LPS® Electro Contact Cleaner (Aerosol)

ITW Pro Brands. -GA

Part Number: **00416**
Version No: **2.7**
Safety Data Sheet according to OSHA HazCom Standard (2024) requirements

Initial Date: **31/10/2025**
Revision Date: **03/11/2025**
Print Date: **03/11/2025**
S.GHS.USA.EN

SECTION 1 Identification

Product Identifier

Product name	LPS® Electro Contact Cleaner (Aerosol)
Proper shipping name	Aerosols, non-flammable, (each not exceeding 1 L capacity)
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	For Industrial Use Only Use according to manufacturer's directions.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	**ITW Pro Brands. -GA**
Address	4647 Hugh Howell Rd. Tucker, GA United States
Telephone	770-243-8800
Fax	Not Available
Website	www.itwprobrands.com
Email	lpssds@itwprobrands.com

Emergency phone number

Association / Organisation	**Dykem/Dymon/Scrubs = Call InfoTrac For_LPS & Other Brands = Call Chemtrec**
Emergency telephone number(s)	**1-800-535-5053 (InfoTrac Inside US) 1-800-424-9300 (Chemtrec Inside US)**
Other emergency telephone number(s)	**1-352-323-3500 (Infotrac Ouside US) +001 703-527-3887 (Chemtrec Outside US)**

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

Classification	Aerosols, Hazard Category 3, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2A, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3

Label elements

Hazard pictogram(s)	
Signal word	**Warning**

Hazard statement(s)

H229	Pressurised container: May burst if heated.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P251	Do not pierce or burn, even after use.

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P271	Use only outdoors or in a well-ventilated area.
P261	Avoid breathing gas.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P264	Wash all exposed external body areas thoroughly after handling.

Precautionary statement(s) Response

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice/attention.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

Precautionary statement(s) Storage

P405	Store locked up.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

No further product hazard information.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
29118-24-9	45-70	1,3,3,3-tetrafluoropropene
406-78-0	15-40	1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether*
156-60-5	5-10	TRANS-DICHLOROETHYLENE(R)
124-38-9	1-5	carbon dioxide
64-17-5	<0.5	ethanol

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	If aerosols come in contact with the eyes: ▸ Immediately hold the eyelids apart and flush the eye continuously for at least 15 minutes with fresh running water. ▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▸ Transport to hospital or doctor without delay. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If solids or aerosol mists are deposited upon the skin: ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in the event of irritation.
Inhalation	If aerosols, fumes or combustion products are inhaled: ▸ Remove to fresh air. ▸ Lay patient down. Keep warm and rested. ▸ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▸ If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▸ Transport to hospital, or doctor.
Ingestion	Not considered a normal route of entry. ▸ If spontaneous vomiting appears imminent or occurs, hold patients head down, lower than their hips to help avoid possible aspiration of vomitus.

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Treat Symptomatically
Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

SMALL FIRE: Use extinguishing agent suitable for type of surrounding fire.

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LARGE FIRE: Cool cylinder.
DO NOT direct water at source of leak or venting safety devices as icing may occur.
SMALL FIRE:
- Water spray, dry chemical or CO2

LARGE FIRE:
- Water spray or fog.

Special hazards arising from the substrate or mixture

Fire Incompatibility	‣ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Special protective equipment and precautions for fire-fighters

