



MATERIAL SAFETY DATA SHEET

165-021

1. Product and Company Identification

Product identifier LPS® Force 842
Version # 01
Issue date 07-19-2015
CAS # Mixture
Part Number 02516, C02516
Product use A fast evaporating dry-film lubricant designed for reducing sliding friction under high loads.
Manufacturer information ITW Pro Brands
 4647 Hugh Howell Rd
 Tucker, GA 30084
 United States
 lpssds@itwprobrands.com
 www.lpslabs.com
 1-800-241-8334 / 770-243-8800
 Chemtrec 1-800-424-9300
Supplier Not available.

2. Hazards Identification

Emergency overview DANGER

Flammable. Aerosol. Pressurized container may explode when exposed to heat or flame. Will be easily ignited by heat, spark or flames.

May damage fertility or the unborn child. Causes skin irritation. Causes serious eye irritation. Vapors may cause drowsiness and dizziness.

Potential health effects

Routes of exposure Inhalation. Skin contact. Eye contact.

Eyes Contact with eyes may cause irritation. Do not get this material in contact with eyes.

Skin Do not get this material in contact with skin. May cause skin irritation.

Inhalation Intentional misuse by concentrating and inhaling the product can be harmful or fatal. May cause irritation of respiratory tract. Prolonged inhalation may be harmful. Avoid breathing dust/fume/gas/mist/vapors/spray.

Ingestion Exposure by ingestion of an aerosol is unlikely. Components of the product may be absorbed into the body by ingestion. Irritating. May cause nausea, stomach pain and vomiting. Do not ingest.

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

Chronic effects Pregnant women or women of child-bearing age should not be exposed to this product.

Signs and symptoms Irritating to eyes and skin. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Narcosis. Decrease in motor functions. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Prolonged exposure may cause chronic effects.

Potential environmental effects May cause long-term adverse effects in the environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
2-METHYLPENTANE	107-83-5	20 - 30
ISOPROPANOL	67-63-0	20 - 30
2,3-DIMETHYLBUTANE	79-29-8	5 - 10
3-Methylpentane	96-14-0	5 - 10
NEOHEXANE	75-83-2	1 - 5
1,2,4-TRIMETHYLBENZENE	95-63-6	1 - 3

Components	CAS #	Percent
Aromatic Solvent	64742-95-6	1 - 3
N-HEXANE	110-54-3	1 - 3
Xylene	1330-20-7	< 1

4. First Aid Measures

First aid procedures

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.

Notes to physician

Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim under observation. Symptoms may be delayed.

General advice

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

Flammable properties

Flammable by WHMIS criteria. Heat may cause the containers to explode. Ruptured cylinders may rocket. Vapors may travel considerable distance to a source of ignition and flash back.

Extinguishing media

Suitable extinguishing media

Powder. Alcohol resistant foam. Carbon dioxide (CO₂).

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

Contents under pressure. Pressurized container may explode when exposed to heat or flame.

Protective equipment for firefighters

Firefighters should wear full protective clothing including self contained breathing apparatus. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Containers should be cooled with water to prevent vapor pressure build up.

Explosion data

Sensitivity to static discharge

Yes

Sensitivity to mechanical impact

None known.

Hazardous combustion products

May include oxides of carbon.

General fire hazards

Flammable aerosol.

6. Accidental Release Measures

Personal precautions

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Pay attention to flashback. 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. Ventilate closed spaces before entering them. For personal protection, see section 8 of the MSDS.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water.

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. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Use water spray to reduce vapors or divert vapor cloud drift. Keep out of low areas. Prevent entry into waterways, sewer, basements or confined areas.

Methods for cleaning up

Should not be released into the environment. The product is immiscible with water and will spread on the water surface. Stop the flow of material, if this is without risk. Isolate area until gas has dispersed. Following product recovery, flush area with water. Clean up in accordance with all applicable regulations. For waste disposal, see section 13 of the MSDS.

Other information

Clean up in accordance with all applicable regulations.

7. Handling and Storage**Handling**

Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. 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. 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. Avoid prolonged exposure. Do not get this material on clothing. Do not use in areas without adequate ventilation. Wear personal protective equipment. Wash thoroughly after handling.

Storage

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. Store in a well-ventilated place. Keep container dry. Keep in an area equipped with sprinklers.

8. Exposure Controls / Personal Protection**Occupational exposure limits****US. ACGIH Threshold Limit Values**

Components	Type	Value
2,3-DIMETHYLBUTANE (CAS 79-29-8)	STEL	1000 ppm
	TWA	500 ppm
2-METHYLPENTANE (CAS 107-83-5)	STEL	1000 ppm
	TWA	500 ppm
3-Methylpentane (CAS 96-14-0)	STEL	1000 ppm
	TWA	500 ppm
ISOPROPANOL (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
NEOHEXANE (CAS 75-83-2)	STEL	1000 ppm
	TWA	500 ppm
N-HEXANE (CAS 110-54-3) Xylene (CAS 1330-20-7)	TWA	50 ppm
	STEL	150 ppm
	TWA	100 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
2-METHYLPENTANE (CAS 107-83-5)	STEL	3500 mg/m3
		1000 ppm
	TWA	1760 mg/m3 500 ppm
3-Methylpentane (CAS 96-14-0)	STEL	3500 mg/m3
		1000 ppm
	TWA	1760 mg/m3 500 ppm
ISOPROPANOL (CAS 67-63-0)	STEL	984 mg/m3
		400 ppm
	TWA	492 mg/m3

