

**Fuel Enhancer****1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Manufacturer Name: Thermofluid Technologies, Inc.
3031 Topside Business Park Drive
Louisville, TN 37777 USA

Revised: 01/14/2014

Prepared by Missy Simpson
CHEMTREC 1-800-424-9300
MSDS Contact 1-865-983-1633
Information info@redtek.com

USES: Gasoline and diesel fuel additive

Formula: Fuel Enhancer

2. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW****Appearance and Odor**

Light green liquid. Alcohol-type odor.

Health Hazards

WARNING! Causes eye irritations. Vapors may cause nose and throat irritation, and headache, drowsiness or other effects to the central nervous system. Aspiration hazard if swallowed – can enter lungs and cause damage. May cause skin irritation.

Safety Hazards

WARNING! Flammable liquid and vapor. Vapor is heavier than air and may spread long distances along the ground and ignite. Electrostatic discharges may be generated during pumping.

POTENTIAL HEALTH HAZARDS (See Section 11 for more information)**Likely Routes of Exposure**

Eye, skin and inhalation.

Inhalation

Inhalation of vapors may cause nose and throat irritation. Other symptoms may include drowsiness, dizziness, and headache. Other signs of central nervous system depression may include confusion, lack of coordination and/or nausea.

Ingestion

Swallowing can cause diarrhea, nausea, vomiting, abdominal pain, or labored breathing. Vomiting may cause aspiration into the lungs with the risk of chemical pneumonitis.



Fuel Enhancer

Skin Contact

Not normally irritating. Repeated or prolonged exposure may cause defatting of the skin, resulting in dryness, redness, cracking and/or scaling (dermatitis).

Eye Contact

Causes eye irritation, resulting in redness, burning, swelling and/or blurred vision. May cause corneal inflammation.

Medical Conditions Aggravated by Exposure

Pre-existing eye, respiratory or skin disorders may be aggravated by exposure.

Target Organs

Prolonged or repeated contact with high concentrations may affect the central nervous system, respiratory system and skin.

Other Hazards

None.

POTENTIAL ENVIRONMENTAL EFFECTS (See Section 12 for more information)

The components of this product are not considered to be toxic to aquatic or terrestrial life.

OTHER INFORMATION

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

3. COMPOSITION/INFORMATION ON INGREDIENTS

OSHA HAZARDOUS COMPONENTS

<u>COMPONENT</u>	<u>Typical Wt %</u>	<u>CAS NUMBER</u>	<u>CARCINOGEN</u>
Isopropyl alcohol	60-69%	67-63-0	No
Petroleum hydrocarbons	20-29%	8008-20-6	No
Petroleum naptha	1-4.9%	Mixture	No
MT-10 additive (hydrocarbon mixture)	>1%	None*	No

Additional Information: *The MT-10 Metal Treatment additive (hydrocarbon mixture) is a trade secret of MPC. This component contains no carcinogens, mutagens or toxic substances as listed by OSHA, IARC or NTP.

4. FIRST AID MEASURES

EYE CONTACT

Immediately flush with water for at least 15 minutes while holding eyelids open. Remove contact lenses if worn. Get medical attention immediately if irritation persists.



MATERIAL SAFETY DATA SHEET

Version: 2.1

02/24/14

Fuel Enhancer

SKIN CONTACT

Immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Call a physician if irritation develops and persists. Wash clothing and clean shoes before reuse.

INHALATION

Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

INGESTION

Do NOT induce vomiting. If vomiting occurs have person lean forward with head below hips to prevent aspiration into the lungs. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

NOTE TO PHYSICIANS

May cause central nervous system depression.

ADDITIONAL ADVICE

None

5. FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA

Use water fog, dry chemical, carbon dioxide or alcohol-resistant foam. Liquid may float and re-ignite on the surface of water. Sand or earth may be used for small fires.

UNSUITABLE EXTINGUISHING MEDIA

Water except as fog.

PRODUCTS OF COMBUSTION

Carbon monoxide if incomplete combustion occurs.

FIREFIGHTER PROTECTION

Wear full protective clothing and self-contained breathing apparatus. Vapor is heavier than air, spreads along the ground, and distant ignition is possible. Vapors can accumulate to form explosive concentrations. Use water spray to disperse vapors and keep adjacent containers cool.

ADDITIONAL ADVICE

See Section 9 for flammable properties.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Eliminate all ignition sources. Evacuate personnel to safe area. Use appropriate personal protective equipment (see Section 8). Take precautionary measures against static electricity.

**Fuel Enhancer****ENVIRONMENTAL PRECAUTIONS**

Contain spill to prevent environmental contamination. Keep from entering drains, sewers, waterways or soil.

