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MATERIAL SAFETY DATA SHEET

SODA ASH – DENSE

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

INTERSAC
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Last Revision Date : 2015/01/16

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
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
WHMIS Class./Symbol	: D-2B : Toxic (skin and eyes irritant). E: corrosive.

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

2. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: Cause skin and eye irritation. Dust is extremely irritating to respiratory tract. May cause central nervous system (CNS) depression and circulatory collapse.
Can decompose at high temperatures forming toxic gases. Contents may develop pressure on prolonged exposure to heat.

POTENTIAL HEALTH EFFECTS

Inhalation: Product may cause severe irritation of the nose, throat and respiratory tract. Brief contact with the dust cause irritation. Greater exposure cause severe burns. In the presence of moisture (perspiration, humidity, tears), the dust dissolves to form a corrosive solution which may cause burs.

Skin Contact: Brief contact with the dust cause irritation. Greater exposure causes severe burns. In the presence of moisture (perspiration), soda ash and lime dusts (CaO) combine to form corrosive caustic soda, which may cause burns.

Skin Absorption: A single, prolonged skin exposure is not likely to result in the absorption of toxic amounts of the material.

Eye Contact: This product causes irritation, redness and pain.

Ingestion: This product causes irritation, a burning sensation of the mouth and throat and abdominal pain.

Other Health Effect: effects on the skin and eyes may be delayed, and damage may occur without the sensation of pain. Strict adherence to first aid measures following any exposure is essential.
May cause central nervous system (CNS) depression. Headache, dizziness, drowsiness, nausea, vomiting and in-coordination characterize CNS depression. Severe overexposures may lead to coma and exposure is essential.

3. COMPOSITION, INFORMATION ON INGREDIENTS

Hazardous Ingredients	CAS Nº	ACGIH TVL	%
Sodium Carbonate	497-19-8	Non toxic	99.3 min

The material consists essentially of sodium carbonate, Na_2CO_3. It is in the form of granules and free from visible impurities. Hygroscopic, easily soluble in water; almost insoluble in ethyl alcohol.

4. FIRST AID MEASURES

Eyes : Immediately flush with water for at least 15 minutes. See a doctor.
Skin : Wash with plenty of water. See a doctor if irritation occurs.
Ingestion : Rinse mouth with water. Dilute by drinking water. Do not induce vomiting. Never give anything by mouth to an unconscious person. See a doctor immediately.
Inhalation : Remove to fresh air. If breathing is difficult or uncomfortable call a doctor.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

Flammability Class (WHIMIS) : Not flammable
Flammability Limits in Air (%) : LEL: n.a.i.; UEL: n.a.i.
Hazardous Combustion Products : Thermal decomposition product is toxic and may include fumes of sodium oxides, and carbon dioxide gas.
Unusual Fire or Explosion Hazards : Minimize air borne spreading of dust. Spilled material may cause floors and contact surfaces to become gases.
Sensitivity to Mechanical Impact : Not expected to be sensitive to mechanical impact.
Rate of Burning : n.a.i.
Explosive Power : n.a.i.
Sensitivity to Static Discharge : Not expected to be sensitive to static discharge.

EXTINGUISHING MEDIA

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

FIRE FIGHTING INSTRUCTIONS

Instruction to the Fire Fighters: Use water spray to cool fire-exposed containers or structures. Use water spray to disperse vapors. Spilled material may cause floors and contact surfaces to become slippery
Fire Fighting Protective Equipment: Use self-contained breathing apparatus and protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Information in this section is for responding to spills, leaks or releases in order to prevent or minimize the adverse effects on persons, property and the environment. There may be specific reporting requirement associated with spills, leaks or releases, which change from region to region. The responsibility of reporting lies directly with the handlers of the substance.
Containment and Clean-Up Procedures: In all cases of leaks or spill contact vendor at Emergency Number show on the front page of this MSDS. Wear protective clothing. Collect product for recovery or disposal. For release to land, or storm water runoff, contain discharge by construction dykes or applying inert absorbent; for release to water, utilize damming and/or water diversion to minimize the spread of contamination. Ventilate enclosed space. Notify applicable government authority if release is reportable or could adversely affect the environment.

