

**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: TETRAvis Extender

TRADE NAMES/SYNONYMS: None

CHEMICAL FAMILY: Mixture

MSDS CREATION DATE: 16 JUN 00

MSDS REVISION DATE: 28 JUL 00

SECTION 2: COMPOSITION, INFORMATION ON INGREDIENTS

The composition information on this product is proprietary. This product or one of its components is/are hazardous as defined in 29 CFR 1910.1200. In the event of a medical emergency, spill or fire, compositional information will be revealed to a physician, nurse, or responding emergency personnel.

COMPONENTS: Amino alcohol, Ethanolamine

CAS NUMBER: Proprietary

PERCENTAGE: Proprietary

PROBABLE CONTAMINANT: Not known

SECTION 3: HAZARDS IDENTIFICATION

NFPA RATINGS: (SCALE 0-4): HEALTH=3, FIRE=0, REACTIVITY=1

HMIS: (SCALE 0-4): HEALTH=3, FIRE=0, REACTIVITY=1

EMERGENCY OVERVIEW:

DANGER CORROSIVE: Clear liquid with ammonia odor. This product may be harmful or fatal if swallowed. Causes severe eye and skin burns. Inhalation of vapors or mist may cause severe respiratory tract irritation. Excessive inhalation of this material causes headache, dizziness, and incoordination. Use with adequate ventilation. Contact with skin can cause allergic reaction (sensitization) in some individuals. This product may be harmful if it is absorbed through the skin.

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POTENTIAL HEALTH EFFECTS:**INHALATION:**

Short Term Effects: Inhalation of mists of this product may cause severe irritation and burns to the respiratory tract. At high concentrations, may cause chemical pneumonitis and pulmonary edema. Inhalation mists or vapor may cause an allergic reaction with asthma-like symptoms.

Long Term Effects: No information or data is available.

SKIN CONTACT:

Short Term Effects: Causes sever skin burns, with redness, swelling and blistering. May cause allergic skin reactions in sensitive individuals following repeated or prolonged use. Symptoms may include itching, dryness, and scaling. This product may be harmful if it is absorbed through the skin.

Long Term Effects: No information or data is available.

EYE CONTACT:

Short Term Effects: May cause permanent, partial, or total loss of vision.

Long Term Effects: No information or data is available.

INGESTION:

Short Term Effects: This product may produce corrosive damage to the gastrointestinal tract if it is swallowed. Symptoms may include nausea, vomiting, difficulty swallowing (swelling of the throat), and abdominal pain.

Long Term Effects: No information or data is available.

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. Treat symptomatically and supportively. Get medical attention immediately.

SKIN CONTACT: Remove contaminated clothing and shoes. Wash affected area with soap or mild detergent and large amounts of water until no evidence of product remains (at least 15-20 minutes). Seek medical attention.

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

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

NOTE TO PHYSICIAN: Antidote: No specific antidote. Treat symptomatically and supportively.

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SECTION 5: FIRE FIGHTING MEASURES**FLASH POINT:** 250°F**FIRE AND EXPLOSION HAZARD:** Non-flammable, non-combustible liquid. Contact with acids may liberate flammable hydrogen gas.**EXTINGUISHING MEDIA:** Dry chemical, carbon dioxide, water spray or alcohol resistant foam. For larger fires, use water spray, fog or regular foam.**FIREFIGHTING:** Move product from fire area if you can without risk. Keep unnecessary people away; isolate hazard area and deny entry. Remove containers exposed to fire if possible; otherwise cool them from the sides with water spray. Emergency equipment including self-contained breathing apparatus (SCBA) and full fire fighting turnout gear should be worn by fire fighters. Extinguish fire using agent suitable for type of surrounding fire and/or chemicals. Do not use water directly on material. Avoid breathing vapors; keep upwind.**HAZARDOUS COMBUSTION PRODUCTS:** Thermal decomposition products may include toxic oxides of carbon and nitrogen.**SECTION 6: ACCIDENTAL RELEASE MEASURES****OCCUPATIONAL SPILL:** Stop leak if you can. Prevent runoff into sewers, storm drains, surface waters and soil. Isolate the spill and ventilate the area. Spilled material should be absorbed into an inert material and scooped up. The area should be thoroughly flushed with water and scrubbed to remove residue. Use caution as the product becomes slippery when hydrated.**CLEAN-UP PROCEDURES:** Wear appropriate protective equipment and clothing during clean-up. Dispose of spent absorbent in an approved industrial waste landfill. Absorb spill with inert material. Shovel material into approved waste container and dispose of all material in accordance with applicable regulations on waste disposal. In addition, comply with all applicable regulations on spill reporting. Decontaminate the spill area.**EVACUATION PROCEDURES:** Close off area. Keep unnecessary personnel away.**SECTION 7: HANDLING AND STORAGE****HANDLING PROCEDURES:** Do not inhale vapors or mists of this product. Do not get this material in your eyes, on your skin, or on your clothing. Wash thoroughly after handling. Use this product with adequate ventilation. Do not mix this product with fluids which contain NITRITES/ NITRATES. NITROSAMINE may be formed.**STORAGE PROCEDURES:** Keep the container tightly closed and in a cool, well ventilated place. Do not store in copper, brass or carbon steel containers. Do not store with halogenated materials.

