1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Bronze Lube Product Number: 47
Synonyms: Lubricating oil
CAS Number: Blend

Company Identification: **K-Line Industries, Inc.** www.klineind.com
315 Garden Ave, Holland, MI 49424
(616) 396-3564 (For product information) email: info@nugentec.com
1-800-424-9300 or 1-202-483-7616 (CHEMTREC: For emergencies)

2. COMPOSITION / INFORMATION ON INGREDIENTS:

100.0% Bronze Lube CONTAINING: HAZARDOUS AND/OR REGULATED COMPONENTS

Chemical Name	Amount	CAS Number
Highly refined petroleum oils	45-50 %	Mixture
Kerosene	50 %	8008-20-6
Olefin sulfide	< 5 %	72162-26-6

COMPOSITION COMMENT: California Prop 65: This product does not contain any ingredients which are know to the state of California to cause cancer, birth defects, or other reproductive harm.

HAZARDS DISCLOSURE: This product contains known hazardous materials as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200. As defined under Sara 311 and 312, this product contains no known hazardous materials.

SPECIAL NOTES: This product contains <0.01% water.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
DANGER! HARMFUL OR FATAL IF SWALLOWED.
HARMFUL IF INHALED.
CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.
AFFECTS CENTRAL NERVOUS SYSTEM.
FLAMMABLE LIQUID AND VAPOR.

HMIS/NFPA Rating:
Health - 1, Flammability - 1, Reactivity - 0 Personal Protection Index - D
NFPA/HMIS Definitions: (0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme).
Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER
Storage Color Code: Red (Flammable)

POTENTIAL HEALTH EFFECTS

INHALATION:
Inhalation causes irritation to respiratory tract. Symptoms may include coughing, shortness of breath, burning sensation in chest, headache, nausea, weakness, restlessness and uncoordination, drowsiness and coma.

INGESTION:
Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea. A potential aspiration hazard if swallowed. May cause damage to the lungs. Symptoms may parallel inhalation exposure.

SKIN CONTACT:
May cause irritation to skin. Symptoms include redness, itching, and pain. May cause dermatitis.

EYE CONTACT:
May cause severe irritation and pain.

CHRONIC EXPOSURE:
No information found.

AGGRAVATION OF PRE-EXISTING CONDITIONS:
Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product.

CARCINOGENICITY INFORMATION:
No known cancer hazards.

4. FIRST AID MEASURES

INHALATION FIRST AID:
Remove victim to fresh air and provide oxygen if breathing is difficult. Get medical attention. If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting or unresponsive, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility.

SKIN CONTACT FIRST AID:
Remove contaminated clothing and shoes and wipe excess from skin. Flush skin with water, then wash with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.

EYE CONTACT FIRST AID:
Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

INGESTION FIRST AID:
Aspiration hazard. If swallowed, vomiting may occur spontaneously, but DO NOT INDUCE. If vomiting occurs, keep head below hips to prevent aspiration into lungs. Never give anything by mouth to an unconscious person. Call a physician immediately.

STATEMENT OF PRACTICAL TREATMENT:
Always have plenty of water available for first aid. Get medical attention if any symptoms develop or persist.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:
PMCC Flash Point: 150° F (65.6° C)

FLAMMABLE LIMITS IN AIR, % by Volume: LEL: 0.7; UEL: 5.0

AUTO IGNITION TEMPERATURE: 410° F (210° C)
Flammable Liquid and Vapor! Contact with strong oxidizers may cause fire.

EXPLOSION:
Sealed containers may rupture when heated. Above the flash point, explosive vapor-air mixtures may be formed. Vapors can flow along surfaces to distant ignition source and flash back.

EXTINGUISHING MEDIA:
Material will float and can be re-ignited on surface of water. Use water fog, 'alcohol foam', dry chemical or carbon dioxide (CO2) to extinguish flames. Do not use a direct stream of water. Water spray may be used to keep fire exposed containers cool.

FIRE & EXPLOSION HAZARDS:
Incinerating may create Carbon monoxide with incomplete combustion. In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face-piece operated in the pressure demand or other positive pressure mode. Cool containers with flooding quantities of water until well after fire is out. Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots), including a positive pressure, NIOSH approved, self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:
Wear appropriate personal protective equipment when cleaning up spills. Refer to Section 8.

SPILLS PROCEDURE:
Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures.

