Registered office: Godrej One, Pirojshanagar, Eastern express highway, Vikhroli, Mumbai-400079, India Phone: (91-22) 2518 8010 / 2518 8020 / 2518 8030 Ext.: 4768 Fax: (91-22) 2518 8096 / 2518 8068 E-mail: rv.dubhashi@godrejinds.com

Rev. No.: 01, Dated: 01.04.2021

Page 1 of 11

| Trade Name: Lubol | ic E |
|----------------------------|--|
| INCI Name: <u>oleic ac</u> | id, linoleic acid |
| Relevant identified | uses of the substance or mixture and uses advised against: |
| No further relevant | information available. |
| Application of the s | ubstance/ the mixture |
| Used in Plastics, Co | atings and Inks, Lubricants and Greases |
| Details of the supp | lier of the safety data sheet |
| Manufacturer/Sup | olier: Godrej Industries Ltd. |
| Plot No N-73, Addl. | MIDC, Anand Nagar, Village – Jambivli, Ambernath (E), Dist. Thane - 421506, India. |
| Information depart | ment: |
| Mr. R.V. Dubhashi - | <u>rv.dubhashi@godrejinds.com</u> |
| T: 91-22 2519 4768 | Office hours only (08.30 – 17.00 hours GMT +5.5 hours) |
| Emergency telepho | ne number: |
| Telephone number | : +91-251-262-4292, |
| Opening hours: (08. | 30–17.00 hours GMT +5.5 hours), office hours only |
| Other Comments (e | g. language(s) of the phone service): English |

2. Hazard(s) identification

· Classification of the substance or mixture



Skin Irrit. 2H315 Causes skin irritation.Eye Irrit. 2AH319 Causes serious eye irritation

· Label elements

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS). • Hazard pictograms



Signal word Warning
 Hazard statements
 Causes skin irritation.
 Causes serious eye irritation.
 Precautionary statements
 Wear protective gloves

Registered office: Godrej One, Pirojshanagar, Eastern express highway, Vikhroli, Mumbai-400079, India Phone: (91-22) 2518 8010 / 2518 8020 / 2518 8030 Ext.: 4768 Fax: (91-22) 2518 8096 / 2518 8068 E-mail: <u>rv.dubhashi@godrejinds.com</u>

Rev. No.: 01, Dated: 01.04.2021

Page 2 of 11

Trade Name: Lubolic E

| Wear eye protection / face protection. Wash thoroughly after handling. |
|--|
| If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, |
| if present and easy to do. Continue rinsing. |
| Specific treatment (see on this label). |
| If skin irritation occurs: Get medical advice/attention. |
| If eye irritation persists: |
| Get medical advice/attention. If on skin: Wash with plenty of water. |
| Take off contaminated clothing and wash it before reuse. |
| · Classification system: |
| • NFPA ratings (scale 0 - 4) |
| Health = 1 Fire = 1 Reactivity = 0 |
| · HMIS-ratings (scale 0 - 4) |
| HEALH 1 Health = 1 FIRE 1 Fire = 1 REACTIVITY 0 Reactivity = 0 |
| · Other hazards · Results of PBT and vPvB assessment |
| · PBT: Not applicable. |
| • vPvB: Not applicable. |
| |
| |

3. Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with nonhazardous additions.

| · Components: | |
|---------------|---------------------|
| 112-80-1 | oleic acid, pure |
| 60-33-3 | linoleic acid, pure |

4. First-aid measures

· Description of first aid measures

· After inhalation:

Remove person to well ventilated area and follow normal first-aid procedures.

• After skin contact: Immediately wash with water and soap and rinse thoroughly.

• After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

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Rev. No.: 01, Dated: 01.04.2021

Page 3 of 11

Trade Name: Lubolic E

· After swallowing:

Rinse out mouth and then drink plenty of water.

If symptoms persist consult doctor.

· Information for doctor: Treat symptomatically and supportively.

· Most important symptoms and effects, both acute and delayed

No further relevant information available.

 \cdot Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5. Fire-fighting measures

· Extinguishing media

· Suitable extinguishing agents:

Use firefighting measures that suit the environment.

Use Water spray, Carbon Dioxide, Dry Chemical, or Alcohol Foam.

• Special hazards arising from the substance or mixture

Acrid smoke & irritating fumes of Carbon Oxides when heated above its boiling point. Cracked hydrocarbons may be formed on combustion of the product.

- Advice for firefighters
- · Protective equipment:

Wear self-contained breathing apparatus for firefighting if necessary.

· Additional information Cool endangered receptacles with water spray.

6. Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

High risk of slipping as product is a liquid

· Environmental precautions: Do not allow to enter sewers/ surface or ground water.

· Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Keep in suitable, closed containers for disposal. Ensure

adequate ventilation. • Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7. Handling and storage

· Handling:

· Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

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Rev. No.: 01, Dated: 01.04.2021

Page 4 of 11

| Trade Name: Lubolic E |
|---|
| Prevent formation of aerosols. |
| Information about protection against explosions and fires: |
| Keep ignition sources away - Do not smoke. |
| · Conditions for safe storage, including any incompatibilities |
| · Storage: |
| · Requirements to be met by storerooms and receptacles: |
| Use leak-proof and compatible Drums. Store in dry and well ventilated locations at 25.0 – |
| 45.0°C, Away from direct sunlight |
| · Information about storage in one common storage facility: |
| Protect from sunlight. Incompatible |
| with Perchloric Acid |
| · Further information about storage conditions: Keep receptacle tightly sealed. |
| · Specific end use(s) Used in Plastics, Coatings and Inks, Lubricants and Greases |

8. Exposure controls/personal protection

• Additional information about design of technical systems: Local exhaust ventilation required plus good work practice. Safety shower. Eye fountain.

· Control parameters

• Components with limit values that require monitoring at the workplace: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· Exposure controls

- · Personal protective equipment:
- · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ The preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Registered office: Godrej One, Pirojshanagar, Eastern express highway, Vikhroli, Mumbai-400079, India Phone: (91-22) 2518 8010 / 2518 8020 / 2518 8030 Ext.: 4768 Fax: (91-22) 2518 8096 / 2518 8068 E-mail: rv.dubhashi@godrejinds.com

Rev. No.: 01, Dated: 01.04.2021

Page 5 of 11

Trade Name: Lubolic E

· Material of gloves

Rubber gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection:



Tightly sealed goggles

Body protection: Protective work clothing

| · Information on basic physical and chemica | nd chemical properties | |
|---|---|--|
| General Information | | |
| Appearance: | | |
| Form: | Clear Liquid | |
| Color: | Pale yellow | |
| ·Odor: | Characteristic | |
| pH- value: | Not Applicable | |
| Change in condition | | |
| Melting point/Melting range: | Not Applicable | |
| Boiling point/Boiling range: | 192 °C (378 °F) (at 6 mm) | |
| Flash point: | 189 C (372 F) | |
| Flammability (solid, gaseous): | Not applicable. | |
| Ignition temperature: | 363 C (685 F) | |
| Auto igniting: | Product is not self-igniting. | |
| Danger of explosion: | Product does not present an explosion hazard. | |
| Vapor pressure at 176.5 ℃ (349.7뚜): | 1 mmHg | |
| Density: | Not Applicable | |
| Solubility in / Miscibility with | | |
| Water: | Not miscible or difficult to mix. | |
| Partition coefficient (n-octanol/water): | Not Available | |
| Viscosity: | | |
| Dynamic: | Not Available | |

Registered office: Godrej One, Pirojshanagar, Eastern express highway, Vikhroli, Mumbai-400079, India Phone: (91-22) 2518 8010 / 2518 8020 / 2518 8030 Ext.: 4768 Fax: (91-22) 2518 8096 / 2518 8068 E-mail: rv.dubhashi@godrejinds.com

Rev. No.: 01, Dated: 01.04.2021 Page 6 of 11 Trade Name: Lubolic E . Specific Gravity: 0.884 at 60 °C 10. Stability and reactivity • *Reactivity* Stable at ambient temperature and under normal conditions of use. · Chemical stability • Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications. · Possibility of hazardous reactions Peroxidized acid with Aluminium · Conditions to avoid Avoid excessive heat and light. · Incompatible materials: Perchloric Acid · Hazardous decomposition products: Acrid smoke & irritating fumes of Carbon Oxides when heated above its boiling point 11. Toxicological information · Information on toxicological effects · Acute toxicity: · LD50/LC50 values that are relevant for classification: 112-80-1 oleic acid, pure Oral LD50 25000 mg/kg (rat) 28000 mg/kg (mouse) 60-33-3 linoleic acid, pure Oral LD50 50000 mg/kg (mouse) · Primary irritant effect: · On the skin: Irritant to skin and mucous membranes. CAS: 112-80-1 Standard draize test Species: Human Dose/ Duration: 15 mg/ 3 Days (Intermittent) Reaction severity: Moderate CAS: 60-33-3 Standard Draize test Species: Human Dose/ Duration: 75 mg/ 3 Days (Intermittent) Reaction severity: Moderate On the eye: Irritating effect. CAS: 112-80-1 Standard Draize test Species: Rabbit Dose/ Duration: 100 mg

