MATERIAL SAFETY DATA SHEET
LPS® KB88

Revision Date: 12/28/2010 **Supercedes: 11/1/2009**

Section 1 • Product and Company Identification

Product Name:	LPS® KB88
Part Number:	02316 (aerosol), 02322, 02301, 02305, 02355, C02316 (aerosol), C02322, C02301, C02305, C02355
Chemical Name:	Petroleum Distillates
Product Use:	A high performance penetrant designed to loosen metal parts.
Manufacturer Information:	LPS Laboratories, 4647 Hugh Howell Rd., Tucker, GA, USA 30084
	TEL: USA & Canada: 1 800 241-8334 Outside USA and Canada 1 770-243-8800
	FAX: USA & Canada: 1 800 543-1563 Outside USA and Canada 1 770-243-8899
Emergency Telephone Number:	Chemtrec: USA&Canada 1-800-424-9300 Outside USA and Canada: +1 (703) 527-3887
Website:	http://www.lpslabs.com

PLAIN LANGUAGE HAZARD SUMMARY

Material Safety Data Sheets can be confusing. Federal and State laws require us to include a great deal of technical information that probably will not help the non-professional. LPS includes this "PLAIN LANGUAGE HAZARD SUMMARY" to address the questions and concerns of the average worker. If you have additional health, safety or product questions, do not hesitate to call us at 770-243-8800.

Worker Toxicity

LPS® KB88 is a high performance penetrant designed to loosen metal parts that have bonded together due to rusting, oxidation, or other causes. It contains solvents that can be irritating to skin. Avoid extended exposure to unprotected skin. Don't get it in your eyes (it stings), or breath the vapor (if working on hot surfaces or heated tanks). Vapors from heated LPS® KB88 can make you dizzy and even sick. For more exposure and first aid information, refer to MSDS Sections 2, 8 and 11.

Flammability

LPS® KB88 is combustible having a flash point above 140°F and an auto ignition temperature over 400°F. Under normal use conditions flammability isn't a concern, but don't apply the product onto red-hot metal surfaces or near sparks.

Disposal

LPS® KB88 in non-aerosol form is not hazardous for disposal; however, if it becomes contaminated with another substance, the resulting mixture may fall under a hazardous classification. See section 13 for more details.

Section 2 • Hazards Identification

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Emergency Overview:

Aerosol: DANGER: Flammable. Contents under pressure.

Bulk: DANGER: Combustible. Harmful or Fatal if Swallowed.

Primary route(s) of entry: Skin and Eye contact. Inhalation.

Potential Acute Health Effects:

Eyes: Irritating to eyes

Skin: Repeated exposure may cause skin dryness or cracking.

Inhalation: Excessive inhalation of vapors can cause irritation of the respiratory tract, nausea, dizziness or headache.

Ingestion: Product has a low order of acute oral toxicity, but ingestion of large quantities may cause nausea, vomiting, and gastrointestinal irritation. May cause injury if aspirated into lungs.

Potential Chronic Health Effects:

Carcinogenic Effects: NTP: No **IARC:** No **OSHA:** No

Mutagenic Effects: None

Teratogenic Effects: None

Target Organs: None

Medical conditions aggravated by exposure: Persons with pre-existing central nervous system (CNS) disease, neurological conditions, skin disorders, chronic respiratory diseases, or impaired liver or kidney function should avoid exposure.

Signs and Symptoms
Stinging in eyes. Repeated or prolonged skin contact can cause redness, irritation, and scaling of the skin (dermatitis). Breathing of high vapor concentrations may cause headaches, stupor, irritation of throat and eyes, and kidney effects.

Section 3 • Composition / Information on Ingredients

Component	CASRN	Weight Percent
Solvent Naphtha	64742-94-5	25 – 35 %
Distillates (Petroleum), Hydrotreated Light	64742-47-8	15 – 25 %
Dipropylene Glycol Methyl Ether Acetate	88917-22-0	15 – 25 %
Dipropylene Glycol Mono Butyl Ether	29911-28-2	10 - 15%
Distillates Petroleum, Hydrotreated Middle	64742-46-7	5- 10 %
Carbon Dioxide (aerosol only)	124-38-9	1 – 4 %

Section 4 • First Aid Measures

Eyes: Check for and remove contact lenses. If irritation or redness develops, flush eyes with cool, clean, low pressure water for at least 15 minutes. Hold eyelids apart to ensure complete irrigation of the eye and eyelid tissue. Do not use eye ointment. Seek medical attention immediately.

Skin: Remove contaminated shoes and clothing. Rinse affected area thoroughly with water. Do not use ointments. Seek medical attention if irritation persists.

