

## LEYBONOL LVO 310

### Leybold USA Inc.

Chemwatch: 5331-88

Version No: 5.1

Safety Data Sheet according to OSHA HazCom Standard (2024) requirements

Initial Date: 25/11/2018

Revision Date: 22/04/2024

Print Date: 06/11/2025

S.GHS.USA.EN.E

## SECTION 1 Identification

### Product Identifier

|                               |                  |
|-------------------------------|------------------|
| Product name                  | LEYBONOL LVO 310 |
| Synonyms                      | L31001           |
| Chemical formula              | Not Applicable   |
| Other means of identification | 300333313        |

### Recommended use of the chemical and restrictions on use

|                          |                 |
|--------------------------|-----------------|
| Relevant identified uses | Vacuum pump oil |
|--------------------------|-----------------|

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

|                         |                                                      |
|-------------------------|------------------------------------------------------|
| Registered company name | Leybold USA Inc.                                     |
| Address                 | 6005 Enterprise Drive Export, PA 15632 United States |
| Telephone               | +1 800-764-5369                                      |
| Fax                     | +1 800-215-7782                                      |
| Website                 | Not Available                                        |
| Email                   | info.ex@leybold.com                                  |

### Emergency phone number

|                                     |                                     |
|-------------------------------------|-------------------------------------|
| Association / Organisation          | CHEMWATCH EMERGENCY RESPONSE (24/7) |
| Emergency telephone number(s)       | +1 855-237-5573 (ID#: 5331-88)      |
| Other emergency telephone number(s) | +61 3 9573 3188                     |

## 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)

|                |               |
|----------------|---------------|
| Classification | Non hazardous |
|----------------|---------------|

### Label elements

|                     |                |
|---------------------|----------------|
| Hazard pictogram(s) | Not Applicable |
|---------------------|----------------|

|             |                |
|-------------|----------------|
| Signal word | Not Applicable |
|-------------|----------------|

**Hazard statement(s)**

Not Applicable

**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  
No further product hazard information.

**SECTION 3 Composition / information on ingredients**

**Substances**

See section below for composition of Mixtures

**Mixtures**

| CAS No        | %[weight] | Name                                       |
|---------------|-----------|--------------------------------------------|
| Not Available | 100       | Ingredients determined not to be hazardous |

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 this product comes in contact with eyes: <ul style="list-style-type: none"><li>Wash out immediately with water.</li><li>If irritation continues, seek medical attention.</li><li>Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li></ul>                                                                                                                                                                                                                                                       |
| Skin Contact | If skin or hair contact occurs: <ul style="list-style-type: none"><li>Flush skin and hair with running water (and soap if available).</li><li>Seek medical attention in event of irritation.</li></ul> If failure/misuse of high pressure/hydraulic equipment results in injection of grease/oil through the skin seek urgent medical attention. Treat as surgical emergency.                                                                                                                                                                     |
| Inhalation   | <ul style="list-style-type: none"><li>If fumes or combustion products are inhaled remove from contaminated area.</li><li>Lay patient down. Keep warm and rested.</li><li>Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li><li>Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li><li>Transport to hospital, or doctor.</li></ul> |
| Ingestion    | <ul style="list-style-type: none"><li>Immediately give a glass of water.</li><li>First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.</li></ul>                                                                                                                                                                                                                                                                                                                                                    |

**Most important symptoms and effects, both acute and delayed**

See Section 11

**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"><li>Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result</li></ul> |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Special protective equipment and precautions for fire-fighters

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fire Fighting         | <ul style="list-style-type: none"><li>Alert Fire Brigade and tell them location and nature of hazard.</li><li>Wear breathing apparatus plus protective gloves.</li><li>Prevent, by any means available, spillage from entering drains or water course.</li><li>Use water delivered as a fine spray to control fire and cool adjacent area.</li></ul>                                                                                    |
| Fire/Explosion Hazard | <ul style="list-style-type: none"><li>Combustible.</li><li>Slight fire hazard when exposed to heat or flame.</li><li>Heating may cause expansion or decomposition leading to violent rupture of containers.</li><li>On combustion, may emit toxic fumes of carbon monoxide (CO).</li></ul> Combustion products include:<br>carbon dioxide (CO2)<br>sulfur oxides (SOx)<br>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 | <ul style="list-style-type: none"><li>Remove all ignition sources.</li><li>Clean up all spills immediately.</li><li>Avoid breathing vapours and contact with skin and eyes.</li><li>Control personal contact with the substance, by using protective equipment.</li></ul> |
| Major Spills | Moderate hazard. <ul style="list-style-type: none"><li>Clear area of personnel and move upwind.</li><li>Alert Fire Brigade and tell them location and nature of hazard.</li><li>Wear breathing apparatus plus protective gloves.</li></ul>                                |

