

Material Safety Data Sheet

Sodium carbonate decahydrate MSDS

1. PRODUCT AND COMPANY IDENTIFICATION

1.1. Identification of the substance or preparation

Product name : SODIUM CARBONATE DECAHYDRATE

Molecular formula : $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$

Molecular Weight : 286,11 g/mol

1.2. Use of the Substance/Preparation

Recommended use : - Water treatment

1.3. Company/Undertaking Identification

Contact Information:

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2. HAZARDS IDENTIFICATION

2.1. Emergency Overview:

NFPA : H= 2 F= 0 I= 0 S= None

HMIS : H= 2 F= 0 R= 0 PPE = Supplied by User; dependent on local conditions

General Information

Appearance : granules

Colour : off-white

Odour : slight

2.2. Potential Health Effects:

Inhalation

- Product dust may be irritating to eyes, skin and respiratory system.
- 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 diarrhoea.

Other toxicity effects

- See section 11: Toxicological Information

2.3. Environmental Effects:

- See section 12: Ecological Information

3. COMPOSITION/INFORMATION ON INGREDIENTS

sodium carbonate decahydrate

CAS-No. : 6132-02-1

Concentration : > 99,5 %

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

- 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.

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 shall not be used for safety reasons

- None.

5.3. Special exposure hazards in a fire

- Not combustible.

5.4. Hazardous decomposition products

- none

5.5. 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.
- Prevent any mixture with an acid into the sewer/drain (gas formations).

6.3. Methods for cleaning up

- Sweep up and shovel into suitable containers for disposal.
- Avoid dust formation.
- Keep in properly labelled 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

- Paper + PE.
- Woven plastic material + PE coating.
- Woven plastic material + PE.

7.4. Other information

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Exposure Limit Values

Sodium carbonate

TWA = 10 mg/m³

8.2. Engineering controls

- 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.
- Use NIOSH approved respiratory protection.
- In the case of dust or aerosol formation use respirator with an approved filter.

8.3.2. Hand protection

- Wear suitable gloves.
- Suitable material: PVC, Neoprene, Natural Rubber

8.3.3. Eye protection

- Chemical resistant goggles must be worn.

- Dust proof goggles obligatory.

8.3.4. Skin and body protection

- long sleeved clothing

- Apron/boots of PVC, neoprene in case of dusts.

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

Colour : off-white

Odour : slight

9.2. Important health safety and environmental information

pH : 11,5

Concentration: 10 g/l

Boiling point/boiling range : *Remarks*: not applicable

Flammability : *Remarks*: not applicable

Explosive properties : *Explosion danger*:

Remarks: not applicable

Relative density / Density : 1,44

Bulk density : 968 kg/m³

9.3. Other data

Melting point/range : 32 - 34 °C (90 - 93 °F)

Decomposition

temperature

: 400 °C (752 °F)

10. STABILITY AND REACTIVITY

10.1. Stability

- Stable under recommended storage conditions.

- Contact with acids liberates CO₂, sometimes violently.

10.2. Conditions to avoid

- none

- Keep at temperature not exceeding: 400 °C (752 °F)

10.3. Materials to avoid

- Acids, Finely divided aluminium

10.4. Hazardous decomposition products

- none

11. TOXICOLOGICAL INFORMATION

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

Chronic toxicity

- Inhalation, rat, Target Organs: Lungs, NOEL: 0,07 mg/l, observed effect

Teratogenicity

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

Remarks

- The appraisal is based on the "powder" form.

- 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

- Water, Soil/sediments

Remarks: Solubility

- Water, Soil/sediments

Remarks: Mobility

12.3. Persistence and degradability

Abiotic degradation

- Water, hydrolyses

Result: acid/base equilibrium as a function of pH

Degradation products: carbonic acid/bicarbonate/carbonate

Biodegradation

- Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

12.4. Bioaccumulative potential

- Result: 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 from residues / unused products

- Contact waste disposal services.
- If recycling is not practicable, dispose of in compliance with local regulations.
- or
- Dilute with plenty of water.
- Neutralise with acid.
- In accordance with local and national regulations.

13.2. Packaging treatment

- To avoid treatments, as far as possible, use dedicated containers.
- or
- Clean container with water.
- Dispose of rinse water in accordance with local and national regulations.
- The empty and clean containers are to be reused in conformity with regulations.
- or
- Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities.

13.3. RCRA Hazardous Waste

- Listed RCRA Hazardous Waste (40 CFR 302) - No
- Unlisted RCRA Hazardous Waste (40 CFR 302) - No

14. TRANSPORT INFORMATION

- Sea (IMO/IMDG)
- not regulated
- Air (ICAO/IATA)
- not regulated
- U.S. Dept of Transportation
- not regulated
- It is recommended that ERG Guide number 111 be used for all non-regulated material.
- Canadian Transportation of Dangerous Goods
- not regulated

15. REGULATORY INFORMATION

15.1. Inventory Information

Australian Inventory of Chemical Substances (AICS)

: - In compliance with inventory.

Canadian Domestic Substances List (DSL)

: - In compliance with inventory.

Korean Existing Chemicals List (ECL)

: - In compliance with inventory.

EU list of existing chemical substances (EINECS)

: - In compliance with inventory.

Japanese Existing and New

Chemical Substances (MITI List)

(ENCS)

: - In compliance with inventory.

Inventory of Existing Chemical

Substances (China) (IECS)

: - In compliance with inventory.

Philippine Inventory of Chemicals

and Chemical Substances

(PICCS)

: - In compliance with inventory.

Toxic Substance Control Act list

(TSCA)

: - In compliance with inventory.

New Zealand Inventory (in

preparation) (NZ)

: - In compliance with inventory.

15.2. Other regulations

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)

- not regulated.

SARA Hazard Designation (SARA 311/312)

- Acute Health Hazard: Yes.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic

Chemicals (40 CFR 372.65) - Supplier Notification Required

- no.

US. EPA CERCLA Hazardous Substances (40 CFR 302)

- not regulated.

US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

- not regulated.

US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

- not regulated.

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

- not regulated.

15.3. Classification and labelling

Canada. Canadian Environmental Protection Act (CEPA). WHMIS Ingredient Disclosure List (Can. Gaz., Part

II, Vol. 122, No. 2)

- D2B Toxic Material Causing Other Toxic Effects

Remarks: 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.

EC Label

- Classification and labelling according to Directive 67/548/EEC.

Symbol(s) Xi Irritant

R-phrases(s) R36 Irritating to eyes.

S-phrases(s) 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

Ratings :

NFPA (National Fire Protection Association)

Health = 2 Flammability = 0 Instability = 0 Special =None

HMIS (Hazardous Material Information System)

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

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