



MATERIAL SAFETY DATA SHEET

LPS[®] Zero Tri[®] Heavy-Duty Degreaser

Revision 4

Revision Date: 11/10/08

Supersedes:1/31/03

Section 1 – Identification

Product Name:	LPS [®] Zero Tri [®] Heavy-Duty Degreaser
Part Number:	03520, 03528, 03505, 03555, C03520,C03528,C03505, C03555
Chemical Name:	Aliphatic/Oxygenated Hydrocarbon mixture
Product Use:	An industrial degreaser designed to remove oil, grease, wax, moisture, dirt, or other contaminants from parts and equipment.
Manufacturer Information:	LPS Laboratories, 4647 Hugh Howell Rd., Tucker, GA, USA 30084
TEL:	1 770-243-8800
Emergency Telephone Number:	1-800-424-9300 Chemtrec; Outside U.S.: (703) 527-3887
FAX:	1 770-243-8899
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 won't 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, don't hesitate to call us at 800/241-8334.

Worker Hazards

LPS[®] Zero Tri[®] Heavy-Duty Degreaser is an industrial degreaser designed to remove oil, grease, wax, moisture, dirt, or other contaminants from parts and equipment. It contains acetone and aliphatic hydrocarbons that can be irritating to skin. We suggest you wear chemically resistant gloves and avoid extended exposure to unprotected skin. Don't get it in your eyes (it stings), or breath large amounts of the vapor, (it will dry out your nasal passages and if you breathe large amounts in poorly ventilated areas it can make you dizzy and even sick). Do not use LPS[®] Zero Tri[®] Heavy-Duty Degreaser for extended periods without adequate ventilation. If you're going to perform work involving a lot of product in a poorly ventilated area, use of a respirator or even a self-contained breathing apparatus may be necessary. For more exposure and first aid information, refer to MSDS Sections 2, 8 and 11.

Flammability

LPS[®] Zero Tri[®] Heavy-Duty Degreaser is extremely flammable. The aerosol product generates a "flame extension" when sprayed into an ignition source (flame, arc, etc.), but it is generally safe to use for most industrial applications. The bulk liquid product has a flash point of 0°F (-18°C). Store all products away from heat sources and do not spray near live electrical equipment. For additional details, refer to MSDS Sections 5 and 9.

Disposal

If you spill LPS[®] Zero Tri[®] Heavy-Duty Degreaser notify the proper environmental or safety department at your company right away. If LPS[®] Zero Tri[®] Heavy-Duty Degreaser becomes contaminated with another substance and is rendered unusable for cleaning, the resulting mixture will fall under at least one hazardous classification. See section 13 for more details.



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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: Extremely Flammable. Eye irritant. Vapor harmful. Contents under pressure. Harmful or Fatal if Swallowed

Bulk: DANGER: Flammable. Eye Irritant. Vapor harmful. 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 OSHA: No ACGIH: No

Mutagenic Effects: None

Teratogenic Effects: 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
Acetone	67-64-1	25 - 40%
Heptane	142-82-5	25 - 40%
Methylcyclohexane	108-87-2	15 - 30%
p-Amyl Acetate	628-63-7	1 - 5%
Carbon Dioxide (aerosol only)	124-38-9	1 - 5%



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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. Clean affected area thoroughly with mild soap and 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:** Do NOT induce vomiting unless directed to do so by medical personnel. 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.

Firefighting media: Use DRY chemical powder, CO₂, water spray, fog or foam. Cool containing vessels with water jet in order 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: High heat will cause product to boil, evolving vapor that could cause explosive rupture of closed containers. Aerosols may explode upon heating, spread fire and overcome sprinkler systems.

Section 6 – Accidental Release Measures

- Containment Procedures** Contain and recover spilled liquid when possible.
- Clean-Up 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.
- 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.



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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. Do not breathe 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 below 120°F.

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. Ground and bond containers before transferring materials.

Section 8 – Exposure Controls / Personal Protection

Exposure Guidelines:

Component	CASRN	OSHA TWA-PEL	OSHA STEL	ACGIH-TLV	ACGIH-STEL	NIOSH REL
Acetone	67-64-1	1000 ppm	Not Established	500 ppm	750 ppm	250 ppm TWA
Heptane	142-82-5	500 ppm	Not Established	400 ppm	500 ppm	85 ppm TWA 440 STEL
Methylcyclohexane	108-87-2	500 ppm	Not Established	400 ppm	Not Established	400 ppm TWA
p-Amyl Acetate	628-63-7	100 ppm	Not Established	Not Established	Not Established	100 ppm
Carbon Dioxide	124-38-9	5000 ppm	30000 ppm	5000 ppm	30000 ppm	5000 ppm TWA 30000 ppm STEL

* Supplier Recommendation

Engineering measures

Provide general and/or local exhaust ventilation to keep exposures below the exposure guidelines listed above.

Personal protective equipment

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., neoprene, rubber latex, or butyl glove) 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 thoroughly after handling. Have eye-wash facilities immediately available.



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Section 9 – Physical and Chemical Properties

Appearance:	Liquid.	Color:	Clear/Colorless
Odor/Taste:	Ether-like/Fruity	Vapor Pressure:	>75 mmHg
Solubility Description:	55% by weight	Calculated VOC Composite Partial Pressure per Rule 1171: (SCAQMD)	~21mmHg
Boiling Point:	>56°C (133°F)	Evaporation Rate:	> 1 (BuAc=1)
Specific Gravity (Water=1):	0.74-0.76	Flash Point:	0°F (-17°C) concentrate
Vapor Density (Air=1):	~3.0	Flash Point Method:	Tag-Closed Cup.
V.O.C. Content:	Aerosol: 62.4%, 470 g/L, 3.9 #/gal Bulk: 65.0%, 489 g/L, 4.1#/gal per CARB/OTC Regulations	Auto Ignition Temperature (°C):	Not Established
Flammable limits (estimated):	LOWER (LEL): 1.2% UPPER (UEL): 12.8	Partition Coefficient (octanol/water):	<1
pH:	Not Applicable	Viscosity:	Not Established
Melting Point	Not Established	Odor threshold	Not Established
Decomposition Temperature	Not Established	Volatiles:	100%

Section 10 – Chemical 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.
Hazardous Decomposition:	These products are carbon oxides (CO, CO ₂).
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.



