

Material Safety Data Sheet

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Infosafe No™ 8ACCW Issue Date : June 2011 ISSUED by ACECHEM

Product Name **SODIUM CARBONATE ANHYD DENSE**

Classified as hazardous

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Product Name SODIUM CARBONATE ANHYD DENSE
Product Code S153158
Product Use Used as a water softener, general cleanser, photographic agent, catalyst in coal liquefaction, and food additive. Textile processing (bleaching of linen, hemp, cotton), petroleum refining, and the manufacture of glass, sodium compounds, pulp and paper, soaps and detergents, and aluminum.
Company Name ACE CHEMICAL COMPANY (ABN 35619819300)
Address 119A Mooringe Avenue Camden Park
S.A 5038 Australia
Telephone Tel: 08-8376 0844
Number/Fax Fax: 08-8295 8563
Other Names Name Product Code
SODIUM CARBONATE
DENSE SODA ASH
Soda ash
Email acechem@bigpond.com
Other Information Ace Chemical Company has taken care in compiling this information. No liability is accepted wether direct or indirect from its application since the conditions of final use are outside Ace Chemical Companies control.

2. COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredients | <u>Name</u> | <u>CAS</u> | <u>Proportion</u> | <u>Hazard Symbol</u> | <u>Risk Phrase</u> |
|--------------------------|--|------------|-------------------|----------------------|--------------------|
| | Sodium Carbonate | 497-19-8 | 99-100 % | Xi | R36 |
| Other Information | Commercially available as the anhydrous compound (Na ₂ CO ₃) and the monohydrate (Na ₂ CO ₃ .H ₂ O). | | | | |

3. HAZARDS IDENTIFICATION

Irritating to eyes.

Chronic Effects HEALTH EFFECTS SKIN: Repeated or prolonged skin contact may result in dermatitis and/or ulceration of the skin. INHALATION: A study involving employees working with soda ash (sodium carbonate) found that the incidence of perforations and impending perforations of the nasal septum in four groups with large, moderate, slight and no exposure to soda ash dust was, respectively, 11.1%, 12.1%, 1% and 0%. This data suggests that repeated or prolonged inhalation of sodium carbonate dust may be related to perforations of the nasal septum.
CARCINOGENICITY No data. Not classed as a carcinogen by Worksafe Aust.
TERATOGENICITY AND EMBRYOTOXICITY No human data. Animal studies report no positive findings.
TOXICOLOGICAL SYNERGISTIC MATERIALS Information not available
MUTAGENICITY No data
POTENTIAL FOR ACCUMULATION None

Inhalation Irritation of the nose, throat and lungs may occur due to the irritant nature of sodium carbonate. Symptoms may include coughing, sneezing and difficulty breathing.

Ingestion No data supplied.
Large amounts are corrosive, resulting in cramps, vomiting, diarrhoea and possibly circulatory collapse and death.

Skin Dust or solid can cause mild to moderate irritation. Concentrated solutions can be corrosive, causing severe irritation and burning.

Eye Moderate to severe irritation. Direct contact with solid or concentrated solution may result in permanent injury to eye unless promptly rinsed from eye with water.

4. FIRST AID MEASURES

Inhalation Remove source of contamination or move victim to fresh air. Obtain medical advice immediately.

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| Ingestion | Never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. DO NOT INDUCE VOMITING. If victim can swallow, have him/her drink 8 to 10 ozs. (240 to 300 ml) of water to dilute material in stomach. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Repeat administration of water. Obtain medical attention immediately. |
| Skin | As quickly as possible, flush contaminated area with lukewarm, gently running water for at least 20 minutes, by the clock. Under running water, remove contaminated clothing, shoes, and leather goods (e.g. watchbands, belts). If irritation occurs, obtain medical attention. Completely decontaminate clothing, shoes and leather goods before re-use or discard. |
| Eye | Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes, by the clock, holding the eyelid(s) open. Obtain medical attention immediately. |
| First Aid Facilities | Eye wash and normal washroom facilities. |
| Advice to Doctor | Treat symptomatically as for strong alkalis. |