7. HANDLING AND STORAGE

HANDLING

Handling Practices: Use normal industrial hygiene and housekeeping practices. In the presence of moisture, soda ash and lime dust combine to form corrosive caustic soda, which may cause burns.
Aluminum and its alloys should not be used in equipment for storage, handling or transportation.
Ventilation Requirements: Minimize air borne spreading of dust. Do not use in poorly ventilated or confined areas without proper respiratory protection. Ventilation should be corrosion proof.
Other Precautions: Use only with adequate ventilation and avoid breathing vapours and aerosols. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. Wash contaminated clothing thoroughly before re-use.

STORAGE

Ventilation Requirements: General exhaust is acceptable.
Storage Requirements: Store in a cool, well-ventilated area. Keep away from heat, sparks and flames. Keep containers closed. Do not expose sealed containers to temperatures above 40 ºC. Avoid moisture contamination. Protect from direct sunlight. Protect against physical damage.
Special Materials to be Used for Packing or Containers: Confirm suitability of any material before using. Aluminum and its alloys should not be used in equipment for storage, handling or transportation.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Recommendations listed in this section indicate the type of equipment, which will provide protection against overexposure to this product. Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective device at your workplace.

ENGINEERING CONTROLS

Engineering Controls: General exhaust is acceptable. Local exhaust ventilation preferred. Make up air should be supplied to balance air that is remove by local or general exhaust ventilation. Ventilated low lying areas such as sumps or pits where dense vapours may collect.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye Protection: Safety glasses with side shields are recommended to prevent eye contact. Use dust-tight chemical safety goggles when there is potential for eye contact. Prior to use, user should confirm impermeability.
Skin Protection: Gloves and protective clothing made from cotton, canvas, rubber or plastic should be impervious under

conditions of use. Discard contaminated gloves. Prior to use, user should confirm impermeability.
Respiratory Protection: No specific guidelines available. A NIOSH/MSHA-approved dust mask for concentration of nuisance dust up to 100 mg/m^3. An air-supplier respirator if concentrations are higher or unknown
Other Personal Protective Equipment: Wear an impermeable apron and boots. Locate safety shower and eyewash station close to chemical handling area. Take all precautions to avoid personal contact.

EXPOSURE GUIDELINES
Recommended Exposure Limit: None established for this product.
Particulate Not Otherwise Classified OSHA(PEL/TWA):
15 mg/m^3 (Total dust);
5 mg/m^3 (Respirable fraction)
MSHA(PEL/TWA) : 10 mg/m3 (total dust)

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: White granular solid.
Odor	: Odorless
Melting point	: 851 ºC
Boiling Point	: Decomposes
pH (1% solution)	: 11.40
Solubility in water	: 215g/l @20C, 71 g/l @ 0C
Relative density	: 2.
Flash Point	: Non- combustible

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY

Under Normal Conditions	: Stable
Under Fire Conditions	: Not flammable
Hazardous Polymerization	: Will not occur

Condition to Avoid: High temperature, sparks, open flames and all other sources of ignition.
Materials to Avoid: Strong oxidizers. Lewis or mineral acids. Mg, Lead, Aluminum and its alloys. Can react violently with red-hot aluminum metal; fluorine gas; lithium and 2,4,6-trinitrotoluene.
Decomposition or Combustion Products: Thermal decomposition products are toxic and may include oxides of carbon, sodium and irritating gases.

