controls
- Dispose of rinse water in accordance with local and national regulations.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/physical state	:	Granules, white powder
Odor	:	Odorless
Odor threshold	:	N/A
pH	:	11.1 (Concentration: 4.016 g/l Temperature: 25 °C-77 °F)
Melting point/freezing point	:	851 °C (1,564 °F)
Initial boiling point and boiling range	:	N/A
Flash point	:	N/A
Evaporation rate	:	N/A
Flammability	:	Non Flammable
Upper/lower flammability or explosive limits	:	N/A
Vapor pressure	:	N/A
Vapor density	:	N/A
Relative density	:	2,5
Granulometry	:	95-100 % 250-400 µm :
Bulk density	:	0.47 - 0.59 g/cm3
Solubility (water)	:	71 g/l at 0°C (32 °F) 215 g/l at 20°C (68 °F)
Partition coefficient (n-octanol/water)	:	N/A
Auto-ignition temperature	:	N/A
Decomposition temperature	:	> 400 °C (752 °F)
Viscosity	:	N/A
Explosive properties	:	N/A
Oxidizing properties	:	N/A

10. STABILITY AND REACTIVITY

Stability
- Stable under recommended storage conditions.
Conditions to avoid
- Exposure to moisture.
Materials to avoid
- Finely divided aluminum
Hazardous decomposition products
- None

11. TOXICOLOGICAL INFORMATION

TOXICOGICAL 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
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

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
Mobility
- Air
Remarks: not applicable
- Water
Remarks: Solubility
- Water
Remarks: Mobility
- Soil/sediments
Remarks: not significant
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.
Bioaccumulative potential
n.a.i.
Results of PBT assessment
- Sodium carbonate is not considered to be a PBT substance.
Other adverse effects : n.a.i

13. DISPOSAL CONSIDERATIONS

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.
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.
RCRA Hazardous Waste: Not Listed

14. TRANSPORTATION INFORMATION

TRANSPORT CLASSIFICATION
UN number : n.a.
Product is not classified as a hazardous cargo under current transport regulations.
UN proper shipping name: n.a.
Transport hazard class (es): n.a.
Packing group: n.a.
Environmental hazards: Product does not have any environmental hazards.
Special precautions for user: n.a.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: n.a.
Other: It is recommended that ERG guide # 111 be used for all non DOT regulated material.

15. REGULATORY INFORMATION

CANADA
CEPA - NSNR: All constituents of this product are included on the DSL under CEPA
CEPA-NPRI: Not included.
Regulations on controls products (WHMIS): D-2B: Toxic (Irritant eyes and skin)
USA
Act Of Protective Environment: This material is included on the TSCA Inventory under US EPA.
OSHA - Risk Communication and hazard (29 CFR 1910.1200): Classification. Irritating to eyes and skin.

16. OTHER INFORMATION

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
ADDITIONAL INFORMATION AND SOURCES USED
Prepared By: Aqua Bond Inc.

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n.a.: not applicable n.a.i.: not available information