

MATERIAL SAFETY DATA SHEET

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SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME	Extreme Cool™, Ultra Cool™, Extra Cool™		
DOCUMENT NO.	MSDS-0001	REVISION	AB
ISSUE DATE	December 6, 2004		
LAST REVIEW DATE			

EMERGENCY TELEPHONE NUMBERS
***CHEMTREC (800) 424-9300 USA / CANADA**
0 703 527 3887 INTERNATIONAL

* For spill, leak, fire or transport accident emergencies.

SUPPLIER: Thermal Dynamics Corp.
 STREET ADDRESS: 82 Benning St.
 CITY, STATE, ZIP: West Lebanon, NH 03784

MANUFACTURER: See Supplier

Product Information: (603) 298-2200

Thermal Dynamics Torch Coolant is sold in three (3) forms and all are covered by this MSDS.
 Product Identifier: Extreme Cool™, Ultra Cool™, Extra Cool™
 Product Use: Cutting and Welding Torch and System Coolant.

SECTION 2 -- COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS No.	% by wt.	OSHA ACGIH		R PHRASES	EXPOSURE LIMITS	
			PEL	TLV		LC50, ppm (inhalation, rat)	LD50, mg/kg (oral, rat)
Benzotriazole	95-14-7	<1.0	N.E.	N.E.	R22,36/37/38	1910 mg/m ³ /3h	560 mg/kg ⁻¹
Propylene Glycol	57-55-6	*	N.E.	N.E.	R36/37/38	Not available	22,000 mg/kg

* Extreme Cool™ - > 99%, Ultra Cool™ - < 51%, Extra Cool™ - < 31%

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW	Causes eye irritation. May be harmful if swallowed. May cause skin irritation.
POTENTIAL HEALTH EFFECTS	
INGESTION	May cause nausea or diarrhea.
INHALATION	Mists are harmful.
EYE CONTACT	Causes eye irritation.
SKIN CONTACT	Can cause skin irritation.

SECTION 4 - FIRST AID MEASURES

INGESTION	Never give anything by mouth to an unconscious person. Give several glasses of water. If vomiting is spontaneous, keep head below hips to prevent breathing vomit into lungs. Do not induce vomiting. Keep airway clear. Get medical attention.
INHALATION	If affected, remove from exposure. Restore breathing. Keep warm and quiet. Get medical attention.
EYE CONTACT	Immediately flush eyes with cool running water. Remove contact lenses, if applicable. Continue flushing with water for at least 15 minutes. Get immediate medical attention.
SKIN CONTACT	Wash with soap and water. If irritation develops or persists, get medical attention.
NOTE TO PHYSICIAN	Treat based on judgment of physician in response to reactions of the patient.

SECTION 5 - FIRE FIGHTING MEASURES

CONDITIONS OF FLAMMABILITY	Product can burn, but is not a combustible material at normal temperatures. Addition of water to the mixture lowers flammability.
MEANS OF EXTINCTION	Product is an aqueous solution. Use carbon dioxide, dry chemical or alcohol resistant foam. Wear positive pressure self-contained breathing apparatus.
SENSITIVITY TO MECHANICAL IMPACT / STATIC DISCHARGE	Not susceptible to mechanical impact or static discharge.
FLASH POINT	Extreme Cool™ - 109°C (228°F) (PMCC) (Aqueous solution)
UPPER FLAMMABLE LIMIT	Extreme Cool™ - 17.4% by volume
LOWER FLAMMABLE LIMIT	Extreme Cool™ - 2.4% by volume
AUTO IGNITION TEMPERATURE	371°C (700°F)
HAZARDOUS COMBUSTION PRODUCTS	Burning produces normal products of combustion such as carbon monoxide and other toxic gasses.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

RESPONSE TO SPILLS	Small spills: Mop up residues and place in a covered waste disposal container. Large spills: Dike or dam spill. Pump to containers or soak up with inert absorbent. Place in covered waste disposal container.
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SECTION 7 - HANDLING AND STORAGE

HANDLING PRECAUTIONS, PROCEDURES AND EQUIPMENT	Keep container in upright position. Avoid creating or breathing airborne vapor or mists. Avoid contact with skin, eyes, and clothing. DO NOT TAKE INTERNALLY. Clean up spills immediately.
STORAGE PRECAUTIONS	Store in a cool dry place. Keep from freezing. Keep containers lightly closed when not in use.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

HYGIENIC PRACTICES	Normal procedures for good hygiene.
ENGINEERING CONTROLS	Good general ventilation. Eye wash station in immediate area of use. M.E.L./O.E.S Nil. U.K HSE EH:40 Not listed

PERSONAL PROTECTIVE EQUIPMENT

X	RESPIRATOR	If exposed to mists.
X	GOGGLES / FACE SHIELD	Recommended.
	APRON	Not required.
X	GLOVES	Recommended; PVC, Neoprene or Nitrile acceptable.
	BOOTS	Not required.