METHODS FOR CONTAINMENT

Stop the spill or leak if possible without personal risk. Absorb with a non-combustible material (sand, earth, diatomaceous earth, vermiculite). Use water spray to disperse vapors if necessary.

METHODS FOR CLEAN-UP

Use non-sparking tools or explosion-proof equipment. Bond and ground electrical equipment. Vacuum or sweep material. Place waste in a container, seal, and dispose of safely.

OTHER INFORMATION

Observe all relevant federal, state and/or local regulations.

7. HANDLING AND STORAGE**HANDLING**

Keep away from heat, sparks, and flame. Use grounding or bonding connection when transferring this material to prevent static discharge, fire or explosion. Use spark-proof tools and explosion-proof equipment. Do not get into eyes. Do not breathe vapor and mist. Avoid prolonged contact with skin. Use only with adequate ventilation. Wash hands thoroughly after handling.

STORAGE

Store in well-ventilated area. Keep container closed when not in use.

ADDITIONAL ADVICE

Product residue remains in empty containers. Observe all label precautions until container is cleaned, reconditioned or destroyed. Residual vapors may explode on ignition. Do NOT puncture, cut, drill, grind or weld on or near containers.

8. EXPOSURE CONTROL/PERSONAL PROTECTION**EXPOSURE LIMITS**

MATERIAL	OSHA-PEL	ACGIH-TLV
Isopropyl alcohol	TWA: 400 ppm (980 mg/m ³)	TWA: 400 ppm (980 mg/m ³)
Isopropyl alcohol	STEL: 500 ppm (1225 mg/m ³)	STEL: 500 ppm (1230 mg/m ³)
Petroleum hydrocarbons	TWA: 500 ppm (2900 mg/m ³)	TWA: 100 ppm (525 mg/m ³)
Petroleum naphtha – limits provided by supplier	TWA: 17 ppm (100 mg/m ³)	

ENGINEERING CONTROLS

Use mechanical explosion-proof exhaust ventilation to keep airborne concentrations below exposure limits.

EYE / FACE PROTECTION

Wear chemical splash goggles and face shield when eye and face contact is possible due to splashing or spraying of material.

SKIN PROTECTION

Wear neoprene-type gloves. Other skin or body protection is normally not required except in emergency or spill conditions. Protective clothing, shoes or boots should be chemical resistant to this material (i.e. neoprene).



Fuel Enhancer

RESPIRATORY PROTECTION

Normally not required except in emergencies or circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a NIOSH-approved positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known, or any other circumstance where air-purifying respirators may not provide adequate protection.

GENERAL HYGIENE

Wash thoroughly after handling and before eating or drinking.

OTHER INFORMATION

Personal protective equipment (PPE) should meet recommended national standards.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	: Light green liquid.
ODOR	: Alcohol-type odor
ODOR THRESHOLD	: Not established
VISCOSITY	: 2029 cSt @ 40° C (104° F)
pH	: Not established
FREEZING POINT	: Not established
MELTING POINT	: Not applicable
BOILING POINT	: 176° F (80° C)
FLASH POINT	: 45° F (7.2° C) closed cup
FLAMMABLE LIMITS	: UPPER: 12% LOWER: 2%
AUTOIGNITION TEMPERATURE	: ~ 750° F (399° C)
EVAPORATION RATE	: ~ 1.5 (nBuAc = 1)
VAPOR PRESSURE	: 1.125 PSI
VAPOR DENSITY	: ~ 2 @ 68° F (20° C) air=1
SPECIFIC GRAVITY	: 0.8012 g/cm ³ @ 60° F (15.5° C)
SOLUBILITY IN WATER	: Partially soluble; % not established
VOC CONTENT	: Not established
OTHER INFORMATION	: None

10. STABILITY AND REACTIVITY

STABILITY

Stable under normal conditions.

CONDITIONS TO AVOID

Keep away from heat, sparks and flame.



Fuel Enhancer

INCOMPATIBLE MATERIALS

Strong oxidizers and acids.

HAZARDOUS DECOMPOSITION BYPRODUCTS

Carbon dioxide, carbon monoxide, ketones and possibly other organic compounds.

POSSIBILITY OF HAZARDOUS REACTIONS

Will not occur.

11. TOXICOLOGICAL INFORMATION

ACUTE EFFECTS

ORAL LD50 > 2,000 mg/kg (rat), low toxicity

DERMAL LD50 > 2,000 mg/kg (rabbit), low toxicity; prolonged or repeated skin contact may cause defatting resulting in drying, redness or cracking (dermatitis).

