



CLEANBOOST COLD FLOW™ (DIESEL FUEL CONDITIONER)

SECTION 1: PREPARATION INFORMATION

MANUFACTURER/SUPPLIER:	24 HOUR EMERGENCY TELEPHONE:
Combustion Technologies USA, LLC 11255 S 1740 E SANDY, UTAH 84092 USA	CHEMTREC: 800-424-9300 (North America – toll free) +703-527-3887 (International - collect)
For product information call: +416-410-3333 Regulatory Information Group	Date of Last Revision: Oct 30, 2009 Supersedes MSDS Dated: Mar 29, 2007

SECTION 2: PRODUCT INFORMATION

Product Name:	CleanBoost Cold Flow™
Product Code:	CT-CBCF
Chemical Name:	Proprietary mixture
Common Name:	Diesel fuel conditioner
CAS Number:	Mixture
Product Use:	Fuel additive

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT NAME:</u>	<u>% w/w</u>	<u>CAS NO.</u>
SOLVENT NAPHTHA, PETROLEUM, LIGHT AROMATIC	20.0 - 30.0	64742-95-6
1,2,4-TRIMETHYLBENZENE	15.0 - 20.0	95-63-6
1,3,5-TRIMETHYLBENZENE	< 10.0	108-67-8
XYLENE	< 5.0	1330-20-7
TRIMETHYLBENZENE	< 5.0	25551-13-7
CUMENE	< 2.0	98-82-8
ETHYLBENZENE	< 1.0	100-41-4
VINYL ACETATE	0.1	108-05-4

Contains no other ingredients now known to be hazardous as defined by OSHA 29 CFR 1910.1000(z)

(See Section 9 for exposure guidelines)

(See Section 16 for regulatory information)

SARA 311 CATEGORIES:

Immediate (Acute) Health Effects	Yes
Delayed (Chronic) Health Effects.....	Yes
Fire Hazard.....	Yes
Sudden Release Of Pressure Hazard.....	No
Reactivity Hazard	No



SECTION 4: HAZARDS IDENTIFICATION

PRINCIPLE HAZARDS:

Combustible liquid. Can cause severe lung damage and may be fatal if swallowed. May cause central nervous system depression.

<u>HMIS Rating:</u>	Health:	2	<u>NFPA Rating:</u>	Health:	2
	Flammability:	2		Flammability:	2
	Reactivity:	0		Reactivity:	0

POTENTIAL HEALTH EFFECTS:

EYE:

May cause eye irritation or discomfort if splashed into eyes.

SKIN:

Brief contact may cause slight irritation. Repeated or prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort, seen as local redness and swelling. Avoid prolonged skin contact.

INHALATION:

Inhalation of vapor and/or skin absorption can cause central nervous system effects, including dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death. Chronic exposures may cause hearing loss, irregular heart rhythms and potential cardiac arrest. Moderately irritating to respiratory tract.

INGESTION:

Liquid can directly enter the lungs when swallowed or vomited. Serious lung damage and possibly fatal chemical pneumonia can develop if this occurs.

SIGNS AND SYMPTOMS OF EXPOSURE:

Effects of overexposure may include eye and skin irritation, irritation of the nose and throat. Central nervous system effects include dizziness, headache, drowsiness, loss of coordination, fatigue, giddiness, loss of appetite and abdominal pain. Symptoms of ingestion include irritation of digestive tract, nausea, vomiting and diarrhea.

CARCINOGENICITY INFORMATION:

Vinyl Acetate Monomer has been classified by the International Agency for Research on Cancer as possibly carcinogenic to humans (Group 2B). This IARC classification was based upon limited evidence of carcinogenicity to animals and inadequate evidence of carcinogenicity to humans. Ethylbenzene has been classified by IARC as a possible human carcinogen (Group 2B) on the basis of sufficient evidence of carcinogenicity in experimental animals, but inadequate evidence in exposed humans.

TARGET ORGAN:

Target organs: Heart, Auditory System.

SECTION 5: FIRST AID MEASURES

EYE CONTACT FIRST AID:

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Remove any contact lenses if worn. Get medical attention if irritation develops or persists.



