

ENVIRO-SAFE®

THREAD SEALANT & ANTI-SEIZE COMPOUND

DESCRIPTION

JET-LUBE® ENVIRO-SAFE® is a patented, high-pressure sealant and anti-seize compound designed as a lead and zinc-free alternate for API-MODIFIED. The compound contains copper flake and graphite as well as other nonmetallic, inorganic, extreme pressure, and anti-wear additives. It contains a balanced package of rust, corrosion, and oxidation inhibitors blended into a high quality aluminum complex grease. The aluminum complex grease provides a high melting point and excellent inherent water resistance; allowing it to stick to wet steel and ensuring that the compound will not wash off threads.

- Ideal for use on premium connections
- Contains no zinc, eliminating the potential for hydrogen gas evolution
- Friction factor of 1.0 (relative to API-MODIFIED)
- Contains additives for protection against rust, corrosion and oxidation
- Sticks to wet or oily threads
- Prevents leakage (seals to 10,000 psi)
- High film strength to protect against wear, galling and seizure
- H₂S inhibited
- Brushable over a wide range of temperatures
- Exceeds all of the performance criteria described in API spec. 5CT and set forth in API RP 5A3
- Available in Arctic and Thermal grades

APPLICATIONS

JET-LUBE ENVIRO-SAFE is recommended for use on premium and OCTG connections, flow lines, subsurface production tools, and tank battery installation. **ENVIRO-SAFE** will lubricate, seal, and protect threaded connections of oilfield tubular goods on makeup, in service and in storage. The aluminum complex grease base is excellent for use on connections exposed to high concentrations of moisture. For nickel and chrome alloy, premium connections use **NCS-30™**.

PRODUCT CHARACTERISTICS

Thickener	Aluminum Complex
Fluid Type	Petroleum
Dropping Point (ASTM D-2265)	450°F (232°C)
Specific Gravity	1.21
Density (lb/gal)	10.1
Oil Separation (ASTM D-6184)	<3.0
Wt. % Loss @ 212°F (100°C)	
Flash Point (ASTM D-92)	>430°F (221°C)
NLGI Grade	1½
Penetration @77°F (ASTM D-217)	285-315
Copper Strip Corrosion (ASTM D-4048)	1A
Shell 4-Ball (ASTM D-2596)	
Weld Point, kgf	800
Friction Factor (Relative to API-MODIFIED)	1.0
Salt Fog Corrosion Resistance (ASTM B-117) 20% NaCl @ 100°F	700 hrs.

PACKAGING

Code No.	Container Size	Shipping Wt.
21823	1 gal.	11 lb.
21812	2 gal.	22 lb.
21815	5 gal.	54 lb.

LIMITED WARRANTY

Jet-Lube, Inc. makes the Limited Express Warranty that at the date of delivery, this product shall be free from defects in Jet-Lube, Inc. materials and workmanship.

This Limited Express Warranty is expressly in lieu of any other express or implied warranties, including any implied warranty of merchantability or fitness for a particular purpose, and of any other obligation on the part of Jet-Lube, Inc.

The sole remedy for breach of the Limited Express Warranty shall be the refund of the purchase price. All other liability is negated and disclaimed, and Jet-Lube, Inc. shall not be liable for incidental or consequential damages.

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JET-LUBE, INC.

MATERIAL SAFETY DATA SHEET

Product Name: ENVIRO-SAFE®
Chemical Family: Petroleum based thread compound and sealant
Use: Sealant for tubing, casing, line pipe & other tapered threaded connections/anti-seize (MIL-PRF-907E)

Supplier:



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 Helleruplund Alle 8
 DK-2900 Hellerup
 Tel: +45 70 26 70 07
 CVR 32659470
 www.reinhardoil.dk

Hazardous Components	CAS No.	Wt%	OSHA PEL	ACGIH TLV	Other Limits of Exposure
Petroleum oil	64742525/64742014	40-60	Oil mist TWA-5mg/M ³	N/A	N/A
Copper Powder	7440508	2-5	N/A	1mg/M ³	N/A
Nonhazardous Blend	82980549/9002840 7782425/1317335 12003382/1317653	40-60	UN	UN	UN

Main Hazards—Health Effects

Eyes: May cause irritation. **Inhalation:** Viscous nature may block breathing passages if inhaled. **Ingestion:** May cause diarrhea.
Skin: For hypersensitive persons, may irritate the skin after prolonged periods of contact.

Eyes: Flush with water until all residual material is gone. If irritation persists, seek medical help. **Inhalation:** Clear air passage. If respiratory difficulty continues, seek medical help. **Ingestion:** Wash out mouth immediately. Consult physician. **Skin:** Wash thoroughly with hand cleanser, followed by soap & water. Contaminated clothing should be dry cleaned before reuse.

Extinguishing Media: Foam, dry powder, Halon®, carbon dioxide, sand, earth & water mist. **Unsuitable Extinguishing Media:** Water jet.
Protective Equipment for Fire fighting: Self-contained breathing apparatus.

