

SAFETY DATA SHEET



Tachline® Pro
Revised: 03-07-2022
Replaces: 04-16-2021

1. IDENTIFICATION

Product Identifier Used on the Label: Tachline® Pro
Other Identifiers: Micronutrient Fertilizer
Product ID: R46576A/HC2340
Recommended Use: MIXTURE
Restrictions on Use: For use in fertilizer applications.
No data available.

CHS Inc
5500 Cenex Drive
Inver Grove Heights, MN 55077
1-(651)-355-5000

EMERGENCY RESPONSE NUMBERS:
24 Hour CHEMTREC Emergency #: (800) 424-9300

2. HAZARD(S) IDENTIFICATION

GHS Classification(s): Skin Corrosion/Irritation Category 1C
Serious Eye Damage/Eye Irritation Category 1
Reproductive Toxicity Category 2
Specific Target Organ Systemic Toxicity (STOT) - Repeated Exposure Category 2

GHS Label Elements:

GHS Hazard Symbols:



Signal Word: Danger

Hazard Statements: Causes severe skin burns and eye damage.
Suspected of damaging fertility or the unborn child.
May cause damage to organs (central nervous system) through prolonged or repeated exposure.

Precautionary Statements:

Prevention: Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.

Response: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
Specific treatment (see First Aid on SDS or on this label).
Wash contaminated clothing before reuse.

Storage: Store in a secure manner.

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Disposal:
Disposal: Dispose of in accordance with local, regional and international regulations.

Hazards not otherwise classified: None known.

Percentage of Components with Unknown Acute Toxicity:

Oral: 29.7 %
Dermal: 10.1 %
Inhalation Vapor: 10.1 %
Inhalation Dust/Mist: 10.1 %

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances/Mixtures:

Chemical or Common Name/Synonyms	CAS Number	% by Wt.
Zinc Compound	Proprietary	< 20 %
Manganese Compound	Proprietary	< 15 %
Amine Compound	Proprietary	< 15 %
Boron Compound	Proprietary	< 1.0 %

Note: Any chemical identity and/or exact percentage not expressly stated is being withheld as a trade secret or is due to batch variation.

4. FIRST-AID MEASURES

Description of Necessary Measures:

Eye Contact: If in eyes: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention. Remove contact lenses after the first 5 minutes and continue flushing.

Skin Contact: If on skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Do not reuse clothing and shoes until cleaned. Wash with soap and water. Discard contaminated leather articles such as shoes and belt.

Inhalation: If inhaled: Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY. Keep warm and quiet.

Ingestion: If swallowed: If fully conscious, drink a quart of water. DO NOT induce vomiting. CALL A PHYSICIAN IMMEDIATELY. If unconscious or in convulsions, take immediately to a hospital or a physician. NEVER induce vomiting or give anything by mouth to an unconscious victim. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

Most Important Symptoms/Effects, Acute and Delayed:

Eye Contact: CORROSIVE-Causes severe irritation and burns. May cause: pain. blinking. tearing. redness. swelling. severe eye damage. blindness. corneal injury. permanent impairment of vision.

Skin Contact: CORROSIVE-Causes severe irritation and burns. Contact may cause: pain. redness. swelling. blistering. tissue destruction. erythema. edema. necrosis. ulceration. scabbing. ecchymosis. desquamation. allergic reaction in some individuals.

Skin Absorption: May be harmful if absorbed through skin. Poorly absorbed through intact skin. May be absorbed through damaged skin. Effects may include those described for swallowing.

Inhalation: May be corrosive to the respiratory tract. Severe irritation and burns may result. May irritate: nose. throat. upper respiratory tract. Irritation may be severe. May cause: difficulty breathing. low blood pressure. dizziness. bluish skin color. lung congestion. Chronic exposure may cause: digestive disorders. reflex bronchoconstriction.

Ingestion: May be corrosive to the gastrointestinal tract. Severe irritation and burns may result. May cause: burns. abdominal pain. gastrointestinal disturbances. fever. nausea. vomiting. diarrhea. blood in stool. inability to

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urinate. low blood pressure. convulsions. May cause damage to the: kidneys. liver. May cause burns to the: mouth. throat. esophagus. stomach.

Indication of Immediate Medical Attention and Special Treatment Needed: Treatment is symptomatic and supportive. Swallowing of this corrosive material may result in severe ulceration, inflammation, and possible perforation of the upper alimentary tract, with hemorrhage and fluid loss. Aspiration of this product during induced emesis can result in severe lung injury. If evacuation of stomach is necessary, use method least likely to cause aspiration, such as gastric lavage after endotracheal intubation.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: For fires in area use appropriate media. For example: Dry chemical. Carbon dioxide. Foam. Water spray. Water may be ineffective but should be used to cool fire-exposed structures and vessels.

Specific Hazards Arising from the Chemical:

Fire and Explosion Hazards: Material will not ignite or burn. Container may rupture from gas generation in a fire situation.

Hazardous Combustion Products: Zinc oxides. Sulfur oxides. Manganese oxides. Ammonia. Nitrogen oxides. Carbon monoxide. Carbon dioxide. Aldehydes. Ketones.

