



ECI-10

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: Antifriction lubricant additive

Formula: ECI-10

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Appearance and Odor

Light amber, low viscosity liquid; mild petroleum odor.

Health Hazards

CAUTION! May cause eye and skin irritation. May be harmful if swallowed. Aspiration hazard if swallowed – can enter lungs and cause damage.

Safety Hazards

WARNING! Slipping hazard if spilled.

POTENTIAL HEALTH HAZARDS (See Section 11 for more information)

Likely Routes of Exposure

Eye, skin and inhalation.

Inhalation

This product is not expected to pose an inhalation risk where exposure limits are observed. Heating or mechanical agitation may generate vapors or mists that can be irritating to respiratory passages.

Ingestion

Swallowing can cause nausea, diarrhea and vomiting. Vomiting may result in aspiration into the lungs with a risk of chemical pneumonitis.

Skin Contact

May cause skin irritation. Prolonged and repeated contact can de-fat skin, which may result in dryness, redness, itching and cracking (dermatitis).

**ECI-10****Eye Contact**

May cause eye irritation, resulting in redness or burning.

Medical Conditions Aggravated by Exposure

None known.

Target Organs

None known under normal conditions of handling and use. Repeated exposure to high levels may produce liver and kidney damage.

Other Hazards

Spillages may be slippery. Do not walk through spilled material.

POTENTIAL ENVIRONMENTAL EFFECTS (See Section 12 for more information)

Analysis for ecological effects has not been conducted on this product. However, if spilled, plants and animals may experience harmful effects when coated with petroleum-based products.

OTHER INFORMATION

This product does not contain any carcinogens as listed by OSHA, IARC or NTP. This product has been used for years with no known ill effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS**OSHA HAZARDOUS COMPONENTS**

COMPONENT	Typical Wt %	CAS NUMBER	CARCINOGEN
Petroleum hydrocarbons	60-74%	Proprietary *	No
Highly-refined mineral oil	25-34%	64742-52-5	No
Antiwear oil additive	< 3%	N/A – mixture	No

*The specific chemical identity is being withheld as a trade secret. This component contains no carcinogens, mutagens or toxic substances.

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.

SKIN CONTACT

Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. Get medical attention if irritation develops and persists. Wash clothing and clean shoes before reuse.



ECI-10

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

Unlikely to be required, but if necessary, treat symptomatically.

ADDITIONAL ADVICE

None

5. FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA

Use water spray, water fog, dry chemical, foam, carbon dioxide, earth or sand.

UNSUITABLE EXTINGUISHING MEDIA

Do not use a forced stream of water as this may cause fire to spread.

PRODUCTS OF COMBUSTION

Carbon dioxide, carbon monoxide, aldehydes and ketones, hydrogen chloride, smoke, and irritating vapors.

FIREFIGHTER PROTECTION

Water and foam may cause frothing. Wear full protective clothing and self-contained breathing apparatus. Use water spray to disperse vapors and keep adjacent containers cool.

ADDITIONAL ADVICE

None.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Eliminate all ignition sources. Evacuate personnel to safe area. Use appropriate personal protective equipment (see Section 8). Caution: spillages may be slippery. Do not walk through spilled material.

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 sand, earth or other inert material.

METHODS FOR CLEAN-UP

Vacuum, scoop or sweep up material. Place waste in a container, seal and dispose of safely.

OTHER INFORMATION

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



ECI-10

7. HANDLING AND STORAGE

HANDLING

Keep away from heat, sparks, and flame. Avoid contact with eyes. Avoid prolonged skin contact. Do not breathe hot vapors or mist. Use adequate ventilation if concentrations exceed permissible exposure limits (see Section 8). Wash hands thoroughly after handling and before eating and drinking. Avoid elevated temperatures to prevent product degradation. Keep containers closed when not in use.

STORAGE

Do not store at temperatures exceeding 104° F (40° C) or in direct sunlight. Keep containers closed and dry. Store away from heat, sparks, open flame and oxidizing materials.

ADDITIONAL ADVICE

Expected storage life under recommended conditions is 2 years.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

EXPOSURE LIMITS

MATERIAL	OSHA-PEL	ACGIH-TLV
Petroleum hydrocarbons	Not established	Not established
Mineral oil, as Oil Mist	TWA: 5 mg/m3	TWA: 5 mg/m3
Mineral oil, as Oil Mist	-----	STEL: 10 mg/m3

ENGINEERING CONTROLS

Ventilation controls are not normally required under normal conditions of use. Provide exhaust ventilation or other engineering controls if airborne mist or vapor concentrations exceed permissible exposure limits.

EYE / FACE PROTECTION

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

SKIN PROTECTION

Use neoprene or nitrile gloves to avoid prolonged or excessive skin contact. Other skin or body protection is normally not required except in emergency or spill conditions. Protective clothing, shoes or boots should be chemical resistant (i.e. neoprene). If handling hot material, use insulated protective clothing.

RESPIRATORY PROTECTION

Not normally 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.

**ECI-10****9. PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE	: Light amber liquid.
ODOR	: Mild petroleum.
ODOR THRESHOLD	: Not established.
VISCOSITY	: 125.42 cSt @ 40° C / 10.86 cSt @ 100° C / D445
pH	: Not established.
FREEZING POINT	: - 18.6° C (-1.5° F) D2386
MELTING POINT	: Not applicable.
BOILING POINT	: 335° F (168° C) D1120
FLASH POINT	: 315° F (157° C) D93
FLAMMABLE LIMITS	: UPPER: Not established. LOWER: Not established.
AUTOIGNITION TEMPERATURE	: 603° F (317° C)
EVAPORATION RATE	: Not established.
VAPOR PRESSURE	: < 0.010 PSI / D5191
VAPOR DENSITY	: Not established.
SPECIFIC GRAVITY	: 1.0575 g/cm ³ @ 60° F / D1298
SOLUBILITY IN WATER	: Insoluble.
VOC CONTENT	: Not established.
OTHER INFORMATION	: None.