ENVIRONMENTAL PRECAUTIONS:
Dike flow of spilled material using soil or sandbags to minimize contamination of drains, surface and ground waters.

7. HANDLING AND STORAGE

RECOMMENDED STORAGE TEMPERATURE Minimum: 0C (32F) Maximum: 48.9C (100F)

SHELF LIFE (in original sealed containers): 5 years @ 0 C 3 years @ 48.9 C

HANDLING (PERSONNEL): Handle in accordance with good hygiene and safety procedures. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. When transferring materials ground and bond containers, use spark proof tools and explosion proof equipment. Since empty containers contain product residue, follow all hazard warnings and precautions even after container is emptied. Keep away from sources of ignition.

STORAGE PRECAUTIONS:
Can be stored in most common storage vessels including carbon steel, aluminum, fiberglass, and stainless steel. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Do Not attempt to clean empty containers since residue is difficult to remove. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, sparks, flame, static electricity or other sources of ignition: they may explode and cause injury or death. Store in a cool dry place in accordance with NFPA 30.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Oil mist, mineral ACGIH TLV TWA: 5 mg/m3 STEL: 10 mg/m3
Oil mist, mineral OSHA PEL TWA: 5 mg/m3

Olefin sulfide ACGIH TLV TWA: 1 mg/m3
Kerosene ACGIH TLV TWA: 200 mg/m3
Hydrogen sulfide ACGIH - TLV TWA: 10 ppm STEL: 15 ppm
Hydrogen sulfide OSHA - PEL_IS TWA: 10 ppm STEL: 15 ppm
Hydrogen sulfide Elevated Temperatures > 180 Degrees F.

ENGINEERING CONTROLS:
Ventilation: Local exhaust – preferred.
Mechanical (general) - may be necessary if working at elevated temperatures or in enclosed areas.

EYE PROTECTION REQUIREMENTS:
Goggles or face shield with goggles, dependent upon potential exposure. Maintain eye wash fountain and quick-drench facilities in work area.

SKIN PROTECTION REQUIREMENTS:
Protective gloves: Nitrile. Dependent upon degree of potential exposure, additional personal protective equipment may be required, such as chemical boots and full protective clothing.

INHALATION GUIDELINES:
If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, an approved respirator must be worn. Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

Types of respirator(s) to be considered in the selection process include:
For Mist: Air Purifying, R or P style NIOSH approved respirator.
For Vapors: Air Purifying, R or P style pre-filter & organic cartridge, NIOSH approved respirator.
Self-contained breathing apparatus for use in environments with unknown concentrations or emergency situations.

9. PHYSICAL AND CHEMICAL PROPERTIES

FORM: Liquid
ODOR: Petroleum oil odor.
SOLUBILITY IN WATER: Insoluble in water
BULK DENSITY: 7.15
Auto ignition Temperature: 410° F (210° C)
PH: N/A
VOC = 500 g/L
VAPOR PRESSURE: @ 72 F (22 C) < 4 mm Hg

COLOR: Amber
BOILING POINT: >600 F
SPECIFIC GRAVITY: 0.85 (Water = 1)
MELTING/FREEZING POINT: not available
Flash Point & Method: 150° F (65.6° C) PMCC
VISCOSITY: 20 cp
Evaporation Rate: Not available
Vapor Density (Air=1): 4.5

10. STABILITY AND REACTIVITY

STABILITY: Stable under ordinary conditions of use and storage.

CONDITIONS TO AVOID: Heat, flames, ignition sources and incompatibles.

POLYMERIZATION: Hazardous polymerization will not occur.

INCOMPATIBILITY WITH OTHER MATERIALS: Avoid contact with strong oxidizing agents

DECOMPOSITION: Thermal decomposition products are highly dependent on combustion conditions. A complex mixture of airborne solids, liquids and gases will evolve when this material undergoes pyrolysis or combustion. Aldehydes, Carbon Monoxide, Carbon Dioxide, Hydrogen Sulfide, Ketones and other unidentified organic compounds may be formed upon combustion.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
Dermal LD50 >5.0 g/kg(Rabbit) OSHA: Non-Toxic Based on components(s)
Inhalation LC50 <500 mg/m3(Rat) OSHA: Toxic Based on components(s)
Oral LD50 >5.0 g/kg(Rat) OSHA: Non-Toxic Based on components(s)
Carcinogenicity Classification - Cutting Oil
NTP: No IARC: Not Reviewed ACGIH: No OSHA: No
Systemic Toxicity Unspecified effects to liver, kidney, lungs and nasal turbinates have been reported in rats repeatedly exposed by inhalation to components of this material for 4 weeks.

