




SAFETY DATA SHEET

1. Identification

Product identifier	LPS® Precision Clean (Aerosol)
Other means of identification	
Part Number	02720
Recommended use	An industrial cleaner designed to remove grime, oils and light grease from metal, concrete and other durable 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 (U.S.A.)
Country	(U.S.A.)
In Case of Emergency	Tel: +1 770-243-8800 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	Gases under pressure	Liquefied gas
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2B
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	
Label elements		
Signal word	Warning	
Hazard statement	Contains gas under pressure; may explode if heated. Causes skin irritation. Causes eye irritation.	
Precautionary statement		
Prevention	Wash thoroughly after handling. Wear protective gloves. Wear eye/face protection.	
Response	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If on skin: Wash with plenty of water. Specific treatment (see this label). If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.	
Storage	Protect from sunlight. Store in a well-ventilated place.	
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.	
Hazard(s) not otherwise classified (HNOC)	None known.	
Supplemental information	Not applicable.	

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Petroleum Gases, Liquefied, Sweetened		68476-86-8	1 - 5

Note S: This substance may not require a label according to Article 17 (see section 1.3 of Annex I) (Table 3.1). This substance may not require a label according to Article 23 of Directive 67/548/EEC (see section 8 of Annex VI to that Directive) (Table 3.2).

Note U: When put on the market gases have to be classified as "Gases under pressure", in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. 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	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Dry chemical powder. Carbon dioxide (CO ₂). Water spray, fog or regular foam.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Pressurized container may explode when exposed to heat or flame.
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.
Fire-fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
Specific methods	Cool containers exposed to flames with water until well after the fire is out.
General fire hazards	None known.

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. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protection recommended in Section 8 of the SDS.
Methods and materials for containment and cleaning up	This product is miscible in water. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. 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.
Environmental precautions	Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe 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. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Level 1 Aerosol.

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 original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep out of the reach of children.

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Type	Value	Form
Copper, Copper Compounds (CAS 7440-50-8)	PEL	1 mg/m ³	Dust and mist.
Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8)	PEL	0.1 mg/m ³ 600 mg/m ³	Fume.
Glycerin (CAS 56-81-5)	PEL	100 ppm 5 mg/m ³	Respirable fraction. Total dust.
Morpholine (CAS 110-91-8)	PEL	70 mg/m ³ 20 ppm	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Copper, Copper Compounds (CAS 7440-50-8)	TWA	1 mg/m ³	Dust and mist.
Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8)	STEL	0.2 mg/m ³ 150 ppm	Fume.
Morpholine (CAS 110-91-8)	TWA TWA	100 ppm 20 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Copper, Copper Compounds (CAS 7440-50-8)	TWA	1 mg/m ³	Dust and mist.
Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8)	STEL	900 mg/m ³	
Morpholine (CAS 110-91-8)	TWA STEL TWA	150 ppm 600 mg/m ³ 100 ppm 105 mg/m ³ 30 ppm 70 mg/m ³ 20 ppm	

Biological limit values

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

Exposure guidelines

US - California OELs: Skin designation

Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8) Can be absorbed through the skin.
Morpholine (CAS 110-91-8) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Morpholine (CAS 110-91-8) Skin designation applies.

US - Tennessee OELs: Skin designation

Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8) Can be absorbed through the skin.
Morpholine (CAS 110-91-8) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8) Can be absorbed through the skin.
Morpholine (CAS 110-91-8) Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8) Can be absorbed through the skin.
Morpholine (CAS 110-91-8) Can be absorbed through the skin.

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

Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8) Can be absorbed through the skin.
Morpholine (CAS 110-91-8) 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 Wear appropriate chemical resistant gloves.

Other Wear suitable protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards None known.

General hygiene considerations

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 Gas.

Form Aerosol. Liquefied gas.

Color Greenish-blue.

Odor Citrus

Odor threshold Not available.

pH 12.9

Melting point/freezing point Not available.

Initial boiling point and boiling range 212 °F (100 °C)

Flash point Not Established

Evaporation rate 1 BuAc

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not Established

Flammability limit - upper (%) Not Established

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure < 17.5 mm Hg @20°C

Vapor density	> 1
Relative density	Not available.
Solubility(ies)	
Solubility (water)	100 % (in water)
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	< 3 cSt
Viscosity temperature	77 °F (25 °C)
Other information	
Heat of combustion	< 20 kJ/g
Percent volatile	> 97 %
Specific gravity	1 - 1.03 @ 20°C
VOC (Weight %)	5.8 % per U.S. State and Federal Consumer Product Regulations

