

School Material Safety Data Sheet

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SODIUM CHLORIDE

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SECTION 1. INTRODUCTORY INFORMATION

MATERIAL NAME AND FORMULA: SODIUM CHLORIDE; NaCl

SYNONYMS: Common Salt, Halite,* Rock Salt, Sea Salt, Table Salt, Salt, Saline

*Halite is the name of the naturally occurring mineral form.

CAS NUMBER: 7647-14-5

INGREDIENTS: Sodium chloride, >98%

DOT CLASSIFICATION: Not Found

MANUFACTURERS: Always request Material Safety Data Sheets from your chemical supplier. These should indicate the manufacturer of the substance and include an emergency phone number to call. The Manufacturers section of this book contains a listing of some of the larger manufacturers and available emergency numbers.



DESCRIPTION: Available as colorless transparent or white cubic crystals, granules, or powder.

PRELIMINARY INFORMATION: Sodium chloride presents few hazards if used with care and reasonable precautions are taken. It is nonflammable. The material may be an irritant to body tissue in large amounts or high concentrations. Salt in solution may be corrosive to cement or various metals. It may be used in a variety of school areas, including science labs and the custodial department.

SECTION 2. USE AND STORAGE INFORMATION

-- PRELIMINARY PLANNING CONSIDERATIONS --

- Safety glasses or goggles and protective clothing (rubberized apron, etc.) should be worn for all experiments.
- Be sure eyewash station and safety shower are in good working order and readily available in a laboratory environment.
- Always provide for safe disposal of all chemical waste generated in the lab. Check applicable regulations prior to use.

-- USAGE PRECAUTIONS AND PROCEDURES --

- READ THE LABEL and follow all precautions.
- Maintain good housekeeping practices to avoid unintentional mixing with incompatible materials.
- For safety, contact lenses should not be worn in the laboratory; soft lenses may absorb irritants and all lenses may concentrate them. Particles can also adhere to contact lenses and cause corneal damage.
- After working with this material, always wash hands and face.
- Avoid creating airborne dust conditions.
- Prevent prolonged contact with skin or other organs. Avoid eye contact with this substance.
- Do not taste or eat NaCl from chemical stocks.
- Avoid heating NaCl to the boiling point in moist environments. Sodium chloride will sublime at 2579°F (1415°C).
- Solutions of NaCl are corrosive to many construction metals; consider this prior to exposure of such materials to sodium chloride/water solutions.

-- ADDITIONAL INFORMATION --

- NaCl does not polymerize. This material is stable at room temperature under normal conditions.
- Sodium chloride will react with most nonnoble metals (such as iron and steel), building materials (such as cement), and bromine.
- Sodium chloride maintains a neutral pH in solution and is slightly soluble in alcohol or liquid ammonia.

-- PREFERRED STORAGE LOCATION AND METHODS --

- Storage area should be cool and well ventilated. Containers should be tightly closed. Caking may occur due to absorption of moisture by the calcium and magnesium chlorides usually present in the commercial product.
- All chemical containers should be protected from physical damage and kept out of direct sunlight.
- Smoking should not be permitted in areas where chemicals are stored.
- Store on sturdy shelving.
- Do not store chemicals alphabetically by family name; store by chemical family instead, to keep compatibles together.
- Storage containers should be resistant to salt corrosion.

SECTION 3. SPILLS AND DISPOSAL PROCEDURES

IF MATERIAL IS SPILLED:

- Absorb small solution spills on paper toweling.
- Use corrosion-resistant tools for cleanup.
- Carefully scoop up spilled solid material and collect in a suitable container (corrosionproof and with secure lid) for disposal or reclamation.
- Avoid creating airborne dust conditions.
- Wash away residues with water.

DISPOSAL OF SMALL QUANTITIES:

- Dispose of unsalvageable waste in an approved landfill; follow all applicable regulations.
- Flush small quantities to drain with large excess of water, regulations permitting.

DISPOSAL OF LARGER AMOUNTS: Contact a licensed disposal company.

FOLLOW ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS FOR ALL WASTE DISPOSAL

SECTION 4: HEALTH HAZARDS

Sodium chloride has not been identified as a known or suspected carcinogen by the NTP, IARC, or OSHA.
No TLV established.

- Human, Oral, TDLo: 12357 mg/kg
- Rat, Oral, LD₅₀: 3000 mg/kg
- Rabbit, Skin: 500 mg/24 hr., mild irritation.
- Rabbit, Eye: 100 mg/24 hr., severe irritation.

- Sodium chloride is not normally considered hazardous; however, exposure to high concentrations of this material as a solid, particulate, or water solution may cause irritation of the upper respiratory tract, eyes, or skin.
- Ingestion of a large dose may cause nausea and vomiting.
- Eye contact can cause redness, pain, and irritation of the eyes.
- Acute skin exposure may cause irritation and skin dehydration.
- Inhalation of high concentrations of salt crystals or dust may produce upper respiratory irritation and coughing.
- Chronic exposure to moderate levels of sodium chloride may cause elevation of blood pressure in sodium-sensitive individuals, who make up approximately 5 to 10% of the population.

SECTION 5: FIRST AID PROCEDURES**Eye contact:**

- Wash eyes promptly with plenty of running water for at least 15 minutes, including under the eyelids.
- Get prompt medical attention.*

Skin contact:

- Remove grossly contaminated clothing promptly.
- Wash affected area with large amounts of water. Get medical attention if irritation occurs.*

Inhalation:

- Remove victim to fresh air. Get medical help for coughing or breathing difficulty.*

Ingestion:

- Get prompt medical attention.*
- Give several glasses of water to drink. Induce vomiting -- but ONLY if victim is conscious and alert. Never give anything by mouth to a person who is unconscious or convulsing.

COMMENT: Normal removal from exposure and washing exposed areas with water will reduce adverse symptoms.

* Get medical help (in school, paramedic, or community) for further treatment, observation, and support after first aid.

SECTION 6: FIRE PROCEDURES AND DATA

- Sodium chloride presents a negligible fire or explosion hazard as a dust when it is exposed to heat or flame.
- Extinguishing media: Use media appropriate to surrounding fire conditions.
- For major fires, or if large quantities of this material are involved, fire fighters should wear appropriate protective clothing and use respiratory protection. Self-contained breathing apparatus is recommended.
- A water spray may be used to cool fire-exposed containers and disperse vapors.

FLASH POINT AND METHOD(S) ... Not Flammable

AUTOIGNITION TEMPERATURE ... Not Found

FLAMMABILITY LIMITS IN AIR (vol. %) : Not Found

SECTION 7: PHYSICAL DATA

BOILING POINT (@ 1 atm) ... 2575°F (1413°C)

VAPOR PRESSURE (@ 865°C, mm Hg) ... 1

SOLUBILITY IN WATER (@ 20°C) ... 37%

pH OF AQUEOUS SOLUTION ... 6.7 to 7.3 (Neutral)

SPECIFIC GRAVITY (H₂O = 1) ... 2.2

MELTING POINT ... 1474°F (801°C)

FORMULA WEIGHT ... 58.45

DATA SOURCES: Genium's Industrial MSDS #180 (3/86) and references 2-12, 14, 59, 61, 62, 82, 84, 506, 509-11.
(see glossary for titles)

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Approvals:

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Indust. Hygiene/Safety

Medical Review

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