

MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME **TT10**

PRODUCT CODE

ISSUE DATE **7-20-88**

EMERGENCY TELEPHONE NUMBERS

DISTRIBUTOR
STREET ADDRESS
CITY, STATE, ZIP

Bo Chem Co. Inc.
Little Harbor,
Marblehead, MA 01845

Transportation: **(800) 424-8300 ***
* For spill, leak, fire or transport accident emergencies.
Product Information: **(781) 631-9400**

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENT	CAS No.	% by wt.	EXPOSURE LIMITS		
			OSHA PEL	ACGIH TLV	NIOSH REL
Oxalic Acid	144-62-7	5 - 8	1mg/m3	1 mg/m3	
Nonyphenolpolyethoxylate	9016-45-9	3-5	NE	NE	NE

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW	Can be fatal if swallowed. May cause irritation or burns to the skin, eyes, and mucous membranes.
---------------------------	---

POTENTIAL HEALTH EFFECTS	
INGESTION	Can cause irritation and corrosive burns to mouth, throat, and stomach etc. Can be fatal if swallowed. Oxalic acid is a systemic poison affecting the central nervous system and kidney function as well as other organs. Can cause hypocalcemia. The mean lethal dose for adult humans is estimated to be about 21 to 42 grams of the dihydrate.
INHALATION	Inhalation of mists can cause irritation to the upper respiratory system.
EYE CONTACT	May cause burn or damage to the eyes.
SKIN CONTACT	May cause irritation or burns to the skin.

MSDS PRODUCT T110 CODE PAGE 2 OF 5

SECTION 4 - FIRST AID MEASURES

INGESTION	IF SWALLOWED: Do not induce vomiting. If conscious, give large quantities of water. If available give , give several glasses of milk. Never give anything by mouth to an unconscious person. SEEK IMMEDIATE MEDICAL ATTENTION.
INHALATION	Remove to fresh air. Give artificial respiration if necessary; keep victim warm. Get medical assistance as soon as possible.
EYE CONTACT	Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.
SKIN CONTACT	Immediately flush skin with plenty of water. Wash contaminated clothing before reuse. Call physician.
NOTE TO PHYSICIAN	Certain rare individuals are subject to oxalosis and are unusually reactive to exposure to oxalic acid contained in this product.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT / METHOD	Will not burn.	FLAMMABLE LIMITS	Not applicable
EXTINGUISHING MEDIA	Water spray, dry chemical, "alcohol" type foam, or CO2.		
SPECIAL FIRE FIGHTING PROCEDURES	Wear self-contained breathing apparatus. Formic acid and carbon monoxide and other toxic gases may be present. If apparatus has no facepiece, wear chemical safety goggles. Water spray may be used to cool or soak containers, to knock down fumes, or to protect personnel.		
FIRE AND EXPLOSION HAZARDS	Partial decomposition occurs at 150 C. Decomposition products include carbon monoxide and formic acid, which are both toxic and flammable. Can react violently with strong oxidizers.		

SECTION 6 - ACCIDENTAL RELEASE MEASURES

RESPONSE TO SPILLS	Leaks should be stopped. Spills should be contained and cleaned immediately. Spills should be removed. The spill area should be flushed with water followed by liberal covering with lime or soda ash to neutralize traces. All clean up material should be removed and placed in approved containers, labeled and stored in a safe place (according to applicable regulations) to await proper treatment, or disposal. Spills on areas other than pavement, e.g., dirt or sand, may be handled by removing the affected soils and placing in approved containers. Persons performing clean-up work should wear adequate personal protective equipment and clothing see SECTION 8 Personnel Protective Equipment.
--------------------	---

MSDS PRODUCT: T110

PAGE 3 OF 5

SECTION 7 - HANDLING AND STORAGE

HANDLING PRECAUTIONS	Do not cut, grind, weld on or near this container. Keep tightly closed dry container. Use only clean, dry utensils in handling. Protect packages from damage. Wear appropriate PPE listed in Section 8.
STORAGE PRECAUTIONS	Do not store or mix with strong oxidizing agents, silver compounds, cyanides, sulfides, chlorine, hypochlorous acid, or hypochlorite. Protect bulk storage area from sparks and flame. Keep in well ventilated area. Avoid freezing or crystallization.