10. Stability and reactivity

Reactivity	This product may react with oxidizing agents. Reacts violently with strong acids.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources.
Incompatible materials	Strong oxidizing agents. Acids.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Expected to be a low ingestion hazard.
Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

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

Components	Species	Test Results
Copper, Copper Compounds (CAS 7440-50-8)		
Acute		
<i>Dermal</i>		
LD50	Rat	> 2000 mg/kg
<i>Inhalation</i>		
LC50	Rat	0.733 mg/l
<i>Oral</i>		
LD50	Rat	300 - 500 mg/kg
Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	10 ml/kg
		9.5 g/kg
	Rat	> 19020 mg/kg

Components	Species	Test Results
		> 20 ml/kg
<i>Inhalation</i>		
LC50	Rat	> 275 ppm
<i>Oral</i>		
LD50	Dog	7.5 ml/kg
	Rat	> 5000 mg/kg
		5.4 ml/kg
Glycerin (CAS 56-81-5)		
Acute		
<i>Dermal</i>		
LD50	Guinea pig	45 ml/kg
<i>Oral</i>		
LD50	Guinea pig	>= 10000 mg/kg
	Mouse	23000 mg/kg
		20.81 ml/kg
	Rat	20 - 39800 mg/kg
Morpholine (CAS 110-91-8)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	0.5 ml/kg
<i>Oral</i>		
LD50	Guinea pig	0.09 g/kg
	Mouse	720 mg/kg
	Rat	1050 mg/kg
		1.05 g/kg
Petroleum Gases, Liquefied, Sweetened (CAS 68476-86-8)		
Acute		
<i>Inhalation</i>		
LC100	Cat	90 %
LC50	Mouse	1237 mg/l
		52.04 %
	Rat	> 13023 ppm
		1355 mg/l
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes eye irritation.	
Respiratory or skin sensitization		
Respiratory sensitization	Not classified.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.	
ACGIH Carcinogens		
Morpholine (CAS 110-91-8)	A4 Not classifiable as a human carcinogen.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Morpholine (CAS 110-91-8)	3 Not classifiable as to carcinogenicity to humans.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
Not listed.		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	

Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not classified.
Chronic effects	Prolonged or repeated contact may cause drying, cracking, or irritation.

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
Copper, Copper Compounds (CAS 7440-50-8)			
Aquatic			
Crustacea	EC50	Water flea (<i>Daphnia magna</i>)	0.036 mg/l, 48 hours
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>)	0.0319 - 0.0544 mg/l, 96 hours
Glycerin (CAS 56-81-5)			
Aquatic			
Fish	LC50	Rainbow trout, donaldson trout (<i>Oncorhynchus mykiss</i>)	51000 - 57000 mg/l, 96 hours
Morpholine (CAS 110-91-8)			
Aquatic			
Fish	LC50	Zebra danio (<i>Danio rerio</i>)	> 1 mg/l, 96 hours

Persistence and degradability Expected to biodegrade.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Glycerin	-1.76
Morpholine	-0.86

Mobility in soil Readily absorbed into soil.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. 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 D002: Waste Corrosive material [pH ≤2 or ≥12.5, or corrosive to steel]
D003: Waste Reactive material

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

DOT

UN number	UN1950
UN proper shipping name	AEROSOLS, non-flammable
Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
Label(s)	2.2
Packing group	Not applicable.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number	UN1950
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UN proper shipping name AEROSOLS, non-flammable
Transport hazard class(es)
Class 2.2
Subsidiary risk -
Label(s) 2.2
Packing group Not applicable.
Environmental hazards No.
Special precautions for user Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS 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 -
Label(s) 2.2
Packing group Not applicable.
Environmental hazards
Marine pollutant No.
EmS F-D, S-U
Special precautions for user Read safety instructions, SDS and emergency procedures before handling. 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 applicable.

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)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Copper, Copper Compounds (CAS 7440-50-8) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
 Delayed Hazard - No
 Fire Hazard - No
 Pressure Hazard - Yes
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

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**

Copper, Copper Compounds (CAS 7440-50-8)
Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8)
Glycerin (CAS 56-81-5)
Morpholine (CAS 110-91-8)

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

Copper, Copper Compounds (CAS 7440-50-8)
Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8)
Glycerin (CAS 56-81-5)
Morpholine (CAS 110-91-8)

US. Pennsylvania Worker and Community Right-to-Know Law

Copper, Copper Compounds (CAS 7440-50-8)
Dipropylene Glycol Monomethyl Ether (CAS 34590-94-8)
Glycerin (CAS 56-81-5)
Morpholine (CAS 110-91-8)

US. Rhode Island RTK

Copper, Copper Compounds (CAS 7440-50-8)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

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

Issue date 04-07-2014

Version # 01

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.