SAFETY DATA SHEET
LPS® Zerotri (Bulk Liquid)

Revision Date: 24 August 2011 **Supersedes: 24 September 2010**

Section 1 – Identity of the Substance / Preparation and Company / Undertaking

Product Name: LPS® Zerotri (Bulk Liquid)

Part Number(s): M35005, M35025, M35205

Product Use: A solvent degreaser designed to quickly remove heavy grease and other residues from metal parts.

Supplier: Geocel Limited, Western Wood Way, Langage Science Park, Plympton, Plymouth, PL7 5BG United Kingdom
Tel.: +44 (0) 1752 202060
Fax: +44 (0) 1752 334384

In case of emergency: +001 703 527 3887

Manufacturer: LPS Laboratories, 4647 Hugh Howell Road, Tucker, GA 30084 (U.S.A.)
http://www.lpslabs.com

Section 2 – Hazards Identification

Human and Environmental Hazards: This preparation is considered hazardous according to European Union Directives 67/548/EEC and 1999/45/EC.

Extremely flammable. Irritating to eyes and skin. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Harmful: may cause lung damage if swallowed. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

Section 3 – Composition / Information on Ingredients

INGREDIENT NAME	EC No.	CASRN	Classification	Weight Percent
n-Heptane	205-563-8	142-82-5	[F] R11; [Xi] R38, R67; [N] R50/53; [Xn] R65	25 - 40%
Acetone	200-662-2	67-64-1	[F] R11; [Xi] R36, R66, R67	25 - 40%
Methylcyclohexane	203-624-3	108-87-2	[F] R11; [Xi] R38, R67; [N] R51/53	15 - 30%
Pentyl Acetate	211-047-3	628-63-7	R10, R66	1 - 5%

Section 4 – First Aid Measures

Eyes: Liquid contact may cause irritation. Flush eyes with running water for at least 15 minutes, keeping eyelids open. Get medical attention if irritation persists.

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: If inhaled, remove to fresh air. If breathing is difficult, give oxygen and get medical attention. If not breathing, give artificial respiration and get medical attention.

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.

General Fire Hazards: High heat will cause product to boil, evolving vapour that could cause explosive rupture of closed containers.

Fire fighting media: SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use CO_2, 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): Wear protective clothing and equipment suitable for the surrounding fire, including helmet, face mask, and self-contained breathing apparatus.

Section 6 – Accidental Release Measures

Precautions to protect the environment: Do not allow entry into drains or watercourses. If this occurs, inform the local authorities at once.

Spill Cleanup Methods: Eliminate all sources of ignition and ventilate area. Use an absorbent material, e.g. sand, to mop up residues. See section 13 'Disposal Considerations'.

Section 7 - Handling and Storage

Usage Precautions: None.

Storage Precautions: Keep in original container at ambient temperatures. Store container between 0°C and 54°C (32°F and 130°F). Keep container closed. Keep out of reach of children.

Section 8 – Exposure Controls / Personal Protection

Component	EC No.	UK LT EXP (8 hrs.)	UK ST EXP (15 min.)	Other
n-Heptane	205-563-8	400 ppm	500 ppm	400 ppm - ACGIH - TLV
				500 ppm - ACGIH - STEL
Acetone	200-662-2	750 ppm	1500 ppm	500 ppm - ACGIH - TLV
				750 ppm - ACGIH - STEL
Methylcyclohexane	203-624-3	400 ppm	500 ppm	400 ppm - ACGIH - TLV
Pentyl Acetate	211-047-3	50 ppm	100 ppm	Not established

Engineering measures: Normal room ventilation is usually adequate. If necessary, use appropriate local exhaust ventilation to keep exposures below the regulated limits.

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: Use protective gloves conforming to appropriate regulations. Please observe the instructions regarding permeability and breakthrough time that are provided by the supplier of the gloves. Take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion and the contact time.

Respiratory protection: Typical use of this product under normal conditions does not require the use of respiratory protection. If extended spraying of product will be made under poor ventilation, use appropriate organic vapour filtering respirators.

Hygiene measures: Do not soak clothing with this product and continue working without immediately changing clothes and washing skin. Do not reuse clothing until it has been laundered. An eyewash fountain should be available in the work area.

Environmental Exposure Controls: Soak up puddles of product with absorbent material and dispose of according to local regulations. Ventilate area to reduce worker exposure to vapours and prevent accumulation of explosive vapour concentrations.

