MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name **LPS® Belt Dressing**

Version # 01

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CAS # Mixture

Part Number 02216

Product use A non-chlorinated, non-drying, water resistant spray dressing for extending the life of rubber drive belts by improving traction and allowing runs under reduced belt tension.

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

Flammable gas. CONTENTS UNDER PRESSURE.
Aerosol. Pressurized container may explode when exposed to heat or flame. May cause flash fire or explosion.

Will be easily ignited by heat, spark or flames. May be fatal if absorbed through skin. May be fatal if inhaled. Prolonged exposure may cause chronic effects.

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 Very toxic in contact with eyes. Do not get this material in contact with eyes.

Skin Very toxic in contact with skin. Do not get this material in contact with skin.

Inhalation Very toxic by inhalation. Intentional misuse by concentrating and inhaling the product can be harmful or fatal. Prolonged inhalation may be harmful. Avoid breathing dust/fume/gas/mist/vapors/spray.

Ingestion Very toxic if swallowed. Exposure by ingestion of an aerosol is unlikely. Components of the product may be absorbed into the body by ingestion. Do not ingest.

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

Chronic effects May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage.

Signs and symptoms Narcosis. Decrease in motor functions. Behavioral changes.

3. Composition / Information on Ingredients

Components	CAS #	Percent
2-Methylpentane	107-83-5	20 - 40
2,3-Dimethylbutane	79-29-8	10 - 20
3-Methylpentane	96-14-0	10 - 20
Propane	74-98-6	10 - 20
2,2-Dimethylbutane	75-83-2	2.5 - 10
Isobutane	75-28-5	2.5 - 10
N-Butane	106-97-8	2.5 - 10

Components	CAS #	Percent
N-hexane	110-54-3	1 - 2.5
Other components below reportable levels		10 - 20

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. Get medical attention immediately.

Skin contact Immediately flush skin with plenty of water. Get medical attention immediately. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.

Inhalation Move to fresh air. Call a physician or poison control center immediately.

Ingestion IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Never give anything by mouth to a victim who is unconscious or is having convulsions. Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes to physician Symptoms may be delayed.

General advice Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Immediate medical attention is required.

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 Water. Foam. Carbon dioxide (CO2). Powder.

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Protection of firefighters

Specific hazards arising from the chemical 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. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. Use water spray to cool unopened containers. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

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. Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out.

6. Accidental Release Measures

Personal precautions Keep unnecessary personnel away. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering them.

Methods for containment 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. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Methods for cleaning up Stop the flow of material, if this is without risk. Isolate area until gas has dispersed. Following product recovery, flush area with water. For waste disposal, see section 13 of the MSDS.

7. Handling and Storage

Handling

Vapors may form explosive mixtures with air. Pressurized container: Do not pierce or burn, even after use. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Ground and bond containers when transferring material. Do not use if spray button is missing or defective. Do not re-use empty containers. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not get this material on clothing. Wear personal protective equipment. Use only in area provided with appropriate exhaust ventilation. Avoid prolonged exposure.

Storage

Level 3 Aerosol.

Store locked up. Contents under pressure. The pressure in sealed containers can increase under the influence of heat. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. 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. Avoid exposure to long periods of sunlight. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
2,2-Dimethylbutane (75-83-2)	STEL	1000 ppm
	TWA	500 ppm
2,3-Dimethylbutane (79-29-8)	STEL	1000 ppm
	TWA	500 ppm
2-Methylpentane (107-83-5)	STEL	1000 ppm
	TWA	500 ppm
3-Methylpentane (96-14-0)	STEL	1000 ppm
	TWA	500 ppm
Isobutane (75-28-5)	TWA	1000 ppm
N-Butane (106-97-8)	TWA	1000 ppm
N-hexane (110-54-3)	TWA	50 ppm
Propane (74-98-6)	TWA	1000 ppm

US. ACGIH. BEIs. Biological Exposure Indices

Components	Type	Value
N-hexane (110-54-3)	BEI	0.4 mg/l

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

Components	Type	Value
N-hexane (110-54-3)	PEL	1800 mg/m3
		500 ppm
Propane (74-98-6)	PEL	1800 mg/m3
		1000 ppm

Exposure guidelines

US ACGIH Threshold Limit Values: Skin designation

N-hexane (CAS 110-54-3) Can be absorbed through the skin.

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

Chemical goggles are recommended. Eye wash fountain is recommended.