INHALATION 4 hours LC50 > 5,000 mg/l (rat), low toxicity; high concentrations may cause central nervous system depression resulting in headache, lack of coordination, dizziness and nausea. Continued inhalation of high concentrations may result in unconsciousness and/or death.

EYES Irritating to eyes.

SENSITIZATION Not expected to cause skin or respiratory sensitization.

OTHER INFORMATION This information is provided based on available component data.

12. ECOLOGICAL INFORMATION

ECOTOXICITY

Low toxicity to aquatic organisms, such as bacteria, algae, protozoa, and fish

Fish: LC/EC/IC50 > 100 mg/l

Aquatic Invertebrates: LC/EC/IC50 > 1,000 mg/l

Algae: LC/EC/IC50 > 1,000 mg/l

Micro-organisms: LC/EC/IC50 > 1,000 mg/l

PERSISTENCE / DEGRADABILITY

Not biodegradable.

BIOACCUMULATION

No significant bioaccumulation is expected.

MOBILITY

If product enters the soil, it is expected to be highly mobile and may contaminate groundwater.

ADDITIONAL INFORMATION

This information is provided based on available component data.



Fuel Enhancer

13. DISPOSAL CONSIDERATIONS

DISPOSAL

This product has the hazardous waste characteristic of ignitability under RCRA. Re-evaluation of the waste may be required by the user at the time of disposal as product uses, transformations, mixtures, contamination, and spillage may change its characteristics. Dispose of in accordance with federal, state and local regulations.

EMPTY CONTAINERS

Product residue, including vapor, remains in empty containers. Residual vapors may explode on ignition. Do NOT puncture, cut drill, grind or weld on or near containers. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner or properly disposed.

ADDITIONAL CONSIDERATIONS

Observe all federal, state and local regulations.

14. TRANSPORT INFORMATION

U.S. DOT (GROUND)

Hazardous Material:	Yes	Class / Division:	3
Identification Number:	UN 1993	Packing Group:	II
Proper Shipping Name:	Flammable Liquid, n.o.s. (isopropanol)		

CANADIAN TDG (GROUND)

Hazardous Material:	See U.S. DOT	Class / Division:	
Identification Number:		Packing Group:	
Proper Shipping Name:			

IATA (AIR)

Dangerous Good:	Yes	Class / Division:	
Identification Number:	See U.S. DOT	Packing Group:	
Proper Shipping Name:			

IMDG (WATER)

Dangerous Good:	Yes	Class / Division:	
Identification Number:	See U.S. DOT	Packing Group:	
Proper Shipping Name:		Marine Pollutant:	No

15. REGULATORY INFORMATION

TSCA Inventory Listing

The components of this product are on the U.S. TSCA Inventory or are exempt.

CERCLA Hazardous Substances (40 CFR 302)

This product contains no CERCLA hazardous substances.

SARA 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355)

This product contains no SARA extremely hazardous substances.



MATERIAL SAFETY DATA SHEET

Version: 2.1
02/24/14

Fuel Enhancer

SARA 311/312 HAZARDOUS CHEMICAL INVENTORY REPORTING (40 CFR 370)

This product is subject to inventory reporting if present above the minimum threshold level of 10,000 lbs. (4,540 kg).

SARA HAZARD CLASSIFICATIONS

Immediate (acute) health hazard: Yes
Delayed (chronic) health hazard: No
Fire hazard: Yes
Sudden pressure release hazard: No
Reactivity hazard: No

SARA 313 TOXIC CHEMICAL RELEASE REPORTING (40 CFR 372)

This product contains no SARA toxic substances.

ADDITIONAL INFORMATION

None.

16. OTHER INFORMATION

LABEL REQUIREMENTS

HAZARDOUS MATERIAL INFORMATION SYSTEM (U.S.A.)

Health:	1	Flammability:	3
Physical Hazards:	0	Personal Protection:	B

NATIONAL FIRE PROTECTION ASSOCIATION (U.S.A.)

Health hazard (blue):	1	Instability hazard (yellow):	0
Flammability hazard (red):	3	Special hazard (white):	--

REFERENCES:

RESPONSIBLE NAME: PRODUCT SAFETY – Missy Simpson
FOR COPY OF (M)SDS: Internet: www.redtek.com Phone: 1-865-983-1633

NOTICE TO READER

The information contained in this document applies to this specific material as supplied, and is accurate to the best of our knowledge. However, the conditions of handling, storage, or misuse, are beyond our control, therefore, Thermofluid Technologies, Inc. makes NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. This data is for information purposes only. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for his/her own particular use.