



**TETRA Technologies, Inc.**

**Material Safety Data Sheet**

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

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## **SECTION 1: CHEMICAL PRODUCT - COMPANY IDENTIFICATION**

**TETRA Technologies, Inc.**

25025 I-45 North

The Woodlands, Texas 77380

(281) 367-1983

(800) 327-7817

**(800) 424-9300 - CHEMTREC (24 Hours Emergency Response)**

**SUBSTANCE:** Sodium Hypochlorite

**TRADE NAME/SYNONYM:** TETRA Vis Breaker

**CHEMICAL FAMILY:** Oxidizing agent

**MSDS CREATION DATE:** 10 JUL 96

**MSDS REVISION DATE:** 19 NOV 96

## **SECTION 2: COMPOSITION, INFORMATION ON INGREDIENTS**

**COMPONENTS:** Sodium Hypochlorite, Water

**CAS NUMBER:** 7681-52-9 (Sodium Hypochlorite), 7732-18-5 (Water)

**RTECS NUMBER:** NH3486300 (Sodium Hypochlorite)

**PERCENTAGE:** Sodium Hypochlorite (7-15%), Water (85-93%)

**PROBABLE CONTAMINANTS:** Not Known

## **SECTION 3: HAZARDS IDENTIFICATION**

**NFPA RATINGS:** (SCALE 0-4): HEALTH=3, FIRE=0, REACTIVITY=2

**EMERGENCY OVERVIEW:** Greenish to yellow liquid with an odor of bleach. Causes respiratory tract, skin, and eye burns to mucous membranes. Do not breathe vapor or mist. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Wash thoroughly after handling. Use only with adequate ventilation.

**POTENTIAL HEALTH EFFECTS:**

**INHALATION:**

**Short Term Effects:** May cause irritation and burns.

**Long Term Effects:** Same effects as short term exposure.

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**SKIN CONTACT:**

**Short Term Effects:** May cause irritation and burns.

**Long Term Effects:** Same effects as short term exposure.

**EYE CONTACT:**

**Short Term Effects:** May cause irritation and burns.

**Long Term Effects:** Same effects as short term exposure.

**INGESTION:**

**Short Term Effects:** May cause irritation and burns.

**Long Term Effects:** Same effects as short term exposure.

**CARCINOGEN STATUS:**

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

**SECTION 4: FIRST AID MEASURES**

**INHALATION:** Remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial resuscitation. Keep person warm and at rest. Treat symptomatically and supportively. Get medical attention immediately. Qualified medical personnel should consider administering oxygen.

**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). Get medical attention immediately.

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

**INGESTION:** If conscious, give milk, melted ice cream, or beaten eggs. Do not use vomiting or gastric lavage or acid antidotes. Maintain airway, respiration, and blood pressure. Get medical attention immediately. Avoid use of sodium bicarbonate.

**NOTE TO PHYSICIAN: Antidote:**

The following antidote has been recommended. However, the decision as to whether the severity of poisoning requires administration of any antidote and actual dose required should be made by qualified medical personnel. If available, a few ounces of 1% sodium thiosulfate solution may be ingested and left in the alimentary tract.

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**SECTION 5: FIRE FIGHTING MEASURES****FIRE AND EXPLOSION HAZARD:** Negligible fire hazard when exposed to heat or flame.**EXTINGUISHING MEDIA:** Dry chemical, carbon dioxide, water spray, or regular foam. For larger fires, use water spray, fog, or regular foam (1993 Emergency Response Guidebook, RSPA P 5800.6).**FIREFIGHTING:** Move container from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. Use extinguishing agents suitable for type of fire. Do not use water directly on material. If large amounts of combustible materials are involved, use water spray or fog in flooding amounts. Use water spray to absorb corrosive vapors. Cool containers with flooding amounts of water, apply from as far a distance as possible. Avoid breathing corrosive vapors, keep upwind.**FLASH POINT:** Non-flammable**HAZARDOUS COMBUSTION PRODUCTS:** Thermal decomposition products may include toxic and corrosive fumes of chlorine.**SECTION 6: ACCIDENTAL RELEASE MEASURES****OCCUPATIONAL SPILL:** Do not touch spilled material. Stop leak if you can do it without risk. For small spills, take up with sand or other absorbent material and place into containers for later disposal. For small dry spills, with clean shovel place material into clean, dry container and cover. Move container from spill area. For larger spills, dike far ahead of spill for later disposal. Deny entry to nonessential personnel and isolate hazard.**REPORTABLE QUANTITY (RQ):** 100 pounds of sodium hypochlorite

