SECTION 1 - PRODUCT IDENTIFICATION

Product identifier/Trade name: DRY GRAPHITE LUBE
Product code/Internal Identification: 11340
Product use/Description: Lubricant
Product chemical name: N/Ap
Chemical family: N/Ap
MSDS preparation/review date: May 5, 2011
Supplier identifier: Asalco Inc.
44, ch. Des Ursulines, Stanstead, Québec (Canada), J0B 3E0
Telephone 819-876-2211 Fax 819-876-5373 Internet www.asalco.com
Emergency phone number: (613) 996-6666 (CANUTEC)
Manufacturer identifier: Same as supplier
Emergency phone number: Same as supplier
WHMIS Classification: A – Compressed gas
B5 – Flammable aerosol
D1B – Toxic material with serious and immediate toxic effects
D2A and D2B – Toxic material with other toxic effects

SECTION 2 - CHEMICAL COMPOSITION / HAZARDOUS INGREDIENTS

Hazardous Ingredients	CAS #	% (weight)	LD_{50} (route, specie)	LC_{50} (specie)
1,1,2-Trichloroethylene	79-01-6	10-30	4920 mg/kg (oral, rat) 20 mL/kg (dermal, rabbit)	8450 ppm 4 hours (rat)
Acetone	67-64-1	10-30	5800 mg/kg (oral, rat)	71 g/m^3 4 hours (rat)
Toluene	108-88-3	5-10	636 mg/kg (oral, rat) 14100 µL/kg (dermal, rabbit)	49 g/m^3 4 hours (rat)
Isobutane	75-28-5	10-30	N/Ap	658000 mg/m^3 4 hrs (rat)
Propane	74-98-6	7-13	N/Ap	N/Av

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview

EXTREMELY FLAMMABLE AEROSOL. Vapours may catch fire. Content under pressure. TOXIC. May be harmful if ingested or inhaled. Prolonged or excessive inhalation may cause central nervous system depression, death and have neurological effects. Prolonged or excessive ingestion may cause aspiration of liquid into the lungs and cause chemical pneumonitis or even death. IRRITANT. Causes skin, eye, respiratory tract and digestive tract irritations. POSSIBLE REPRODUCTIVE HAZARD - may cause developmental toxicity and mutagenic effects, based on animal information. SUSPECT CANCER HAZARD - may cause cancer, based on human information.

POTENTIAL HEALTH EFFECTS (for more details, refer to Section 11)
Primary entry route(s): Skin, eye, ingestion and inhalation.
Effects of short-term (acute) and long-term (chronic) exposure:

Inhalation:
May be harmful if inhaled. Prolonged or excessive inhalation may cause central nervous system depression and have neurological effects. May cause headache, nausea, dizziness, vomiting and incoordination. Irritating to respiratory tract.

Skin: Causes severe skin irritations.

Eye: Causes severe eye irritations.

Ingestion:
May be harmful if ingested. Prolonged or excessive ingestion may cause aspiration of liquid into the lungs and cause chemical pneumonitis or even death. May also cause gastrointestinal irritation, nausea and diarrhea. Causes severe digestive tract irritations.

SECTION 4 - FIRST AID MEASURES

Inhalation:

Remove source of contamination or have victim move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Obtain medical attention immediately.

Skin contact:

Flush contaminated area with lukewarm, gently running water for at least 20 minutes. If irritation persists, obtain medical advice.

Eye contact:

Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 20 minutes. Obtain medical attention immediately.

Ingestion:

NEVER give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink two glasses of water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Repeat administration of water. Obtain medical attention immediately.

SECTION 5 - FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability: EXTREMELY FLAMMABLE AEROSOL according to flame projection (>15 cm but <100 cm) and no flashback. Does burn under normal handling conditions.

Flash point (Method): > -18°C

Lower flammable limit (% by volume): 1.0

Upper flammable limit (% by volume): 12.8

Sensitivity to mechanical impact: Aerosols may explode or become projectiles after a mechanical impact.