5. FIRE FIGHTING MEASURES

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| Specific Hazards | EXPLOSION DATA - SENSITIVITY TO MECHANICAL IMPACT Not sensitive. Stable material. EXPLOSION DATA - SENSITIVITY TO STATIC CHARGE Not applicable FIRE EXTINGUISHING AGENTS Not applicable FIRE FIGHTING PROCEDURES Sodium carbonate and its solutions will not burn or support combustion. Water can be used to extinguish a fire in an area where sodium carbonate is stored as long as the water does not come into contact with the sodium carbonate. Sodium carbonate generates heat when it dissolves in water. COMBUSTION PRODUCTS Begins to decompose at 400 deg C (752 deg F) producing carbon dioxide gas |
| Flash Point | Non-combustible (does not burn) |
| Ignition Temperature | Not applicable |
| Flammable Limits | No Data |
| LEL | |
| Flammability | Non combustible material. |
| Explosion Data | (LEL) Not applicable - (UEL) Not applicable |

6. ACCIDENTAL RELEASE MEASURES

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| Spills & Disposal | PRECAUTIONS Restrict access to area. Provide adequate protective equipment and ventilation. Remove chemicals that can react with the spilled material. CLEANUP Stop or reduce discharge if it can be done safely. Contain material. Do not allow sodium carbonate to enter into sewers or water systems. Shovel or sweep up dry sodium carbonate for recycling or disposal. Neutralize final traces and flush area with water. Contain spilled solutions by diking with absorbent material, such as sand or earth. Solutions can be recovered or carefully diluted with water and cautiously neutralized with acids such as acetic acid or hydrochloric acid. DISPOSAL Review federal, state and local regulations prior to disposal. It may be acceptable to neutralize, dilute and flush the material into a sewer. |
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7. HANDLING AND STORAGE

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| Storage | STORAGE CONDITIONS Store in tightly-closed containers in a cool, dry place separate from normal work area. Area should have a caustic-resistant floor and approved drainage. Store in suitable, labelled containers. Protect containers from damage or breakage. Store separately from acids and other incompatible materials. HANDLING Wear appropriate protective equipment to prevent skin and eye contact. Avoid generating mist or dust. When diluting or preparing solution, add to water in small amounts to avoid boiling and splattering. Label containers and keep closed when not in use. Empty containers may |
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Packaging contain residues which are hazardous.
As required by the Standard for the Uniform Scheduling of Drugs and Poisons
RISK AND SAFETY PHRASES
R36- Irritating to eyes.
S22- Do not breathe dust
S26- In case of contact with eyes, rinse immediately with plenty of water
and contact a Doctor or Poisons Information Centre

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards No exposure standards have been established for this material by the National Occupational Health And Safety Commission (NOHSC).

Personal Protective Equipment RESPIRATORY PROTECTION If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection. Have appropriate equipment available for use in emergencies such as spills or fire. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.
RESPIRATORY PROTECT. GUIDELINES No specific guidelines available. However, based on information available on similar chemicals, any dust or mist respirator should provide adequate respiratory protection from objectionably irritating concentrations. A self-contained breathing apparatus with a full face-piece operated in pressure-demand or other positive pressure mode should provide adequate respiratory protection from high concentrations or for escape from unknown concentrations. The respirator use limitations specified by the approving agency and the manufacturer must be observed.
EYE/FACE PROTECTION Dust- or splash-proof chemical safety goggles or face shield (eight-inch minimum), as required.
SKIN PROTECTION Impervious gloves, coveralls, aprons, overshoes, etc. as required.
RESIST. FOR PROTECTIVE CLOTHING No specific guidelines are available. Contact your safety equipment supplier for advice.
PERSONAL PROTECTION COMMENTS NOTE: Eye wash fountains and safety showers should be located near any area where sodium carbonate is used.