The Superfund Amendments and Reauthorization Act (SARA) Section 304 requires that a release equal to or greater than the reportable quantity for this substance be immediately reported to the local emergency planning committee and the state emergency response commission (40 CFR 355.40). If the release of this substance is reportable under CERCLA Section 103, the National Response Center must be notified immediately at (800) 424-8802 or (202) 426-2675 in the metropolitan Washington, D.C. area (40 CFR 302.6).

**SOIL SPILL:** Dig holding area such as lagoon, or pit for containment. Dike flow of spilled material using soil or sandbags or concrete. Use cement powder or fly ash to absorb liquid mass. Neutralize spill with suitable agent.**WATER SPILL:** Add suitable agent to neutralize spilled material to pH 7. Use mechanical dredges or lifts to extract immobilized masses of pollution and precipitates.

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**SECTION 7: HANDLING AND STORAGE**

Observe all federal, state, and local regulations when storing this liquid. Store away from incompatible substances. Store in a cool, dry, well ventilated area. Avoid high temperatures and exposure to direct sunlight. Do not store at temperatures above 15-21<sup>0</sup> C (60-70<sup>0</sup> F).

**SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION**

**EXPOSURE LIMITS:** No occupational exposure limits established by OSHA/ACGIH/NIOSH for sodium hypochlorite solution.

**VENTILATION:** Provide local exhaust or general dilution ventilation system.

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

**EMERGENCY WASH FACILITIES:** Where there is any possibility that an employee's eyes and/or skin may be exposed to this liquid, the employer should provide an eye wash fountain and quick drench 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 liquid.

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

**RESPIRATOR:** The respirator selected 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. They must also be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA). These respirators are ranked from minimum to maximum respiratory protection as listed below:

- Any dust and mist respirator with a full facepiece;
- Any air-purifying full facepiece respirator with a high-efficiency particulate filter;
- Any powered air-purifying respirator with a tight-fitting facepiece and high-efficiency particulate filter;
- Any 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;
- Any self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive -pressure mode.

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**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:** Greenish to yellow liquid with an odor of bleach.

**MOLECULAR WEIGHT:** 74.45 for 100% sodium hypochlorite.

**MOLECULAR FORMULA:** NaOCl in water.

**SPECIFIC GRAVITY:** 1.08-1.26

**WATER SOLUBILITY:** Soluble in water.

**SECTION 10: STABILITY AND REACTIVITY**

**REACTIVITY:** Stable under normal temperatures and pressures.

**CONDITIONS TO AVOID:** May burn but does not ignite readily. Avoid contact with incompatible substances.

**INCOMPATIBILITIES:**

**Methanol:** Explosive reaction.

**Acidified Benzyl Cyanide:** Explosive reaction.

**Cellulose:** Violent reaction.

**Acids:** Violent reaction.

**Nitrogen Compounds (Urea):** Form nitrogen trichloride which explodes spontaneously in air.

**Primary Amines:** Form normal chloroamines which are explosive.

**Ammonium Compounds:** Violent reaction.

**Aluminum, Zinc, Most Metals:** Corrosive reaction.

**HAZARDOUS DECOMPOSITION:** Thermal decomposition products may include toxic and corrosive fumes of chlorine.

**POLYMERIZATION:** Hazardous polymerization has not been reported to occur under normal temperatures and pressures.

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**SECTION 11: TOXICOLOGICAL INFORMATION****TOXICITY DATA:**

No data are available for TETRA Vis Breaker. The toxicity data listed below are for pure sodium hypochlorite and for reference only.

