

Pro-Thaw™

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MSDS NO. Pro-Thaw

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product Name: Pro-Thaw

Manufacturer: Diversitech

6650 Sugarloaf Parkway, Duluth, GA, 30097

EMERGENCY Phone No.: 1 800.255.3924 Chem-Tel (Chemical Emergencies)

Phone (For Information): 1+678.542.3600

DATE REVISED: 06.08.2011

PREPARED BY: Anthony Jernigan

2. HAZARDS IDENTIFICATION

Emergency Overview

Color: Clear

Physical State: Liquid

Odor: Faint alcohol odor

Hazards of product: Poison! Cannot be made non-poisonous. Causes eye and skin irritation. Methanol has caused adverse fetal and reproductive effects in animals.

Danger: Flammable liquid and vapor. Harmful if inhaled. May be fatal or cause blindness if swallowed. May cause central nervous system depression. May cause digestive tract irritation with nausea, vomiting, and diarrhea. Causes respiratory tract irritation. May cause liver, kidney and heart damage.

Target Organs: Kidneys, heart, central nervous system, liver, eyes.

Potential Health Effects

Eye: Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. May cause painful sensitization to light.

Skin: Causes moderate skin irritation. May be absorbed through the skin in harmful amounts. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis.

Ingestion: May be fatal or cause blindness if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause systemic toxicity with acidosis. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. May cause cardiopulmonary system effects.

Inhalation: Harmful if inhaled. May cause adverse central nervous system effects including headache, convulsions, and possible death. May cause visual impairment and possible permanent blindness. Causes irritation of the mucous membrane.

Chronic: Prolonged or repeated skin contact may cause dermatitis. Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion. Chronic exposure may cause reproductive disorders and teratogenic effects. Laboratory experiments have resulted in mutagenic effects. Prolonged exposure may cause liver, kidney, and heart damage

Routes of exposure: Eye, Skin contact, Inhalation, Ingestion.

Signs and symptoms: Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

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3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS No.:	% or Range	Symbol	Risk Phrases
Methanol	67-56-1	85-95	T, F	R-11, R-39/23/24/25
Ethanol	64-17-5	5-15	F	R-11

See Section 8 for workplace exposure limits.

See Section 16 for additional information on risk phrases.

4. FIRST AID MEASURES

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately. Induce vomiting by giving one teaspoon of Syrup of Ipecac. Call 911 or the nearest poison control center or 1- (800) 255-3924 (Chem-Tel) for advice

Inhalation: Get medical aid immediately. Remove from exposure to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: Effects may be delayed. Ethanol may inhibit methanol metabolism.

General advice: If you feel unwell, seek medical advice (show the product label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

5. FIRE FIGHTING MEASURES

General Information: Containers can build up pressure if exposed to heat and/or fire. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Use water spray to keep fire-exposed containers cool. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water.

Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. For large fires, use water spray, fog or alcohol-resistant foam. Do NOT use straight streams of water.

Flammable properties: Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint.

Extinguishing media: Carbon dioxide. Dry chemical. Fog. Foam.

Specific hazards arising from the chemical: May be ignited by heat, sparks, and flame. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Vapors can travel to a source of ignition and flash back.

Protective equipment for firefighters: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

Hazardous combustion products: May include and are not limited to: Oxides of carbon.

Lower explosion limit: 6.0 vol %,

Upper explosion limit: 36.00 vol %

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6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep untrained personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.

Methods for containment: Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Scoop up with a non-sparking tool, then place into a suitable container for disposal. Use water spray to disperse the gas/vapor. Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as saw dust. Provide ventilation. A vapor suppressing foam may be used to reduce vapors. Water spray may reduce vapor but may not prevent ignition in closed spaces.

7. HANDLING AND STORAGE

Handling: Use good industrial hygiene practices in handling this material. Wash hands thoroughly after handling, and before eating, smoking or using the toilet. Remove contaminated clothing and wash before reuse. Ground and bond equipment and containers when transferring material to prevent ignition from static discharge. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with heat, sparks and flame. Do not ingest or inhale. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Do not store with incompatible materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Keep containers tightly closed. Do not store in aluminum or lead containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure limits:	TWA	STEL
ACGIH	200ppm	250ppm (potential for cutaneous absorption)
NIOSH	200ppm; 260 mg/m ³	6000ppm (IDLH)
OSHA (Final PELs)	200ppm; 260 mg/m ³	
OSHA Vacated PELs:		
Methyl alcohol:	200ppm; 260 mg/m ³	250ppm; 325 mg/m ³

Personal protective equipment:

Eye / face protection: Wear safety glasses, goggles or face shield if splash hazard exists.