Fire Fighting	---------- GENERAL ---------- ‣ Alert Fire Brigade and tell them location and nature of hazard. ‣ Wear breathing apparatus and protective gloves. ‣ Fight fire from a safe distance, with adequate cover. ‣ Use water delivered as a fine spray to control fire and cool adjacent area. ‣ **DO NOT** approach cylinders suspected to be hot. ‣ Cool fire exposed cylinders with water spray from a protected location. ‣ If safe to do so, remove cylinders from path of fire. ---------- SPECIAL REQUIREMENTS: ---------- ‣ Excessive pressures may develop in a gas cylinder exposed in a fire; this may result in explosion. ‣ Cylinders with pressure relief devices may release their contents as a result of fire and the released gas may constitute a further source of hazard for the fire-fighter. ‣ Cylinders without pressure-relief valves have no provision for controlled release and are therefore more likely to explode if exposed to fire. ---------- FIRE FIGHTING REQUIREMENTS: ---------- The need for proximity, entry and special protective clothing should be determined for each incident, by a competent fire-fighting safety professional.
Fire/Explosion Hazard	‣ Non combustible. ‣ Not considered to be a significant fire risk. ‣ Heating may cause expansion or decomposition leading to violent rupture of containers. ‣ Aerosol cans may explode on exposure to naked flames. ‣ Rupturing containers may rocket and scatter burning materials. ‣ Hazards may not be restricted to pressure effects. ‣ May emit acrid, poisonous or corrosive fumes. ‣ Decomposes on heating and may emit toxic fumes of carbon monoxide (CO). Decomposition may produce toxic fumes of: carbon monoxide (CO) carbon dioxide (CO2) hydrogen fluoride other pyrolysis products typical of burning organic material.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	‣ Clean up all spills immediately. ‣ Avoid breathing vapours and contact with skin and eyes. ‣ Wear protective clothing, impervious gloves and safety glasses. ‣ Shut off all possible sources of ignition and increase ventilation. ‣ Wipe up. ‣ If safe, damaged cans should be placed in a container outdoors, away from all ignition sources, until pressure has dissipated. ‣ Undamaged cans should be gathered and stowed safely.
Major Spills	‣ DO NOT exert excessive pressure on valve; DO NOTattempt to operate damaged valve. ‣ Clear area of personnel and move upwind. ‣ Alert Fire Brigade and tell them location and nature of hazard. ‣ May be violently or explosively reactive. ‣ Wear breathing apparatus plus protective gloves. ‣ Prevent, by any means available, spillage from entering drains or water courses ‣ No smoking, naked lights or ignition sources. ‣ Increase ventilation. ‣ Stop leak if safe to do so. ‣ Water spray or fog may be used to disperse / absorb vapour. ‣ Absorb or cover spill with sand, earth, inert materials or vermiculite. ‣ If safe, damaged cans should be placed in a container outdoors, away from ignition sources, until pressure has dissipated. ‣ Undamaged cans should be gathered and stowed safely. ‣ Collect residues and seal in labelled drums for disposal.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	‣ Avoid all personal contact, including inhalation. ‣ Wear protective clothing when risk of exposure occurs.

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	▸ Use in a well-ventilated area. ▸ Prevent concentration in hollows and sumps. ▸ **DO NOT** enter confined spaces until atmosphere has been checked. ▸ Avoid smoking, naked lights or ignition sources. ▸ Avoid contact with incompatible materials. ▸ When handling, **DO NOT** eat, drink or smoke. ▸ **DO NOT** incinerate or puncture aerosol cans. ▸ **DO NOT** spray directly on humans, exposed food or food utensils. ▸ Avoid physical damage to containers. ▸ Always wash hands with soap and water after handling. ▸ Work clothes should be laundered separately. ▸ Use good occupational work practice. ▸ Observe manufacturer's storage and handling recommendations contained within this SDS. ▸ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained. **NFPA 30B Storage Level: 1**
Other information	▸ Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can

Conditions for safe storage, including any incompatibilities

Suitable container	▸ **DO NOT** use aluminium or galvanised containers ▸ Aerosol dispenser. ▸ Check that containers are clearly labelled.
Storage incompatibility	▸ Compressed gases may contain a large amount of kinetic energy over and above that potentially available from the energy of reaction produced by the gas in chemical reaction with other substances Avoid reaction with oxidising agents.

+	x	+	o	+	+	+

X — *Must not be stored together*
0 — *May be stored together with specific preventions*
\+ — *May be stored together*

Note: Depending on other risk factors, compatibility assessment based on the table above may not be relevant to storage situations, particularly where large volumes of dangerous goods are stored and handled. Reference should be made to the Safety Data Sheets for each substance or article and risks assessed accordingly.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Limits (PELs) Table Z-1	ethanol	Ethyl alcohol (Ethanol)	1000 ppm / 1900 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	ethanol	Ethyl alcohol	1000 ppm / 1900 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	carbon dioxide	Carbon dioxide	5000 ppm / 9000 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	carbon dioxide	Carbon dioxide	5000 ppm / 9000 mg/m3	54000 mg/m3 / 30000 ppm	Not Available	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
TRANS-DICHLOROETHYLENE(R)	Not Available	Not Available	Not Available
ethanol	Not Available	Not Available	15000* ppm
1,3,3,3-tetrafluoropropene	1,400 ppm	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
TRANS-DICHLOROETHYLENE(R)	Not Available	Not Available
ethanol	Not Available	Not Available
1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether*	Not Available	Not Available
1,3,3,3-tetrafluoropropene	250 mg/m3	Not Available
carbon dioxide	40,000 ppm	Not Available

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard 'physically' away from the worker and ventilation that strategically 'adds' and 'removes' air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure.