**Sodium Hypochlorite (100%):**

TD<sub>LO</sub>: 45 mg/kg, intravenous, man

LD<sub>50</sub>: 5,800 mg/kg, oral, mouse

**CARCINOGEN STATUS:** None.

**LOCAL EFFECTS:** Corrosive-inhalation, skin, eye, ingestion.

**ACUTE TOXICITY LEVEL:** Slightly toxic by ingestion.

**INHALATION:**

**Acute Exposure:** Inhalation of this material is irritating to the nose, mouth, throat, and lungs. It may also cause burns to the respiratory tract with the production of lung edema which can result in shortness of breath, choking, chest pain, and impairment of lung function.

**Chronic Exposure:** Repeated inhalation exposure may cause impairment of lung function and permanent damage.

**SKIN CONTACT:**

**Acute Exposure:** Dermal exposure can cause severe irritation and/or burns characterized by redness, swelling, and scab formation.

**Chronic Exposure:** Effects depends on concentration and duration of exposure. Repeated or prolonged contact with corrosive substances may result in dermatitis or effects similar to acute exposure.

**EYE CONTACT:**

**Acute Exposure:** May cause redness, pain, and blurred vision.

**Chronic Exposure:** Depends on concentration and duration of exposure, symptoms may be as those of acute exposure.

**INGESTION:**

**Acute Exposure:** Irritation and/or burns can occur to the entire gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, abdominal pain, bleeding, and tissue ulceration.

**Chronic Exposure:** No report found.

**SECTION 12: ECOLOGICAL INFORMATION**



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

**ACUTE AQUATIC TOXICITY:** No data available.

**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 liquid.

**SECTION 14: TRANSPORT INFORMATION**

**US DOT SHIPPING NAME-ID NUMBER, 49 CFR 172.101:** Hypochlorite Solutions - UN1791

**US DOT HAZARD CLASS OR DIVISION, 49 CFR 172.101:** 8 (Corrosive Material)

**US DOT PACKING GROUP, 49 CFR 172.101:** III

**US DOT LABELING REQUIREMENTS, 49 CFR 172.101 AND SUBPART E:** Corrosive

**US DOT PACKING AUTHORIZATIONS:**

**Exceptions:** 49 CFR 173.154

**Non-bulking Packing:** 49 CFR 173.203

**Bulking Packing:** 49 CFR 173.242

**US DOT QUANTITY LIMITATIONS, 49 CFR 172.101:**

**Passenger Aircraft or Railcar:** 5L

**Cargo Aircraft Only:** 60L

**US DOT EMERGENCY RESPONSE GUIDE NUMBER:** 60

**SECTION 15: REGULATORY INFORMATION**

	TSCA STATUS:	Yes
	DSL STATUS:	Yes
	EINECS STATUS:	Yes
40 CFR 302.4	CERCLA SECTION 103:	Yes (100 pounds RQ of sodium hypochlorite)
40 CFR 355.30	SARA SECTION 302:	No
40 CFR 355.40	SARA SECTION 304:	No
40 CFR 372.65	SARA SECTION 313:	No



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29 CFR 1910.119	OSHA Process Safety:	No
	California Proposition 65:	No
	New Jersey SNJ:	Yes
	Pennsylvania SPA:	Yes
40 CFR 370.21	SARA HAZARD CATEGORIES, SARA SECTIONS 311/312	
	ACUTE HAZARD:	Yes
	CHRONIC HAZARD:	Yes
	FIRE HAZARD:	No
	REACTIVITY HAZARD:	Yes
	SUDDEN RELEASE HAZARD:	No

**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 material designated and may not be valid for such material 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 reserves the right to refuse shipment of this material 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.