

***SODIUM CHLORIDE**

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MATERIAL SAFETY DATA SHEET

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SUBSTANCE IDENTIFICATION

CAS-NUMBER 7647-14-5

SUBSTANCE: ***SODIUM CHLORIDE**

TRADE NAMES/SYNONYMS:
COMMON SALT; HALITE; ROCK SALT; SODIUM MONOCHLORIDE; SALT; SEA SALT;
TABLE SALT; BCD; SODIUM CHLORIDE (NaCl); S-271; S-640; S-671; CLNA;

CHEMICAL FAMILY:
INORGANIC SALT

MOLECULAR FORMULA: NA-CL

MOLECULAR WEIGHT: 58.44

CERCLA RATINGS (SCALE 0-3): HEALTH=2 FIRE=0 REACTIVITY=0 PERSISTENCE=0
NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=0 REACTIVITY=0

COMPONENTS AND CONTAMINANTS

COMPONENT: SODIUM CHLORIDE PERCENT: 100

OTHER CONTAMINANTS: NONE

EXPOSURE LIMITS:
NO OCCUPATIONAL EXPOSURE LIMITS ESTABLISHED BY OSHA, ACGIH, OR NIOSH.

PHYSICAL DATA

DESCRIPTION: COLORLESS, TRANSPARENT CRYSTALS OR WHITE CRYSTALLINE POWDER

BOILING POINT: 2575 F (1413 C) MELTING POINT: 1474 F (801 C)

SPECIFIC GRAVITY: 2.165 VAPOR PRESSURE: 1 MM @ 865 C

PH: NEUTRAL IN SOLUTION SOLUBILITY IN WATER: 35.7%

SOLVENT SOLUBILITY: SOLUBLE IN GLYCEROL; SLIGHTLY SOLUBLE IN ALCOHOL,
LIQUID AMMONIA; INSOLUBLE IN CONCENTRATED HYDROCHLORIC ACID.

FIRE AND EXPLOSION DATA

FIRE AND EXPLOSION HAZARD:
NEGLECTIBLE FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.

FIREFIGHTING MEDIA:
DRY CHEMICAL, CARBON DIOXIDE, HALON, WATER SPRAY OR STANDARD FOAM
(1987 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.4).

FOR LARGER FIRES, USE WATER SPRAY, FOG OR STANDARD FOAM
(1987 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.4).

FIREFIGHTING:
NO ACUTE HAZARD. MOVE CONTAINER FROM FIRE AREA IF POSSIBLE. AVOID BREATHING
VAPORS OR DUSTS; KEEP UPWIND.

TOXICITY

SODIUM CHLORIDE:
IRRITATION DATA: 50 MG/24 HOURS SKIN-RABBIT MILD; 500 MG/24 HOURS SKIN-RABBIT
MILD; 100 MG EYE-RABBIT MILD; 100 MG/24 HOURS EYE-RABBIT MODERATE; 10 MG
EYE-RABBIT MODERATE.
TOXICITY DATA: 12,357 MG/KG/23 DAYS CONTINUOUS ORAL-HUMAN TDLO; 3000 MG/KG
ORAL-RAT LD50; 4000 MG/KG ORAL-MOUSE LD50; 8 GM/KG ORAL-RABBIT LDLO;
3500 MG/KG SUBCUTANEOUS-RAT LDLO; 3 GM/KG SUBCUTANEOUS-MOUSE LD50;
2160 MG/KG SUBCUTANEOUS-GUINEA PIG LDLO; 300 MG/KG PARENTERAL-GUINEA PIG
LDLO; 645 MG/KG INTRAVENOUS-MOUSE LD50; 2 GM/KG INTRAVENOUS-DOG LDLO;
1100 MG/KG INTRAVENOUS-RABBIT LDLO; 300 MG/KG INTRAVENOUS-GUINEA PIG LDLO;
6614 MG/KG INTRAPERITONEAL-MOUSE LD50; 364 MG/KG INTRAPERITONEAL-DOG LDLO;
MUTAGENIC DATA (RTECS); REPRODUCTIVE EFFECTS DATA (RTECS).