Inhalation: Immediately move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). If breathing is difficult, seek medical attention immediately.

Ingestion: If ingested, induce vomiting, and contact a physician. Never give anything by mouth to an unconscious person. If spontaneous vomiting is about to occur, place victim's head below knees. If victim is drowsy or unconscious, place on the left side with head down. Do not leave victim unattended. Seek medical attention immediately.

Section 5 • Fire Fighting Measures

Products of Combustion: Carbon monoxide and carbon dioxide.

General Fire Hazards: Do not use on energized metal equipment. High heat will cause product to boil, evolving vapor that could cause explosive rupture of closed containers.

Firefighting media: SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use CO2, water spray, fog or foam. Cool containing vessels with water to prevent pressure build-up, auto ignition or explosions.

Sensitivity to Impact: None **Sensitivity to Static Discharge:** Yes

Protection Clothing (Fire): Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies. Evacuate area and fight the fire from a maximum distance or use unmanned hose holders or monitor nozzles.

Special Remarks on Explosion Hazards: Aerosols may explode upon heating, spread fire and overcome sprinkler systems.

Section 6 • Accidental Release Measures

Containment Procedures	**Small Spill and Leak:**	Eliminate ignition sources. Absorb with an inert material and dispose of properly.
	Large Spill and Leak:	Eliminate ignition sources. Secure the area and control access. Dike far ahead of a liquid spill to ensure complete collection. Pick up free liquid for disposal using absorbent pads, sand, or other inert non-combustible absorbent materials. Place into appropriate waste containers for later disposal.
Clean-Up Procedures		Recover free product and place in suitable container for disposal.
Evacuation Procedures		Ventilate area of leak or spill. Keep unnecessary and unprotected people away.
Special Procedures		Remove all sources of ignition. Ventilate area. Wear appropriate protective equipment during cleanup. Be aware of spilled material on walking surfaces – this product is slippery.

Section 7 • Handling and Storage

Handling: DO NOT spray into or around ignition sources. Do not allow material to come into contact with eyes or skin. Wear appropriate protective equipment during handling. Keep container closed. Avoid breathing vapors or mists. Use only with adequate ventilation. Wash thoroughly after handling.

Storage: Keep container in a cool, well-ventilated area. Avoid all sources of ignition (spark or flame). Store between 40°F (4.4°C)-120°F (49°C).

Precautions to be taken in handling and storage: *Store aerosols as Level 3 Aerosol (NFPA 30B).* Store all materials in dry, well-ventilated area. Avoid breathing vapors.

Section 8 • Exposure Controls / Personal Protection

Exposure Guidelines:

Component	CASRN	OSHA TWA-PEL	OSHA STEL	ACGIH-TLV	ACGIH-STEL	NIOSH
Solvent Naphtha	64742-94-5	Not Established	Not Established	Not Established	Not Established	100 mg/m3 17 ppm Supplier Recommendation
Distillates (Petroleum), Hydrotreated Light	64742-47-8	100 ppm* 525 mg/m^3*	Not Established	Not Established	Not Established	Not Established
Dipropylene Glycol Methyl Ether Acetate	88917-22-0	100 ppm	Not Established	Not Established	Not Established	Not Established
Dipropylene Glycol Mono Butyl Ether	29911-28-2	10 mg/m^3*	Not Established	Not Established	Not Established	Not Established
Distillates Petroleum, Hydrotreated Middle	64742-46-7	5 mg/m^3	Not Established	5mg/m^3	Not Established	Not Established
Carbon Dioxide (aerosol only)	124-38-9	5000 ppm	30000 ppm	5000 ppm	30000 ppm	5000 ppm TWA 30000 ppm STEL

Engineering Controls: Provide local and/or general exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits.

Personal Protection:

Eye protection Safety glasses with side shields conforming to appropriate regulations. Eye wash fountain and emergency shower facilities are recommended.

Hand protection Normally no hand protection is required; however, if product will be sprayed for an extended period, “overspray” onto skin may occur. If so, use chemical resistant gloves (i.e., nitrile, neoprene, PVC) conforming to appropriate regulations. Please observe the instructions regarding permeability and breakthrough time that are provided by the supplier of the gloves.

Respiratory protection Typical use of this product under normal conditions does not require the use of respiratory protection. If airborne concentrations are above the applicable exposure limits (listed above), use NIOSH approved respiratory protection (i.e., organic vapor cartridge).

General Hygiene Considerations Wash throughly after handling. Have eye-wash facilities immediately available.