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	▸ Employees exposed to confirmed human carcinogens should be authorized to do so by the employer, and work in a regulated area. ▸ Work should be undertaken in an isolated system such as a 'glove-box' . Employees should wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system. ▸ Within regulated areas, the carcinogen should be stored in sealed containers, or enclosed in a closed system, including piping systems, with any sample ports or openings closed while the carcinogens are contained within. ▸ Open-vessel systems are prohibited. ▸ Each operation should be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. ▸ Exhaust air should not be discharged to regulated areas, non-regulated areas or the external environment unless decontaminated. Clean make-up air should be introduced in sufficient volume to maintain correct operation of the local exhaust system. ▸ For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood. Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood. ▸ Except for outdoor systems, regulated areas should be maintained under negative pressure (with respect to non-regulated areas). ▸ Local exhaust ventilation requires make-up air be supplied in equal volumes to replaced air. ▸ Laboratory hoods must be designed and maintained so as to draw air inward at an average linear face velocity of 0.76 m/sec with a minimum of 0.64 m/sec. Design and construction of the fume hood requires that insertion of any portion of the employees body, other than hands and arms, be disallowed.
Individual protection measures, such as personal protective equipment	
Eye and face protection	▸ Safety glasses with side shields. ▸ Chemical goggles.[AS/NZS 1337.1, EN166 or national equivalent] ▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
Skin protection	See Hand protection below
Hands/feet protection	▸ No special equipment needed when handling small quantities. ▸ OTHERWISE: ▸ For potentially moderate exposures: ▸ Wear general protective gloves, eg. light weight rubber gloves. ▸ For potentially heavy exposures: ▸ Wear chemical protective gloves, eg. PVC. and safety footwear.
Body protection	See Other protection below
Other protection	No special equipment needed when handling small quantities. **OTHERWISE:** ▸ Overalls. ▸ Skin cleansing cream. ▸ Eyewash unit. ▸ Do not spray on hot surfaces.

Respiratory protection

Type AX Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Aerosols, in common with most vapours/ mists, should never be used in confined spaces without adequate ventilation. Aerosols, containing agents designed to enhance or mask smell, have triggered allergic reactions in predisposed individuals.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Colourless

Physical state	Liquified Gas	**Relative density (Water = 1)**	1.39
Odour	Characteristic, Slight	**Partition coefficient n-octanol / water**	<1
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	Not Applicable	**Decomposition temperature (°C)**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	<20.5
Initial boiling point and boiling range (°C)	58	**Molecular weight (g/mol)**	Not Available
Flash point (°C)	Not Applicable	**Taste**	Not Available
Evaporation rate	>1 Ether = 1	**Explosive properties**	Not explosive
Flammability	Not Applicable	**Oxidising properties**	Not oxidizing
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Available
Lower Explosive Limit (%)	Not Available	**Volatile Component (%vol)**	100
Vapour pressure (kPa)	38	**Gas group**	Not Available
Solubility in water	Immiscible	**pH as a solution (1%)**	Not Available
Vapour density (Air = 1)	7	**VOC %**	42.5%
Heat of Combustion (kJ/g)	<20	**Ignition Distance (cm)**	Not Available
Flame Height (cm)	Not Available	**Flame Duration (s)**	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	**Enclosed Space Ignition Deflagration Density (g/m3)**	Not Available
Nanoform Solubility	Not Available	**Nanoform Particle Characteristics**	Not Available

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Particle Size	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	▸ Elevated temperatures. ▸ Presence of open flame. ▸ Product is considered stable. ▸ Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

a) Acute Toxicity	Based on available data, the classification criteria are not met.
b) Skin Irritation/Corrosion	There is sufficient evidence to classify this material as skin corrosive or irritating.
c) Serious Eye Damage/Irritation	There is sufficient evidence to classify this material as eye damaging or irritating
d) Respiratory or Skin sensitisation	Based on available data, the classification criteria are not met.
e) Mutagenicity	Based on available data, the classification criteria are not met.
f) Carcinogenicity	Based on available data, the classification criteria are not met.
g) Reproductivity	Based on available data, the classification criteria are not met.
h) STOT - Single Exposure	There is sufficient evidence to classify this material as toxic to specific organs through single exposure
i) STOT - Repeated Exposure	Based on available data, the classification criteria are not met.
j) Aspiration Hazard	Based on available data, the classification criteria are not met.