Skin protection

Normal work clothing (long sleeved shirts and long pants) is recommended. Chemical resistant gloves.

Respiratory protection

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. Do not get this material in contact with skin. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance	Liquid.
Physical state	Gas.
Form	Aerosol.
Color	ClearColorless
Odor	Ether-like.
Odor threshold	Not available.
pH	Not available.
Vapor pressure	352 mm Hg @ 38 °C
Vapor density	Not available.
Boiling point	141.8 °F (61 °C)
Solubility (water)	0 %
Specific gravity	0.67 - 0.69 @ 20 °C
Relative density	Not available.
Flash point	12.20 °F (-11.00 °C) Tag Closed Cup
Flammability limits in air, upper, % by volume	7 % estimated
Flammability limits in air, lower, % by volume	0.6 % estimated
Auto-ignition temperature	788 °F (420 °C) estimated
VOC	90 %
Evaporation rate	< 1 BuAc
Percent volatile	90 %
Partition coefficient (n-octanol/water)	3.2
Other data	
Flammability (solid, gas)	Flammable gas.
Flammability class	Flammable IB estimated

10. Chemical Stability & Reactivity Information

Chemical stability	Risk of explosion.
Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point.
Incompatible materials	Strong oxidizing agents. Fluorine. Chlorine. Nitrates.
Hazardous decomposition products	No hazardous decomposition products are known.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Local effects	Very toxic by inhalation, in contact with skin 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.
Neurological effects	Hazardous by OSHA criteria.
Further information	Symptoms may be delayed.

12. Ecological Information

Persistence and degradability	Not available.
Bioaccumulation / Accumulation	

Bioaccumulative potential

Octanol/water partition coefficient log Kow

LPS® Belt Dressing	3.2
Propane	2.36
Isobutane	2.76
N-Butane	2.89
2,3-Dimethylbutane	3.42
3-Methylpentane	3.6
2-Methylpentane	3.74
2,2-Dimethylbutane	3.82
N-hexane	3.9

Partition coefficient

LPS® Belt Dressing	3.2
Propane	2.36
Isobutane	2.76
N-Butane	2.89
2,3-Dimethylbutane	3.42
3-Methylpentane	3.6
2-Methylpentane	3.74
2,2-Dimethylbutane	3.82
N-hexane	3.9

13. Disposal Considerations

Waste codes D001: Waste Flammable material with a flash point <140 F
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. Incinerate the material under controlled conditions in an approved incinerator. Dispose in accordance with all applicable regulations.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. 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 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)

Not regulated.

DEA Essential Chemical Code Number

Not regulated.

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.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

N-hexane (CAS 110-54-3)	1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

N-hexane (CAS 110-54-3)	Listed.

CERCLA (Superfund) reportable quantity

2-Methylpentane: 100.0000
2,3-Dimethylbutane: 100.0000
3-Methylpentane: 100.0000
Propane: 100.0000
2,2-Dimethylbutane: 100.0000
Isobutane: 100.0000
N-Butane: 100.0000
N-hexane: 5000.0000

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
Section 302 extremely hazardous substance	No
Section 311 hazardous chemical	No

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations

US - New Jersey RTK - Substances: Listed substance

2,2-Dimethylbutane (CAS 75-83-2)	Listed.
2,3-Dimethylbutane (CAS 79-29-8)	Listed.
2-Methylpentane (CAS 107-83-5)	Listed.
Isobutane (CAS 75-28-5)	Listed.
N-Butane (CAS 106-97-8)	Listed.
N-hexane (CAS 110-54-3)	Listed.
Propane (CAS 74-98-6)	Listed.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

2,2-Dimethylbutane (CAS 75-83-2)	Listed.
2,3-Dimethylbutane (CAS 79-29-8)	Listed.
2-Methylpentane (CAS 107-83-5)	Listed.
3-Methylpentane (CAS 96-14-0)	Listed.
Isobutane (CAS 75-28-5)	Listed.
N-Butane (CAS 106-97-8)	Listed.
N-hexane (CAS 110-54-3)	Listed.
Propane (CAS 74-98-6)	Listed.

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: 4
Instability: 0

Disclaimer
The information in the sheet was written based on the best knowledge and experience currently available.

This data sheet contains changes from the previous version in section(s):
Product and Company Identification: Product Uses
Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties
Transport Information: Proper Shipping Name/Packing Group
Regulatory Information: United States