SAFETY DATA SHEET

1. Identification

Product identifier **LPS® HDX**

Other means of identification

Part Number 01005, 01055

Recommended use A degreaser designed to remove grease, oil, dirt and other residues from metal and other hard surfaces near ignition sources.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Manufacturer

Company name ITW Pro Brands

Address 4647 Hugh Howell Rd.
Tucker, GA 30084

Country (U.S.A.)

Tel: +1 770-243-8800

In Case of Emergency 1-800-424-9300 (inside U.S.)
+001 703-527-3887 (outside U.S.)

Website www.lpslabs.com

E-mail lpssds@itwprobrands.com

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 1B
Specific target organ toxicity, single exposure	Category 3 narcotic effects

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Causes skin irritation. Causes serious eye irritation. Suspected of causing genetic defects. May cause cancer. May cause drowsiness or dizziness.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None known.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
1,1,2-trichloroethylene		79-01-6	90 - 100

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
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.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container.

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

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

Components	Type	Value	Form
Butanone (CAS 78-93-3)	PEL	590 mg/m3	
		200 ppm	
Camphor USP (CAS 76-22-2)	PEL	2 mg/m3	
Diphenyl Oxide (CAS 101-84-8)	PEL	7 mg/m3	Vapor.
		1 ppm	Vapor.
Iso amyl acetate (CAS 123-92-2)	PEL	525 mg/m3	
		100 ppm	
Turpentine (CAS 8006-64-2)	PEL	560 mg/m3	
		100 ppm	

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
1,1,2-trichloroethylene (CAS 79-01-6)	Ceiling	200 ppm
	TWA	100 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
1,1,2-trichloroethylene (CAS 79-01-6)	STEL	25 ppm	
	TWA	10 ppm	
Butanone (CAS 78-93-3)	STEL	300 ppm	
	TWA	200 ppm	
Camphor USP (CAS 76-22-2)	STEL	3 ppm	
	TWA	2 ppm	
Diphenyl Oxide (CAS 101-84-8)	STEL	2 ppm	Vapor.
	TWA	1 ppm	Vapor.
Iso amyl acetate (CAS 123-92-2)	STEL	100 ppm	
	TWA	50 ppm	
Turpentine (CAS 8006-64-2)	TWA	20 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
1,1,2-trichloroethylene (CAS 79-01-6)	Ceiling	2 ppm	
	TWA	25 ppm	
Butanone (CAS 78-93-3)	STEL	885 mg/m3	
		300 ppm	
	TWA	590 mg/m3	
		200 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Camphor USP (CAS 76-22-2)	TWA	2 mg/m3	
Diphenyl Oxide (CAS 101-84-8)	TWA	7 mg/m3	Vapor.
		1 ppm	Vapor.
Iso amyl acetate (CAS 123-92-2)	TWA	525 mg/m3	
		100 ppm	
Turpentine (CAS 8006-64-2)	TWA	560 mg/m3	
		100 ppm	

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
1,2 Butylene Oxide (CAS 106-88-7)	TWA	5.9 mg/m3
		2 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
1,1,2-trichloroethylene (CAS 79-01-6)	15 mg/l	Trichloroacetic acid	Urine	*
	0.5 mg/l	Trichloroethanol, without hydrolysis	Blood	*
Butanone (CAS 78-93-3)	2 mg/l	MEK	Urine	*

* - For sampling details, please see the source document.

Appropriate 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. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Color Light brown.

Odor Sweet, Spice.

Odor threshold Not established

pH Not applicable

Melting point/freezing point Not established

Initial boiling point and boiling range 188.6 °F (87 °C)

Flash point	Tag Closed Cup (None)
Evaporation rate	0.3 (Ethyl Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	8 %
Flammability limit - upper (%)	10.5 %
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	58 mm Hg @ 20°C
Vapor density	4.5
Relative density	Not available.
Solubility(ies)	
Solubility (water)	0.1 %
Partition coefficient (n-octanol/water)	2.4
Auto-ignition temperature	> 788 °F (> 420 °C)
Decomposition temperature	Not established
Viscosity	0.53 cP @ 25° C
Other information	
Explosive properties	Not explosive.
Heat of combustion	< 20 kJ/g
Oxidizing properties	Not oxidizing.
Percent volatile	100 %
Specific gravity	1.41 - 1.47 @ 20°C
VOC	100 %

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity	Narcotic effects.

Components	Species	Test Results
1,1,2-trichloroethylene (CAS 79-01-6)		
Acute		
Oral		
LD50	Rat	4920 mg/kg
1,2 Butylene Oxide (CAS 106-88-7)		
Acute		
Dermal		
LD50	Rabbit	1500 - 2950 mg/kg, 24 Hours
Inhalation		
Vapor		
LC50	Rat	> 6.3 mg/l, 4 Hours
Oral		
LD50	Rat	1 - 1.58 mg/kg
Butanone (CAS 78-93-3)		
Acute		
Oral		
LD50	Rat	2054 mg/kg
Diphenyl Oxide (CAS 101-84-8)		
Acute		
Oral		
LD50	Rat	2.83 g/kg
Turpentine (CAS 8006-64-2)		
Acute		
Inhalation		
Vapor		
LC50	Rat	13.7 mg/l, 4 Hours

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

ACGIH sensitization

TURPENTINE AND SELECTED MONOTERPENES (CAS 8006-64-2)	Dermal sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity Suspected of causing genetic defects.