11. TOXICOLOGICAL INFORMATION

TOXICOGICAL DATA

Sodium Carbonate	LD50 (Oral, rat)	2800mg/Kg
	LD50 Dermal(rabbit)	>2000 mg/kg

Carcinogenicity Data: The ingredient of this product is not classified as carcinogenic (ACGIH or IARC or OSHA and NTP).
Reproductive Data: NO adverse reproductive effects are anticipated.
Mutagenicity Data: NO information is available and no adverse reproductive effects are anticipated.
Teratogenicity Data: NO information is available and no adverse reproductive effects are anticipated.
Respiratory/Skin Sensitization Data: None known
Synergistic Materials: None known
Other Studies Relevant to Material: Sodium carbonate: Application of 100 mg (Standard Draize Test) resulted in moderate eye irritation after 24 hours. Application of 0.1 ml of Sodium Carbonate resulted in severe eye irritation. Application of 500 mg/24 hours to rabbit skin (Standard Draize Test) resulted in mild irritation.
Male rats exposed to an aerosol of a 2 % solution of sodium carbonate for 4 hours/day, 5 days/week for 3.5 months showed no pronounced effects. Pregnant mice were orally intubated with up 340 mg/Kg of aqueous sodium carbonate solution. No positive findings were reported.
Excessive contact may produce soda ulcers on and perforation of the nasal septum.
Sensitivity reactions may occur from prolonged and repeated exposure.
Product is irritating to eyes. Inhalation of dust may cause respiratory allergy, in contact of long period it may cause allergy on skin in susceptible individuals.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Not available. May be harmful to aquatic life. Toxicity is primarily associated with pH.
Sodium Carbonate:
Fish toxicity: 48-hour TLM = 840 mg/L (Mosquito Fish)
Fish toxicity: 96-hour TLM = 1 200 mg/L (Mosquito Fish)
Fish toxicity: 96-hour TLM = 265- 565 mg/L (Daphnia magna)
Fish toxicity: 96-hour TLM = 300 mg/L (Lepomis macrochirus)
Environmental Fate: Not available. Can be dangerous if allowed to enter drinking water intakes. Product has unaesthetic appearance and can be a nuisance. Do not contaminated domestic or irrigation supplies, lakes, streams, ponds or rivers.

13. DISPOSAL CONSIDERATIONS

This information applies to the material as manufactured. Processing, use or contamination may make the information inappropriate, inaccurate or incomplete. The responsibility for proper waste disposal lies with the owner of the waste.
Deactivating Chemicals: Neutralize carefully with weak acid to a pH of 6 to 9. Neutralization is expected to be exothermic. Vigorous effervescence results.
Waste Disposal methods: Dispose of waste material at an approved (hazardous) waste treatment/disposal facility in accordance with applicable local, provincial and federal regulations. Do not dispose of waste with normal garbage, or to sewer systems.
Safe Handling of Residues: Empty containers retain product residue and can be hazardous.
Disposal of Packaging: Empty containers retain product residue and be dangerous. Treat package in the same manner as the product.

14. TRANSPORTATION INFORMATION

TRANSPORT CLASSIFICATION
This product is not regulated by TDG/DOT
ROAD/RAIL: suitable and not dangerous. Must be kept dry.
SEA : suitable and not dangerous. Must be packed sea – worthy.
AIR : suitable and not dangerous. Must be kept dry.

15. REGULATORY INFORMATION

CANADA
CEPA – NSNR: All constituents of this product are included on the DSL under the CEPA.
CEPA – NPRI: Not included.
Controlled Products Regulation Classification (WHIS): D-2B: Toxic (Skin and Eye Irritant). E: corrosive.
USA
Environmental Protection Act: This material is included on the TSCA Inventory under the US-EPA.
OSHA Hazard Communication (29 CFR 1910.1200) Classification: Skin and Eye Irritant.
HMIS: Health:2 Fire: 0 Instability: 0 PPE: Supplied by User; dependent on local conditions.
NFPA: Health:2 Fire: 0 Instability: 0 Special: None

16. OTHER INFORMATION

ADDITIONAL INFORMATION AND SOURCES USED
Prepared By: INTERSAC

The information contained herein is offered only as guide to the handling of this specific material and has prepared in good faith by technically knowledgeable personal. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and INTERSAC Inc. will not be liable for any damage, losses, injuries or consequential damage which may result from the use of or reliance on any information contained herein. This Material Safety Data Sheet is valid for three years.

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