Sensitivity to static discharge: N/Av

Auto-ignition temperature: 465-480°C

Suitable extinguishing media:

Carbon dioxide, dry chemical powder and appropriate foam.

Special fire-fighting procedures/equipment:

During a fire, irritating/toxic smoke and fumes may be generated. Vapours can accumulate in confined spaces, resulting in a toxicity and flammability hazard. A self-contained breathing apparatus is required for fire-fighting personnel to protect themselves from toxic products produced during the combustion. Closed containers may explode with the pressure building from the heat. Use water to cool fire exposed containers and prevent this situation.

Hazardous combustion products:

Carbon monoxide, carbon dioxide and other irritant gases, which may include toxic constituents.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions:

Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Remove all ignition sources. Remove or isolate flammable and combustible materials. Wear adequate personal protective equipment (See Section 8). Ventilate area.

Spill response/Cleanup:

Stop the flow if it can be done safely. Keep materials which can burn away from spilled material. Prevent material from entering waterways, sewers or confined spaces. Put material in suitable, covered, labelled containers.

Environmental precautions:

Confine spill, preventing it from entering sewer lines or waterways. Dispose of as per local, state and federal regulations.

SECTION 7 - HANDLING AND STORAGE

Safe handling procedures:

Before handling, it is very important that engineering controls are operating and that protective equipment requirements and personal hygiene measures are being followed. People working with this chemical should be properly trained regarding its hazards and its safe use. Do not use near welding operations, flames or hot surfaces. Ensure proper ventilation after sealed area has been treated. Inspect containers for leaks before handling. Label containers appropriately. Keep containers closed when not in use. Empty containers are always dangerous. Assume that empty containers contain residues which are hazardous. Do not use with incompatible materials.

Storage requirements:

Store in a cool, well-ventilated area, away from heat and ignition sources. Keep storage area clear of ignition sources. Store away from incompatible materials. Inspect all incoming containers to make sure they are properly labelled and not damaged. Store in suitable, labelled containers. Keep containers tightly closed. Empty containers are always dangerous. Storage area should be clearly identified, clear of obstruction and accessible only to trained personnel. Inspect periodically for damage or leaks.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering controls:

Local exhaust ventilation system is recommended to maintain concentrations of contaminants below exposure limits.

Respiratory Protection:

Respiratory protection is required if the concentrations are higher than the exposure limits. Use a NIOSH approved respirator if the exposure limits are unknown.

Protective Clothing/Equipment:

Wear chemically protective gloves (impervious), and other protective clothing to prevent prolonged or repeated skin contact. Wear protective chemical safety glasses to prevent prolonged or repeated eye contact. Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Comments:

Avoid contact with skin and eyes. Avoid breathing this product. Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state, colour and odour: Aerosol (black liquid) with slight ketone odour.

Odour threshold: N/Av

pH :	N/Av	**Boiling point:**	57-111°C
Melting/freezing point:	N/Av	**Vapour pressure:**	45-55 psig @ 20°C
Coefficient of oil/water distribution:	N/Av	**Solubility in water:**	Negligible
Specific gravity or density (water = 1):	~1.01-1.05	**Vapour density (Air = 1):**	Heavier than air
Evaporation rate (n-Butyl acetate = 1):	> 1	**% volatile by volume:**	N/Av

SECTION 10 - REACTIVITY AND STABILITY DATA

Stability and reactivity:

Stable at room temperature, in normal handling and storage conditions.

Polymerisation: Hazardous polymerisation will not occur.

Conditions to avoid:

Avoid STRONG OXIDIZING AGENTS, STRONG BASES, ALKALI METALS, ETC. Keep away from ignition sources. Do not expose containers to mechanical impacts and temperatures exceeding 50 °C (122°F).

Materials to avoid:

Avoid STRONG OXIDIZING AGENTS, STRONG BASES, ALKALI METALS, ETC.

Hazardous decomposition products:

Hydrogen chloride gas, hydrochloric acid, phosgene, dichloroacetyl chloride and dichloroacetic acid.