Inhaled	**WARNING**:Intentional misuse by concentrating/inhaling contents may be lethal.
Ingestion	Considered an unlikely route of entry in commercial/industrial environments
Skin Contact	Open cuts, abraded or irritated skin should not be exposed to this material Spray mist may produce discomfort
Eye	This material causes serious eye irritation.
Chronic	Main route of exposure to the gas in the workplace is by inhalation.

LPS® Electro Contact Cleaner (Aerosol)

TOXICITY	IRRITATION
Not Available	Not Available

TRANS-DICHLOROETHYLENE(R)

TOXICITY	IRRITATION
Dermal (rabbit) LD50: >5000 mg/kg[1]	Eye (Rodent - rabbit): 10mg - Moderate
Inhalation (Rat) LC50: 24100 ppm4h[1]	Eye: adverse effect observed (irritating)[1]
Oral (Rat) LD50: 1235 mg/kg[2]	Skin (Rodent - rabbit): 500mg/24H - Moderate
	Skin: no adverse effect observed (not irritating)[1]

ethanol

TOXICITY	IRRITATION
Dermal (rabbit) LD50: 17100 mg/kg[1]	Eye (Rodent - rabbit): 0.1mL
Inhalation (Rat) LC50: 64000 ppm4h[2]	Eye (Rodent - rabbit): 100mg/4S - Moderate
Oral (Rat) LD50: 7060 mg/kg[2]	Eye (Rodent - rabbit): 100uL - Moderate
	Eye (Rodent - rabbit): 500mg - Severe
	Eye (Rodent - rabbit): 500mg/24H - Mild
	Eye (Rodent - rabbit): 50pph/1H - Mild
	Eye: adverse effect observed (irritating)[1]
	Eye: no adverse effect observed (not irritating)[1]
	Skin (Human): 70%/2D
	Skin (Rodent - rabbit): 20mg/24H - Moderate
	Skin (Rodent - rabbit): 400mg - Mild
	Skin: no adverse effect observed (not irritating)[1]

Continued...

1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether*	**TOXICITY** / **IRRITATION** dermal (rat) LD50: >2000 mg/kg[1] / Not Available Inhalation (Rat) LC50: >24.619 mg/L4h[1] / Oral (Rat) LD50: >2000 mg/kg[1] /
1,3,3,3-tetrafluoropropene	**TOXICITY** / **IRRITATION** Inhalation (Rat) LC50: >1157.752 ppm4h[2] / Skin: no adverse effect observed (not irritating)[1]
carbon dioxide	**TOXICITY** / **IRRITATION** Not Available / Not Available
Legend:	***1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances***

Acute Toxicity	✗	**Carcinogenicity**	✗
Skin Irritation/Corrosion	✓	**Reproductivity**	✗
Serious Eye Damage/Irritation	✓	**STOT - Single Exposure**	✓
Respiratory or Skin sensitisation	✗	**STOT - Repeated Exposure**	✗
Mutagenicity	✗	**Aspiration Hazard**	✗

Legend: ✗ ***– Data either not available or does not fill the criteria for classification***
✓ ***– Data available to make classification***

SECTION 12 Ecological information

Toxicity

LPS® Electro Contact Cleaner (Aerosol)

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

TRANS-DICHLOROETHYLENE(R)

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	48h	Crustacea	220mg/l	2
EC50(ECx)	48h	Algae or other aquatic plants	36.36mg/l	4
LC50	96h	Fish	135mg/l	2

ethanol

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	275mg/l	2
EC50	48h	Crustacea	2mg/L	4
EC50	96h	Algae or other aquatic plants	<0.001mg/L	4
EC50(ECx)	96h	Algae or other aquatic plants	<0.001mg/L	4
LC50	96h	Fish	42mg/L	4

1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether*

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	>213mg/l	2
EC50	48h	Crustacea	>94mg/l	2
NOEC(ECx)	96h	Fish	<73mg/l	2
LC50	96h	Fish	>76mg/l	2