MSDS PRODUCT T110 CODE PAGE 4 OF 5

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

HYGIENIC PRACTICES	Do not get into eyes, on skin, or on clothing. Wash thoroughly after handling. Do not smoke or eat while handling this product. Use good personal hygiene and housekeeping when handling.
ENGINEERING CONTROLS	Engineering controls should be used to prevent spray or mist. Use local exhaust if mist is generated to keep exposure limits below guidelines. Eye wash station should be available in the immediate vicinity of use.
PERSONAL PROTECTIVE EQUIPMENT	
X RESPIRATOR	NIOSH approved respirator if exposure guidelines are exceeded.
X GOGGLES / FACE SHIELD	
X APRON	Rubber when handling or moving product
X GLOVES	Rubber
X BOOTS	Rubber Boots

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Clear Blue Liquid	BOILING POINT	175°F
ODOR	Odorless	FREEZING POINT	32°F
pH	1.5 to 1.9	VAPOR PRESSURE	No Data
SPECIFIC GRAVITY	1.047	VAPOR DENSITY	No Data
SOLUBILITY IN WATER	Complete	EVAPORATION RATE	Less than 1 (butyl acetate=1)

SECTION 10 - STABILITY AND REACTIVITY

CHEMICAL STABILITY	<input checked="" type="checkbox"/> STABLE	<input type="checkbox"/> UNSTABLE
CONDITIONS TO AVOID	Decomposes with heat to release toxic, flammable and corrosive gases. This may occur at temperatures above 150 C.	
INCOMPATIBILITY	Reacts with alkalis and silver compounds. Can react violently with strong oxidizing materials. Reacts with water reactive materials such as oleum, possible with violence.	
HAZARDOUS PRODUCTS OF DECOMPOSITION	Thermal decomposition yields at least formic acid, carbon monoxide. Combustion probably yields these and also carbon dioxide.	
POLYMERIZATION	<input checked="" type="checkbox"/> WILL NOT OCCUR	<input type="checkbox"/> MAY OCCUR
CONDITIONS TO AVOID		

SECTION 11 - TOXICOLOGICAL INFORMATION

CARCINOGENICITY	
<input type="checkbox"/>	THIS PRODUCT CONTAINS A KNOWN OR SUSPECTED CARCINOGEN
<input checked="" type="checkbox"/>	THIS PRODUCT DOES NOT CONTAIN ANY KNOWN OR ANTICIPATED CARCINOGENS ACCORDING TO THE CRITERIA OF THE NTP ANNUAL REPORT ON CARCINOGENS AND OSHA 29 CFR 1910, Z
OTHER EFFECTS	
ACUTE	Irritant and corrosive to skin, eyes, mucous membranes. Ingestion may cause severe gastroenteritis with vomiting, diarrhea. Flural damage can result from excessive calcium oxalate. Severe poisoning can and fatally.
CHRONIC	Prolonged skin contact may cause pain, discoloration of fingers which could lead to gangrene. May cause kidney damage, emaciation, cough and nervousness.

MSDS	PRODUCT	T110	CODE		PAGE 5 OF 5
-------------	----------------	------	-------------	--	--------------------

SECTION 12 - ECOLOGICAL INFORMATION

BIODEGRADABILITY	<input type="checkbox"/> CONSIDERED BIODEGRADABLE	<input checked="" type="checkbox"/> NOT BIODEGRADABLE
BOD / COD VALUE	No Data	
ECOTOXICITY	No Data	

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD	The materials resulting from clean-up operations may be hazardous wastes and, therefore, subject to specific regulations. Package, store, transport, and dispose of all clean-up materials and any contaminated equipment in accordance with all applicable federal, state, and local health and environmental regulations. Shipments of waste materials may be subject to manifesting requirements per applicable regulations. Appropriate disposal will depend on the nature of each waste material and should be performed by competent and proper permitted contractors. Ensure that all responsible federal, state, and local agencies receive proper notification of spill and disposal methods.
RCRA CLASSIFICATION	D002
RECYCLE CONTAINER	<input checked="" type="checkbox"/> YES <input type="checkbox"/> X <input type="checkbox"/> CODE HDPE <input type="checkbox"/> NO

SECTION 14 - TRANSPORT INFORMATION

DOT CLASSIFICATION	<input type="checkbox"/> HAZARDOUS	<input checked="" type="checkbox"/> NOT HAZARDOUS	X
DESCRIPTION	Not Applicable		

SECTION 15 - REGULATORY INFORMATION

REGULATORY STATUS	
EPA REGISTERED (UNDER FIFRA)	
FDA REGULATED	
KOSHER	
SARA TITLE III MATERIAL	
USDA AUTHORIZED	

SECTION 16 - OTHER INFORMATION

NFPA CLASSIFICATION		
2	BLUE	HEALTH HAZARD
1	RED	FLAMMABILITY
0	YELLOW	REACTIVITY
	WHITE	SPECIAL HAZARD

Information contained in this MSDS refers only to the specific material designated and does not relate to any process or use involving other materials. This information is based on data believed to be reliable, and the Product is intended to be used in a manner that is customary and reasonably foreseeable. Since actual use and handling are beyond our control, no warranty, express or implied, is made and no liability is assumed by Alpha Chemical Services Inc. in connection with the use of this information.