MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name **LPS® KB88 (Aerosol)**

Version # 01

Issue date 01-11-2013

CAS # Mixture

Part Number 02316

Product use A high performance penetrant designed to loosen metal parts.

Manufacturer information

LPS Laboratories, a division of Illinois Tool Works
4647 Hugh Howell Rd
Tucker, GA 30084 United States
www.lpslabs.com
1-800-241-8334 / 770-243-8800
Chemtrec 1-800-424-9300

2. Hazards Identification

Emergency overview

DANGER

Extremely flammable. CONTENTS UNDER PRESSURE.
Aerosol. Pressurized container may explode when exposed to heat or flame. Will be easily ignited by heat, spark or flames.

Irritating to eyes and skin. Prolonged exposure may cause chronic effects. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects

Routes of exposure Inhalation. Ingestion. Skin contact. Eye contact.

Eyes Avoid contact with eyes. May cause eye irritation.

Skin Avoid contact with the skin. May cause skin irritation. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Inhalation Avoid breathing dust/fume/gas/mist/vapors/spray. May cause irritation of respiratory tract. Prolonged inhalation may be harmful.

Ingestion Exposure by ingestion of an aerosol is unlikely. Harmful: may cause lung damage if swallowed. Do not ingest.

Target organs Central nervous system. Eyes. Respiratory system. Skin.

Chronic effects Conjunctiva. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Signs and symptoms Narcosis. Decrease in motor functions. Behavioral changes. Conjunctivitis. Defatting of the skin. Skin irritation. Rash.

Potential environmental effects Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Distillates Petroleum, Hydroteated Light	64742-47-8	20 - 40
SOLVENT NAPHTHA (PETROLEUM), HEAVY AROM.	64742-94-5	20 - 40
Carbon Dioxide	124-38-9	2.5 - 10
Distillates Petroleum,Hydrotreated Med	64742-46-7	2.5 - 10
Other components below reportable levels		20 - 40

4. First Aid Measures

First aid procedures

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Skin contact	Take off immediately all contaminated clothing. Wash off with warm water and soap. For minor skin contact, avoid spreading material on unaffected skin. Get medical attention if irritation develops and persists.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. Do not use mouth-to-mouth method if victim inhaled the substance. Call a physician if symptoms develop or persist.
Ingestion	Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Notes to physician	In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General advice	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Take off contaminated clothing and shoes immediately. IF exposed or concerned: Get medical advice/attention. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Wash contaminated clothing before reuse.

5. Fire Fighting Measures

Flammable properties	Flammable by OSHA criteria. Heat may cause the containers to explode. Vapors may travel considerable distance to a source of ignition and flash back. Runoff to sewer may cause fire or explosion hazard.

Extinguishing media

Suitable extinguishing media	Powder. Alcohol resistant foam. Dry chemicals. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

Protection of firefighters

Specific hazards arising from the chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame. Fire may produce irritating, corrosive and/or toxic gases.
Protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers exposed to heat with water spray and remove container, if no risk is involved. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. Water runoff can cause environmental damage.
Specific methods	In the event of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Move container from fire area if it can be done without risk. Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Wear appropriate personal protective equipment. Ventilate closed spaces before entering them.
Environmental precautions	Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Avoid release to the environment. Refer to special instructions/safety data sheets. Do not contaminate water.
Methods for containment	Refer to attached safety data sheets and/or instructions for use. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Use water spray to reduce vapors or divert vapor cloud drift. Collect spillage.

Methods for cleaning up

Ventilate the contaminated area. Wear appropriate protective equipment and clothing during clean-up. Should not be released into the environment. Stop the flow of material, if this is without risk. Prevent product from entering drains. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Isolate area until gas has dispersed. Following product recovery, flush area with water. Scrub the area with detergent and water. For waste disposal, see section 13 of the MSDS.

Other information

Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling

DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not smoke. All equipment used when handling the product must be grounded. Avoid contact with eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid prolonged or repeated contact with skin. Wear personal protective equipment. Use only in well-ventilated areas.

Storage

Level 3 Aerosol.

Contents under pressure. The pressure in sealed containers can increase under the influence of heat. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a well-ventilated place. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children. Use care in handling/storage.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Carbon Dioxide (CAS 124-38-9)	STEL	30000 ppm	
	TWA	5000 ppm	
Distillates Petroleum,Hydro treated Med (CAS 64742-46-7)	TWA	5 mg/m3	Inhalable fraction.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Carbon Dioxide (CAS 124-38-9)	PEL	9000 mg/m3	
		5000 ppm	
Distillates Petroleum,Hydro treated Med (CAS 64742-46-7)	PEL	5 mg/m3	Mist.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Carbon Dioxide (CAS 124-38-9)	REL	9000 mg/m3	
		5000 ppm	
	STEL	54000 mg/m3	
		30000 ppm	
Distillates Petroleum, Hydroteated Light (CAS 64742-47-8)	REL	100 mg/m3	
Distillates Petroleum,Hydro treated Med (CAS 64742-46-7)	REL	5 mg/m3	Mist.
	STEL	10 mg/m3	Mist.

Engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal protective equipment

Eye / face protection

Do not get in eyes. Wear safety glasses with side shields (or goggles). Eye wash fountain is recommended.

