SAFETY DATA SHEET

1. Identification

Product identifier **LPS® F-104**

Other means of identification

Part Number 04905, 04955

Recommended use A solvent degreasing agent designed for removing tar, adhesives, grease, oil and other residues from metal and other hard surfaces.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Manufacturer

Company name LPS Laboratories, a division of Illinois Tool Works, Inc.

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 sds@lpslabs.com

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 3
Health hazards	Sensitization, skin	Category 1
	Aspiration hazard	Category 1

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Flammable liquid and vapor. May be fatal if swallowed and enters airways. May cause an allergic skin reaction.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/eye protection/face protection.

Response If swallowed: Immediately call a poison center/doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Specific treatment (see this label). Do NOT induce vomiting. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. In case of fire: Use appropriate media to extinguish.

Storage Store in a well-ventilated place. Keep cool. 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 15% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment. 15% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Distillates Petroleum Hydrotreated Light		64742-47-8	80 - < 90
1-Propoxy-2-Propanol		1569-01-3	5 - < 10
d-limonene		5989-27-5	5 - < 10
Propylene glycol monomethyl ether acetate		108-65-6	5 - < 10
Other components below reportable levels			< 0.3

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops and persists.

Eye contact
Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation develops and persists.

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.

Most important symptoms/effects, acute and delayed
Irritant effects. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Defatting of the skin. Rash. Symptoms of overexposure can include shortness of breath, drowsiness, headaches, confusion, decreased coordination, visual disturbances and vomiting, and are reversible if exposure is stopped.

Indication of immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim under observation. Symptoms may be delayed.

General information
In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media
Alcohol resistant foam. Water fog. 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
By heating and fire, harmful vapors/gases may be formed. Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back.

Special 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. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage.

Specific methods
Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. In the event of fire and/or explosion do not breathe fumes.

General fire hazards
Flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. 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.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Use water spray to reduce vapors or divert vapor cloud drift. 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 in original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe 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. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains.

Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Store locked up. Keep container tightly closed. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Keep in an area equipped with sprinklers.

8. Exposure controls/personal protection

Occupational exposure limits

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
Propylene glycol monomethyl ether acetate (CAS 108-65-6)	TWA	50 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

US - California OELs: Skin designation

Propylene glycol monomethyl ether acetate (CAS 108-65-6)	Can be absorbed through the skin.

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.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles). Eye wash fountain is recommended.

Skin protection

Hand protection

Chemical resistant gloves are recommended.

Other

Avoid contact with clothing. Wear suitable protective clothing. Chemical resistant gloves.

Respiratory protection

No personal respiratory protective equipment normally required. 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

Not applicable.

General hygiene considerations

When using, do not eat, drink or smoke. 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

Clear water-white

Odor	Mild. Orange.
Odor threshold	Not established
pH	Not applicable
Melting point/freezing point	Not established
Initial boiling point and boiling range	314.6 °F (157 °C) Estimated
Flash point	104.0 °F (40.0 °C) Tag Closed Cup - dispensed liquid
Evaporation rate	0.2 BuAc
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	0.7 %
Flammability limit - upper (%)	6 %
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	2 mm Hg @ 20°C
Vapor density	4.8 - 5.3 (air = 1)
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Slightly soluble
Partition coefficient (n-octanol/water)	> 1
Auto-ignition temperature	> 442.4 °F (> 228 °C)
Decomposition temperature	Not established
Viscosity	< 3 cSt @ 25°C
Other information	
Heat of combustion	> 30 kJ/g
Specific gravity	0.77 - 0.79 @ 20°C
VOC (Weight %)	100 % per US State and Federal Consumer Product Regulations

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	Heat, flames and sparks. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Ingestion	May be harmful if swallowed. May be fatal if swallowed and enters airways.
Inhalation	Prolonged inhalation may be harmful.
Skin contact	May cause sensitization by skin contact. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Eye contact	Direct contact with eyes may cause temporary irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction.

Information on toxicological effects

Acute toxicity	Based on available data, the classification criteria are not met.

Components	Species	Test Results
1-Propoxy-2-Propanol (CAS 1569-01-3)		
Acute		
Dermal		
LD50	Rabbit	4.29 ml/kg
		3.17 mg/kg
Inhalation		
LC50	Rat	> 1725 ppm
Oral		
LD50	Mouse	260 mg/kg
	Rat	> 2000 mg/kg
		2.83 ml/kg
Distillates Petroleum Hydrotreated Light (CAS 64742-47-8)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Cat	> 6.4 mg/l
	Rat	> 0.1 mg/l
Oral		
LD50	Rat	> 5000 mg/kg
d-limonene (CAS 5989-27-5)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
Oral		
LD50	Mouse	5600 - 6600 mg/kg
	Rat	> 2000 mg/kg
Other		
LD50	Mouse	1.3 g/kg
	Rat	0.11 g/kg
Propylene glycol monomethyl ether acetate (CAS 108-65-6)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation Based on available data, the classification criteria are not met.

Respiratory or skin sensitization

Respiratory sensitization Based on available data, the classification criteria are not met.

Skin sensitization May cause sensitization by skin contact. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Based on available data, the classification criteria are not met.

IARC Monographs. Overall Evaluation of Carcinogenicity

d-limonene (CAS 5989-27-5) 3 Not classifiable as to carcinogenicity to humans.

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

Specific target organ toxicity - single exposure Based on available data, the classification criteria are not met.

Specific target organ toxicity - repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Prolonged or repeated contact may cause drying, cracking, or irritation.

12. Ecological information

Ecotoxicity Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the environment.

Components		Species	Test Results
Distillates Petroleum Hydrotreated Light (CAS 64742-47-8)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.9 mg/l, 96 hours
d-limonene (CAS 5989-27-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	69.6 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	0.619 - 0.796 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability Not inherently biodegradable.

Bioaccumulative potential Not available.

Partition coefficient n-octanol / water (log Kow)

LPS® F-104	> 1
1-Propoxy-2-Propanol	0.621
d-limonene	4.232

Mobility in soil Readily absorbed into soil.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. 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.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 F

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 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.

14. Transport information

DOT

UN number UN1993

UN proper shipping name Flammable liquids, n.o.s. (d-limonene, Naptha)

Transport hazard class(es)

Class 3

Subsidiary risk -

Label(s) 3

Packing group III

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions B1, B52, IB3, T4, TP1, TP29

Packaging exceptions 150

Packaging non bulk 203

Packaging bulk 242

IATA

UN number UN1993

UN proper shipping name Flammable liquid, n.o.s. (d-limonene, Naptha)

Transport hazard class(es)

Class 3

Subsidiary risk -

Packing group III

Environmental hazards No.

ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (d-limonene, Naptha), MARINE POLLUTANT
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	Yes
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

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

DOT

IATA; IMDG

Marine pollutant

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)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

SARA 304 Emergency release notification

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

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

Not regulated.

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

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

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

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

Not regulated.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

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
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	11-05-2013
Version #	01
HMIS® ratings	Health: 1 Flammability: 2 Physical hazard: 0
NFPA ratings	Health: 1 Flammability: 2 Instability: 0

Disclaimer

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.