



LEYBONOL LVO 420

Leybold GmbH

Chemwatch: 5324-78

Version No: 9.1

Safety Data Sheet according to WHMIS 2015 requirements

Issue Date: 01/04/2022

Print Date: 16/02/2024

S.GHS.CAN.EN.E

SECTION 1 Identification

Product Identifier

Product name	LEYBONOL LVO 420
Synonyms	L42001
Chemical formula	Not Applicable
Other means of identification	300327490

Recommended use of the chemical and restrictions on use

Relevant identified uses	Vacuum pump oil
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	Leybold GmbH
Address	Bonner Str. 498 Cologne D-50968 Germany
Telephone	+49 221 3470
Fax	+49 221 347 1250
Website	http://www.leybold.com
Email	service@leybold.com

Emergency phone number

Association / Organisation	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	+1 867 670 2867
Other emergency telephone numbers	+61 3 9573 3188

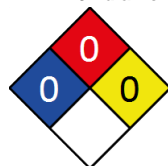
Once connected and if the message is not in your preferred language then please dial 01

Une fois connecté et si le message n'est pas dans votre langue préférée alors s'il vous plaît cadran 07

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Canadian WHMIS Symbols

Classification	Not Applicable
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Label elements

Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

Hazard statement(s)

Not Applicable

Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
69991-67-9	99.9	perfluoropropylene oxide/ perfluoroformaldehyde copolymer

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	<p>If this product comes in contact with eyes:</p> <ul style="list-style-type: none">Wash out immediately with water.If irritation continues, seek medical attention.Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none">Flush skin and hair with running water (and soap if available).Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none">If fumes, aerosols or combustion products are inhaled remove from contaminated area.Other measures are usually unnecessary.
Ingestion	<ul style="list-style-type: none">If swallowed do NOT induce vomiting.If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.Observe the patient carefully.Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.Seek medical advice.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

- Foam.

- Dry chemical powder.
- Carbon dioxide.
- Water spray or fog - Large fires only.

Special hazards arising from the substrate or mixture

Fire Incompatibility	<ul style="list-style-type: none">‣ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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Special protective equipment and precautions for fire-fighters

Fire Fighting	<ul style="list-style-type: none">‣ Alert Fire Brigade and tell them location and nature of hazard.‣ Wear full body protective clothing with breathing apparatus.‣ Prevent, by any means available, spillage from entering drains or water course.‣ Use water delivered as a fine spray to control fire and cool adjacent area.
Fire/Explosion Hazard	<ul style="list-style-type: none">‣ Non combustible.‣ Not considered a significant fire risk, however containers may burn. <p>Decomposes on heating and produces toxic fumes of: hydrogen fluoride</p>

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	<ul style="list-style-type: none">‣ Remove all ignition sources.‣ Clean up all spills immediately.‣ Avoid breathing vapours and contact with skin and eyes.‣ Control personal contact with the substance, by using protective equipment.
Major Spills	<p>Moderate hazard.</p> <ul style="list-style-type: none">‣ Clear area of personnel and move upwind.‣ Alert Fire Brigade and tell them location and nature of hazard.‣ Wear breathing apparatus plus protective gloves.

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

SECTION 7 Handling and storage**Precautions for safe handling**

Safe handling	<ul style="list-style-type: none">‣ Avoid all personal contact, including inhalation.‣ Wear protective clothing when risk of exposure occurs.‣ Use in a well-ventilated area.‣ Prevent concentration in hollows and sumps.
Other information	<ul style="list-style-type: none">‣ Store in original containers.‣ Keep containers securely sealed.‣ Store in a cool, dry, well-ventilated area.‣ Store away from incompatible materials and foodstuff containers.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none">‣ Metal can or drum‣ Packaging as recommended by manufacturer.‣ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	<ul style="list-style-type: none">‣ Avoid reaction with oxidising agents‣ Avoid strong acids, bases.

SECTION 8 Exposure controls / personal protection**Control parameters**

Occupational Exposure Limits (OEL)**INGREDIENT DATA**


Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
perfluoropropylene oxide/ perfluoroformaldehyde copolymer	120 mg/m3	1,300 mg/m3	7,900 mg/m3

Ingredient	Original IDLH	Revised IDLH
perfluoropropylene oxide/ perfluoroformaldehyde copolymer	Not Available	Not Available

Exposure controls

Appropriate engineering controls	<p>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.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>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.</p>
Individual protection measures, such as personal protective equipment	
Eye and face protection	<ul style="list-style-type: none"> ▸ "Safety glasses with side shields ▸ Chemical goggles. ▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience.
Skin protection	See Hand protection below
Hands/feet protection	<ul style="list-style-type: none"> ▸ Wear general protective gloves, eg. light weight rubber gloves. <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care.</p>
Body protection	See Other protection below
Other protection	<p>No special equipment needed when handling small quantities.</p> <p>OTHERWISE:</p> <ul style="list-style-type: none"> ▸ Overalls. ▸ Barrier cream. ▸ Eyewash unit.

