# MATERIAL SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Material name** **LPS® Dry Film PTFE Lubricant**

**Recommended use** A dry film industrial lubricant for rubber, plastic and metal parts.

**Version #** 01

**CAS #** Mixture

**Part Number** 02616

**Manufacturer information**

LPS Laboratories, a division of Illinois Tool Works
4647 Hugh Howell Rd
Tucker, GA 30084 United States
sds@lpslabs.com
www.lpslabs.com

| | |
|---|---|
| 1-800-241-8334 / | 770-243-8800 |
| Chemtrec | 1-800-424-9300 |

## 2. HAZARDS IDENTIFICATION

HAZARDOUS SUBSTANCE. DANGEROUS GOODS. This preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.

**Classification** R5, Xi;R36, R67

**Risk phrase(s)**
R36 Irritating to eyes.
R5 Heating may cause an explosion.
R67 Vapors may cause drowsiness and dizziness.

**Safety phrase(s)**
S1 Keep locked up.
S2 Keep out of the reach of children.
S7/9 Keep container tightly closed and in a well-ventilated place.
S16 Keep away from sources of ignition - No smoking.
S23 Do not breathe gas/fumes/vapor/spray.
S25 Avoid contact with eyes.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Components | CAS # | Percent |
|---|---|---|
| DIMETHYL ETHER | 115-10-6 | 30 - 60 |
| Isopropanol | 67-63-0 | 10 - < 30 |
| Other components below reportable levels | | 30 - 60 |

## 4. FIRST AID MEASURES

**Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, remove 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** Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops and persists. For minor skin contact, avoid spreading material on unaffected skin. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Wash clothing separately before reuse.

**Eye contact** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**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. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

**General advice** In case of shortness of breath, give oxygen. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

**Notes to physician** In case of shortness of breath, give oxygen.

## 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media** Alcohol resistant foam. Water. Dry powder. Carbon dioxide (CO2).

**Specific hazards** During fire, gases hazardous to health may be formed.

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| **Specific methods** | Cool containers exposed to flames with water until well after the fire is out. |
| **HAZCHEM code** | None. |
| **Hazardous combustion products** | May include oxides of carbon. |

## 6. ACCIDENTAL RELEASE MEASURES

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|---|---|
| **Personal precautions** | Keep unnecessary personnel away. Keep upwind. Keep out of low areas. 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. For personal protection, see section 8 of the MSDS. |
| **Environmental precautions** | Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. |
| **Containment procedures** | Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Prevent entry into waterways, sewer, basements or confined areas. |
| **Methods for cleaning up** | Stop the flow of material, if this is without risk. Isolate area until gas has dispersed. Following product recovery, flush area with water. For waste disposal, see section 13 of the MSDS. |

## 7. HANDLING AND STORAGE

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|---|---|
| **Handling** | May be ignited by open flame. 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. Ground and bond containers when transferring material. Do not re-use empty containers. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes. Avoid prolonged exposure. Use only in well-ventilated areas. |
| **Storage** | Keep locked up. Store in a place accessible by authorized persons only. Contents under pressure. 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. Store away from incompatible materials (see Section 10 of the MSDS). |

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Occupational exposure limits**

**US. ACGIH Threshold Limit Values**

| Components | Type | Value |
|---|---|---|
| Isopropanol (CAS 67-63-0) | STEL | 400 ppm |
| | TWA | 200 ppm |

**Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)**

| Components | Type | Value |
|---|---|---|
| DIMETHYL ETHER (CAS 115-10-6) | STEL | 950 mg/m3 |
| | | 500 ppm |
| | TWA | 760 mg/m3 |
| | | 400 ppm |
| Isopropanol (CAS 67-63-0) | STEL | 1230 mg/m3 |
| | | 500 ppm |
| | TWA | 983 mg/m3 |
| | | 400 ppm |

**Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)**

| Components | Type | Value |
|---|---|---|
| DIMETHYL ETHER (CAS 115-10-6) | STEL | 950 mg/m3 |
| | | 500 ppm |
| | TWA | 760 mg/m3 |
| | | 400 ppm |
| Isopropanol (CAS 67-63-0) | STEL | 1230 mg/m3 |
| | | 500 ppm |
| | TWA | 983 mg/m3 |
| | | 400 ppm |

**Biological limit values**

**ACGIH Biological Exposure Indices**

| Components | Value | Determinant | Specimen | Sampling Time |
|---|---|---|---|---|
| Isopropanol (CAS 67-63-0) | 40 mg/l | Acetone | Urine | * |

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

**Recommended monitoring procedures**

**Additional exposure data** Not available.

**Engineering measures to reduce exposure** 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.

**Personal protective equipment**

**Respiratory protection** Avoid breathing dust/fume/gas/mist/vapors/spray. 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** For prolonged or repeated skin contact use suitable protective gloves. Chemical resistant gloves are recommended.

