

MATERIAL SAFETY DATA SHEET (MSDS)

TROY CHEMICAL CORP. 1 Avenue L Newark, NJ 07105	FOR MSDS INFORMATION: (973) 589-2500 24 HOUR EMERGENCY PHONE NUMBER CHEMTREC 1-800-424-9300	Grotan Effective Date: October 3, 2001 Replaces: March 4, 1999		
1. PRODUCT & COMPANY IDENTIFICATION				
PRODUCT NAME CHEMICAL NAME CHEMICAL FAMILY FORMULA SYNONYMS	Grotan Not applicable Not applicable Proprietary None	MANUFACTURER Troy Chemical Corporation 1 Avenue L Newark, N.J. 07105		
2. COMPOSITION/INFORMATION ON INGREDIENTS				
The listed components are considered to be hazardous based on OSHA's Hazard Communication Standard. For further regulatory information, see Section 15.				
CHEMICAL NAME	CAS#	%	AGENCY	EXPOSURE LIMITS
Hexahydro-1,3,5-tris(2-hydroxyethyl)				
-s-triazine	4719-04-4	78.5	Not applicable	None established
OSHA Regulatory Status: This product is classified as hazardous under OSHA regulations.				
3. HAZARDS IDENTIFICATION - POTENTIAL HEALTH EFFECTS				
EMERGENCY OVERVIEW				
Grotan is a water white to pale yellow viscous liquid with a mild characteristic odor. Highly alkaline, pH=10.8. May be harmful if swallowed. May cause severe eye irritation and irreversible corneal damage. Excessive heat will result in decomposition to formaldehyde. Avoid contamination of streams and sewers.				
ROUTES OF ENTRY	Ingestion, skin contact, eyes, inhalation			
INGESTION	Ingestion may cause gastrointestinal irritation, nausea, and vomiting.			
SKIN	May cause mild skin irritation.			
EYE CONTACT	May cause moderate to severe eye irritation and irreversible corneal damage if not washed from eyes promptly.			
INHALATION	May cause respiratory irritation.			
CHRONIC EFFECTS				
	Same as effects reported above for acute exposure. There are no other known or reported chronic effects.			
TARGET ORGANS	None known			
CARCINOGENICITY	This product (or component) is not listed as a carcinogen according to OSHA, NTP, IARC, and ACGIH.			
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE				
There are no known conditions aggravated by exposure to this product.				
4. FIRST AID MEASURES				
INGESTION	Drink promptly a large quantity of gelatin solution or, if this is not available, large quantities of water. Never give anything by mouth to an unconscious person. Avoid alcohol. Do not induce vomiting. If vomiting occurs, keep head lower than hips to prevent aspiration. Get medical attention.			
SKIN CONTACT	Remove contaminated clothing and shoes promptly. Wash affected areas with soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15 minutes). If irritation or redness develops, get medical attention. Wash clothing before reuse.			
EYE CONTACT	Wash eyes immediately with large amounts of water for at least 15 minutes. Get medical attention immediately.			
INHALATION	Remove from exposure area to fresh air promptly. If breathing is difficult, oxygen should be administered by qualified personnel. If breathing has stopped, perform artificial respiration. Keep person warm and at rest. Treat symptomatically and supportively. Get medical attention.			
NOTES TO PHYSICIAN	This product is highly alkaline, pH=10.8. Probable mucosal damage may contraindicate use of gastric lavage.			
5. FIRE FIGHTING MEASURES				
FLASH POINT	>93°C (200°F) (ASTM D56-79 Tag Closed-Cup)			
FLAMMABLE LIMITS	Not determined			
AUTOIGNITION TEMPERATURE	Not determined			
FLAMMABILITY CLASS	Combustible liquid - Class IIIB			
HAZARDOUS PRODUCTS OF COMBUSTION	Carbon monoxide, carbon dioxide, and formaldehyde.			
FIRE EXTINGUISHING MEDIA	Dry chemical, carbon dioxide, water spray, or regular foam.			
FIRE FIGHTING INSTRUCTIONS	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. Avoid breathing vapors, keep upwind. Positive pressure self-contained breathing apparatus with full facepiece and structural firefighters' protective clothing will provide limited protection.			
UNUSUAL FIRE & EXPLOSION HAZARDS	Contact may cause burns to eyes. Runoff from fire control or dilution water may cause pollution. Excessive heat in excess of 147°C (297°F) will result in decomposition to formaldehyde.			