1,3,3,3-tetrafluoropropene

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	>170mg/l	2
EC50	48h	Crustacea	>160mg/l	2
EC50(ECx)	48h	Crustacea	>160mg/l	2
LC50	96h	Fish	>117mg/l	2
ErC50	72h	Algae or other aquatic plants	>170mg/l	2
EC50	72h	Algae or other aquatic plants	>10mg/l	2
EC50(ECx)	72h	Algae or other aquatic plants	>10mg/l	2

carbon dioxide

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96h	Fish	35mg/l	1

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Legend:	***Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data***

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
TRANS-DICHLOROETHYLENE(R)	HIGH	HIGH
ethanol	LOW (Half-life = 2.17 days)	LOW (Half-life = 5.08 days)
1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether*	HIGH	HIGH
carbon dioxide	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
TRANS-DICHLOROETHYLENE(R)	LOW (LogKOW = 2.09)
ethanol	LOW (LogKOW = -0.31)
1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether*	LOW (LogKOW = 2.2978)
carbon dioxide	LOW (LogKOW = 0.83)

Mobility in soil

Ingredient	Mobility
TRANS-DICHLOROETHYLENE(R)	LOW (Log KOC = 43.79)
ethanol	HIGH (Log KOC = 1)
1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether*	LOW (Log KOC = 125.3)
carbon dioxide	HIGH (Log KOC = 1.498)

Other adverse effects

No evidence of ozone depleting properties were found in the current literature.

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	‣ Consult State Land Waste Management Authority for disposal. ‣ Discharge contents of damaged aerosol cans at an approved site. ‣ Allow small quantities to evaporate. ‣ **DO NOT** incinerate or puncture aerosol cans. ‣ Bury residues and emptied aerosol cans at an approved site.

SECTION 14 Transport information

Labels Required

	
Marine Pollutant	NO

Shipping container, transport vehicle placarding, and labeling may vary from the below information. This depends on the quantity shipped, the applicability of excepted quantity requirements, limited quantity requirements, and/or special provisions according to US DOT, IATA and IMDG regulations. In case of reshipment, it is the responsibility of the shipper to determine the appropriate labels and markings in accordance with applicable transport regulations.

Land transport (DOT)

14.1. **UN number or ID number**	1950
14.2. **UN proper shipping name**	Aerosols, non-flammable, (each not exceeding 1 L capacity)
14.3. **Transport hazard class(es)**	Class: 2.2 Subsidiary Hazard: Not Applicable
14.4. **Packing group**	Not Applicable
14.5. **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	Hazard Label: 2.2 Special provisions: Not Applicable

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Air transport (ICAO-IATA / DGR)

14.1. **UN number**	1950
14.2. **UN proper shipping name**	Aerosols, non-flammable
14.3. **Transport hazard class(es)**	ICAO/IATA Class: 2.2 ICAO / IATA Subsidiary Hazard: Not Applicable ERG Code: 2L
14.4. **Packing group**	Not Applicable
14.5. **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	Special provisions: A98 A145 A167 A802 Cargo Only Packing Instructions: 203 Cargo Only Maximum Qty / Pack: 150 kg Passenger and Cargo Packing Instructions: 203 Passenger and Cargo Maximum Qty / Pack: 75 kg Passenger and Cargo Limited Quantity Packing Instructions: Y203 Passenger and Cargo Limited Maximum Qty / Pack: 30 kg G

Sea transport (IMDG-Code / GGVSee)

14.1. **UN number**	1950
14.2. **UN proper shipping name**	AEROSOLS
14.3. **Transport hazard class(es)**	IMDG Class: 2.2 IMDG Subsidiary Hazard: Not Applicable
14.4. **Packing group**	Not Applicable
14.5 **Environmental hazard**	Not Applicable
14.6. **Special precautions for user**	EMS Number: F-D, S-U Special provisions: 63 190 277 327 344 381 959 Limited Quantities: 1000 ml

14.7. Maritime transport in bulk according to IMO instruments

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
TRANS-DICHLOROETHYLENE(R)	Not Applicable
ethanol	Not Applicable
1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether*	Not Applicable
1,3,3,3-tetrafluoropropene	Not Applicable
carbon dioxide	Not Applicable

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
TRANS-DICHLOROETHYLENE(R)	Not Applicable
ethanol	Not Applicable
1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether*	Not Applicable
1,3,3,3-tetrafluoropropene	Not Applicable
carbon dioxide	Not Applicable

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

TRANS-DICHLOROETHYLENE(R) is found on the following regulatory lists

US - Massachusetts - Right To Know Listed Chemicals
US - Pennsylvania - Hazardous Substance List
US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)
US CWA (Clean Water Act) - Priority Pollutants
US CWA (Clean Water Act) - Toxic Pollutants

Continued...