Section 9 – Physical and Chemical Properties

Appearance:	Liquid	**Colour:**	Clear, colourless
Odour:	Ether-like / Fruity	**Evaporation Rate:**	> 1 (Ethyl Ether = 1)
Solubility Description:	35% by weight	**Flash Point:**	< -17ºC (+1.4°F)
Boiling Point:	> 56°C (133°F) @ 101 kPa	**Flash Point Method:**	Tag-Closed Cup
Specific Gravity (H2O=1):	0.74 - 0.76 @ 20°C	**Decomposition Temperature:**	Not established
Vapour Density (air = 1):	~ 3.0	**Auto ignition temperature:**	Not established
Vapour Pressure:	> 5 kPa @ 20ºC	**Flammable limits (estimated):**	LOWER: 1.2% UPPER: 12.8%
Melting Point:	Not established	**Partition Coefficient (octanol/water):**	< 1
pH:	Not applicable	**Odour Threshold:**	Not established
Heat of combustion:	> 30 kJ/g	**Viscosity:**	< 20.5 mm2/sec. @ 25ºC
Volatiles:	100%		

Section 10 – Chemical Stability and Reactivity

Chemical Stability: Product is stable under recommended storage conditions.
Conditions to Avoid: Exposure to direct sunlight for extended periods. Temperature in excess of 50°C.
Incompatibility: Reactive or incompatible with oxidizing agents.
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

Acute and Chronic Toxicity

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

INGREDIENT NAME	EC No.	LC-50	LD-50
n-Heptane	205-563-8	103 g/m3 / rat / 4 hr	222 mg/kg / intravenous / mouse
Acetone	200-662-2	16000 ppm / rat / 4 hr	5800 mg/kg / oral / rat*
		50100 mg/m3 / rat / 8 hr	20000 mg/kg / dermal / rat*
Methylcyclohexane	203-624-3	15227 ppm / rabbit / 1 hr	> 3200 mg/kg / oral / rat
		36900 mg/m3 / mouse / 2 hr	> 86700 mg/kg / dermal / rabbit**
Pentyl Acetate	211-047-3	> 3000 ppm / rat / 6 hr	> 1600 mg/kg / oral / rat

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

Section 12 – Ecological Information

Mobility: Volatile. May partially absorb into soil.

Persistence and degradability: Only slightly biodegradable

Bioaccumulative potential: No bioaccumulation potential

Other adverse effects: None known

Component Information
Acute Aquatic Toxicity

Effects on organisms	Component	EC No.	Test	Species	Results
Acute Toxicity on Fishes	Acetone	200-662-2	96-hr LC50	Alburnus alburnus	11 000 mg/L
	Pentyl Acetate	211-047-3	96-hr LC50	Gambusia affinis	65 000 µg/L
Acute toxicity on Daphnia	Acetone	200-662-2	48-hr EC50	Daphnia magna	12 700 mg/L
	Methylcyclohexane	203-624-3	48-hr EC50	Daphnia magna	15 mmol/m3
	Pentyl Acetate	211-047-3	LC50	Daphnia magna	210 mg/L
Bacterial inhibition	No data available				
Growth inhibition of algae					
Bioaccumulation in fish					

* Supplier Data

Section 13 – Disposal Considerations

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

Section 14 – Transport Information

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
	Labelling:	3	Technical Name:	Heptane, Acetone
IMDG-IMO	UN No.:	1993	Class:	3
	Shipping Name:	Flammable liquid, n.o.s.	Subsidiary Risk:	NA
	Labeling:	NA	Packing Group:	II
	Packing Instructions:	NA	EmS:	F-E, S-E
	Marine pollutant:	P001	Technical Name:	Heptane, Acetone
IATA - ICAO:	UN No.:	1993	Class:	3
	Shipping Name:	Flammable liquid, n.o.s.	Subclass:	NA
	Packing Instructions:	305, Y305 (Ltd. Qty.), 307 (CAO)	Packing Group:	II
	Labelling:	Flammable Liquid	Technical Name:	Heptane, Acetone

The preceding information is subject to change and must be verified prior to shipment. It is the responsibility of anyone offering hazardous materials for shipment to ensure compliance with all applicable regulations.

Section 15 - Regulatory Information

Warning Symbol(s):

F, Xi, N

Risk Phrases:

R11	Highly flammable
R36/38	Irritating to eyes and skin
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R65	Harmful: May cause lung damage if swallowed
R66	Repeated exposure may cause skin dryness or cracking
R67	Vapours may cause drowsiness and dizziness

Safety Phrases:

S2	Keep out of the reach of children
S9	Keep container in a well-ventilated place
S16	Keep away from sources of ignition - No smoking
S23	Do not breathe vapour
S25	Avoid contact with eyes
S33	Take precautionary measures against static discharges
S60	This material and its container must be disposed of as hazardous waste
S61	Avoid release to the environment. Refer to special instructions/safety data sheets

Precautionary Phrases: None

Section 16 - Other Information

User Notes:

The purpose of the above information is to describe this product only in terms of Health and Safety requirements. The information given therefore should not be construed as guaranteeing specific properties or specification. Customers should satisfy themselves as to the suitability and completeness of this information for their own particular use, bearing in mind any other Health and Safety legislation or regulations. The information and recommendations in this publication are to the best of our knowledge reliable. However, nothing herein is construed as a warranty or representation. Statements concerning the use of the products described herein are not to be construed as recommending the infringement of any patent and no liability for infringement arising out of any such use is to be assumed.

Information Sources:

HSE EH40 Occupation Exposure Limits
ESIS: European Chemical Substances Information System
Supplier's Safety Data Sheets

Full R-Phrases:

R10	Flammable
R11	Highly Flammable
R36/38	Irritating to eyes and skin
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R65	Harmful: may cause lung damage if swallowed
R66	Repeated exposure may cause skin dryness or cracking
R67	Vapours may cause drowsiness and dizziness