SECTION 9 -- PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Clear red liquid	ODOR THRESHOLD	Not available
BOILING POINT	Extreme Cool™ 188°C Ultra Cool™ 107°C Extra Cool™ 102°C	FREEZING POINT	Extreme Cool™ -60°C Ultra Cool™ -33°C Extra Cool™ -12°C
SPECIFIC GRAVITY	Extreme Cool™ 1.037 Ultra Cool™ 1.018 Extra Cool™ 1.000	COEFFICIENT OF WATER/OIL DISTRIBUTION	Not available
VAPOR DENSITY	Extreme Cool™ - 2.5 (Air = 1.0)	VAPOR PRESSURE	Extreme Cool™ - 0.129 mm Hg @ 25°C (77°F)
ODOR	None	PH	5.5 - 7.0
SOLUBILITY IN WATER	Complete	EVAPORATION RATE	Extreme Cool™ - 0.01 (Butyl Acetate = 1.0)

SECTION 10 -- STABILITY AND REACTIVITY

CHEMICAL STABILITY	STABLE	X	UNSTABLE	
CONDITIONS TO AVOID	High temperatures, oxidizing conditions.			
INCOMPATIBILITY	Reacts with strong oxidizing agents, strong acids, isocyanates.			
HAZARDOUS PRODUCTS OF DECOMPOSITION	See "HAZARDOUS COMBUSTION PRODUCTS" above.			
POLYMERIZATION	WILL NOT OCCUR	X	MAY OCCUR	

SECTION 11 -- TOXICOLOGICAL INFORMATION

CARCINOGENICITY

	THIS PRODUCT CONTAINS A KNOWN OR SUSPECTED CARCINOGEN
X	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.

ROUTES OF EXPOSURE AND ACUTE / CHRONIC EFFECTS

EXPOSURE LIMITS	See section 2.
INHALATION	Not expected to present significant inhalation hazard under anticipated conditions of normal use. Inhalation may cause irritation of the nose and throat; headache, nausea and drowsiness.
SKIN CONTACT	Not expected to present significant skin hazard under anticipated conditions of normal use. Skin contact may cause irritation.
EYE CONTACT	May cause minor eye irritation.
INGESTION	May cause nausea, diarrhea.
CHRONIC EFFECTS	Lactic acidosis, no adverse systemic changes in animals reported other than cats (species-specific) with hematological changes (Heinz body formation), yet all other tissues unaffected. Overall low inherent toxicity following repeated oral and inhalation exposure.
TERATOGENICITY	Studies in pregnant rats, mice, hamsters and rabbits demonstrate no teratogenic or fetotoxic effects.
MUTAGENICITY	Negative for genotoxicity both in vitro and in vivo tests.
REPRODUCTIVE TOXICITY	No adverse effect on reproductive performance was seen in male and female mice exposed continuously to high doses of propylene glycol in drinking water for up to three months.
SENSITIZATION	Not expected to cause sensitization by skin contact, however skin reactions have been described in hypersensitive individuals following topical application.
SYNERGISTIC MATERIALS	None known.

SECTION 12 – ECOLOGICAL INFORMATION

BIODEGRADABILITY	Not available.	CONSIDERED BIODEGRADABLE	NOT BIODEGRADABLE
BOD / COD VALUE	Not available.		
ECOTOXICITY	Not available.		

SECTION 13 – DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD	Waste material must be disposed of in accordance with national / local Legislative requirements.		
RCRA CLASSIFICATION	Non hazardous.		
RECYCLE CONTAINER	YES	X	CODE 2 – HDPE
			NO

SECTION 14 – TRANSPORT INFORMATION

UN CLASSIFICATION	HAZARDOUS	NOT HAZARDOUS	X
DESCRIPTION	Not applicable.		
SPECIAL SHIPPING INFORMATION	No special shipping requirements.		

SECTION 15 – REGULATORY INFORMATION

REGULATORY STATUS: Benzotriazole

1.	Labeling Information	Irritant
2.	R Phrases	R 36/37/38, 22
3.	S Phrases	S 24/25, 26
4.	EI NECS No.	Not listed
5.	EC annex 1 Classification	Nil.
6.	German WGK	-

WHMIS Information: Class D2A, Poisonous and Infectious Materials, Other Toxic Effects, Toxic Materials.
 TDG Information: Not regulated as dangerous goods.
 Department of Transportation (DOT): Not hazardous according to DOT criteria.

SECTION 16 – OTHER INFORMATION

NFPA CLASSIFICATION

0	BLUE	HEALTH HAZARD
1	RED	FLAMMABILITY
0	YELLOW	REACTIVITY
N/A	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 Thermal Dynamics in connection with the use of this information. Regulatory requirements are subject to change and may differ from one location to another. It is the buyer's responsibility to ensure that its activities comply with federal, provincial or state, and local laws. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and this MSDS contains all the information required by the Controlled Products Regulations.