

# 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, inh.)</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 , 2009

The information and data presented herein are based on tests, reports and research we believe to be accurate and reliable. The information and data are provided without warranty, guarantee or liability on our part and are therefore, provided to our customers for their own investigation, verification and consideration.