SECTION 5: FIRST AID MEASURES (continued)

SKIN CONTACT FIRST AID:

Wash skin with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists. Wash clothing separately before reuse.

INHALATION FIRST AID:

Remove to fresh air. If not breathing, give artificial respiration and contact a physician immediately. If breathing is difficult, administer oxygen and contact a physician immediately.

INGESTION FIRST AID:

If swallowed, do NOT induce vomiting, but have the victim rinse mouth with water, and then drink 2 - 4 cupfuls of water. Get immediate medical attention. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

NOTES TO PHYSICIAN:

Activated charcoal mixture may be administered. To prepare activated charcoal mixture, suspend 50 grams activated charcoal in 400 mls of water and mix thoroughly. Administer 5 ml/kg or 350 ml for an average adult. Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk justified by the presence of additional toxic substances. Activated charcoal may induce vomiting, but may be given after emesis or lavage to absorb toxic additives. Steroid therapy in mild to moderate cases does not improve outcome. Bacterial pneumonia often occurs after exposure, but prophylactic antibiotics are not indicated and should be reserved for documented bacterial pneumonia. Light hydrocarbons have been associated with cardiac sensitization in abuse situations. Hypoxia or the injection of adrenaline-like substances enhanced these effects.

SECTION 6: FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

PMCC Flash Point: 42.2 °C (108.0 °F)

Autoignition Temperature: N/A

FLAMMABLE LIMITS IN AIR:

LEL: N/A

UEL: N/A

EXTINGUISHING MEDIA:

Carbon dioxide, foam or dry chemical.

FIRE & EXPLOSION HAZARDS:

Combustible Liquid. Material can burn in a fire, releasing toxic vapors, fumes and smoke, including carbon monoxide and organic vapors. Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure buildup, which could result in container rupture or explosion.

FIRE FIGHTING INSTRUCTIONS:

As in any fire, wear self-contained breathing apparatus pressure-demand MSHA/NIOSH (approved or equivalent) and full protective gear. Avoid breathing smoke and vapor.

COMBUSTION PRODUCTS:

Hazardous decomposition products are oxides of carbon and nitrogen including CO and CO₂.



SECTION 7: ACCIDENTAL RELEASE MEASURES

SAFEGUARDS (PERSONNEL):

Wear appropriate personal protective equipment (See Section 9). Evacuate non-emergency personnel to a safe area. If applicable, report spills to the proper environmental agencies as required by federal, state/provincial and local regulations.

INITIAL CONTAINMENT:

Eliminate all sources of ignition - Heat, sparks, flame, electricity, and impact. Contain spilled material with dikes or absorbents. Do not allow material to enter soil, surface water, or sewer system. If possible, try to contain floating material.

LARGE SPILLS PROCEDURE:

Stop the source of the leak, if it is safe to do so. Contain spilled material. Vacuum or sweep up material and place in a disposal container. Absorb residue with inert material (e.g. dry sand or earth), then place in a chemical waste container. Do not flush to sewer. Use explosion-proof equipment during clean-up.

SMALL SPILLS PROCEDURE:

Absorb spills with inert material. Transfer to a chemical waste container and dispose of properly. Spills are extremely slippery and should be cleaned up immediately.

MISCELLANEOUS:

Treat or dispose of in accordance with all federal, state/provincial, and local requirements.

SECTION 8: HANDLING AND STORAGE

HANDLING (PERSONNEL):

DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

Ground and bond containers when transferring material.

Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Keep away from food and drinking water.

HANDLING (PHYSICAL ASPECTS):

Secure container after each use. Store in a cool dry, secure area. Keep out of reach of children. Ground containers when transferring material. Avoid contact with strong oxidizing agents. Empty drums should be completely drained, properly bunged, and promptly returned to a drum re-conditioner, or properly disposed of.

STORAGE PRECAUTIONS:

Store in a tightly closed container. Store in a cool dry place. Eliminate all sources of ignition - heat, sparks, flame, electricity, impact and friction. Contact with hot surfaces may ignite the material.

SECTION 9: EXPOSURE CONTROLS - PERSONAL PROTECTION

ENGINEERING CONTROLS:

Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product.

EYE / FACE PROTECTION REQUIREMENTS:

Wear safety glasses with side shields (or goggles) and a face shield.