SECTION 11 - TOXICOLOGICAL INFORMATION

Exposure limits: N/Av for the product.

Ingredient	OSHA PEL		ACGIH TLV		Other exposure limits
	TWA	STEL	TWA	STEL	
1,1,2-Trichloroethylene	100 ppm	200 ppm	10 ppm	25 ppm	N/Av
Acetone	1000 ppm	N/Av	500 ppm	750 ppm	N/Av
Toluene	200 ppm	300 ppm	20 ppm	N/Av	N/Av
Isobutane	N/Av	N/Av	1000 ppm	N/Av	N/Av
Propane	1000 ppm	N/Av	1000 ppm	N/Av	N/Av

For more details, refer to Section 3.

Carcinogenicity: 1,1,2-Trichloroethylene is listed by IARC, ACGIH, NTP or OSHA as a carcinogen.

Teratogenicity, mutagenicity, other reproductive effects: 1,1,2-Trichloroethylene and Toluene may cause developmental toxicity and mutagenic effects.

Skin sensitization: N/Av

Respiratory tract sensitization: N/Av

Synergistic materials: N/Av

SECTION 12 - ECOLOGICAL INFORMATION

Environmental effects: N/Av

Important environmental characteristics: N/Av

Aquatic toxicity: N/Av

SECTION 13 - WASTE DISPOSAL

Handling and storage conditions for disposal:

Store material for disposal as indicated in Handling and Storage (Section 7).

Methods of disposal:

Review federal, provincial and local government requirements prior to disposal.

SECTION 14 - TRANSPORTATION INFORMATION

Transportation of Dangerous Goods (TDG) :

TDG Classification: UN1950; AEROSOL; Class 2.1

Special case: Product can also be shipped as a LIMITED QUANTITY/CONSUMER COMMODITY according to TDG Section 1.17.

SECTION 15 - REGULATORY INFORMATION

In Canada

WHMIS information:

Product is regulated according to the Controlled Product Regulation (CPR) in Canada.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this MSDS contains all the information required by the CPR.

Hazardous Materials Identification System (HMIS):

HEALTH: 3 FLAMMABILITY: 4 REACTIVITY: 1 PERSONAL PROTECTION: Section 8.

HAZARD: 0 Minimal 1 Slight 2 Moderate 3 Serious 4 Severe

National Fire Protection Association (NFPA):

HEALTH: 3 FLAMMABILITY: 4 REACTIVITY: 1 PERSONAL PROTECTION: Section 8.

HAZARD: 0 Minimal 1 Slight 2 Moderate 3 Serious 4 Severe

United States OSHA information:

This product is regulated according to OSHA. This MSDS contains all the information required by OSHA.

United States TSCA information: The ingredients in this product are listed on the TSCA.

New Jersey Labeling Requirements: Ingredients to be disclosed on product labelling : Refer to Section 2.

California Proposition 65: This product contains chemicals (1,1,2-Trichloroethylene & Toluene) that are known to the State of California to cause cancer or other reproductive harm.

SECTION 16 - OTHER INFORMATION

Prepared by: NSS ENTREPRISE INC. for Asalco Inc.
Telephone number: Telephone 819-876-2211 Fax 819-876-5373 Internet www.asalco.com
References:

1. Material Safety Data Sheets from manufacturer/supplier.
2. CSST, Répertoire Toxicologique, Les produits, 2011.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2011.

Abbreviations:

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstract Service
CFR	Code of Federal Regulations (Transportation in U.S.A.)
DOT	Department of Transport (U.S.A.)
DSL	Domestic Substance List
IARC	International Agency for Research on Cancer
LC	Lethal concentration
LD	Lethal Dosage
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program (U.S.A.)
OSHA	Occupational Safety and Health Administration (U.S.A.)
PEL	Permissible Exposure Limit
STEL	Short-term Exposure Limit
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
USEPA	United States Environmental Protection Agency
WHMIS	Workplace Hazardous Materials Information System

End of the MSDS