**Eye protection** Avoid contact with eyes. Wear safety glasses with side shields (or goggles).

**Skin and body protection** Avoid contact with the skin.

**Environmental exposure controls** Environmental manager must be informed of all major releases.

**Hygiene measures** When using do not 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** Liquid.

**Physical state** Gas.

**Form** Aerosol.

**Color** White.

**Odor** Ether-like.

**Odor threshold** Not established

**pH** Not applicable

**Vapor pressure** Not available.

**Vapor density** > 1 (air = 1)

**Boiling point** Not established

**Melting point/Freezing point** Not established

**Solubility (water)** 5 %

**Specific gravity** 0.79 - 0.81 @ 20ºC

**Flash point** Not established

**Flammability limits in air, upper, % by volume** Not established

**Flammability limits in air, lower, % by volume** Not established

**Auto-ignition temperature** Not established

**VOC** 57 % per US State and Federal Consumer Product Regulations

**Evaporation rate** > 1 (BuAc = 1)

**Viscosity** Not established

**Percent volatile** 96 - 99 %

**Partition coefficient (n-octanol/water)** < 1

**Other data**

**Decomposition temperature** Not established

**Flammability (solid, gas)** Flammable gas.

**Heat of combustion** 15.5 kJ/g

## 10. STABILITY AND REACTIVITY

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|---|---|
| **Chemical stability** | Instability caused by elevated temperatures. |
| **Conditions to avoid** | Avoid heat, sparks, open flames and other ignition sources. Aerosol containers are unstable at temperatures above 50°C. Contact with incompatible materials. |
| **Materials to avoid** | Strong oxidizing agents. Isocyanates. Chlorine. |
| **Hazardous decomposition products** | Carbon oxides. Hydrogen fluoride. |

## 11. TOXICOLOGICAL INFORMATION

**Toxicological data**

| Components | Species | Test Results |
|---|---|---|
| DIMETHYL ETHER (CAS 115-10-6) | | |
| **Acute** | | |
| *Inhalation* | | |
| LC50 | Mouse | 494.36 mg/l, 15 Minutes |
| | | 385.94 ppm |
| | | 385.94 mg/l, 30 Minutes |
| | Rat | > 20000 ppm |
| | | 308.5 mg/l, 4 Hours |
| Isopropanol (CAS 67-63-0) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | 12800 mg/kg |
| | | 16.4 ml/kg |
| *Inhalation* | | |
| LC50 | Rat | > 10000 ppm |
| *Oral* | | |
| LD50 | Dog | 4797 mg/kg |
| | Mouse | 3600 mg/kg |
| | Rabbit | 5.03 g/kg |
| | Rat | 4.7 g/kg |
| *Other* | | |
| LD50 | Mouse | 1509 mg/kg |
| | Rat | 1099 mg/kg |

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

| | |
|---|---|
| **Routes of exposure** | Inhalation. Eye contact. |
| **Chronic toxicity** | Prolonged inhalation may be harmful. |
| **Sensitization** | Based on available data, the classification criteria are not met. |
| **Carcinogenicity** | Based on available data, the classification criteria are not met. |
| **Mutagenicity** | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| **Reproductivity** | Based on available data, the classification criteria are not met. |
| **Epidemiology** | No epidemiological data is available for this product. |
| **Local effects** | Harmful if swallowed. Irritating to eyes. |
| **Symptoms and target organs** | Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Irritation of eyes and mucous membranes. Causes eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. |

## 12. ECOLOGICAL INFORMATION

**Ecotoxicological data**

| Components | | Species | Test Results |
|---|---|---|---|
| Isopropanol (CAS 67-63-0) | | | |
| **Aquatic** | | | |
| Fish | LC50 | Bluegill (Lepomis macrochirus) | > 1400 mg/l, 96 hours |

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

**Persistence and degradability** Not inherently biodegradable.

**Mobility** This product is miscible in water.

**Bioaccumulation**

**Bioaccumulative potential**

**Octanol/water partition coefficient log Kow**

| | |
|---|---|
| LPS® Dry Film PTFE Lubricant | < 1 |
| DIMETHYL ETHER | 0.1 |
| Isopropanol | 0.05 |

**Aquatic toxicity** 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.

**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. This material and its container must be disposed of as hazardous waste. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. 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). Avoid discharge into water courses or onto the ground.

## 14. TRANSPORT INFORMATION

**ADG**

**UN number** UN1950
**UN proper shipping name** AEROSOLS, non-flammable
**Transport hazard class(es)**
**Class** 2.2
**Subsidiary risk** -
**Packing group** Not applicable.
**Environmental hazards** Not available.
**Hazchem code** 2YE
**Special precautions for user** Read safety instructions, MSDS and emergency procedures before handling.

**IATA**

**UN number** UN1950
**UN proper shipping name** Aerosols, non-flammable
**Transport hazard class(es)**
**Class** 2.2
**Subsidiary risk** -
**Packing group** Not applicable.
**Environmental hazards** No.
**ERG Code** 2L
**Special precautions for user** Read safety instructions, MSDS and emergency procedures before handling.
**Other information**
**Passenger and cargo aircraft** Allowed.
**Cargo aircraft only** Allowed.

**IMDG**

**UN number** UN1950
**UN proper shipping name** AEROSOLS, non-flammable
**Transport hazard class(es)**
**Class** 2.2
**Subsidiary risk** -
**Packing group** Not applicable.

**Environmental hazards**

**Marine pollutant** No.

**EmS** F-D, S-U

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

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

**ADG**


**IATA; IMDG**


## 15. REGULATORY INFORMATION

**National regulations** This Material Safety Data Sheet was prepared in accordance with the Australia National Code of Practice for the Preparation of Material Safety Data Sheets (NOHSC: 2011.) No poison schedule number allocated.

**Australia HVIC: Listed substance**

Isopropanol (CAS 67-63-0) Listed.

**Inventory status**

| 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) | No |
| 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) | No |
| Korea | Existing Chemicals List (ECL) | No |
| New Zealand | New Zealand Inventory | No |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| 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.

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