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6. ACCIDENTAL RELEASE MEASURES				
Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear protective equipment as specified in Section 8. Positive pressure self-contained breathing apparatus and structural firefighters' protective clothing will provide limited protection. Shut off ignition sources; no flares, smoking, or flames in hazard area. Stop leak if you can do it without risk. For small spills, absorb with vermiculite or other noncombustible absorbent material and place into containers for later disposal. For large spills, dike far ahead of liquid spill for later disposal. If water pollution occurs, notify the appropriate authorities. Observe all Federal, State, and Local regulations regarding notifications of accidental releases.				
7. HANDLING & STORAGE				
Avoid contact with skin, eyes, or clothing. Avoid breathing vapor or mist. Wash thoroughly after handling. Keep container tightly closed. Use only with adequate ventilation. Store away from incompatible substances in a cool, dry, ventilated area. Prolonged contact with brass, copper, or aluminum piping, containers or equipment should be avoided to prevent possible corrosive effects to these metals. Do not contaminate water, food, or feed by storage or disposal. Observe all Federal, State, and Local regulations when storing or disposing of this substance.				
8. PERSONAL PROTECTION/EXPOSURE CONTROLS				
VENTILATION	Provide local exhaust or process enclosure ventilation to minimize exposure.			
EYE/FACE PROTECTION	If potential for contact with liquid exists, use splash-proof safety goggles and a faceshield.			
SKIN PROTECTION	Wear impervious gloves and apron to prevent skin contact. Wear impermeable suit if exposure is possible to a large portion of the body.			
RESPIRATORY PROTECTION	A respiratory protection program meeting OSHA 1910.134 must be followed whenever workplace conditions warrant the use of a respirator. If exposure may exceed recommended limits, a NIOSH/MSHA-approved respirator should be used based on exposure levels found in the workplace.			
OTHER	Eyewash and safety shower should be available within the immediate work area for emergency use.			
9. PHYSICAL AND CHEMICAL PROPERTIES				
APPEARANCE	Water white to pale yellow viscous liquid	SPECIFIC GRAVITY AT 25°C. (Water=1)	1.145-1.16	
ODOR	Mild characteristic odor	WATER SOLUBILITY	Soluble	
INITIAL BOILING POINT	100°C (212°F)	pH	10.3-11.3	
VAPOR PRESSURE AT 20°C.	Unknown	EVAPORATION RATE (Butyl acetate=1)	<1	
VAPOR DENSITY (Air=1)	>1	% VOLATILES BY WEIGHT	21% nominal	
10. STABILITY & REACTIVITY				
REACTIVITY	Stable under normal temperatures and pressures.			
CONDITIONS TO AVOID	Avoid heat or sources of ignition.			
INCOMPATIBILITY	Avoid contact with strong acids, bases, and oxidizers.			
HAZARDOUS DECOMPOSITION	Decomposition may release carbon monoxide, carbon dioxide, and formaldehyde.			
HAZARDOUS POLYMERIZATION	Hazardous polymerization does not occur.			
11. TOXICOLOGICAL INFORMATION				
ACUTE ORAL EFFECTS				
LD50 (oral, rat) - 535-580 mg/kg				
ACUTE SKIN EFFECTS				
LD50 (dermal, rabbit) >2000 mg/kg. Mild skin irritation.				
ACUTE EYE EFFECTS				
Moderate to severe irritation (rabbit). Corneal damage may be irreversible if not washed from eyes promptly.				
ACUTE INHALATION EFFECTS				
Not determined				
SUBCHRONIC EFFECTS AND OTHER STUDIES				
Skin sensitization reactions associated with this product have been reported. However, the number of sensitization responses is very low. There is also information that allergic sensitivity, if it occurs, is lost at a fairly rapid rate.				
4 week inhalation toxicity (guinea pigs) - Guinea pigs were exposed to aerosol mists from cutting fluid solutions containing 0.15% and 1.5% Grotan (plus 3% cutting oil and water) for 8/hrs/day, 5 days/wk. The nominal concentrations for the 0.15% and 1.5% Grotan cutting fluids were 15 and 21 mg/L, respectively. The animals exhibited signs of eye irritation after the second week of exposure. Three animals died in 1.5% Grotan group and one animal died in the 0.15% Grotan group. Necropsy of these animals revealed haemorrhagic lungs. Whether or not the lung lesions were related to Grotan exposure was not established. No other abnormalities that could be attributed to Grotan were reported.				
Fifteen applications (5 days/week) of Grotan diluted to 0.15%, 0.75%, and 1.5% in 3% cutting oil/water fluid produced no adverse effects on rabbits.				
Mutagenicity testing - Micronucleus test; dermal, oral and subcutaneous doses - not mutagenic.				
For additional information on active ingredients, contact Troy Chemical Corporation.				