Section 9 • Physical and Chemical Properties

Appearance:	Liquid	**Color:**	Clear Red
Odor:	Naphthenic	**Evaporation Rate:**	<0.1 (BuAc=1)
Solubility Description:	Not soluble in water	**Flash Point:**	>65.5°C(150°F) -dispensed liquid
Boiling Point:	100°C (212 °F)	**Flash Point Method:**	TCC
Specific Gravity (H2O=1):	0.86 – 0.88 @ 20ºC	**Decomposition Temperature:**	Not Established
Vapor Density (air = 1):	>1	**Auto Ignition Temperature:**	>228°C(442°F)
Vapor Pressure:	Not Established	**Flammable limits (estimated):**	LOWER: 0.6% UPPER: 7.0%
Rule 1171 PPc:	Not Applicable	**Partition Coefficient (octanol/water):**	<1
V.O.C. Content:	Aerosol: 41.8%, 363 g/L, 3.0 lb/gal per CARB/OTC/EPA Regulations Bulk: 43.0%, 373 g/L, 3.1 #/gal per CARB/OTC/EPA Regulations	**Odor Threshold:**	Not Established
Melting Point:	Not Established	**Viscosity:**	<3.8 cSt@ 25°C
pH:	Not Applicable	**Volatiles:**	96-98%
Heat of combustion:	Aerosol: > 30kJ/g Bulk: Not Established		

Section 10 • Stability and Reactivity

Chemical Stability:	Product is stable under recommended storage conditions.
Conditions to Avoid:	Keep away from heat and ignition sources.
Incompatibility:	Reactive or incompatible with oxidizing agents and strong acids.
Hazardous Decomposition:	Combustion will generate smoke, possibly thick and choking, resulting in zero visibility and combustion products include carbon monoxide and carbon dioxide.
Hazardous Polymerization:	Will not occur.

Section 11 • Toxicological Information

A: General Product Information

An acute toxicity study of this product has not been conducted. Information given in this section relates only to individual constituents contained in this preparation.

B: Component Analysis

Component	CASRN	LC-50	LD-50
Solvent Naphtha	64742-94-5	>590 mg/m^3/rat/4hr	>2 mL/kg/dermal/rabbit
Distillates (Petroleum), Hydrotreated Light	64742-47-8	>6.8 mg/L *	>5 g/kg*
Dipropylene Glycol Methyl Ether Acetate	88917-22-0	Not Established	>5000 mg/kg/oral/ rat*
Dipropylene Glycol Mono Butyl Ether	29911-28-2	>2.04 mg/L aerosol rat*	3700 mg/kg female-4400mg/kg male/oral/rat* 5330 mg/kg female- 6490 mg/kg male/dermal/rabbit*
Distillates Petroleum, Hydrotreated Middle	64742-46-7	Not Established	Not Established
Carbon Dioxide	124-38-9	470000 ppm/rat/30 min	Not Applicable

* Supplier Data

Section 12 • Ecological Information

Mobility: Readily absorbed into soil.

Persistence and degradability: Only slightly biodegradable.

Bioaccumulative potential: Low bioaccumulation potential

Other adverse effects: None known.

Ecological studies have not been conducted for this product. The following information is available for component(s) of this product.

Ecotoxicity:

Effect on Organisms	Component	CASRN	Test	Species	Results
Acute Toxicity on Fishes	Distillates (Petroleum), Hydrotreated Light	64742-47-8	96hour-LC_{50}	Oncorhynchus mykiss	3200 ug/L*
	Dipropylene Glycol Methyl Ether Acetate	88917-22-0	96hour-LC_{50}	Oncorhynchus mykiss	111 mg/L*
	Dipropylene Glycol Mono Butyl Ether	29911-28-2	96hour-LC_{50}	Poecilia reticulate	841 mg/L*
Acute Toxicity on Daphnia	Dipropylene Glycol Methyl Ether Acetate	88917-22-0	48hour-LC_{50}	Daphnia magna	2701 mg/L*
	Dipropylene Glycol Mono Butyl Ether	29911-28-2	48hour-LC_{50}	Daphnia magna	>1000 mg/L*
Bacterial inhibition	No Data Available				
Growth inhibition of algae	Dipropylene Glycol Methyl Ether Acetate	88917-22-0	72hour-EC_{50}	Green Alga Pseudokirchneriella subcapitata	> 1000 mg/L*
Bioaccumulation in fish	No Data Available				

* Supplier Data

For the 64742-47-8 component, no toxicity has been observed in water due to extremely low water solubility. If material is spilled on soil, some potential toxic effects could occur before biodegradation could remove material.

If spilled, the 64742-46-7 constituent may kill grasses and small plants by interfering with transpiration. Spilled material may coat gill structures of fish resulting in suffocation if spilled in shallow, running water. This product may be toxic to amphibians by preventing dermal respiration. This product may also cause gastrointestinal distress to birds and mammals through ingestion. Biodegradation of this product is possible within 90 to 120 days in aerobic environments at temperatures above 21 ^{o}C.