SECTION 9: EXPOSURE CONTROLS - PERSONAL PROTECTION (continued)

SKIN PROTECTION REQUIREMENTS:

Wear protective gloves to minimize skin contamination. When prolonged or frequently repeated contact could occur, use protective clothing impervious to this material. Wash hands thoroughly after handling.

RESPIRATORY PROTECTION REQUIREMENTS:

Under normal use conditions, with adequate ventilation, no special handling equipment is required. If anticipating close contact with this product or its mist, local ventilation may be required to keep exposure below limits.

EXPOSURE GUIDELINES:

1,2,4-TRIMETHYLBENZENE
ACGIH TWA: 25 ppm

1,3,5-TRIMETHYLBENZENE
ACGIH TWA: 25 ppm

XYLENE
OSHA TWA: 100 ppm
OSHA STEL: 150 ppm

TRIMETHYLBENZENE
OSHA TWA: 25 ppm
ACGIH TWA: 25 ppm

CUMENE
OSHA PEL: 50 ppm, 245 mg/m³
OSHA TWA: 50 ppm
ACGIH TWA: 50 ppm

ETHYLBENZENE
OSHA TWA: 100 ppm
OSHA STEL: 125 ppm
ACGIH STEL: 125 ppm

VINYL ACETATE
OSHA TWA: 10 ppm, 30 mg/m³
OSHA STEL: 20 ppm.

SECTION 10: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Amber liquid	pH:	Not applicable
BOILING POINT:	Not determined	SOLUBILITY:	Nil
EVAPORATION POINT:	Less than ether	SPECIFIC GRAVITY:	0.894 (Water = 1)
FLAMMABILITY:	Combustible liquid	VAPOR DENSITY:	Heavier than air
FLASH POINT:	42.2 °C (108.0 °F)	VAPOR PRESSURE:	<0.01mm Hg @ 20° C
ODOR:	Aromatic odor	% VOLATILE	100%



SECTION 11: STABILITY AND REACTIVITY

STABILITY:

Stable at normal temperatures and storage conditions.

POLYMERIZATION:

Hazardous polymerization will not occur.

INCOMPATIBILITY WITH OTHER MATERIALS:

Avoid contact with strong oxidizing agents, such as nitric and sulfuric acids, halogens, hydrogen peroxide and chlorinating agents. May burn or react violently with fluorine/oxygen mixtures with 50-100% fluorine. Decomposes with heat.

DECOMPOSITION:

In the case of fire, a complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide, smoke and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

CONDITIONS TO AVOID:

Sources of ignition and temperatures above 50 °C (122 °F) – 60 °C (140 °F).

SECTION 12: TOXICOLOGICAL INFORMATION

EYE EFFECTS:

Vinyl Acetate is a severe eye irritant (rabbit).

Solvent Petroleum Naphtha, slightly irritating (rabbit).

SKIN EFFECTS:

Vinyl Acetate is a slight skin irritant. Skin absorption LD50 is 2,335 mg/kg in rabbits for Vinyl Acetate.

Solvent Petroleum Naphtha, no deaths reported at 4 ml/kg (Rat). Slightly irritating (rabbit, 4 hour(s)).

ACUTE ORAL EFFECTS:

Oral LD50 for Vinyl Acetate Monomer is 2,920 mg/kg in rats.

Solvent Petroleum Naphtha, LD50, 10 ml/kg in rats.

ACUTE INHALATION EFFECTS:

Inhalation 4 hour LC50 is 4,000 ppm in rats for Vinyl Acetate Monomer.

Solvent Petroleum Naphtha, no deaths at 710 ppm (v) (Rat) 4 Hour (s).

MISCELLANEOUS:

Vinyl Acetate: No effects from repeated exposure to vinyl acetate by inhalation were observed at 100 ppm in rats. Exposure to higher concentrations of vinyl acetate by inhalation caused eye irritation and lacrimation, reduced weight gain, and irritation of the respiratory tract with breathing difficulty. The effects observed in rats and mice exposed by inhalation to 200 and 600 ppm for two years include reduced body weight. Repeated exposures by administration of vinyl acetate in the drinking water caused decreased weight gain, and low liver weights. Reduced body weight occurred in rats administered 5000 ppm in their drinking water for two years. Vinyl acetate is weakly carcinogenic in rats, but not in mice. The compound does not have an adverse effect on the development of rats and its effect on reproduction is not considered significant. The genotoxicity of vinyl acetate is equivocal. Genetic damage was produced in some types of cell cultures and in animals, but was negative in other studies. No tests for heritable genetic damage were available.

