

# MATERIAL SAFETY DATA SHEET

## SECTION I - PRODUCT IDENTIFICATION

**Product name:** Penetrating Grease  
**Chemical formula:** Complex mixture  
**Product family:** Hydrocarbon aerosol  
**Product use:** Lubricant spray

**Supplier name & address:**  
Comlube Technology Inc.  
110 Scotia Court, Suite #34  
Whitby, Ontario, L1N 8Y7  
**Telephone #:** (905) 438-8418

## SECTION II - HAZARDOUS INGREDIENTS

<u>Ingredients</u>	<u>CAS #</u>	<u>%</u>	<u>LC<sub>50</sub>, ppm (Rat, ihl.)</u>	<u>LD<sub>50</sub>, mg/kg (Rat, oral)</u>
n-Heptane	142-82-5	30-60	~25,000 ppm (4-hour)	15,000
Propane	74-98-6	10-30	N/Av	N/Av
Isobutane	75-28-5	10-30	276,000 (4 hour)	N/Av

## SECTION III - PHYSICAL DATA

**Physical state, odour and appearance:** Aerosol containing a red liquid with a characteristic hydrocarbon odour.  
**Coefficient of water/oil distribution:** 2.36 (propane); 2.89 (isobutane)  
**Vapour pressure (kPa @ 21.1°C):** 5.3 (heptane); 853 (propane); 214 (isobutane)  
**Vapour density (Air=1.0):** 3.52 (n-heptane); 1.55 (propane); 2.11 (isobutane)  
**Boiling point:** 98°C (209°F) (n-heptane); -42.1°C (-43.7°F) (propane); -0.5°C (31°F) (isobutane)  
**Freezing point:** -91°C (-132°F) (n-heptane)      **pH:** Not applicable  
**Odour threshold:** 230 ppm (detection) for n-heptane      **Specific gravity:** 0.7 (for n-heptane)  
**Evaporation rate (n-BuAc=1.0):** 4.5 (for n-heptane)      **Solubility in water (w/w):** Insoluble in water  
**Volatiles, % by weight:** >50%      **Dispersion properties:** Not dispersed in hot or cold water

## SECTION IV - FIRE AND EXPLOSION DATA

**Conditions of flammability:** Extremely flammable aerosol. Flame extension of this product is greater than 45 cm. Canadian National Fire Code Level 3 Aerosol.  
**If yes, under which conditions:** Vapours may form a flammable/explosive mixture with air in enclosed areas when vapours are present between upper and lower flammable limit, and encounter ignition source. Container may explode if heated excessively.  
**Means of extinction:** Water fog, carbon dioxide, dry chemical or foam.  
**Sensitivity to mechanical impact/static discharge:** Container may explode due to mechanical impact. Do not expose can to impact, open flames, heat or ignition sources. Risk of explosion due to static discharge: High, if lower flammable limit is exceeded.  
**Flash point (Method):** -4°C (24.8°F) for n-heptane; -104.4°C (-156°F) for propane; -74°C (-101°F) for isobutane.  
**Lower flammable limits (% by volume):** 1.05% (for n-heptane); 2.2% (propane); 1.8% (for isobutane).  
**Upper flammable limits (% by volume):** 6.7% (for n-heptane); 9.5% (propane); 8.5% (for isobutane).  
**Auto-ignition temperature:** Lowest known value is 204°C (397°F) for n-heptane  
**Hazardous combustion products:** Carbon monoxide, carbon dioxide, potentially other toxic or irritating gases such as oxides of nitrogen or sulphur.

## SECTION V - REACTIVITY DATA

**Stability:** Stable. Hazardous polymerization will not occur. Not considered to be corrosive for metals and glass.  
**Incompatible materials:** Avoid contact with strong oxidizing agents, acids, and alkalis.  
**Conditions of reactivity:** Excessive heat, contact with ignition sources such as sparks or flames, contact with oxidizers.  
**Hazardous decomposition products:** Carbon monoxide, carbon dioxide, potentially other toxic or irritating gases such as oxides of nitrogen or sulphur.

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## SECTION VI - TOXICOLOGICAL PROPERTIES

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**LD<sub>50</sub> of material:** See Section 2

**LC<sub>50</sub> of material:** See Section 2

**Routes of entry:**

**Skin contact:** May cause irritation and defatting, drying and cracking of skin.

**Eye contact:** May cause irritation, redness and tearing.

**Inhalation:** Vapours may be irritation to nose and throat. Excessive inhalation of vapours may cause central nervous system effects such as dizziness, weakness, fatigue, nausea, headache and possible unconsciousness.

**Ingestion:** Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration (breathing in) of material into lungs may cause chemical pneumonitis, which can be fatal.

**Exposure limits:** ACGIH-TLV: 400 ppm (n-heptane); 1000 ppm (propane); 800 ppm (isobutane). STEL: 500 ppm (n-heptane)

**Acute effects:** Severe overexposure can result in death. Can be fatal if inhaled or ingested. Can irritate eyes and skin on contact.

**Chronic effects:** Prolonged/repeated skin contact may cause dermatitis.

*Carcinogenicity:* Ingredients are not listed by IARC, NTP or ACGIH.

*Teratogenicity, mutagenicity, other reproductive effects:* No evidence available.

**Sensitization to material:** Product is not known to cause allergies.

**Synergistic materials:** None known.

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## SECTION VII - FIRST AID

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**Inhalation:** Remove victim to fresh air. If breathing is difficult, give oxygen. If not breathing, begin artificial respiration. Get medical attention.

**Skin:** Wash affected area with soap and water. Remove contaminated clothing, wash before reuse. If irritation persists, get medical attention.

**Eyes:** Flush eyes with large quantities of water for at least 15 minutes, lifting upper and lower lids. Get medical attention immediately.

**Ingestion:** Rinse mouth with water. DO NOT induce vomiting. If vomiting occurs naturally, lean victim forward to prevent aspiration of material. Aspiration can be fatal. Get immediate medical attention.

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## SECTION VIII - PREVENTIVE MEASURES

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**Spill, leak or release:** If contents discharged accidentally, ventilate area and remove all ignition sources. Absorb with an inert DRY material, and dispose of as oily waste in sealed air-tight containers. Wash area with detergent to remove residue.

**Waste disposal:** Dispose of waste in accordance with all local, provincial and federal regulations.

**Protective equipment:**

**Respiratory/type:** Not required if used in well-ventilated area, below TLV. If TLV is exceeded, wear a NIOSH-approved respirator intended for organic vapours.

**Gloves/type:** Wear chemically-resistant gloves if skin contact is likely.

**Eye/type:** Wear splash-proof safety goggles.

**Footwear/type:** Wear safety boots as per health and safety regulations

**Other/type:** Emergency shower and eye wash station should be close to work area.

**Engineering controls:** Use in well-ventilated conditions.

**Handling procedures and equipment:** Contents under pressure; may explode if heated. Keep away from heat and ignition sources. Do not breathe vapour or spray. Avoid contact with skin and eyes. Keep away from incompatibles. Use in well-ventilated areas only. KEEP OUT OF REACH OF CHILDREN.

**Storage requirements:** Keep away from heat and ignition sources, such as radiators or stoves. Store in cool, well-ventilated place. Do not puncture, incinerate or store container at temperatures above 50°C (122°F) or in direct sunlight.

**Special shipping instructions:** TDG Regulations: Can be shipped as Consumer Commodity.

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## SECTION IX - PREPARATION INFORMATION

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**Prepared by:** Comlube Technology Inc.

**Telephone #:** (905) 438-8418

**Preparation date:** December, 2014

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