US DOE Temporary Emergency Exposure Limits (TEELs)
US EPA Integrated Risk Information System (IRIS)
US New York City Community Right-to-Know: List of Hazardous Substances
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Section 12(b) - List of Chemical Substances Subject to Export Notification Requirements

ethanol is found on the following regulatory lists

US - Massachusetts - Right To Know Listed Chemicals
US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Carcinogens
US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Flammables
US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Mutagens
US - New Jersey Right to Know - Special Health Hazard Substance List (SHHSL): Teratogens
US - New Jersey Right to Know Hazardous Substances
US - Pennsylvania - Hazardous Substance List
US DOE Temporary Emergency Exposure Limits (TEELs)
US EPA Pesticide Chemical Search - Antimicrobial
US EPA Pesticide Chemical Search - Biopesticides
US EPA Pesticide Chemical Search - Conventional Chemical
US New York City Community Right-to-Know: List of Hazardous Substances
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether* is found on the following regulatory lists

US - Pennsylvania - Hazardous Substance List
US CWA (Clean Water Act) - Toxic Pollutants
US New York City Community Right-to-Know: List of Hazardous Substances
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Section 12(b) - List of Chemical Substances Subject to Export Notification Requirements
US TSCA Section 5(a)(2) - Significant New Use Rules (SNURs)

1,3,3,3-tetrafluoropropene is found on the following regulatory lists

US - Pennsylvania - Hazardous Substance List
US AIHA Workplace Environmental Exposure Levels (WEELs)
US DOE Temporary Emergency Exposure Limits (TEELs)
US New York City Community Right-to-Know: List of Hazardous Substances
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US Toxicology Excellence for Risk Assessment (TERA) Workplace Environmental Exposure Levels (WEEL)

carbon dioxide is found on the following regulatory lists

FEI Equine Prohibited Substances List - Controlled Medication
FEI Equine Prohibited Substances List (EPSL)
US - Massachusetts - Right To Know Listed Chemicals
US - New Jersey Right to Know Hazardous Substances
US - Pennsylvania - Hazardous Substance List
US EPA Pesticide Chemical Search - Antimicrobial
US EPA Pesticide Chemical Search - Biopesticides
US EPA Pesticide Chemical Search - Conventional Chemical
US New York City Community Right-to-Know: List of Hazardous Substances
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

Additional Regulatory Information

None reported

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	Yes
Gas under pressure	Yes
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No

Continued...

Reproductive toxicity	No
Skin Corrosion or Irritation	Yes
Respiratory or Skin Sensitization	No
Serious eye damage or eye irritation	Yes
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

None Reported

US. EPCRA Section 313 Toxic Release Inventory (TRI) (40 CFR 372)

None Reported

Additional Federal Regulatory Information

Not Applicable

State Regulations

US. California Proposition 65

None reported

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	No (1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether*)
Canada - DSL	Yes
Canada - NDSL	No (TRANS-DICHLOROETHYLENE(R); ethanol; 1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether*; carbon dioxide)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether*)
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	No (1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether*)
Philippines - PICCS	No (1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether*; 1,3,3,3-tetrafluoropropene)
USA - TSCA	All chemical substances in this product have been designated as TSCA Inventory 'Active'
Taiwan - TCSI	Yes
Mexico - INSQ	No (1,3,3,3-tetrafluoropropene)
Vietnam - NCI	Yes
Russia - FBEPH	No (1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether*; 1,3,3,3-tetrafluoropropene)
UAE - Control List (Banned/Restricted Substances)	No (TRANS-DICHLOROETHYLENE(R); ethanol; 1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether*; 1,3,3,3-tetrafluoropropene; carbon dioxide)
Legend:	***Yes = All CAS declared ingredients are on the inventory*** ***No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.***

SECTION 16 Other information

Revision Date	03/11/2025
Initial Date	31/10/2025

Other information

Ingredients with multiple cas numbers

Name	CAS No
ethanol	64-17-5, 2348-46-1
1,3,3,3-tetrafluoropropene	29118-24-9, 29118-25-0, 1645-83-6

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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end of SDS