

KOPR-KOTE®

TOOL JOINT & DRILL COLLAR COMPOUND

DESCRIPTION

KOPR-KOTE® drill collar and tool joint compound is a premium-quality, unleaded compound containing copper flake, graphite, and other natural extreme pressure and anti-wear additives. **KOPR-KOTE's** solids package is formulated to prevent excessive circumferential makeup by increasing the coefficient of friction under compressive forces. As stress levels rise above 50% of yield, the friction factor increases, limiting downhole makeup. Full hydraulic joint efficiency is maintained allowing joint shoulder faces to mate completely without standoff or deformation. **For invert or high-pH muds, use Jet-Lube EXTREME™.**

- Not classified as marine pollutant - DOT Approval CA2004080025
- NSF Registered H2 (No. 120923)
- Contains no lead or zinc.
- Extreme pressure additives provide additional protection against seizing and galling and allow consistent make-up.
- Aluminum complex grease base protects against rust and corrosion.
- Sticks to wet joints.
- Unequaled resistance to makeup downhole.
- Available in Arctic, Thermal and Specialty grades.
- Approved by NAM/Shell for under-balanced drilling applications.

SERVICE RATING:
0°F (-18°C) TO 450° (232°C)

PRODUCT CHARACTERISTICS

Thickener	Aluminum Complex
Fluid Type	Petroleum
Dropping Point	450°F (232°C)
(ASTM D-2265)	
Specific Gravity	1.15
Density (lb/gal)	9.6
Oil Separation (ASTM D-6184)	<3.0
Wt. % Loss @ 212°F (100°C)	
Flash Point (ASTM D-92)	>430°F (221°C)
NLGI Grade	1
Penetration @ 77°F	310 - 330
(ASTM D-217)	
Copper Strip Corrosion	1A, typical
(ASTM D-4048)	
4-Ball (ASTM D-2596)	
Weld Point, kgf	800, typical
Friction Factor*	1.15 (standard service)
(Relative to API RP 7G)	

* Many factors such as pipe size, thread geometry, drilling mud contamination, etc. affect the friction factor. This is a relative number and in all applications experience and prior knowledge should be used to adjust make-up torque accordingly. Contact your drill pipe manufacturer for torque and friction-related specifications.

PACKAGING

Code No.	Container Size	Shipping Wt.
10123	1 gal.	11 lb.
10113	2½ gal.	26 lb.
10115	5 gal.	52 lb.
10124	15 gal.	152 lb.
10129	50 gal.	514 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.

CORPORATE LOCATIONS

Houston, Texas—World Headquarters

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Edmonton, Canada

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WATERWELL

WATERWELL

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JET-LUBE, INC.

MATERIAL SAFETY DATA SHEET

Product Name: **KOPR-KOTE®**
Chemical Family: Petroleum based lubricating grease
Use: Tool joint and drill collar compound/anti-seize (MIL-PRF-907E)/ jacking lubricant

Manufacturer/Supplier: JET-LUBE, INC.
Address: 4849 Homestead Rd., Ste. #200
 Houston, TX, 77028 USA **Phone:** 713-674-7617
Emergency Phone: 713-674-7617 **Fax:** 713-678-4604
Chemtrec 24 hours (USA): 800-424-9300

Hazardous Components	CAS No.	Wt%	OSHA PEL	ACGIH TLV	Other Limits of Exposure
Lubricating Grease	74868219	60	N/A	N/A	STEL:
Nonhazardous Blend	7782435/1317335	20-30	UN	UN	STEL: UN
	13776744/471341				STEL: UN
Metallic Copper	7440508	10	N/A	1mg/M ³	STEL: 2mg/M ³

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:** Copper/Bronze **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):** 1.15 **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 & 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:** 1.98gm/l—actual test data - mysidopsis bahia. **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. Nontoxic to marine or land organisms.

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.

D.O.T.: Nonhazardous D.O.T. exception CA2004080025 **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: N/A, as known. **Ozone Depleting Chemicals:** N/A **TSCA:** All components are listed. **TSCA 12B Components:** None

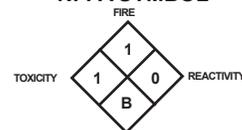
WHMIS (Canada): Not controlled. **Canadian DSL:** All components listed. **40 CFR Part 372 (SARA Section 313):** This product contains in part raw material components subject to reporting. **SARA 311/312:** None **CERCLA:** Nonhazardous **RCRA Hazard Class:** Nonhazardous

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

HMIS SYMBOL

HEALTH	1
FLAMMABILITY	1
REACTIVITY	0
PPI	B

NFPA SYMBOL



PERSONAL PROTECTION INDEX

Signature: 
Prepared by: Donald A. Oldiges
Date Issued: October 27, 2008

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