Hand protection: Wear rubber, neoprene or nitrile gloves to minimize exposure.

Skin and body protection: Wear rubber, neoprene or nitrile aprons, oversleeves or boots as necessary to minimize contact with skin.

Respirators: A respiratory protection program that meets OSHA's 29 CFR §1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use. Avoid breathing mists or vapors.

General hygiene considerations Use good industrial hygiene and safety practices. Do not eat, drink or smoke when using this product. Wash hands immediately after handling the product, before eating, drinking, smoking or using the toilet.

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9. PHYSICAL & CHEMICAL PROPERTIES

Appearance: clear, colorless liquid

Odor: weak, alcohol-like odor

pH: Not available.

Vapor Pressure: 128 mm Hg @ 20°C

Vapor Density: 1.11 (Air=1)

Evaporation Rate: 5.2 (Ether=1)

Viscosity: 0.55 cP 20°C

Boiling Point: 64.7°C @ 760.00mm Hg

Freezing/Melting Point: -98°C

Autoignition Temperature: 464 deg C (867.20 deg F)

Flash Point: 11°C (51.80°F)

Decomposition Temperature: Not available.

NFPA Rating: (estimated) Health: 1; Flammability: 3; Reactivity: 0

Explosion Limits, Lower: 6.0 vol %

Upper: 36.00 vol %

Solubility: water miscible in all proportions

Specific Gravity/Density: .7910g/cm³

10. CHEMICAL STABILITY & REACTIVITY INFORMATION

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: High temperatures, incompatible materials, ignition sources, oxidizers.

Incompatibilities with Other Materials: Mineral acids, organic acids, hydrazines, isocyanates, nitride, peroxides and hydroperoxides, epoxides, oxidizers, alkali metals, acetyl bromide, alkyl aluminum salts, beryllium dihydride, carbon tetrachloride, carbon tetrachloride + metals, chloroform + heat, chloroform + sodium hydroxide, cyanuric chloride, diethyl zinc, potassium-tert-butoxide, chloroform + hydroxide, and water reactive substances

Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, formaldehyde.

Hazardous Polymerization: Will not occur

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11. TOXICOLOGICAL INFORMATION

Data for Methanol, CAS# 67-56-1

LD50/LC50:

Draize test, rabbit, eye: 40 mg Moderate;
Draize test, rabbit, eye: 100 mg/24H Moderate;
Draize test, rabbit, skin: 20 mg/24H Moderate;
Inhalation, rat: LC50 = 64000ppm/4H;
Oral, mouse: LD50 = 7300 mg/kg;
Oral, rabbit: LD50 = 14200 mg/kg;
Oral, rat: LD50 = 5628 mg/kg;
Skin, rabbit: LD50 = 15800 mg/kg;<BR.

Carcinogenicity:

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: Methanol has been shown to produce fetotoxicity in the embryo or fetus of laboratory animals. Specific developmental abnormalities include cardiovascular, musculoskeletal, and urogenital systems.

Teratogenicity:

Effects on Newborn:

Rat, Oral, Behavioral: TDLo=7500 mg/kg (female 17-19 days after conception).

Effects on Embryo or Fetus:

Rat, Inhalation Fetotoxicity: TCLo=10000 ppm/7H (female 7-15 days after conception).

Specific Developmental Abnormalities:

Rat, Cardiovascular, Musculoskeletal, Urogenital, Inhalation: TCLo=20000 ppm/7H (7-14 days after conception).

Reproductive Effects:

Paternal Effects:

Spermatogenesis: Mouse, Intraperitoneal, TDLo=5 g/kg (male 5 days pre-mating). Fertility: Rat, Oral: TDLo = 35295 mg/kg (female 1-15 days after conception).

Paternal Effects:

Rat, Oral, Testes, Epididymis, Sperm duct: TDLo = 200 ppm/20H (male 78 weeks pre-mating).

Neurotoxicity: No information available.

Mutagenicity:

DNA inhibition:

Human Lymphocyte = 300mmol/L. DNA damage: Oral, rat = 10umol/kg.

Mutation in microorganisms: Mouse Lymphocyte = 7900 mg/L. Cytogenetic analysis: Oral, mouse = 1 gm/kg.

Other Studies: Standard Draize Test (Skin, rabbit) = 20 mg/24H (Moderate)

Standard Draize Test: Administration into the eye (rabbit) = 40 mg (Moderate).