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CARCINOGEN STATUS: NONE.
LOCAL EFFECTS: IRRITANT- INHALATION, EYE.
ACUTE TOXICITY LEVEL: MODERATELY TOXIC BY INGESTION.
TARGET EFFECTS: NO DATA AVAILABLE.

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HEALTH EFFECTS AND FIRST AID

INHALATION:
SODIUM CHLORIDE:
IRRITANT.

ACUTE EXPOSURE- INHALATION OF DUST AT CONCENTRATIONS AROUND 10 MG/M3 HAVE CAUSED MILD NASAL IRRITATION.
CHRONIC EXPOSURE- REPEATED AND PROLONGED EXPOSURE MAY CAUSE MILD MUCOUS MEMBRANE IRRITATION.

FIRST AID- REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. KEEP PERSON WARM AND AT REST. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT:
SODIUM CHLORIDE:

ACUTE EXPOSURE- MAY CAUSE MILD IRRITATION UNLESS THE CONTACT IS INTENSIVE WHICH MAY RESULT IN DERMATITIS.
CHRONIC EXPOSURE- PRIMARY IRRITANT DERMATITIS MAY RESULT FROM SODIUM CHLORIDE BEING TRAPPED BETWEEN THE SKIN AND JEWELRY SINCE SOME METAL ALLOYS MAY BE CORRODED AND DISCOLORED BY SUCH CONTACT.

FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

EYE CONTACT:
SODIUM CHLORIDE:
IRRITANT.

ACUTE EXPOSURE- SOLID PARTICLES OR HYPERTONIC SOLUTIONS MAY CAUSE REDNESS, PAIN, IRRITATION AND A STINGING SENSATION ON CONTACT. SOLUTIONS MORE DILUTE THAN 0.9% CAUSE INCREASED PERMEABILITY OF THE CORNEAL EPITHELIUM. ON RABBIT EYES, CONTINUOUS IRRIGATION FOR THREE HOURS WITH SODIUM CHLORIDE SOLUTIONS FROM 0.3-0.6M AND PH OF 6.0-8.0 HAS PRODUCED NO MORPHOLOGIC CHANGES IN THE CORNEAS.
CHRONIC EXPOSURE- REPEATED AND PROLONGED CONTACT WITH THE SOLID PARTICLES MAY CAUSE CONJUNCTIVITIS.

FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE. OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION:
SODIUM CHLORIDE:

ACUTE EXPOSURE- INGESTION OF LARGE DOSES, USUALLY IN SOLUTION FORM, MAY CAUSE A VIOLENT INFLAMMATORY REACTION IN THE GASTROINTESTINAL TRACT. SYMPTOMS MAY INCLUDE NAUSEA, VOMITING, DIARRHEA, THIRST, FEVER, HYPERTONICITY, MUSCULAR TWITCHING, RIGIDITY, CONVULSIONS, PROSTRATION, AND RENAL DAMAGE. DEHYDRATION AND CONGESTION OCCUR IN MOST INTERNAL ORGANS, PARTICULARLY THE MENINGES AND BRAIN. WATER DEFICIT RESULTING IN BRAIN CELL SHRINKAGE MAY LEAD TO CENTRAL NERVOUS SYSTEM DISTURBANCES SUCH AS CONFUSION AND COMA. DEATH MAY OCCUR FROM RESPIRATORY FAILURE SECONDARY TO AN ACUTE ENCEPHALOPATHY. MASS ACCIDENTAL POISONING HAS OCCURRED IN INFANTS CAUSING RESPIRATORY DISTRESS CHARACTERIZED BY TACHYPNEA AND FLARING NOSTRILS AS WELL AS MANY OF THE SYMPTOMS LISTED ABOVE.
CHRONIC EXPOSURE- DIETS HIGH IN SODIUM CHLORIDE MAY CAUSE ELEVATED BLOOD PRESSURE, ESPECIALLY IN PREDISPOSED INDIVIDUALS. REPRODUCTIVE EFFECTS HAVE BEEN REPORTED IN ANIMALS.

FIRST AID- TREAT SYMPTOMATICALLY AND SUPPORTIVELY. GET MEDICAL ATTENTION IMMEDIATELY. IF VOMITING OCCURS, KEEP HEAD LOWER THAN HIPS TO PREVENT ASPIRATION.