Special Protective Equipment and Precautions for Fire-Fighters: Evacuate area of unprotected personnel. Wear protective clothing including NIOSH-approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, Emergency Procedures: CORROSIVE MATERIAL. Evacuate unprotected personnel from area. Maintain adequate ventilation. Follow personal protective equipment recommendations found in Section 8. Never exceed any occupational exposure limit.

Methods and Materials for Containment and Clean Up: Contain spill, place into drums for proper disposal. Soak up residue with inert absorbent material. Place in non-leaking containers for immediate disposal. Flush remaining area with water to remove trace residue and dispose of properly. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area. Wash thoroughly after handling. Empty containers retain product residue (vapor, dust, or liquid) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other source of ignition. They may explode and cause injury or death. Keep away from incompatibles.

Conditions for Safe Storage, Including any Incompatibilities: CORROSIVE MATERIAL. Store in a cool, well ventilated area, out of direct sunlight. Store in a dry location away from heat. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers. Monoethanolamine can react with iron to form an unstable material that can decompose at temperatures above 130 Deg. C in air. Use caution when thawing drummed material. If steam heating is necessary, use only low pressure steam and stainless steel coils. Do not store in: Zinc. Aluminum. Copper. Copper alloys. Galvanized containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA Exposure Guidelines:

Component	Limits
Manganese Compound	5 mg/m ³ Ceiling (as Mn)
Amine Compound	3 ppm TWA; 6 mg/m ³ TWA

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ACGIH Exposure Guidelines:

Component	Limits
Manganese Compound	0.02 mg/m ³ TWA (respirable particulate matter, as Mn); 0.1 mg/m ³ TWA (inhalable particulate matter, as Mn)
Amine Compound	3 ppm TWA; 6 ppm STEL

Appropriate Engineering Controls: General room ventilation is required. Local exhaust ventilation, process enclosures or other engineering controls may be needed to maintain airborne levels below recommended exposure limits. Avoid creating dust or mist. Maintain adequate ventilation. Do not use in closed or confined spaces. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly.

Individual Protection Measures:

Eye/Face Protection: Wear chemical safety goggles and a full face shield while handling this product.

Skin Protection: Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Chemical-resistant. Impervious.

Respiratory Protection: Respiratory protection must be worn if ventilation does not eliminate symptoms or keep levels below recommended exposure limits. If exposure limits are exceeded, wear: NIOSH-Approved air purifying respirator. NIOSH-Approved positive pressure supplied air respirator. NIOSH-Approved self-contained breathing apparatus. DO NOT exceed limits established by the respirator manufacturer. All respiratory protection programs must comply with OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements and must be followed whenever workplace conditions require a respirator's use.

Other Protective Equipment: Eye-wash station. Safety shower. Protective clothing. Rubber apron. Rubber boots. Full body suit. Impervious clothing. Launder contaminated clothing and clean protective equipment before reuse.

General Hygiene Conditions: Wash with soap and water before meal times and at the end of each work shift. Good manufacturing practices require gross amounts of any chemical be removed from skin as soon as practical, especially before eating or smoking. Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid.

Color: Orange. Amber.

Odor: Mild odor.

Odor Threshold: N.D.

pH: 8 (as is)

Freezing Point (deg. F): N.D.

Melting Point (deg. F): N.D.

Initial Boiling Point or Boiling Range: N.D.

Flash Point: N.D.

Flash Point Method: N.A.

Evaporation Rate (nBuAc = 1): N.D.

Flammability (solid, gas): N.D.

Lower Explosion Limit: N.A.

Upper Explosion Limit: N.A.

Vapor Pressure (mm Hg): N.D.

Vapor Density (air=1): N.D.

Specific Gravity or Relative Density: 1.34 @ 25 Deg. C

Solubility in Water: Appreciable

Partition Coefficient (n-octanol/water): N.D.

Auto-ignition Temperature: No Data

Decomposition Temperature: N.D.

Viscosity: N.D.

% Volatile (wt%): N.D.

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VOC (wt%): N.D.
 VOC (lbs/gal): N.D.
 Fire Point: N.D.

10. STABILITY AND REACTIVITY

Reactivity: No data available.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur under normal conditions. Reacts violently with acids.

Conditions to Avoid (e.g., static discharge, shock, or vibration): Avoid elevated temperatures. Boric acid is a stable product, but when heated it loses water, first forming metaboric acid (HBO₂), and on further heating it is converted into boric oxide (B₂O₃).

Incompatible Materials: Boric acid reacts as a weak acid which may cause corrosion of base metals. Reaction with strong reducing agents, such as metal hydrides or alkali metals, will generate hydrogen gas, which could create an explosive hazard. Acids. Strong oxidizing agents. Copper or copper alloys. Galvanized metals. Aluminum. Zinc. Halogenated organics. Halogenated hydrocarbons. Strong bases. Strong reducing agents. Peroxides.

Hazardous Decomposition Products: Zinc oxides. Sulfur oxides. Manganese oxides. Ammonia. Nitrogen oxides. Carbon monoxide. Carbon dioxide. Aldehydes. Ketones.