Eng. Controls Engineering control methods to reduce hazardous exposures are preferred. General methods include mechanical ventilation (dilution and local exhaust), process or personnel enclosure, control of process conditions and process modification (e.g. substitution of a less hazardous material). Administrative controls and personal protective equipment may also be required. Use a corrosion-resistant ventilation system separate from other exhaust ventilation systems. Exhaust directly to the outside. Use local exhaust ventilation, and process enclosure if necessary, to control airborne dust and mist. Supply sufficient replacement air to make up for air removed by exhaust systems.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Grayish white powder or lumps; hygroscopic (on exposure to air, will gradually absorb water, approximately 15%). ODOUR THRESHOLD Odourless
WARNING PROPERTY (ODOUR/IRRIT.) Poor - no odour.

Melting Point 851 deg C (1563.8 deg F)

Boiling Point Decomposes

Specific Gravity (H2O=1) (SG) 2.53 @ 20 deg C (water = 1)

pH Value 11.5 (1% aqueous solution)

Vapour Pressure Not volatile

Vapour Density (Air=1) Not applicable

Flash Point Non-combustible (does not burn)

Flammability Non combustibile material.

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| Ignition | Not applicable |
| Temperature | |
| Flammable Limits | No Data |
| LEL | |
| Explosion Properties | (LEL) Not applicable - (UEL) Not applicable |
| Molecular Weight | 105.99 (anhydrous); 124.01 (monohydrate) |
| Other Information | CONVERSION FACTOR Not applicable EVAPORATION RATE Not applicable CRITICAL TEMPERATURE Not applicable SOLUBILITY IN WATER 7.1 g in 100 ml @ 0 deg C; 22 g in 100 ml @ 22 deg C; SOLUBILITY IN OTHER LIQUIDS Soluble in glycerol; insoluble in alcohol, acetone, and ether (monohydrate). |

10. STABILITY AND REACTIVITY

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| Hazardous Reaction | STABILITY Stable INCOMPATIBILITY -MAT'LS TO AVOID WATER - reaction will generate heat PHOSPHORUS PENTOXIDE - violent reaction SULFURIC ACID - violent reaction FLUORINE - ignites and burns fiercely MAGNESIUM - may cause explosive reaction ALUMINUM - explosive reaction may result, if aluminum is red hot ACIDS - reaction generates heat HAZARDOUS DECOMPOSITION PRODUCTS None HAZARDOUS POLYMERIZATION Does not occur CORROSIVITY TO METALS No specific data. Probably corrodes aluminum. |
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11. TOXICOLOGICAL INFORMATION

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| Toxicology Information | ANIMAL TOXICITY DATA Lethal dose (rat, oral): 4000 mg/kg LC50 (rat, inhalation): 2100-2500 mg/m3; duration of exposure, 2 hr. (91% sodium carbonate aerosol); whole body exposure (3). LC50 (mouse, inhalation): 1200 mg/m3; duration of exposure, 2 hr. (95% sodium carbonate aerosol); whole body exposure (3). LC50 (guinea pig, inhalation): 800 mg/m3; duration of exposure, 2 hr. (95% sodium carbonate aerosol); whole body exposure (3). SKIN IRRITATION (rabbit): Moderate skin irritant (500 mg; 24 hr-exposure) EYE IRRITATION (rabbit): Severe eye irritant (100 mg; 24 hr-exposure) Male rats exposed to an aerosol of a 2% aqueous solution of sodium carbonate (particle size less than 5 microns in diameter) for 4 hours/day, 5 days/week for 3 1/2 months showed no pronounced effects. Exposure to extremely high concentrations (approx. 70 mg/m3) resulted in reduction in weight gain and cellular changes in the lungs (probably due to irritation). SKIN: 50% aqueous solution applied to intact and abraded skin of rabbits, guinea pigs and human volunteers. No effect on intact skin. Abraded guinea pig skin affected minimally. Abraded rabbit and human skin showed mild irritation. Pregnant mice, rats and rabbits orally intubated (intragastric administration) with low to very high doses of aqueous sodium carbonate solution. No positive findings reported. |
| Inhalation | Irritation of the nose, throat and lungs may occur due to the irritant nature of sodium carbonate. Symptoms may include coughing, sneezing and difficulty breathing. |
| Ingestion | No data supplied. Large amounts are corrosive, resulting in cramps, vomiting, diarrhoea and possibly circulatory collapse and death. |
| Skin | Dust or solid can cause mild to moderate irritation. Concentrated solutions can be corrosive, causing severe irritation and burning. |
| Eye | Moderate to severe irritation. Direct contact with solid or concentrated solution may result in permanent injury to eye unless promptly rinsed from eye with water. |
| Chronic Effects | HEALTH EFFECTS SKIN: Repeated or prolonged skin contact may result in dermatitis and/or ulceration of the skin. INHALATION: A study involving employees working with soda ash (sodium carbonate) found that the incidence of perforations and impending perforations of the nasal septum in four groups with large, moderate, slight and no exposure to soda ash dust was, respectively, 11.1%, 12.1%, 1% and 0%. This data suggests that repeated or prolonged inhalation of sodium carbonate dust may be related to perforations of the nasal septum. |

