

**TETRA Technologies, Inc.****Material Safety Data Sheet**

This MSDS Sheet complies with the style format specified by ANSI Z400.1-1993

SECTION 1: CHEMICAL PRODUCT - COMPANY IDENTIFICATION**TETRA Technologies, Incorporated**

25025 I-45 North
The Woodlands, Texas 77380
(281) 367-1983
(800) 327-7817

(800) 424-9300 - CHEMTREC (24 Hour Emergency Response)

PRODUCT: TETRA SS-Medium

SYNONYMS: Salt, Halite, Rock Salt, Sodium Monochloride, Sodium Chloride, NaCl

CHEMICAL FAMILY: Inorganic Salt

MSDS CREATION DATE: 17 MAR 98

MSDS REVISION DATE: 14 JUN 99

SECTION 2: COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENTS: Sodium Chloride

CAS NUMBER: 7647-14-5

RTECS NUMBER: VZ4725000

EC NUMBER (EINECS): 231-598-3

PERCENTAGE: Sodium Chloride 100%

PROBABLE CONTAMINANT: None

SECTION 3: HAZARDS IDENTIFICATION

NFPA RATINGS: (SCALE 0-4): HEALTH=2, FIRE=0, REACTIVITY=0

EMERGENCY OVERVIEW: White to off-white crystalline powder. Odorless. May cause skin and eye irritation. Do not get in eyes, on skin or on clothing. Avoid repeated or prolonged contact with, skin and clothing. Wash thoroughly after handling.

POTENTIAL HEALTH EFFECTS:**INHALATION:**

Short Term Effects: May cause irritation to the nasal passages and produce mild sore throat.

Long Term Effects: No information is available.

SKIN CONTACT:

Short Term Effects: May cause irritation.

Long Term Effects: No information is available.

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EYE CONTACT:

Short Term Effects: May cause irritation. Additional effects may include tearing.

Long Term Effects: May cause redness and swelling of the eyes.

INGESTION:

Short Term Effects: May cause nausea, vomiting, diarrhea, lung congestion, effects on the brain, convulsions and coma.

Long Term Effects: No information available on significant adverse effects.

CARCINOGEN STATUS:

OSHA: No **NTP:** No **IARC:** No

SECTION 4: FIRST AID MEASURES

INHALATION: Remove from exposure immediately. If breathing has stopped, perform artificial resuscitation. Keep person warm and at rest. Treat symptomatically and supportively. Get medical attention immediately.

SKIN CONTACT: 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 (at least 15-20 minutes). Seek medical attention if irritation develops.

EYE CONTACT: Flush eyes immediately with large amounts of water, occasionally lifting upper and lower lids until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention, if needed.

INGESTION: Treat symptomatically and supportively. Get medical attention immediately. If vomiting occurs, keep head lower than hips to prevent aspiration.

SECTION 5: FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARD: Product is non-combustible.

EXTINGUISHING MEDIA: Use extinguishing agents appropriate for the surrounding fire.

FIREFIGHTING: Move product from fire area if you can without risk. Extinguish fire using agent suitable for type of surrounding fire and/or chemicals. Do not use water directly on material. Avoid breathing vapors or dust; keep upwind.

HAZARDOUS COMBUSTION PRODUCTS: Thermal decomposition may release chlorine gas.

SECTION 6: ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL SPILL: Stop leak if you can without risk. For spills, sweep or scoop up and collect in containers for disposal. Move containers from spill area. Deny entry to nonessential personnel and isolate hazard and avoid dust dispersal.

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SECTION 7: HANDLING AND STORAGE

Observe all federal, state and local regulations when storing this product. Store away from incompatible materials.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS: No occupational exposure limits was been established.

VENTILATION: Provide local exhaust ventilation system.

EYE PROTECTION: Wear safety glasses with splash shields or safety goggles/shield to prevent contact with this product.

EMERGENCY WASH FACILITIES: Where there is any possibility that an employee's eyes and/or skin may be exposed to this product, the employer should provide an eye wash fountain and quick drench safety shower within the immediate work area for emergency use.

CLOTHING: Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this product.

GLOVES: Employee must wear appropriate protective gloves to prevent contact with this product.

RESPIRATOR: If a respirator is utilized, the selection must be based on contamination levels found in the work place and specific to the job assignment. Do not exceed the working limits of the respirator. **FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH**

CONDITIONS: Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator that has a full facepiece and is operated in a 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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

DESCRIPTION: White to off-white fine crystalline powder. Odorless.