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"><li>Avoid all personal contact, including inhalation.</li><li>Wear protective clothing when risk of exposure occurs.</li><li>Use in a well-ventilated area.</li><li>Prevent concentration in hollows and sumps.</li></ul> |
| Other information | <ul style="list-style-type: none"><li>Store in original containers.</li><li>Keep containers securely sealed.</li><li>No smoking, naked lights or ignition sources.</li><li>Store in a cool, dry, well-ventilated area.</li></ul>                            |

Conditions for safe storage, including any incompatibilities

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

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Emergency Limits

## LEYBONOL LVO 310

| Ingredient       | TEEL-1        | TEEL-2        | TEEL-3        |
|------------------|---------------|---------------|---------------|
| LEYBONOL LVO 310 | Not Available | Not Available | Not Available |
| Ingredient       | Original IDLH |               | Revised IDLH  |
| LEYBONOL LVO 310 | 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"> <li>▶ Safety glasses with side shields</li> <li>▶ Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent]</li> <li>▶ 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.</li> </ul>                                                                                                                                                                   |
| Skin protection                                                       | See Hand protection below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Hands/feet protection                                                 | <ul style="list-style-type: none"> <li>▶ Wear general protective gloves, eg. light weight rubber gloves.</li> </ul> <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><b>OTHERWISE:</b></p> <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ Barrier cream.</li> <li>▶ Eyewash unit.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## Respiratory protection

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

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

| Required minimum protection factor | Maximum gas/vapour concentration present in air p.p.m. (by volume) | Half-face Respirator | Full-Face Respirator |
|------------------------------------|--------------------------------------------------------------------|----------------------|----------------------|
| up to 10                           | 1000                                                               | A-AUS / Class1       | -                    |
| up to 50                           | 1000                                                               | -                    | A-AUS / Class 1      |
| up to 50                           | 5000                                                               | Airline *            | -                    |
| up to 100                          | 5000                                                               | -                    | A-2                  |
| up to 100                          | 10000                                                              | -                    | A-3                  |
| 100+                               |                                                                    |                      | Airline**            |

\* - Continuous Flow \*\* - Continuous-flow or positive pressure demand

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- ▶ 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 liquid with characteristic odour. |                                                     |                      |
| Physical state                                 | Liquid                                       | Relative density (Water = 1)                        | 0.82                 |
| Odour                                          | Not Available                                | Partition coefficient n-octanol / water             | >3.5                 |
| 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)            | -54 (pour pt.)                               | Viscosity (cSt)                                     | >29 @ 40C, 5.6 @100C |
| Initial boiling point and boiling range (°C)   | >316                                         | Molecular weight (g/mol)                            | Not Applicable       |
| Flash point (°C)                               | >218 (ASTM D92)                              | Taste                                               | Not Available        |
| Evaporation rate                               | Not Available                                | Explosive properties                                | Not Available        |
| Flammability                                   | Not Applicable                               | Oxidising properties                                | Not Available        |
| Upper Explosive Limit (%)                      | 7.0                                          | Surface Tension (dyn/cm or mN/m)                    | Not Available        |
| Lower Explosive Limit (%)                      | 0.9                                          | Volatile Component (%vol)                           | Not Available        |
| Vapour pressure (kPa)                          | <0.013 @ 20C                                 | Gas group                                           | Not Available        |
| Solubility in water                            | Immiscible                                   | pH as a solution (1%)                               | Not Applicable       |
| Vapour density (Air = 1)                       | >2                                           | VOC g/L                                             | Not Available        |
| Heat of Combustion (kJ/g)                      | Not Available                                | 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        |
| Particle Size                                  | Not Available                                |                                                     |                      |