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
N-HEXANE (CAS 110-54-3)	TWA	200 ppm
		176 mg/m ³
		50 ppm
Xylene (CAS 1330-20-7)	STEL	651 mg/m ³
		150 ppm
		434 mg/m ³
	TWA	100 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
ISOPROPANOL (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
N-HEXANE (CAS 110-54-3)	TWA	20 ppm
Xylene (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value
2,3-DIMETHYLBUTANE (CAS 79-29-8)	STEL	1000 ppm
	TWA	500 ppm
2-METHYLPENTANE (CAS 107-83-5)	STEL	1000 ppm
	TWA	500 ppm
3-Methylpentane (CAS 96-14-0)	STEL	1000 ppm
	TWA	500 ppm
ISOPROPANOL (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
NEOHEXANE (CAS 75-83-2)	STEL	1000 ppm
	TWA	500 ppm
N-HEXANE (CAS 110-54-3)	TWA	50 ppm
Xylene (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
ISOPROPANOL (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
N-HEXANE (CAS 110-54-3)	TWA	50 ppm
Xylene (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
ISOPROPANOL (CAS 67-63-0)	STEL	1230 mg/m ³
		500 ppm
		983 mg/m ³
N-HEXANE (CAS 110-54-3)	TWA	400 ppm
		176 mg/m ³
		50 ppm
Xylene (CAS 1330-20-7)	STEL	651 mg/m ³
		150 ppm
		434 mg/m ³
	TWA	100 ppm

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

Components	Type	Value
ISOPROPANOL (CAS 67-63-0)	PEL	980 mg/m ³ 400 ppm
N-HEXANE (CAS 110-54-3)	PEL	1800 mg/m ³ 500 ppm
Xylene (CAS 1330-20-7)	PEL	435 mg/m ³ 100 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
ISOPROPANOL (CAS 67-63-0)	40 mg/l	Acetone	Urine	*
N-HEXANE (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedione, without hydrolysis	Urine	*
Xylene (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

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

Exposure guidelines

Canada - Alberta OELs: Skin designation

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

Canada - British Columbia OELs: Skin designation

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

Canada - Manitoba OELs: Skin designation

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

Canada - Ontario OELs: Skin designation

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

Canada - Quebec OELs: Skin designation

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

Canada - Saskatchewan OELs: Skin designation

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

US ACGIH Threshold Limit Values: Skin designation

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

Engineering controls

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/face protection

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

Skin protection

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.

Hand protection

Chemical resistant gloves are recommended.

9. Physical & Chemical Properties

Appearance	Liquid.
Physical state	Gas.
Form	Aerosol.
Color	Dark grey. Black.
Odor	Characteristic.
Odor threshold	Not established
pH	Not applicable
Vapor pressure	352.53 mm Hg @ 38°C
Vapor density	~3

Boiling point	141.8 °F (61 °C)
Melting point/Freezing point	Not established
Solubility (water)	< 25 % by weight
Specific gravity	Not available.
Relative density	0.74 - 0.76 @ 20°C
Flash point	< 1.4 °F (< -17.0 °C) Tag Closed Cup (dispensed liquid)
Flammability limits in air, upper, % by volume	7 %
Flammability limits in air, lower, % by volume	0.6 %
Auto-ignition temperature	582.8 °F (306 °C)
VOC	95 % per US State and Federal Consumer Product Regulations (excluding compounds exempted by US EPA)
Evaporation rate	< 1 (Ethyl Ether = 1)
Viscosity	< 14 cSt
Viscosity temperature	77 °F (25 °C)
Partition coefficient (n-octanol/water)	> 1
Other data	
Decomposition temperature	Not established
Flammability (solid, gas)	Flammable gas.
Heat of combustion	> 30 kJ/g

10. Chemical Stability & Reactivity Information

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Heat, flames and sparks. Aerosol containers are unstable at temperatures above 50°C. Avoid temperatures exceeding the flash point.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Upon decomposition this product emits acrid dense smoke with carbon dioxide, carbon monoxide, water and other products of combustion.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
1,2,4-TRIMETHYLBENZENE (CAS 95-63-6)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 3160 mg/kg
	Rat	3440 mg/kg, 24 Hours
<i>Inhalation</i>		
LC50	Mouse, Rat	> 2000 ppm, 12 Hours
	Rat	> 2000 ppm, 48 Hours
		10200 mg/m3, 4 Hours
<i>Oral</i>		
LD50	Rat	6000 mg/kg
		3280 mg/kg
Aromatic Solvent (CAS 64742-95-6)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 1900 mg/kg, 24 Hours