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12. ECOLOGICAL INFORMATION

ECOTOXICITY	Do not apply directly to water or wetlands. Do not contaminate water when disposing of equipment washwaters. LC50 (bluegill sunfish, adult) - 44.8 mg/l LC50 (bluegill sunfish, Fingerlings) - 27 mg/l LC50 (rainbow trout) - 67.3 mg/l
ENVIRONMENTAL FATE	This product may cause adverse environmental impact. Avoid contamination of streams and sewers.

13. DISPOSAL INFORMATION

RCRA HAZARDOUS WASTE	This product is not a RCRA hazardous waste by definition.
WASTE DISPOSAL PROCEDURE	The user of this material has the responsibility to dispose of unused material, residues, and containers in compliance with all Federal, State, and Local Regulations

14. TRANSPORTATION INFORMATION

DOT, IATA, IMDG
 This product does not meet the definition of any hazard class and therefore is not subject to DOT, IATA, and IMDG Regulations.

15. REGULATORY INFORMATION

CERCLA SECTION 103 (40CFR302.4)
 This product does not contain any chemicals that are reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

SARA SECTION 302 (40CFR355.30), SARA SECTION 304 (40CFR355.40)
 This product does not contain any chemicals that require emergency planning based on Threshold Planning Quantities (TPQ) or release reporting based on Reportable Quantities (RQ).

SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21)

ACUTE	CHRONIC	FIRE	REACTIVE	PRESSURE
<div style="border: 1px solid black; padding: 2px;">X</div>	<div style="border: 1px solid black; padding: 2px;"></div>	<div style="border: 1px solid black; padding: 2px;"></div>	<div style="border: 1px solid black; padding: 2px;"></div>	<div style="border: 1px solid black; padding: 2px;"></div>

SARA SECTION 313 (40CFR372.65)
 This product does not contain any chemicals subject to the reporting requirements of the Emergency Planning and Community Right-to-Know Act of 1986.

CHEMICAL INVENTORIES
 The ingredients of this product are all on the following Chemical Substance Inventories or are exempt.

TSCA	EINECS	DSL	AICS	ECL	ENCS	PICCS
<div style="border: 1px solid black; padding: 2px;">X</div>	<div style="border: 1px solid black; padding: 2px;">X</div>	<div style="border: 1px solid black; padding: 2px;">X</div>	<div style="border: 1px solid black; padding: 2px;">X</div>	<div style="border: 1px solid black; padding: 2px;">X</div>	<div style="border: 1px solid black; padding: 2px;">X</div>	<div style="border: 1px solid black; padding: 2px;">X</div>
U.S.	Europe	Canada	Australia	Korea	Japan	Philippines

CALIFORNIA PROPOSITION 65
 This product does not contain any chemicals that are currently on the list of Known Carcinogens and Reproductive Toxins.

STATE RIGHT-TO-KNOW
 This product is regulated by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and is exempt from State Right-to-Know labeling requirements when labeled with an approved EPA label.
 EPA Registration No. 365-76

16. OTHER

REVISIONS Prepared by: Environmental and Regulatory Affairs Dept.
 This MSDS has been revised in the following sections: (revisions indicated in left border)
 Revised format, revisions throughout MSDS

ABBREVIATIONS

PNOC - Particulates not otherwise classified	PNOR - Particulates not otherwise regulated
STEL - Short-term exposure limit	TLV - Threshold limit value
	TWA - Time-weighted average

HMIS RATING				NFPA RATING		
HEALTH	FLAMMABILITY	REACTIVITY	PERSONAL PROTECTION	HEALTH	FLAMMABILITY	REACTIVITY
3	1	1	D	3	1	1

The information contained in this MSDS is believed to be accurate and reliable as of issue date, but no representation, guarantee, or warranty, express or implied is made to the accuracy, reliability, or completeness of the information. It is provided for the purpose of complying with hazard communication regulations. It is not intended as performance information or specifications for the product. It is the user's responsibility to determine the suitability of the product for his own use. Troy does not assume legal responsibility for reliance on information herein.

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