SECTION 10 Stability and reactivity

|                                    |                                                                           |
|------------------------------------|---------------------------------------------------------------------------|
| Reactivity                         | See section 7                                                             |
| Chemical stability                 | Product is considered stable and 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         | Based on available data, the classification criteria are not met. |
| c) Serious Eye Damage/Irritation     | Based on available data, the classification criteria are not met. |
| 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            | Based on available data, the classification criteria are not met. |
| 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      | 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 <b>NOT</b> 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 310 | 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

|                  |                                                                                                                                                                                                                                                                                                                          |                    |               |               |               |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------|---------------|---------------|
| LEYBONOL LVO 310 | 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 |

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 | <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"><li>▶ Reduction</li><li>▶ Reuse</li><li>▶ Recycling</li><li>▶ Disposal (if all else fails)</li></ul> <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.</p> <ul style="list-style-type: none"><li>▶ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li><li>▶ It may be necessary to collect all wash water for treatment before disposal.</li><li>▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li><li>▶ Where in doubt contact the responsible authority.</li><li>▶ Recycle wherever possible or consult manufacturer for recycling options.</li><li>▶ Consult State Land Waste Authority for disposal.</li><li>▶ Bury or incinerate residue at an approved site.</li><li>▶ Recycle containers if possible, or dispose of in an authorised landfill.</li></ul> |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

SECTION 14 Transport information

Labels Required

|                  |    |
|------------------|----|
| Marine Pollutant | NO |
|------------------|----|

Land transport (DOT): 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. 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 |
|--------------|-------|

14.7.3. Transport in bulk in accordance with the IGC Code

|              |           |
|--------------|-----------|
| Product name | Ship Type |
|--------------|-----------|

SECTION 15 Regulatory information

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

Additional Regulatory Information

Not Applicable

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

|                                                 |    |
|-------------------------------------------------|----|
| Section 311/312 hazard categories               |    |
| Flammable (Gases, Aerosols, Liquids, or Solids) | No |
| Gas under pressure                              | No |
| 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 |
| Reproductive toxicity                                        | No |
| Skin Corrosion or Irritation                                 | No |
| Respiratory or Skin Sensitization                            | No |
| Serious eye damage or eye irritation                         | No |
| 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

 **WARNING:** . For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

Not Applicable

National Inventory Status

| National Inventory                                | Status                                                                                                                                                                                                    |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Australia - AIC / Australia Non-Industrial Use    | Not Available                                                                                                                                                                                             |
| Canada - DSL                                      | Not Available                                                                                                                                                                                             |
| Canada - NDSL                                     | Not Available                                                                                                                                                                                             |
| China - IECSC                                     | Not Available                                                                                                                                                                                             |
| Europe - EINEC / ELINCS / NLP                     | Not Available                                                                                                                                                                                             |
| Japan - ENCS                                      | Not Available                                                                                                                                                                                             |
| Korea - KECI                                      | Not Available                                                                                                                                                                                             |
| New Zealand - NZIoC                               | Not Available                                                                                                                                                                                             |
| Philippines - PICCS                               | Not Available                                                                                                                                                                                             |
| USA - TSCA                                        | Not Available                                                                                                                                                                                             |
| Taiwan - TCSI                                     | Not Available                                                                                                                                                                                             |
| Mexico - INSQ                                     | Not Available                                                                                                                                                                                             |
| Vietnam - NCI                                     | Not Available                                                                                                                                                                                             |
| Russia - FBEPH                                    | Not Available                                                                                                                                                                                             |
| UAE - Control List (Banned/Restricted Substances) | Not Available                                                                                                                                                                                             |
| Legend:                                           | <i>Yes = All CAS declared ingredients are on the inventory<br/>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</i> |

SECTION 16 Other information

|               |            |
|---------------|------------|
| Revision Date | 22/04/2024 |
| Initial Date  | 25/11/2018 |

SDS Version Summary

| Version | Date of Update | Sections Updated                                                                                                                                                |
|---------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.1     | 18/10/2021     | Physical and chemical properties - Appearance, Composition / information on ingredients - Ingredients, Handling and storage - Storage (storage incompatibility) |
| 5.1     | 22/04/2024     | Physical and chemical properties - Appearance, Korean MSDS Number                                                                                               |

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
- MARPOL: International Convention for the Prevention of Pollution from Ships
- IMSBC: International Maritime Solid Bulk Cargoes Code
- IGC: International Gas Carrier Code
- IBC: International Bulk Chemical Code
  
- 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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