Section 13 • Disposal Considerations

Waste Status: In its purchased form, non-aerosol material does not meet the definition of a RCRA hazardous waste. Aerosol cans, if depressurized and emptied to less than 2.5 cm of fluid contents are classified as non-hazardous waste under 40 CFR 261.7 (U.S.). However, if disposed of in its received form, an aerosol carries waste code D003. (U.S.)

Disposal: Waste must be disposed of in accordance with national, regional and local environmental control regulations.

Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information inaccurate, incomplete, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive than federal laws and regulations.

Section 14 • Transport Information

Aerosol

D.O.T. Ground	**Shipping Name:**	ORM-D	**UN no:**	NA
	Hazard Class:	NA	**Technical Name:**	NA
	Subclass:	NA	**Hazard Label:**	ORM-D Already on box
	Packing group:	NA		
Road/Rail - ADR/RID	**UN no:**	1950	**ADR Class:**	2.1
	Packing group:	NA	**Classification code:**	5F
	Name and Description:	Aerosols, Flammable	**Hazard ID no:**	NA
	Labeling:	2.1	**Technical Name:**	NA
IMDG-IMO	**UN no:**	1950	**Class:**	2.1
	Shipping Name:	Aerosols	**Subsidiary Risk:**	NA
	Labeling:	2	**Packing group:**	NA
	Packing Instruction:	P003, LP02	**EmS:**	F-D, S-U
	Marine pollutant:	NO	**Technical Name:**	NA
IATA-ICAO	**UN no:**	1950	**Class:**	2.1
	Shipping Name:	AEROSOLS, Flammable	**Subclass**	NA
	Packing instructions:	203, Y203 (Ltd. Qty)	**Packing group:**	NA
	Labeling:	Flammable Gas	**Technical Name:**	NA

Bulk versions of this product are not regulated by any mode of transportation.

Section 15 • Regulatory information

U.S. Federal Regulations

RCRA Hazardous Waste No.: D003 (aerosol only)

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA): None

Toxic Substances Control Act (TSCA):
All components of this product are TSCA inventory listed and/or are exempt.

Superfund Amendments and Reauthorization Act (SARA) Title III
SARA Section 311/312 (40 CFR 370) Hazard Categories: Sudden Release of Pressure (aerosols only), Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard

This product contains the following toxic chemical(s) subject to reporting requirements of SARA Section 313 (40 CFR 372):
1,2,4-Trimethylbenzene 95-63-6 <0.5%

Section 112 Hazardous Air Pollutants (HAPs): None

State Regulations

California: This product does **not** contain chemical(s) known to the State of California to cause cancer, birth defects or reproductive harm.

California and OTC States: This product conforms to consumer regulations.

New Jersey RTK:
Aerosol: Solvent Naphtha 64742-94-5 ● Aliphatic Hydrocarbon 64742-47-8 ● Dipropylene Glycol Methyl Ether Acetate 88917-22-0 ● Dipropylene Glycol Monobutyl Ether 29911-28-2 ● Distillates Petroleum, Hydrotreated Middle 64742-46-7 ● Carbon Dioxide 124-38-9
Bulk: Solvent Naphtha 64742-94-5 ● Aliphatic Hydrocarbon 64742-47-8 ● Dipropylene Glycol Methyl Ether Acetate 88917-22-0 ● Dipropylene Glycol Monobutyl Ether 29911-28-2 ● Distillates Petroleum, Hydrotreated Middle 64742-46-7 ●

International Regulations

Canadian Environmental Protection Act: All of the components of this product are included on the Canadian Domestic Substances list (DSL).

Canadian Workplace Hazardous Materials Information System (WHMIS):

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

WHMIS Classification: Aerosol
Class A, Class B5, Class D2B

WHMIS Classification: Bulk
Class B3, Class D2B

Other Regulations

Montreal Protocol listed ingredients:	None
Stockholm Convention listed ingredients:	None
Rotterdam Convention listed ingredients:	None
RoHS Compliant:	Yes

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LPS® KB88

Revision Date: 12/28/2010 **Supercedes: 11/1/2009**

Section 16 • Other Information

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LPS® KB88
Responsible Name:
Clea George
Regulatory Affairs Coordinator
Telephone: +1 770 243-8800</td>
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 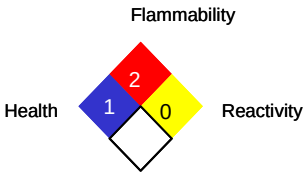
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Clea George, Regulatory Affairs Coordinator
LPS Laboratories, A division of Illinois Tool Works