Kerosene irritation data (std Draize): skin, rabbit, 500 mg, severe.
Oral rat LD50: > 500 mg/kg.
Investigated as a tumorigen and mutagen.

Cancer Lists	---NTP Carcinogen---		
Ingredient	Known	Anticipated	IARC Category
Kerosene (8008-20-6)	No	No	None

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE: When released into the soil, this material may biodegrade to a moderate extent. When released into the soil, this material may evaporate to a moderate extent. When released into water, this material may biodegrade to a moderate extent. This material may bioaccumulate to some extent. When released into the air, this material may be moderately degraded by reaction with photochemically produced hydroxyl radicals.
ENVIRONMENTAL TOXICITY: No information found.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.
CONTAMINATED MATERIALS: Wash contaminated clothing before reuse.
CONTAINER DISPOSAL: Clean out containers prior to disposal.

14. TRANSPORTATION INFORMATION

PRODUCT LABEL: **Bronze Lube** PACKAGE CLASS: 55
D.O.T. SHIPPING NAME: Non-Regulated Material, Metal Lubricating Compound.
D.O.T. HAZARD CLASS: Non-Regulated Per 49 CFR 173.150 (F)(2)
UN NUMBER: N/A D.O.T. LABEL: NOBIN Non-Hazardous
PRODUCT RQ (LBS): NA D.O.T. PLACARD: N/A
BULK CLASS: N/A Not classified in ADR/RID, AND/ADNR, IMDG, IATA/ICAO-DGR

15. REGULATORY INFORMATION

FEDERAL REGULATORY STATUS
OSHA Classification:
Product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200, because it carries the occupational exposure limit for mineral oil mist.

Ozone Depleting Substances (40 CFR 82 Clean Air Act):
This material does not contain nor was it directly manufactured with any Class I or Class II ozone depleting substances.

Superfund Amendment & Reauthorization Act (SARA) Title III:
There are no components in this product on the SARA 302 list.

SARA Hazard Categories (311/312):
Immediate Health: NO Delayed Health: NO Fire: NO Pressure: NO Reactivity: NO

SARA Toxic Release Inventory (TRI) (313):
There are no components in this product on the SARA 313 list.

--------\Chemical Inventory Status - Part 1\----------

Ingredient	TSCA	EC	Japan	Australia
Kerosene (8008-20-6)	Yes	Yes	No	Yes

--------\Chemical Inventory Status - Part 2\----------

	--Canada--			
Ingredient	Korea	DSL	NDSL	Phil.
Kerosene (8008-20-6)	Yes	Yes	No	Yes

--------\Federal, State & International Regulations - Part 1\----------

	-SARA 302-		-----SARA 313-----	
Ingredient	RQ	TPQ	List	Chemical Catg.
Kerosene (8008-20-6)	No	No	No	No

--------\Federal, State & International Regulations - Part 2\----------

	-RCRA-	-TSCA-	
Ingredient	CERCLA	261.33	8(d)
Kerosene (8008-20-6)	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: No Fire: Yes Pressure: No
Reactivity: No (Pure / Liquid)

This material or all of its components are listed on the Inventory of Existing Chemical Substances under the Toxic Substance Control Act (TSCA). This material or all of its components are listed on the Canadian Domestic Substances List (DSL). This material or all of its components are listed (or considered as having been notified) on the European Inventory of Existing Chemical Substances (EINECS). Other inventory lists: ENCS (Japan), Korea, Australia, China (Draft), PICCS (Philippines), Japan (ENCS).

16. OTHER INFORMATION

Prepared By.....: Donato Polignone
Approved By.....: Jeremy Drees
Approval Date.....: June 9, 2004

Part Number.....: 47 (Official Copy)
Title.....: Prod Engineer
Supersedes Date...: New

ADDITIONAL INFORMATION:

The data in this Material Safety Data Sheet relates only to the specific material designated herein. It does not relate to use in combination with any other material or in any process. This Material Safety Data Sheet (MSDS) has been reviewed to fully comply with the guidance contained in the ANSI MSDS standard (ANSI Z400.1-1998)

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of K-Line Industries, Inc. The data on this sheet are related only to the specific material designated herein. K-Line Industries, Inc. assumes no legal responsibility for use or reliance upon these data.

END OF MSDS