Please contact supplier for additional toxicological information.



SECTION 13: ECOLOGICAL INFORMATION

MISCELLANEOUS:

Please contact supplier for ecological information.

SECTION 14: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

Do not dispose of into waste water treatment facilities. Treat or dispose of waste material in accordance with all federal, state/provincial, and local requirements.

This material, if discarded, is considered a hazardous waste under RCRA Regulation 40 CFR 161.

SECTION 15: TRANSPORTATION INFORMATION

PRODUCT LABEL	CleanBoost Cold Flow™
DOT SHIPPING NAME	Combustible Liquid, N.O.S.
TECHNICAL SHIPPING NAME ..	Contains Petroleum Naphtha, 1,2,4-Trimethylbenzene
DOT HAZARD CLASS	Combustible Liquid
UN NUMBER	NA1993
PACKAGE CLASS	Packing Group III

SECTION 16: REGULATORY INFORMATION

REGULATORY DISCLOSURES:

New Jersey Right to Know list:

- 1,2,4-Trimethylbenzene, CAS #95-63-6, < 15 - 20 %.
- 1,3,5-Trimethylbenzene, CAS # 108-67-8, < 10 %.
- Cumene, CAS # 98-82-8, < 2.0%.
- Xylene, CAS # 1330-20-7, < 5 %.

Pennsylvania Right to Know List:

- 1,2,4-Trimethylbenzene, CAS #95-63-6, < 15 - 20 %.
- Cumene, CAS # 98-82-8, < 2 %.
- Xylene, CAS # 1330-20-7, < 5 %.

Canadian Disclosure List

- 1,2,4-TRIMETHYLBENZENE (95-63-6)
- 1,3,5-TRIMETHYLBENZENE (108-67-8)
- TRIMETHYLBENZENE (25551-13-7)
- CUMENE (98-82-8)
- ETHYLBENZENE (100-41-4)

SARA Title III - Section 313

- 1,2,4-TRIMETHYLBENZENE (95-63-6)
- XYLENE (1330-20-7)
- CUMENE (98-82-8)
- ETHYLBENZENE (100-41-4)



SECTION 16: REGULATORY INFORMATION (continued)

CERCLA Hazardous Substances

XYLENE (1330-20-7) -- RQ 1000 lb
CUMENE (98-82-8) -- RQ 5000 lb
ETHYLBENZENE (100-41-4) -- RQ 1000 lb
VINYL ACETATE (108-05-4) -- RQ 5000 lb

RCRA Hazardous Substances

XYLENE (1330-20-7) -- RCRA Code: U239
CUMENE (98-82-8) -- RCRA Code: U055

Clean Air Act - Section 112

VINYL ACETATE (108-05-4)

Title V

1,2,4-TRIMETHYLBENZENE (95-63-6)
XYLENE (1330-20-7)
CUMENE (98-82-8)
ETHYLBENZENE (100-41-4)
VINYL ACETATE (108-05-4)

SC Toxic Air Pollutants List

XYLENE (1330-20-7)
CUMENE (98-82-8)
ETHYLBENZENE (100-41-4)
VINYL ACETATE (108-05-4)

MISCELLANEOUS INFORMATION:

This material or all of its components are listed on the Inventory of Existing Chemical Substances under the Toxic Substance Control Act (TSCA).

SECTION 17: OTHER INFORMATION

GENERAL:

This information has been compiled from sources considered to be dependable and is accurate to the best knowledge of Combustion Technologies USA, LLC. The Company makes no warranty whatsoever, expressed or implied, of MERCHANTABILITY OR FITNESS FOR THE PARTICULAR PURPOSE, regarding the accuracy of such data or the results to be obtained from the use thereof. The Company assumes no responsibility for injury to recipient or third persons or for any damage to any property and recipient assumes all such risks.

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