

Z-40™ • Z-50™ • Z-60™

TOOL JOINT COMPOUND

DESCRIPTION

JET-LUBE® Z-40™, Z-50™, and Z-60™ all contain prime grade zinc and are respectively formulated with 40%, 50%, and 60% metallic zinc, meeting the metallic zinc requirements described in API Bulletin 5A2. All contain special additives to reduce the plating and buildup of metallic zinc encountered with other zinc compounds.

Z-40, Z-50, and Z-60 are manufactured with **JET-LUBE's** unique grease compounded from custom refined, low sulfur oil. The grease base ensures brushability over a wide temperature range, tenacious adherence to all surfaces, resistance to water wash out, and the prevention of rust/corrosion. The metallic zinc particles and other additives are maintained in uniform suspension throughout the compounds, and **Z-40, Z-50, and Z-60** displace moisture and adhere well to wet tool joint surfaces.

- Non-plating
- Low sulphur content (<0.1% active sulphur)
- Non-reactive, no gassing
- Brushable over a wide temperature range
- Sticks to wet joints
- Consistent rig floor make-up
- Resistant to further downhole make-up
- **Z-50** is available in Arctic and Thermal grades

APPLICATIONS

JET-LUBE Z-40, Z-50, and Z-60 Tool Joint Compounds are designed to provide the maximum protection for tool joint threads and shoulders over a wide variety of conditions. They prevent galling and wear plus ensure consistent rig floor make-up while providing some resistance to further make-up downhole.

PRODUCT CHARACTERISTICS

Thickener	Aluminum Complex
Fluid Type	Petroleum
Color/Appearance	Smooth Grey Paste
Dropping Point (ASTM D-566)	385°F (196°C)
Specific Gravity Z-40, Z-50, Z-60	1.49, 1.78, 2.09
Density (lb/gal) Z-40, Z-50, Z-60	12.3, 14.8, 17.4
Oil Separation	<5.0
	Wt. % Loss @ 212°F (100°C)
Flash Point (ASTM D-92)	>430°F (221°C)
NLGI Grade	1½ - 2
Penetration @77°F (ASTM D-217)	275 - 305
Copper Strip Corrosion (ASTM D-4048)	1A
4-Ball (ASTM D-2596)	500
	Weld Point, kgf
Friction Factor	1.0
Recommended Torque	Per API RP 7G
Service Range	0°F (-18°C) to 300°F (150°C)

PACKAGING

	Code No.	Container Size	Shipping Wt.
Z-40	20113	30 lb.	33 lbs.
	20115	60 lb.	64 lbs.
Z-50	20413	35 lb.	38 lbs.
	20494	60 lb.	64 lbs.
	20415	65 lb.	69 lbs.
Z-60	20713	40 lb.	43 lbs.
	20715	70 lb.	74 lbs.

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

Maidenhead, England

Edmonton, Canada

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MATERIAL SAFETY DATA SHEET

Product Name: Z-40™, Z-50™, Z-60™
Chemical Family: Petroleum based lubricating grease.
Use: Tool joint compound/anti-seize for threaded connections composed of aluminum and its alloys.

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
Petroleum Oil	64742525	40-60	Oil Mist TWA-5mg/M ³	N/A	N/A
Zinc-Metallic	7440666	40-60	15mg/M ³	10mg/M ³	STEL: N/A
Nonhazardous Blend	82980549/12003382 14807966/3159624	10-20	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 Gel **Color:** Grey **Odor:** Petroleum **pH:** Neutral **Boiling Range/Point °F (°C):** <600 (316)
Melting Point °F (°C): 385 (196) typical **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) @ 20°C: <0.01 **% Volatiles:** Nil **Density (g/cm³) @ 25°C:** Z-40 1.49, Z-50 1.78, Z-60 2.09 **Flammability:** Not flammable at ambient temp. **OSHA Value:** N/A **Oxidizing Properties:** None **Water Solubility:** Not soluble **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 agents. **Hazardous Decomposition Products:** Burning generates smoke, airborne soot, hydrocarbons & oxides of carbon, sulfur & nitrogen. Residue mainly comprised of soot & metal 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 Class (67/548/EEC): No **Allergens:** None known. **LC-50:** >1000mg/l-based on assessment from related products. **LD-50:** N/A

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

Environmental Fate: Highly unlikely to cause widespread contamination. Heavier than water.

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:** Not applicable.

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):** Zinc

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

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

Signature: 
 Prepared by: Donald A. Oldiges
 Date Issued: November 23, 2004

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

HMIS SYMBOL

HEALTH	1
FLAMMABILITY	1
REACTIVITY	1
PPI	B

NFPA SYMBOL