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SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION**EXPOSURE LIMITS (Ethanolamine):**

ACGIH: 3 ppm TWA

6 ppm STEL

OSHA: 3 ppm TWA; 6 mg/m³ TWA (Final)

6 ppm STEL; 15 mg/m³ STEL (Vacated)

VENTILATION: Provide local exhaust ventilation system.

EYE PROTECTION: Wear safety glasses with side 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, an eye wash fountain and safety shower should be available.

CLOTHING: Wear appropriate protective clothing and equipment to prevent repeated or prolonged skin contact with this product.

GLOVES: Wear appropriate protective gloves to prevent contact with this product.

RESPIRATORY: Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA'S respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2) A written respiratory protection program including provisions for medical certification, training, fit-testing, exposure assessments, maintenance, inspection, cleaning, and convenient, sanitary storage, must be implemented.

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: Clear liquid.

ODOR: Slight ammonia

pH: 12.5

VAPOR PRESSURE: <0.5 mm Hg @20°C

VAPOR DENSITY: 2.9

BOILING POINT: 405°F

SPECIFIC GRAVITY: 1.02

BULK DENSITY: 8.5

SOLUBILITY (H₂O): Miscible.

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SECTION 10: STABILITY AND REACTIVITY

REACTIVITY: Stable under normal temperatures and pressures.

CONDITIONS TO AVOID: Corrosive to copper, brass and carbon steel. Do not mix this product with nitrites or other nitrosating agents because a carcinogenic nitrosamine may be formed.

INCOMPATIBILITIES: Incompatible with acids. Ingredients of this product are also incompatible with strong oxidizers, aldehydes, ketones, and acrylates. Nitrites may react with organic amines to form nitrosamines which can cause cancer.

HAZARDOUS DECOMPOSITION: Thermal decomposition products may include toxic oxides of carbon and nitrogen.

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

SECTION 11: TOXICOLOGICAL INFORMATION

GENERAL PRODUCT INFORMATION: Inhalation of high concentrations of ethanolamine has been reported to cause pulmonary, liver, and kidney damage in experimental animals. Ethanolamine is severely irritating to the eyes, skin, respiratory system, and gastrointestinal tract, and may be absorbed through the skin in harmful amounts. It may also cause allergic contact dermatitis which is marked by itching and inflammation.

The amino alcohol in this product is an eye and skin irritant and may possibly cause burns. It may cause allergic skin reaction in susceptible individuals. It may also cause respiratory sensitization in susceptible individuals which produces an asthma-like condition.

COMPONENT ANALYSIS (LD₅₀/LC₅₀):***Amino alcohol***

Oral LD₅₀ Rat: 3 gm/kg

Oral LD₅₀ Mouse: 3550 mg/kg

Dermal LD₅₀ Rabbit: 3560 µl/kg

Ethanolamine

Oral LD₅₀ Rat: 1720 mg/kg

Oral LD₅₀ Mouse: 700 mg/kg

Dermal LD₅₀ Rabbit: 1 ml/kg

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General Product Information: No data available for the product.

Component Carcinogenicity: None of this products components are listed by IARC, OSHA, or NTP.

Epidemiology: No data available for the product.

Neutotoxicity: No data available for the product.

Matagenicity: No data available for the product.

Teratogenicity : No data available for the product.

Reproductive studies involving ethanolamine have produced conflicting results. Ethanolamine has been shown to be teratogenic and fetotoxin in animals in some studies but did not produce any effects in other studies.

Other Toxicological Information: No data available for the product.

SECTION 12: ECOLOGICAL INFORMATION

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

ACUTE AQUATIC TOXICITY:

Ethanolamine: LC₅₀ (96 hour) goldfish: 170.0 mg/l; EC₅₀ (30 min) Photobacterium phosphoreum: 13.7 mg/l Microtox test.

DEGRADABILITY: No data available.

LOG BIOCONCENTRATION FACTOR (BCF): No data available.

LOG OCTANOL/WATER PARTITION COEFFICIENT: No data available.

SECTION 13: DISPOSAL INFORMATION

General Product Information: If discarded, as supplied, this product is considered a RCRA corrosive waste, D002. Wastes must be tested using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes.

Component Waste Numbers: No EPA waste numbers are applicable for this product's components.

Disposal Instructions: Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.



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SECTION 14: TRANSPORT INFORMATION

US DOT SHIPPING NAME: Ethanolamine solutions

US DOT HAZARD CLASS: 8

US DOT ID NUMBER: UN2491

US DOT PACKING GROUP: III

US DOT SHIPPING DESCRIPTION: Ethanolamine solutions, Class 8, UN2491, PG III

US DOT Label Codes: 8

US DOT Packaging Authorizations: Refer to

Exceptions: 49 CFR § 173.154

Non-Bulk Packaging: 49 CFR § 173.203

Bulk Packaging: 49 CFR § 173.241

US DOT Quantity Limitations:

Passenger Aircraft or Railcar: 5 Liter

Cargo Aircraft Only: 60 Liter

SECTION 15: REGULATORY INFORMATION

	TSCA STATUS:	Yes
	DSL STATUS:	Yes
	EINECS 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
29 CFR 1910.119	OSHA Process Safety	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



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STATE REGULATIONS:

GENERAL PRODUCT INFORMATION: No information available

COMPONENT ANALYSIS: The following components appear on one or more of the following state hazardous substances list:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Amino alcohol	Proprietary	NO	YES	YES	NO	YES	YES
Ethanolamine	Proprietary	YES	YES	YES	YES	YES	YES

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.