

JET-LUBE, INC.

MATERIAL SAFETY DATA SHEET

Product Name: NIKAL®

Chemical Family: Petroleum based lubricating grease

Use: Anti-seize 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
Petroleum oil	64742525/64742570	60-100	Oil mist TWA-5mg/M ³	N/A	STEL: N/A
Nickel Powder	7440020	20-30	1mg/M ³	1mg/M ³	
Nonhazardous Blend	82980549/12001262	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 paste **Color:** Silver **Odor:** Petroleum **pH:** Neutral **Boiling Range/Point °F (°C):** <600 (316)

Melting Point °F (°C): 450 (232) **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):** 1.10 **Flammability:** Not flammable at ambient temp.

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 agents. **Hazardous Decomposition Products:** Burning generates smoke, airborne soot, hydrocarbons & oxides of carbon & possible metal carbonyls. 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:** Nickel (carcinogen) **Carcinogen:** NTP: Suspected

IARC: Yes **OSHA:** No **EC Classification (67/548/EEC):** No **Allergens:** None known. **LC-50:** Unknown **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 noticeable 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

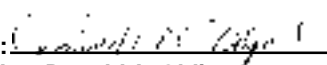
Labeling Information: None needed **EC Annex 1 Classification:** Not Applicable. **R Phrases:** R22—harmful if swallowed.

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):** Nickel

SARA 311/312: None **CERCLA:** Nonhazardous **RCRA Hazard Class:** Nonhazardous **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: March 15, 2004

As of issue date, the information contained herein is accurate and reliable to the best of JET-LUBE'S knowledge. JET-LUBE® does not warrant or guarantee its accuracy or reliability and shall not be liable for any loss or damage arising out of the use thereof. It is the user's responsibility to satisfy itself that the information offered for its consideration is suitable for its particular use.

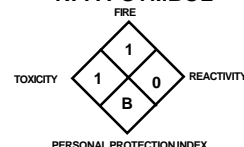
LEGEND

- I. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY
- II. COMPOSITION INFORMATION ON INGREDIENTS
- III. HAZARDS 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	0
PPI	B

NFPA SYMBOL



NIKAL®

HIGH TEMPERATURE ANTI-SEIZE AND GASKET COMPOUND

DESCRIPTION

NIKAL® is a premium quality anti-seize and gasket compound for use in extreme temperatures and hostile environments. The carrier of this remarkable compound volatilizes upon exposure to high temperatures and deposits a nickel metallic plating on threaded connections, preventing metal-to-metal contact and guarding against seizing and galling.

NIKAL contains pure nickel flake and a nearly inert dispersing solid in a high quality aluminum complex base grease that provides unsurpassed protection from rust by water penetration or water washoff.

NIKAL does not contain copper, lead, graphite, chlorides or other halogens, phosphorus, or silicones. It may be safely used with ammonia, acetylene and vinyl monomers, which are unstable in the presence of copper. **NIKAL** contains no graphite, which is an additional benefit on stainless steel applications when temperatures exceed 550°F, as graphite can carburize the steel causing the steel to become much more susceptible to intergranular corrosion. The solids package in **NIKAL** produces a matrix of particles that settle in successive layers or "sandwich." This allows the solids to serve as a lubricant, cushion and seal. This layering does not allow the welding under compaction that leads to seizure and galling.

- Contains no lead, copper or graphite
- Prevents seizure up to 2600°F (1427°C)
- Protects against rust and corrosion
- Chemically inert
- Acid resistant
- Strong resistance to water washoff
- Brushable to 0°F (-18°F)
- Will not run, drip or settle out.
- Color - Silver

APPLICATIONS

Used extensively in refineries, chemical plants, petrochemical plants, power generation facilities and other harsh environments on items such as:

Burner Tips
Heat Exchangers
Furnace Hinges
Pipe Fittings

Reactor Bolts
Manifolds
Manhole Studs

NOT FOR USE ON OXYGEN LINES.

CONFORMS TO:
Military Specification
MIL-PRF-907E

SERVICE RATING:
-65°F (-54°C) to
2600°F (1427°C)

PRODUCT CHARACTERISTICS

Thickener	Aluminum Complex
Fluid Type	Petroleum
Color/Appearance	Silver/Grey Paste
Dropping Point (ASTM D-566)	450°F (232°C)
Specific Gravity	1.10
Density (lb/gal)	9.20
Oil Separation	<5.0
Wtr. % Loss @ 212°F (100°C)	
Flash Point (ASTM D-92)	>430°F (221°C)
K-Factor	.15
High Chrome Alloys @ 60,000 PSI	Contact Stress
NLGI Grade	1½
Penetration @ 77°F (ASTM D-217)	300 - 330
Copper Strip Corrosion (ASTM D-4048)	1A
Shell 4-Ball (ASTM D-2596)	
Weld Point, kgf	200
Load Wear Index	Not Applicable
Salt Fog Resistance (ASTM B-117)	+200
20% NaCl @ 100°F, Hrs. Free of Corrosion	

PACKAGING

Code No.	Container Size	Container
13655	¼ lb.	Brush Top can
13602	½ lb.	Brush Top can
13604	1 lb.	Brush Top can
13607	2 lb.	Plug Top can
13623	8 lb.	Pail
13613	20 lb.	Pail
13615	40 lb.	Pail

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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