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TERATOGENICITY AND EMBRYOTOXICITY No human data. Animal studies report no positive findings.
TOXICOLOGICAL SYNERGISTIC MATERIALS Information not available
MUTAGENICITY No data
POTENTIAL FOR ACCUMULATION None

12. ECOLOGICAL INFORMATION

13. DISPOSAL CONSIDERATIONS

14. TRANSPORT INFORMATION

Not classified as a Dangerous Good, according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

15. REGULATORY INFORMATION

Risk Phrase R36 Irritating to eyes.
Safety Phrase S22 Do not breathe dust.
S25 Avoid contact with eyes.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Poisons Schedule S5
Packaging & Labelling As required by the Standard for the Uniform Scheduling of Drugs and Poisons
RISK AND SAFETY PHRASES
R36- Irritating to eyes.
S22- Do not breathe dust
S26- In case of contact with eyes, rinse immediately with plenty of water and contact a Doctor or Poisons Information Centre
Hazard Category Irritant

16. OTHER INFORMATION

Contact Person/Point Ace Chemical Company
119A Mooringe Avenue
Camden Park S.A. 5038
Tel: 08-8376 0844 Fax: 08-8295 8563
or Poisons Information Centre
Tel: 13 11 26
Disclaimer:
Ace Chemical Company has taken care in compiling this information. No liability is accepted wether direct or indirect from its application since the conditions of final use are outside Ace Chemical Companies control.
Empirical Formula & Structural Formula MOLECULAR FORMULA C-Na2-O3
STRUCTURAL FORMULA Na2-CO3
CHEMICAL FAMILY Carbonate
Technical Data OTHER CAS REGISTRY NUMBER(S) 1332-57-6 5968-11-6
References *** BIBLIOGRAPHY (1) Sodium hydroxide : Chemical hazard summary ; no. 9 (C85-4E). Hamilton, Ontario : CCOHS, 1985 (2) Clayton, G.D.; (2) Clayton, F.E., eds. Patty's industrial hygiene and toxicology. 3rd revised edition. Vol 28 : Toxicology. New York : Wiley-Interscience, 1981. p. 3059-3061 (3) Busch, R.H.; McDonald, K.E.; Briant, J.K.; Morris, J.E.; Graham, T.M. Pathologic effects in rodents exposed to sodium combustion products. Environmental Research. Vol. 31, no. 1 (1983). p. 138-47 (4) Archibald, R.McL. Perforation of the nasal septum due to soda ash. British Journal of Industrial Medicine. Vol. 11 (1954). p. 31-37
Poisons Schedule S5
Hazard Category Irritant
Molecular Weight 105.99 (anhydrous); 124.01 (monohydrate)
...End Of MSDS...

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