Personal Precautions: Wear gloves & protective overalls. **Environmental Precautions:** Do not allow it to enter drains. **Spillage:** Scrape up bulk, then wipe up remainder with cloth. To prevent walking hazard, pick up remaining residue with diatomaceous earth.

Handling: No special handling precautions necessary. **Storage:** Do not store at elevated temperatures.

Respiratory Protection: None needed. **Hand Protection:** Protective gloves for hypersensitive persons. **Eye Protection:** Glasses, if applied to parts in motion. **Body Protection:** Overalls.

Physical State: Semisolid paste **Color:** Brown to Black **Odor:** Petroleum **pH:** Neutral **Boiling Range/Point °F (°C):** <600 (316)

Melting Point °F (°C): 500 (260) **Flash Point (COC) °F (°C):** 430 (221) **Autoignition Temperature °F (°C):** >500 (260)

Explosive Properties: LEL: 0.9% UEL: 7% **Evaporation Rate (Butyl Acetate):** <0.01 **Partition Coefficient (Log Pow):** N/A

Vapor Pressure (kPa): <0.01 **Percent Volatiles:** Nil **Density (g/cm³):** 1.21 **Flammability:** Not flammable at ambient temperature.

OAR Value: N/A **Oxidizing Properties:** None **Water Solubility:** Nil **Vapor Density:** >5

Stability: Chemically stable under normal conditions. No photoreactive agents. **Conditions to Avoid:** Powerful sources of ignition & extreme temps.

Materials to Avoid: Strong inorganic & organic acids, oxidizing & copper reactive agents. **Hazardous Decomposition Products:** Burning generates smoke, airborne soot, hydrocarbons & oxides of carbon, sulfur & nitrogen. Residue mainly comprised of soot, metal & mineral oxides.

Acute Toxicity: Not known. **Irritancy—Skin:** Very mild. **Skin Sensitization:** Not known. **Subacute/Sub-chronic Toxicity:** Not known.

Genotoxicity: None known. **Chronic Toxicity:** None known. **California Prop 65:** N/A **Carcinogen:** NTP: No **IARC:** No **OSHA:** No

EC Classification (67/548/EEC): No **Allergens:** None known. **LC-50:** >1000mg/l—actual test data (Oncorhynchus Mykiss. **LD-50:** N/A

Possible Effects: In extreme cases, may generate oil fractions that could act as a marine pollutant. Occurrences of this nature are highly unlikely. **Behavior:** Relatively well behaved. Bioaccumulation potential nil.

Environmental Fate: Highly unlikely to cause widespread contamination.

Product Disposal: Do not incinerate. Contact waste disposal company or local authority for advice. **Container Disposal:** Pails without liner—see Product Disposal section above. Pails with plastic liner—pail may only be disposed of via standard waste disposal services, recycled or reused. **Liner—**see Product Disposal section above.

Not classified as hazardous for transport. **D.O.T.:** Nonhazardous **UN No.:** Nonhazardous **Air Transport (ICAO & IATA):** Nonhazardous

Sea Transport (IMO & IMDG): Nonhazardous **Road & Rail Transport (ADR/RID):** Nonhazardous


Labeling Information: None needed **EC Annex 1 Classification:** Not Applicable. **R Phrases:** R22—harmful if swallowed.

S Phrases: None applicable, as known. **Ozone Depleting Chemicals:** Not applicable. **TSCA:** All components are listed.

WHMIS (Canada): Not controlled. **Canadian DSL:** All components listed. **40 CFR Part 372 (SARA Section 313):** This product contains

copper. **CERCLA:** Nonhazardous **RCRA Hazard Class:** Nonhazardous **SARA 311/312:** None **TSCA 12B Components:** None

SDS first issued. SDS data revised. **New Jersey Right To Know:** See Section II

Signature: 
Prepared by: Donald A. Oldiges
Date Issued: April 7, 2009

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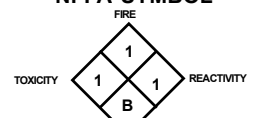
LEGEND

I. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY	IX. PHYSICAL AND CHEMICAL PROPERTIES
II. COMPOSITION INFORMATION ON INGREDIENTS	X. STABILITY AND REACTIVITY
III. HAZARDS IDENTIFICATION	XI. TOXICOLOGICAL INFORMATION
IV. FIRST AID MEASURES	XII. ECOLOGICAL INFORMATION
V. FIRE FIGHTING MEASURES	XIII. WASTE DISPOSAL
VI. ACCIDENTAL RELEASE MEASURES	XIV. TRANSPORT INFORMATION
VII. HANDLING AND STORAGE	XV. REGULATORY INFORMATION
VIII. EXPOSURE CONTROL/PERSONAL PROTECTION	XVI. OTHER INFORMATION

HMIS SYMBOL

HEALTH	1
FLAMMABILITY	1
REACTIVITY	1
PPI	B

NFPA SYMBOL



PERSONAL PROTECTION INDEX