Respiratory protection

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 Physical and chemical properties**Information on basic physical and chemical properties**

Appearance	Colourless, odourless liquid.		
Physical state	Liquid	Relative density (Water =	1.88-1.9

Continued...

		1)	
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Applicable	Decomposition temperature (°C)	>290
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	120
Initial boiling point and boiling range (°C)	>290	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Negligible	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Applicable
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> Unstable in the presence of incompatible materials. 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

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
Skin Contact	The liquid may be able to be mixed with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives.
Eye	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

LEYBONOL LVO 420	TOXICITY	IRRITATION
	Not Available	Not Available
perfluoropropylene oxide/ perfluoroformaldehyde copolymer	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

PERFLUOROPROPYLENE OXIDE/ PERFLUOROFORMALDEHYDE COPOLYMER		Non-sensitising to guinea pig * Negative in Ames test - non-mutagenic * Repeated Dermal irritation rabbit (2 weeks) : negative * ALD - Acute Lethal Dose [Manufacturer - Inland Vacuum Products] *MSDS Solvay Solex	
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

LEYBONOL LVO 420	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
perfluoropropylene oxide/ perfluoroformaldehyde copolymer	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
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
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none">DO NOT allow wash water from cleaning or process equipment to enter drains.It may be necessary to collect all wash water for treatment before disposal.In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.Where in doubt contact the responsible authority.Recycle wherever possible or consult manufacturer for recycling options.Consult State Land Waste Authority for disposal.Bury or incinerate residue at an approved site.Recycle containers if possible, or dispose of in an authorised landfill.
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SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
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Land transport (TDG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

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
perfluoropropylene oxide/ perfluoroformaldehyde copolymer	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
perfluoropropylene oxide/ perfluoroformaldehyde copolymer	Not Available

SECTION 15 Regulatory information

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

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

perfluoropropylene oxide/ perfluoroformaldehyde copolymer is found on the following regulatory lists

Canada Categorization decisions for all DSL substances
Canada Domestic Substances List (DSL)

Additional Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (perfluoropropylene oxide/ perfluoroformaldehyde copolymer)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (perfluoropropylene oxide/ perfluoroformaldehyde copolymer)
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (perfluoropropylene oxide/ perfluoroformaldehyde copolymer)
Vietnam - NCI	Yes
Russia - FBEPH	Yes

National Inventory	Status
Legend:	<p>Yes = All CAS declared ingredients are on the inventory</p> <p>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</p>

SECTION 16 Other information

Revision Date	01/04/2022
Initial Date	21/10/2018

SDS Version Summary

Version	Date of Update	Sections Updated
8.1	31/03/2022	Disposal considerations - Disposal, Composition / information on ingredients - Ingredients, Stability and reactivity - Instability Condition, Handling and storage - Storage (storage incompatibility), Toxicological information - Toxicity and Irritation (Toxicity Figure)
9.1	01/04/2022	Toxicological information - Acute Health (swallowed), Hazards identification - Classification, Disposal considerations - Disposal, Exposure controls / personal protection - Exposure Standard, Firefighting measures - Fire Fighter (fire fighting), Firefighting measures - Fire Fighter (fire incompatibility), First Aid measures - First Aid (eye), Handling and storage - Handling Procedure, Exposure controls / personal protection - Personal Protection (Respirator), Accidental release measures - Spills (major), Accidental release measures - Spills (minor), Handling and storage - Storage (storage incompatibility), Handling and storage - Storage (suitable container)

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

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.

Definitions and abbreviations

- PC - TWA: Permissible Concentration-Time Weighted Average
- PC - STEL: Permissible Concentration-Short Term Exposure Limit
- IARC: International Agency for Research on Cancer
- ACGIH: American Conference of Governmental Industrial Hygienists
- STEL: Short Term Exposure Limit
- TEEL: Temporary Emergency Exposure Limit,
- IDLH: Immediately Dangerous to Life or Health Concentrations
- ES: Exposure Standard
- OSF: Odour Safety Factor
- NOAEL: No Observed Adverse Effect Level
- LOAEL: Lowest Observed Adverse Effect Level
- TLV: Threshold Limit Value
- LOD: Limit Of Detection
- OTV: Odour Threshold Value
- BCF: BioConcentration Factors
- BEI: Biological Exposure Index
- DNEL: Derived No-Effect Level
- PNEC: Predicted no-effect concentration

- AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
- NDSL: Non-Domestic Substances List
- IECSC: Inventory of Existing Chemical Substance in China
- EINECS: European INventory of Existing Commercial chemical Substances
- ELINCS: European List of Notified Chemical Substances
- NLP: No-Longer Polymers
- ENCS: Existing and New Chemical Substances Inventory
- KECI: Korea Existing Chemicals Inventory
- NZIoC: New Zealand Inventory of Chemicals
- PICCS: Philippine Inventory of Chemicals and Chemical Substances
- TSCA: Toxic Substances Control Act
- TCSI: Taiwan Chemical Substance Inventory
- INSQ: Inventario Nacional de Sustancias Químicas

- NCI: National Chemical Inventory
- FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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