11. TOXICOLOGICAL INFORMATION

Routes of Exposure: Eyes. Ingestion. Inhalation. Skin. Absorption.

Symptoms/Effects: Acute, Delayed and Chronic:

Eye Contact: CORROSIVE-Causes severe irritation and burns. May cause: pain. blinking. tearing. redness. swelling. severe eye damage. blindness. corneal injury. permanent impairment of vision.

Skin Contact: CORROSIVE-Causes severe irritation and burns. Contact may cause: pain. redness. swelling. blistering. tissue destruction. erythema. edema. necrosis. ulceration. scabbing. ecchymosis. desquamation. allergic reaction in some individuals.

Skin Absorption: May be harmful if absorbed through skin. Poorly absorbed through intact skin. May be absorbed through damaged skin. Effects may include those described for swallowing.

Inhalation: May be corrosive to the respiratory tract. Severe irritation and burns may result. May irritate: nose. throat. upper respiratory tract. Irritation may be severe. May cause: difficulty breathing. low blood pressure. dizziness. bluish skin color. lung congestion. Chronic exposure may cause: digestive disorders. reflex bronchoconstriction.

Ingestion: May be corrosive to the gastrointestinal tract. Severe irritation and burns may result. May cause: burns. abdominal pain. gastrointestinal disturbances. fever. nausea. vomiting. diarrhea. blood in stool. inability to urinate. low blood pressure. convulsions. May cause damage to the: kidneys. liver. May cause burns to the: mouth. throat. esophagus. stomach.

Numerical Measures of Toxicity:

Component	Oral LD50	Dermal LD50	Inhalation LC50
Zinc Compound	Mouse: 1891 mg/kg	No Data	No Data
Manganese Compound	Rat: 2150 mg/kg	No Data	No Data
Amine Compound	Rat: 1089 - 1720 mg/kg	Rabbit: 2504 mg/kg	4H Rat: 11 mg/L/4H

Acute Toxicity Estimates

(ATE):

Oral: 5677 mg/kg
Inhalation Vapor: 110.0975 mg/L

Cancer Information:

This product does not contain 0.1% or more of the known or potential carcinogens listed in NTP, IARC, or OSHA.

Medical Conditions Aggravated by Exposure to Product: Impaired respiratory function. Dermatitis. Respiratory system disorders. Liver disorders. Kidney disorders. Thymus.

Other: Animal ingestion studies in several species, at high does, indicate that borates cause reproductive and developmental effects. A human study of occupational exposure to borate dust showed no adverse effect on reproduction. No target organ has been identified in humans. High dose animal ingestion studies indicate the testes are the target organs in male animals.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: No data available.

Chemical Fate Information: No data available.

13. DISPOSAL CONSIDERATIONS

Hazardous Waste Number: N.A.

Disposal Method: Dispose of in accordance with all local, state and federal regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Disposal methods identified are for the product as sold. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permitted under applicable rules, regulations and/or laws governing your location. Since emptied containers retain product residue, follow label warnings even after container is emptied. DO NOT pressurize, cut, weld, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ignition.

14. TRANSPORTATION INFORMATION

DOT (Department of Transportation):

Identification Number: UN3267
Proper Shipping Name: Corrosive Liquid, Basic, Organic, N.O.S. (Contains Ethanolamine)
Hazard class: 8
Packing Group: III
Additional Description: (CONTAINS ZINC SULFATE MONOHYDRATE)
Label Required: CORROSIVE
Reportable Quantity (RQ): 1000# (Zinc Sulfate)

15. REGULATORY INFORMATION

TSCA Inventory Status: All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

SARA Title III Section 311/312 Category Hazards: Please see Section 2 of this SDS.

Regulated Components:	CAS	CERCLA	SARA	SARA	U.S.	WI	Prop
Component	Number	RQ	EHS	313	HAP	HAP	65
Zinc Compound	Proprietary	Yes	No	Yes	No	No	No
Manganese Compound	Proprietary	No	No	Yes	Yes	Yes	No
Amine Compound	Proprietary	No	No	No	No	Yes	No

Note: * Reportable as Manganese Compound. ** Reportable as Manganese, as Mn, dust and compounds.

16. OTHER INFORMATION

Tachline® Pro

Hazard Rating System**Health:** 3***Flammability:** 0**Reactivity:** 0

* = Chronic Health Hazard

NFPA Rating System**Health:** 3**Flammability:** 0**Reactivity:** 0**Special Hazard:** None**SDS Abbreviations****N.A. = Not Applicable****N.D. = Not Determined****HAP = Hazardous Air Pollutant****VOC = Volatile Organic Compound****C = Ceiling Limit****N.E./Not Estab. = Not Established****SDS Prepared by:** JAK**Reason for Revision:** New product.**Revised:** 03-07-2022**Replaces:** 04-16-2021

The data in this Safety Data Sheet relates to the specific material designated and does not relate to its use in combination with any other material or process. The data contained is believed to be correct. However, since conditions of use are outside our control it should not be taken as warranty or representation for which the manufacturer assumes legal responsibility. This information is provided solely for your consideration, investigation, and verification.