Standard Draize test: Administration into the eye (rabbit) = 100 mg/24H (Moderate).

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12. ECOLOGICAL INFORMATION

Ecotoxicity:

Fish:

Fathead Minnow, LC50, 96 Hr: 29.4 g/L

Goldfish, 11 Hr: 250ppm; resulted in death

Rainbow trout, 48 Hr LC50: 8000 mg/L

Rainbow trout, 96 Hr LC50: 13-68 mg/L @ 12°C

Fathead Minnow, 96 Hr LC50: 29400 mg/L @ 25°C, pH 7.63

Rainbow trout, 48 Hr LC50: 8000 mg/L

Unspecified ria: Phytobacterium phosphoreum: EC50 = 51,000-320,000 mg/L; 30 minutes

Microtox test: No data available.

Environmental: Dangerous to aquatic life in high concentrations. May be dangerous if it enters water intakes.

Bioconcentration factor for fish (golden ide) < 10.

Based on a log Kow of -0.77, the BCF value for methanol can be estimated to be 0.2.

Physical: No information available.

Other: None.

Ecotoxicity: Not available

Environmental effects: Not available

Aquatic toxicity: TLm 96>1000ppm

Persistence/degradability: Methyl alcohol is expected to biodegrade in soil and water very rapidly.

This product will show high soil mobility and will be

Bioaccumulation: Not likely

Partition coefficient: log KOW of -0.77

Environmental mobility: Highly mobile

Chemical fate information: methanol degrades from the ambient atmosphere by the reaction with photochemically produced hydroxyl radicals. The estimated half-life is 17.8 days.

13. DISPOSAL CONSIDERATIONS

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3.

Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: CAS# 67-56-1: waste number U154; (Ignitable waste).

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14. TRANSPORT INFORMATION

U.S. Department of Transportation (DOT):

For inner containers with a capacity of one liter or less:

UN1993, Flammable liquid, N.O.S. (contains methanol), 3, PGII, LTD. QTY.

For inner containers or packages with a capacity greater than one liter:

UN1993, Flammable liquid, N.O.S. (contains methanol), 3, PGII

Transportation of Dangerous Goods (TDG - Canada): UN1993, Flammable liquid, N.O.S. (contains methanol), 3, PGII

International Maritime Organization (IMO):

For inner containers with a capacity of one liter or less:

UN1993, Flammable liquid, N.O.S. (contains methanol), 3, PGII, LTD. QTY.

For inner containers or packages with a capacity greater than one liter:

UN1993, Flammable liquid, N.O.S. (contains methanol), 3, PGII

Flash Point: 11°C

Marine Pollutant: No

15. REGULATORY INFORMATION

US FEDERAL:

TSCA

Methanol, CAS# 67-56-1, is listed on the TSCA inventory.

Health & Safety Reporting List: None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules : None of the chemicals in this product are under a Chemical Test Rule.

Section 12b: None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule: None of the chemicals in this material have a SNUR under TSCA.

SARA

Section 302 (RQ): Methanol, CAS# 67-56-1: final RQ = 5000 pounds (2270 kg)

Section 302 (TPQ): None of the chemicals in this product have a TPQ.

SARA Codes: Methanol, CAS# 67-56-1: acute, flammable.

Section 313: This material contains Methyl alcohol (CAS# 67-56-1) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act: Methanol, CAS# 67-56-1, is listed as a hazardous air pollutant (HAP). This material does not contain any Class 1 or Class 2 Ozone depleters.

Clean Water Act: Does not apply

OSHA: None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

Methanol, CAS# 67-56-1, can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

California No Significant Risk Level: None of the chemicals in this product are listed.

WGK (Water Danger/Protection)

CAS# 67-56-1: 1

Canada

CAS# 67-56-1 is listed on Canada's DSL List. CAS# 67-56-1 is listed on Canada's DSL List.

This product has a WHMIS classification of B2, D1A, D2B.

CAS# 67-56-1 is listed on Canada's Ingredient Disclosure List.

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16. OTHER INFORMATION

Risk Phrase(s):

Hazard Symbols:



Toxic Flammable

Risk Phrases:

R 11 Highly flammable.

R 39/23/24/25 Toxic : danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 36/37 Wear suitable protective clothing and gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 7 Keep container tightly closed.

HMIS Rating:

Health: 3

Flammability: 3

Reactivity: 1

Hazard rating: Severe 4, Serious 3, Moderate 2, Slight 1, Minimal 0