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B: Component Analysis

Component	CASRN	LC-50	LD-50
Acetone	67-64-1	16000 ppm/rat/4H*	5800 mg/kg/oral/rat* 20000 mg/kg/dermal/rat*
Heptane	142-82-5	103 g/m3/rat/4H	Not Established
Methylcyclohexane	108-87-2	15227 ppm/rabbit/1H	> 3200 mg/kg/oral/rat >86700 mg/kg/dermal/rabbit**
p-Amyl Acetate	628-63-7	>3000 ppm/rat/6H	>1600 mg/kg/oral/rat
Carbon Dioxide	124-38-9	470000 ppm/rat/30min	Not Established

* Supplier Data

**RTECS LD₅₀ not reported, this is a Lethal Dose (LD) value.

Section 12 – Ecological Information

Mobility: Volatile. May partially absorb to sediment. **Persistence and degradability:** Partially biodegradable.

Bioaccumulative potential: No bioaccumulation potential **Other adverse effects:** None known.

Ecotoxicology:

Effect on Organisms	Component	CASRN	Test	Species	Results
Acute Toxicity on Fishes	Acetone	67-64-1	96-hour LC ₅₀	Alburnus alburnus	11000 mg/L
	p-Amyl Acetate	628-63-7	96-hour LC ₅₀	Gambusia affinis	65000 µg/L
Acute Toxicity on Daphnia	Acetone	67-64-1	48-hour EC ₅₀	Daphnia magna	12700 mg/L
	Methylcyclohexane	108-87-2	48-hour EC ₅₀	Daphnia magna	15 mmol/m ³
	p-Amyl Acetate	628-63-7	LC ₅₀	Daphnia magna	210 mg/L
Bacterial inhibition	No Data Available				
Growth inhibition of algae					
Bioaccumulation in fish					

Section 13 – Disposal Considerations

Waste Status: Aerosol products, 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.). If disposed of in its received form, this item carries waste code D001 and D003. (U.S.)

Disposal: Waste must be disposed of in accordance with national, regional, provincial, 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.



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Section 14 – Transportation Information

Aerosols

D.O.T. Ground	Shipping Name:	Consumer Commodity	UN Number:	NA
	Hazard Class:	ORM-D	Technical Name:	NA
	Subclass:	NA	Hazard Label:	ORM-D Already on box
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		
IMDG-IMO	UN no:	1950	Class:	2.1
	Shipping Name:	AEROSOLS	Subsidiary Risk:	NA
	Packing Instructions:	NA	Packing group:	NA
	Marine pollutant:	NO	EmS:	F-D, S-U
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		

Bulk

D.O.T. Ground	Shipping Name:	Flammable Liquid, n.o.s.	UN Number:	1993
	Hazard Class:	3	Technical Name:	Hexanes, Isopropanol
	Subclass:	NA	Hazard Label:	Flammable Liquid
Road/Rail - ADR/RID	UN no:	1993	ADR Class:	3
	Packing group:	II	Classification code:	F1
	Name and Description:	Flammable Liquid. n.o.s.	Hazard ID no:	33
	Labeling:	3		
IMDG-IMO	UN no:	1993	Class:	3
	Shipping Name:	Flammable Liquid, n.o.s.	Subsidiary Risk:	NA
	Packing Instructions:	P001	Packing group:	II
	Marine pollutant:	NO	EmS:	F-E, S-E
IATA-ICAO	UN no:	1993	Class:	3
	Shipping Name:	Flammable Liquid, n.o.s.	Subclass	NA
	Packing instructions:	305, Y305 (Ltd. Qty.)	Packing group:	II
	Labeling:	Flammable Liquid		

5 gallon containers must be shipped via “cargo aircraft only” for air transport.
55 gallon drums CANNOT be shipped by air!



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Section 15 – Regulatory Information

U.S. Federal Regulations

RCRA Hazardous Waste No.: D001, D003 (aerosols only)

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA):
Acetone 67-64-1 5000lbs., p-Amyl Acetate 628-63-7 5000 lbs.

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): No individual section 313 component is present at or above 1%

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 is for industrial use only – not for retail sale.

New Jersey Right to Know:

Aerosol: Acetone 67-64-1 • Heptane 142-82-5 • Methylcyclohexane 108-87-2 • Carbon Dioxide 124-38-9 • p-Amyl Acetate 628-63-7

Bulk: Acetone 67-64-1 • Heptane 142-82-5 • Methylcyclohexane 108-87-2 • p-Amyl Acetate 628-63-7

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 B2, 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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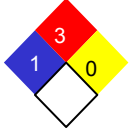
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Section 16 • Other Information

	HMIS 1996	HMIS III	NFPA
MSDS# 13520 Responsible Name: Clea Johnson Regulatory Affairs Coordinator	Health: 1	Health: []1	Flammability  Reactivity
	Flammability: 3	Flammability: bulk 3	
		Flammability: aerosol 4	
	Reactivity 0	Physical Hazard: bulk 0	
		Physical Hazard: aerosol 2	

Notice to Reader:

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Clea Johnson, Regulatory Affairs Coordinator
 LPS Laboratories, A division of Illinois Tool Works