ANTIDOTE:
NO SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY AND SUPPORTIVELY.

REACTIVITY

REACTIVITY:
STABLE UNDER NORMAL TEMPERATURES AND PRESSURES.

INCOMPATIBILITIES:
SODIUM CHLORIDE:
BROMINE TRIFLUORIDE: ATTACKED.
BUILDING MATERIALS: ATTACKED.
LITHIUM: VIOLENT REACTION.
METALS: ATTACKED.

DECOMPOSITION:
THERMAL DECOMPOSITION MAY RELEASE ACRID SMOKE AND IRRITATING FUMES.

POLYMERIZATION:
HAZARDOUS POLYMERIZATION HAS NOT BEEN REPORTED TO OCCUR UNDER NORMAL TEMPERATURES AND PRESSURES.

STORAGE AND DISPOSAL

OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHEN STORING OR DISPOSING

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OF THIS SUBSTANCE. FOR ASSISTANCE, CONTACT THE DISTRICT DIRECTOR OF THE
ENVIRONMENTAL PROTECTION AGENCY.

****STORAGE****

STORE IN WELL-CLOSED CONTAINERS (FOOD CHEMICALS CODEX).
STORE AWAY FROM INCOMPATIBLE SUBSTANCES.

CONDITIONS TO AVOID

AVOID HEATING TO DECOMPOSITION AND CONTACT WITH OR STORAGE WITH INCOMPATIBLE
SUBSTANCES.

SPILL AND LEAK PROCEDURES

OCCUPATIONAL SPILL:
VENTILATE CONFINED SPACES. SWEEP UP, AVOIDING DISPERSION OF DUST, AND COLLECT
IN SUITABLE CONTAINER.

PROTECTIVE EQUIPMENT

VENTILATION:
PROVIDE LOCAL EXHAUST OR GENERAL DILUTION VENTILATION SYSTEM.

RESPIRATOR:
THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON THE CONTAMINATION LEVELS
FOUND IN THE WORK PLACE. MUST NOT EXCEED THE WORKING LIMITS OF THE
RESPIRATOR AND BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR
OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH
ADMINISTRATION.
THE FOLLOWING RESPIRATORS ARE RECOMMENDED BASED ON THE DATA FOUND IN THE
PHYSICAL DATA, HEALTH EFFECTS AND TOXICITY SECTIONS. THEY ARE RANKED IN
ORDER FROM MINIMUM TO MAXIMUM RESPIRATORY PROTECTION:

DUST AND MIST RESPIRATOR WITH A FULL FACEPIECE.

AIR-PURIFYING FULL FACEPIECE RESPIRATOR WITH A HIGH-EFFICIENCY PARTICULATE
FILTER.

POWERED AIR-PURIFYING RESPIRATOR WITH A TIGHT-FITTING FACEPIECE AND
HIGH-EFFICIENCY PARTICULATE FILTER.

TYPE "C" SUPPLIED-AIR RESPIRATOR WITH A FULL FACEPIECE OPERATED IN
PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE OR WITH A FULL FACEPIECE,
HELMET OR HOOD OPERATED IN CONTINUOUS-FLOW MODE.

SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN
PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.

FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:

SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN PRESSURE
DEMAND OR OTHER POSITIVE PRESSURE MODE.

SUPPLIED-AIR RESPIRATOR WITH FULL FACEPIECE AND OPERATED IN PRESSURE-DEMAND
OR OTHER POSITIVE PRESSURE MODE IN COMBINATION WITH AN AUXILIARY
SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER
POSITIVE PRESSURE MODE.

CLOTHING:
PROTECTIVE CLOTHING NOT REQUIRED. AVOID REPEATED OR PROLONGED CONTACT WITH
THIS SUBSTANCE.

GLOVES:
PROTECTIVE GLOVES ARE NOT REQUIRED BUT RECOMMENDED.

EYE PROTECTION:
EMPLOYEE MUST WEAR SPLASH-PROOF OR DUST-RESISTANT SAFETY GOGGLES TO PREVENT
EYE CONTACT WITH THIS SUBSTANCE. CONTACT LENSES SHOULD NOT BE WORN.

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