10. STABILITY AND REACTIVITY**STABILITY**

Stable under normal conditions.

CONDITIONS TO AVOID

Keep away from direct sunlight, heat, hot surfaces, sparks and flame. Prolonged heating at temperatures above 158° F (70° C) or heating above 392° F (200° C) for short periods of time may result in product decomposition. Petroleum products tend to soften or swell most natural rubbers.

INCOMPATIBLE MATERIALS

Strong oxidizers.

HAZARDOUS DECOMPOSITION BYPRODUCTS

Carbon dioxide, carbon monoxide, smoke, irritating vapors, and unburned hydrocarbons if combustion is incomplete.
Hydrogen chloride if thermal decomposition occurs.

POSSIBILITY OF HAZARDOUS REACTIONS

Not expected to occur.

**ECI-10****11. TOXICOLOGICAL INFORMATION****ACUTE EFFECTS**

ORAL	No toxicity data on product. Main component: LD50 > 21,500 uL/kg (rat), low toxicity. Base oil reports LD50 > 5,000 mg/kg (rat), low toxicity.
DERMAL	No toxicity data on product. Main component reports mild irritation in rats at 100 mg dose/24 hour duration. Base oil: LD50 > 2,000 mg/kg (rabbit), low order.
INHALATION	No toxicity data on product. Not expected to be an inhalation risk where exposure limits are observed.
EYES	No toxicity data on product. Main component reports mild irritation in rabbits at 100 mg dose.
SENSITIZATION	Not expected to occur.
OTHER INFORMATION	This information is provided based on available data from components or similar materials.

CHRONIC EFFECTS

CARCINOGENICITY	This product is not known to contain carcinogenic substances. This product contains mineral oils which are considered to be severely refined and not carcinogenic under IARC. All of the oils in this product contain less than 3% extractables by IP 346.
MUTAGENICITY	This product is not known to contain mutagenic substances.
REPRODUCTIVE EFFECTS	This product is not expected to pose a reproductive risk.
DEVELOPMENTAL EFFECTS	This product is not expected to pose an embryotoxic/teratogenic risk.
OTHER INFORMATION	No chronic affects are known under normal conditions of handling and use. Repeated exposure to high levels may produce liver and kidney damage.

12. ECOLOGICAL INFORMATION**ECOTOXICITY**

Ecotoxicity data is not available for this product. Main component reports it is non-toxic to mussels at 2.18 mg/L and rainbow trout at 4.0 mg/L after 60 days.

PERSISTENCE / DEGRADABILITY

Not determined for this product. Main component reports there is evidence of partial hydrolysis in water and slow degradation in soil and water.

BIOACCUMULATION

Not determined for this product. Main component reports it has low potential for bioaccumulation.

MOBILITY

Not determined.

ADDITIONAL INFORMATION

Analysis for ecological effects has not been conducted on this product. However, if spilled, plants and animals may experience harmful effects when coated with petroleum-based products. Petroleum-based (mineral) lube oils will normally



ECI-10

float on water. In stagnant or slow-flowing waterways, and oil layer can cover a large surface area. As a result, this oil layer may limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway may be enough to cause a fish kill.

13. DISPOSAL CONSIDERATIONS

DISPOSAL

It is the responsibility of the user to evaluate at the time of disposal whether the waste meets RCRA criteria for hazardous waste. Product use, transformations, mixtures, contamination and spillage may change its characteristics. Dispose of in accordance with federal, state and local regulations.

EMPTY CONTAINERS

Product residue remains in empty containers. Do NOT puncture, cut, drill, grind, or weld on or near empty containers. Empty drums should be completely drained, properly bunged or sealed, and promptly returned to a drum reconditioner or properly disposed of or cleaned.

ADDITIONAL CONSIDERATIONS

Do not discharge into drains or the environment. Observe all federal, state, and local regulations.

14. TRANSPORT INFORMATION

U.S. DOT (GROUND)

Hazardous Material:	No	Class / Division:	Not applicable.
Identification Number:	Not regulated.	Packing Group:	Not applicable.
Proper Shipping Name:	Lubricant oil.		

CANADIAN TDG (GROUND)

Hazardous Material:	No	Class / Division:	
Identification Number:	See U.S. DOT	Packing Group:	
Proper Shipping Name:			

IATA (AIR)

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

IMDG (WATER)

Dangerous Good:	No	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.
This product contains no SARA extremely hazardous substances.



MATERIAL SAFETY DATA SHEET

Version: 2.1
02/24/14

ECI-10

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.

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

This product is subject to inventory reporting if the quantity present exceeds 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: No

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

Cal. Prop. 65: This product contains no chemicals known to the State of California to cause cancer and/or birth defects.

One or more of the components of this product are on the following global inventories: AICS, ASIA-PAC, DSL, ECL, EINECS, ENCS, NZIoC, PICCS, REACH (Pre-registered substances), SWISS

16. OTHER INFORMATION

LABEL REQUIREMENTS

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

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

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

Health hazard (blue):	1	Instability hazard (yellow):	0
Flammability hazard (red):	1	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.