Carcinogenicity May cause cancer.

ACGIH Carcinogens

1,1,2-trichloroethylene (CAS 79-01-6)	A2 Suspected human carcinogen.
Camphor USP (CAS 76-22-2)	A4 Not classifiable as a human carcinogen.
Turpentine (CAS 8006-64-2)	A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

1,1,2-trichloroethylene (CAS 79-01-6)	1 Carcinogenic to humans.
1,2 Butylene Oxide (CAS 106-88-7)	2B Possibly carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

1,1,2-trichloroethylene (CAS 79-01-6)	Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

Further information Symptoms may be delayed.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
1,1,2-trichloroethylene (CAS 79-01-6)			
Aquatic			
Fish	LC50	Flagfish (Jordanella floridae)	3.1 mg/l, 96 hours
Butanone (CAS 78-93-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	4025 - 6440 mg/l, 48 hours
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	> 400 mg/l, 96 hours
Diphenyl Oxide (CAS 101-84-8)			
Aquatic			
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	1.8 - 3.2 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

LPS® HDX	2.4
1,1,2-trichloroethylene	2.61
Butanone	0.29
Diphenyl Oxide	4.21

Mobility in soil No data available.

Other adverse effects None known.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
D040: Waste Trichloroethylene
F001

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).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number UN1710
UN proper shipping name Trichloroethylene
Transport hazard class(es)
Class 6.1(PGIII)
Subsidiary risk -
Label(s) 6.1
Packing group III

Environmental hazards	
Marine pollutant	No
Special precautions for user	Not available.
Special provisions	IB3, N36, T4, TP1
Packaging exceptions	153
Packaging non bulk	203
Packaging bulk	241

IATA

UN number	UN1710
UN proper shipping name	Trichloroethylene
Transport hazard class(es)	
Class	6.1(PGIII)
Subsidiary risk	-
Packing group	III
Environmental hazards	No
ERG Code	6A
Special precautions for user	Not available.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1710
UN proper shipping name	TRICHLOROETHYLENE
Transport hazard class(es)	
Class	6.1(PGIII)
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No
EmS	F-A, S-A
Special precautions for user	Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

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.

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

1,1,2-trichloroethylene (CAS 79-01-6)	0.1 % One-Time Export Notification only.

CERCLA Hazardous Substance List (40 CFR 302.4)

1,1,2-trichloroethylene (CAS 79-01-6)	Listed.
1,2 Butylene Oxide (CAS 106-88-7)	Listed.
Butanone (CAS 78-93-3)	Listed.
Iso amyl acetate (CAS 123-92-2)	Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
TRICHLOROETHYLENE	79-01-6	90 - 100

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

1,1,2-trichloroethylene (CAS 79-01-6)
1,2 Butylene Oxide (CAS 106-88-7)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

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

Butanone (CAS 78-93-3)	6714

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

Butanone (CAS 78-93-3)	35 %WV

DEA Exempt Chemical Mixtures Code Number

Butanone (CAS 78-93-3)	6714

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Butanone (CAS 78-93-3)	Low priority
Diphenyl Oxide (CAS 101-84-8)	Low priority
Iso amyl acetate (CAS 123-92-2)	Low priority

US state regulations WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US. New Jersey Worker and Community Right-to-Know Act

1,1,2-trichloroethylene (CAS 79-01-6)
1,2 Butylene Oxide (CAS 106-88-7)
Butanone (CAS 78-93-3)
Camphor USP (CAS 76-22-2)
Diphenyl Oxide (CAS 101-84-8)
Iso amyl acetate (CAS 123-92-2)
Turpentine (CAS 8006-64-2)

California Proposition 65

California Proposition 65 - CRT: Listed date/Carcinogenic substance

1,1,2-trichloroethylene (CAS 79-01-6)	Listed: April 1, 1988

California Proposition 65 - CRT: Listed date/Developmental toxin

1,1,2-trichloroethylene (CAS 79-01-6)	Listed: Jan 31, 2014

California Proposition 65 - CRT: Listed date/Male reproductive toxin

1,1,2-trichloroethylene (CAS 79-01-6) Listed: Jan 31, 2014

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

1,1,2-trichloroethylene (CAS 79-01-6)
1,2 Butylene Oxide (CAS 106-88-7)
Butanone (CAS 78-93-3)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
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)	Yes
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
Taiwan	Taiwan Toxic Chemical Substances (TCS)	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)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 10-18-2016

Revision date 02-19-2018

Version # 02

Disclaimer ITW Pro Brands cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information Physical & Chemical Properties: Multiple Properties