Skin protection

Wear appropriate chemical resistant clothing. Chemical resistant gloves.

Respiratory protection	Do not breathe dust/fume/gas/mist/vapors/spray. If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.
General hygiene considerations	Do not get in eyes, on skin, on clothing. Keep away from food and drink. Wash hands after handling. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance	Liquid.
Physical state	Gas.
Form	Aerosol.
Color	Clear Red
Odor	Hydrocarbon-like.
Odor threshold	Not available.
pH	Not applicable.
Vapor pressure	< 1 mm Hg @ 20ºC (est.)
Vapor density	> 1
Boiling point	~212°F (est.)
Melting point/Freezing point	Not available.
Solubility (water)	Not soluble.
Specific gravity	0.875 @23ºC
Relative density	Not available.
Flash point	159.80 °F (71.00 °C) Tag Closed Cup
Flammability limits in air, upper, % by volume	11.7 % (est.)
Flammability limits in air, lower, % by volume	0.6 % (est.)
Auto-ignition temperature	> 420 °F (> 215.56 °C)
VOC	24 % per U.S. State and Federal Consumer Product Regulations
Evaporation rate	< 0.1 BuAc
Viscosity	Low viscosity comparable with water (water= 1cST. @ 20ºC)
Percent volatile	92 %
Partition coefficient (n-octanol/water)	Not available.
Other data	
Density	7.30 lb/gal
Flammability (solid, gas)	Flammable gas.
Heat of combustion	> 30 kJ/g

10. Chemical Stability & Reactivity Information

Chemical stability	Risk of ignition.
Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use. Hazardous polymerization does not occur.

11. Toxicological Information

Acute effects	Harmful if swallowed. May be harmful if inhaled.
Local effects	Very toxic by inhalation and if swallowed. Components of the product may be absorbed into the body through the skin. May irritate eyes and skin. Harmful by inhalation and if swallowed.
Chronic effects	Hazardous by OSHA criteria. Prolonged inhalation may be harmful. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Prolonged exposure may cause chronic effects.

Carcinogenicity

ACGIH Carcinogens

Distillates Petroleum,Hydrotreated Med (CAS 64742-46-7)	A4 Not classifiable as a human carcinogen.

Skin corrosion/irritation Causes skin irritation.

Symptoms and target organs Discomfort in the chest. Shortness of breath. Behavioral changes. Conjunctivitis. Narcosis. Decrease in motor functions. Coughing. Irritant effects. Irritating to respiratory system and skin. Irritation of eyes and mucous membranes. Defatting of the skin. Skin irritation. Rash.

Further information Symptoms may be delayed.

12. Ecological Information

Aquatic toxicity May cause long-term adverse effects in the aquatic environment.

Persistence and degradability Not inherently biodegradable.

Bioaccumulation / Accumulation

13. Disposal Considerations

Waste codes D003: Waste Reactive material

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. This material and its container must be disposed of as hazardous waste. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Avoid discharge into water courses or onto the ground.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

14. Transport Information

DOT

Basic shipping requirements:

UN number	UN1950
Proper shipping name	Aerosols, flammable
Hazard class	2.1
Environmental hazards	
Marine pollutant	No
Special precautions	Read safety instructions, MSDS and emergency procedures before handling.

Additional information:

Special provisions	N82
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable
Transport hazard class(es)	2.1
Environmental hazards	No
Labels required	2.1

IMDG

UN number	UN1950
UN proper shipping name	Aerosols, flammable
Transport hazard class(es)	2.1
Environmental hazards	
Marine pollutant	No
Labels required	2.1

DOT

IATA; IMDG

15. Regulatory Information

US federal regulations

All components of this product are TSCA inventory listed and/or are exempt. This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No
SARA 302 Extremely hazardous substance	No
SARA 311/312 Hazardous chemical	No

State regulations

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Ethylbenzene (CAS 100-41-4)	Listed: June 11, 2004 Carcinogenic.

US - New Jersey RTK - Substances: Listed substance

Carbon Dioxide (CAS 124-38-9)	Listed.

US. Massachusetts RTK - Substance List

Carbon Dioxide (CAS 124-38-9)
Distillates Petroleum, Hydroteated Light (CAS 64742-47-8)
Distillates Petroleum,Hydrotreated Med (CAS 64742-46-7)

US. Pennsylvania RTK - Hazardous Substances

Carbon Dioxide (CAS 124-38-9)	Listed.
Distillates Petroleum, Hydroteated Light (CAS 64742-47-8)	Listed.

Distillates Petroleum,Hydrotreated Med (CAS 64742-46-7)	Listed.
SOLVENT NAPHTHA (PETROLEUM), HEAVY AROM. (CAS 64742-94-5)	Listed.

US. Rhode Island RTK

Carbon Dioxide (CAS 124-38-9)
Distillates Petroleum, Hydroteated Light (CAS 64742-47-8)
Distillates Petroleum,Hydrotreated Med (CAS 64742-46-7)

16. Other Information

Further information	HMIS® is a registered trade and service mark of the NPCA.
HMIS® ratings	Health: 1* Flammability: 4 Physical hazard: 2
NFPA ratings	Health: 1 Flammability: 2 Instability: 0
Disclaimer	The information in the sheet was written based on the best knowledge and experience currently available.