Components	Species	Test Results
<i>Inhalation</i> LC50	Rat	> 5000 mg/m ³ , 4 Hours > 4980 mg/m ³ > 4980 mg/m ³ , 4 Hours > 4.96 mg/l, 4 Hours
<i>Oral</i> LD50	Rat	4820 mg/kg
ISOPROPANOL (CAS 67-63-0)		
Acute <i>Dermal</i> LD50	Rabbit	12800 mg/kg 16.4 ml/kg, 24 Hours
<i>Inhalation</i> LC50	Rat	> 10000 ppm, 6 Hours
<i>Oral</i> LD50	Dog Mouse Rabbit Rat	4797 mg/kg 3600 mg/kg 5.03 g/kg 5.84 g/kg 4.7 g/kg
N-HEXANE (CAS 110-54-3)		
Acute <i>Dermal</i> LD50	Rabbit	> 2000 mg/kg, 4 Hours > 5 ml/kg, 4 Hours
<i>Inhalation</i> LC50	Mouse Rat	48000 ppm, 4 Hours > 5000 ppm, 24 Hours > 31.86 mg/l 73860 ppm, 4 Hours
<i>Oral</i> LD50	Rat Wistar rat	24 ml/kg 24 mg/kg 49 mg/kg
Xylene (CAS 1330-20-7)		
Acute <i>Dermal</i> LD50	Rabbit	> 5000 ml/kg, 4 Hours 12126 mg/kg, 24 Hours
<i>Inhalation</i> LC50	Mouse Rat	3907 mg/l, 6 Hours 6350 mg/l, 4 Hours 5922 ppm, 4 Hours
<i>Oral</i> LD50	Mouse Rat	5251 mg/kg 3523 mg/kg 10 ml/kg

Acute effects	Narcotic effects.
Sensitization	Not classified.
Local effects	Irritating to eyes and skin. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Chronic effects	Prolonged inhalation may be harmful.
Carcinogenicity	
ACGIH Carcinogens	
ISOPROPANOL (CAS 67-63-0)	A4 Not classifiable as a human carcinogen.
Xylene (CAS 1330-20-7)	A4 Not classifiable as a human carcinogen.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Xylene (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/irritation	Causes serious eye irritation.
Neurological effects	No data available for this product.
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Reproductive effects	Suspected of damaging fertility.
Teratogenicity	Not available.
Symptoms and target organs	Skin irritation. Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Synergistic materials	Not available.
Further information	Symptoms may be delayed.

12. Ecological Information

Ecotoxicological data

Components	Species	Test Results
1,2,4-TRIMETHYLBENZENE (CAS 95-63-6)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) 7.19 - 8.28 mg/l, 96 hours
ISOPROPANOL (CAS 67-63-0)		
Aquatic		
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>) > 1400 mg/l, 96 hours
N-HEXANE (CAS 110-54-3)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) 2.101 - 2.981 mg/l, 96 hours
Xylene (CAS 1330-20-7)		
Aquatic		
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>) 7.711 - 9.591 mg/l, 96 hours
Ecotoxicity	Toxic to aquatic life with long lasting effects.	
Environmental effects	Toxic to aquatic organisms.	
Aquatic toxicity	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.	
Persistence and degradability	Not inherently biodegradable.	
Partition coefficient		
LPS® Force 842		> 1
2,3-DIMETHYLBUTANE		3.42
2-METHYLPENTANE		3.74
3-Methylpentane		3.6
ISOPROPANOL		0.05
NEOHEXANE		3.82
N-HEXANE		3.9

Mobility in environmental media Readily absorbed into soil.

Other adverse effects None known.

13. Disposal Considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

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. Do not re-use empty containers.

14. Transport Information

TDG

UN number UN1950
UN proper shipping name Aerosols, flammable
Transport hazard class(es)
Class 2.1
Subsidiary risk -
Packing group Not applicable.
Environmental hazards No
Special precautions for user Not available.

IATA

UN number UN1950
UN proper shipping name Aerosols, flammable
Transport hazard class(es)
Class 2.1
Subsidiary risk -
Label(s) 2.1
Packing group Not applicable.
Environmental hazards No.
Special precautions for user Not available.
Other information
Passenger and cargo aircraft Allowed.
Cargo aircraft only Allowed.

IMDG

UN number UN1950
UN proper shipping name Aerosols, flammable
Transport hazard class(es)
Class 2.1
Subsidiary risk -
Label(s) 2.1
Packing group Not applicable.
Environmental hazards
Marine pollutant No
EmS Not available.
Special precautions for user Not available.



15. Regulatory Information

Canadian regulations

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS status

Controlled

WHMIS classification

A - Compressed Gas
 B5 - Flammable Aerosols
 D2A - Other Toxic Effects-VERY TOXIC
 D2B - Other Toxic Effects-TOXIC

WHMIS labeling



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)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
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

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.

Prepared by

Not available.

This data sheet contains changes from the previous version in section(s):

Product and Company Identification: Product and Company Identification
 Composition / Information on Ingredients: Disclosure Overrides
 Fire Fighting Measures: Hazardous combustion products
 Chemical Stability & Reactivity Information: Chemical stability
 Toxicological Information: Neurological effects
 Toxicological Information: Sensitization
 Regulatory Information: Risk Phrases - Labeling
 GHS: Classification