MOLECULAR FORMULA: NaCl

MOLECULAR WEIGHT: 58.44 (for pure NaCl)

MELTING POINT: 1474°F (801°C)

BOILING POINT: 2575°F (1413°C)

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SPECIFIC GRAVITY: 2.165 @ 25°C (77°F)
pH: 5.5-8.5 (5% solution)
WATER SOLUBILITY: 35.7% @ 32°F (0°C)
SOLVENT SOLUBILITY:
 Soluble: glycerol
 Slightly Soluble: alcohol, liquid ammonia
 Insoluble: hydrochloric acid

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY: Stable under normal temperatures and pressures.
CONDITIONS TO AVOID: None reported.
INCOMPATIBILITIES: Halogens, combustible materials, metals.
 Bromine Trifluoride: Possible violent reaction.
 Dichloromaleic Anhydride + Urea: Explosive reaction above 244°F (118°C).
 Lithium (burning): Releases violently flammable sodium.
 Nitrogen Compounds: May form explosive compounds under electrolysis conditions.
 Building Materials: May be attacked.
 Metals: May be attacked.
HAZARDOUS DECOMPOSITION: Thermal decomposition may release toxic and/or hazardous gases.
POLYMERIZATION: Hazardous polymerization has not been reported to occur under normal temperatures and pressures.

SECTION 11: TOXICOLOGICAL INFORMATION**TOXICITY DATA (SODIUM CHLORIDE):****Irritation Data:**

500 mg/24 hour(s) skin-rabbit mild
100 mg/24 hour(s) eyes-rabbit moderate
12357 mg/kg/23 day(s) continuous oral-human TD_{Lo}

LOCAL EFFECTS: Irritant: eye

ACUTE TOXICITY LEVEL: Moderately Toxic: ingestion

INHALATION:

Acute Exposure: The dust may cause respiratory tract irritation. Other symptoms may include upper respiratory tract irritation accompanied by coughing and a dryness of the mucous membranes.

Chronic Exposure: No data available.

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SKIN CONTACT:

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.

EYE CONTACT:

Acute Exposure: Direct contact with solid particles or hypertonic solutions may cause irritation with redness and pain and a stinging sensation on contact. Tearing and eye discharge may also occur. Solutions more dilute than 0.9% sodium chloride cause increased permeability of the corneal epithelium.

Chronic Exposure: Repeated or prolonged exposure may result in conjunctivitis.

INGESTION:

Acute Exposure: Ingestion of very large doses of hypertonic solutions may cause dryness of mucous membranes and a violent inflammatory reaction in the gastrointestinal tract; ulceration may occur. Symptoms may include nausea, vomiting, diarrhea, anorexia, thirst, fever, muscular twitching, rigidity, convulsions, hypernea and prostration. Dehydration and congestion may occur in most internal organs, particularly the meninges and brain. Central nervous system disturbances such as confusion and coma may result. Generalized and pulmonary edema are possible. Death may occur from respiratory failure secondary to an acute encephalopathy

Chronic Exposure: Diets high in sodium chloride may cause elevated blood pressure, especially in predisposed individuals. Reproductive effects have been reported in animals.

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT RATING (0-4): No data available.

ECOTOXICITY:

Fish Toxicity: 40,000 µg/L 96 hour(s) LC₅₀ (Mortality) Goldfish (*Carassius auratus*)

Invertebrate Toxicity: 402,600 µg/L 48 hour(s) EC₅₀ (Immobilization) Water fleas (*Daphnia magna*)

DEGRADABILITY: No data available.

LOG BIOCONCENTRATION FACTOR (BCF): No data available.

LOG OCTANOL/WATER PARTITION COEFFICIENT: No data available.

SECTION 13: DISPOSAL INFORMATION

Observe all federal, state and local regulations when disposing of this substance.



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SECTION 14: TRANSPORT INFORMATION

DOT Shipping Name-ID Number: Non-regulated.

Land Transport (ADR/RID): No classification assigned.

Air Transport (IATA/ICAO): No classification assigned.

Maritime Transport (IMDG): No classification assigned.

SECTION 15: REGULATORY INFORMATION

	TSCA STATUS:	Yes
40 CFR 302.4	CERCLA SECTION 103:	No
40 CFR 355.30	SARA SECTION 302:	No
40 CFR 355.40	SARA SECTION 304:	No
40 CFR 372.65	SARA SECTION 313:	No
40 CFR 370.21	SARA HAZARD CATEGORIES, SARA SECTIONS 311.312	
	ACUTE HAZARD:	Yes
	CHRONIC HAZARD:	No
	FIRE HAZARD:	No
	REACTIVITY HAZARD:	No
	SUDDEN RELEASE HAZARD:	No
29 CFR 1910.119	OSHA Process Safety	No



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SECTION 16: OTHER INFORMATION

Individuals handling this product should be informed of the recommended safety precautions and should have access to this information.

This information relates to the specific product designated and may not be valid for such product used in combination with any other materials or in any other processes. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy themselves as to the suitability and completeness of such information for their own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.

TETRA Technologies, Incorporated reserves the right to refuse shipment of this product to any consumer who fails to demonstrate the ability to consistently handle and use it safely and in compliance with all applicable laws, rules and regulations. Such demonstration may require on-site inspection of any or all storage, processing, packaging and other handling systems that come in contact with it.

Customers are responsible for compliance with local, state and federal regulations that may be pertinent in the storage, application and disposal of this product.