Registered office: Godrej One, Pirojshanagar, Eastern express highway, Vikhroli, Mumbai-400079, India Phone: (91-22) 2518 8010 / 2518 8020 / 2518 8030 Ext.: 4768 Fax: (91-22) 2518 8096 / 2518 8068 E-mail: rv.dubhashi@godrejinds.com

Rev. No.: 01, Dated: 01.04.2021

Page 7 of 11

| Trade Name: Lubolic E |
|--|
| Reaction severity: Mild |
| · Sensitization: No sensitizing effects known. |
| · Additional toxicological information: |
| The product shows the following dangers according to internally approved calculation methods for preparations: |
| Irritant |
| · Carcinogenic categories |
| · IARC (International Agency for Research on Cancer) |
| None of the ingredients is listed. |
| · NTP (National Toxicology Program) |
| None of the ingredients is listed. |
| · OSHA-Ca (Occupational Safety & Health Administration) |
| None of the ingredients is listed. |
| 12. Ecological information |
| 12. Longica mjormation |
| · Toxicity |
| · Aquatic toxicity: |

112-80-1 oleic acid, pure

LC50 (96hr) 205 mg/L (Fish Pimephales promelas)

· Persistence and degradability the product is readily biodegradable.

· Behavior in environmental systems:

· Bioaccumulative potential No further relevant information available.

• *Mobility in soil* No further relevant information available.

· Additional ecological information:

· General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· Results of PBT and vPvB assessment

· PBT: Not applicable.

• **vPvB:** Not applicable.

• Other adverse effects No further relevant information available.

13. Disposal considerations

· Waste treatment methods

· Recommendation:

Dispose of waste material according to local, state and federal regulations.

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Rev. No.: 01, Dated: 01.04.2021

Page 8 of 11

| Trade | Name: | Lubolic E | |
|-------|-------|-----------|--|
| | | | |

· Uncleaned Packaging:

· Recommendation:

Dispose of as unused product.

Disposal must be made according to official regulations.

| UN-Number | |
|--|-----------------|
| DOT, ADR, ADN, IMDG, IATA | Not applicable |
| UN proper shipping name | |
| DOT, ADR, ADN, IMDG, IATA | Not applicable |
| Transport hazard class(es) | |
| DOT, ADR, ADN, IMDG, IATA | |
| Class | Not applicable |
| Packing group | |
| DOT, ADR, IMDG, IATA | Not applicable |
| Environmental hazards: | Not applicable. |
| Special precautions for user | Not applicable. |
| Transport in bulk according to Annex II of | |
| MARPOL73/78 and the IBC Code | Not applicable. |

15. Regulatory information

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

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition-65

· Chemicals known to cause cancer:

None of the ingredients is listed.

Registered office: Godrej One, Pirojshanagar, Eastern express highway, Vikhroli, Mumbai-400079, India Phone: (91-22) 2518 8010 / 2518 8020 / 2518 8030 Ext.: 4768 Fax: (91-22) 2518 8096 / 2518 8068 E-mail: <u>rv.dubhashi@godrejinds.com</u>

Rev. No.: 01, Dated: 01.04.2021

Page 9 of 11

Trade Name: Lubolic E

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

TLV (ACGIH): 1000 ppm.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms



Signal word Warning Hazard statements

Causes skin irritation. Causes serious eye irritation. **Precautionary statements** Wear protective gloves. Wear eye protection / face protection. Wash thoroughly after handling. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Specific treatment (see on this label). If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. **National regulations:**

• Other regulations, limitations and prohibitive regulations User to follow national laws and regulations.

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Rev. No.: 01, Dated: 01.04.2021

Page 10 of 11

Trade Name: Lubolic E

16. Other information

The information presented here is believed to be accurate and pertains only to the product when stored in a sealed condition, as prescribed here. The information is given in good faith, but no warranty, express or implied, is made. Users should make their own investigations, for their specific applications and processes, to determine the suitability of the safety information mentioned here. Godrej Industries Limited will in no way be liable for any claims, losses and / or damages of any third party, or for lost profits, or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, from the use of this product. · Department issuing SDS: Product safety department. Contact: Mr. R.V. Dubhashi - rv.dubhashi@aodreiinds.com T: 91-22 2519 4768, · Date of preparation / last revision 01.04.2019 · Abbreviations and acronyms: ADR: Accord européen sur le transport des merchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation IATA: International Air Transport Association ACGIH: American Conference of Governmental Industrial Hygienists EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent. Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2 Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A · Sources • Occupational Safety & Health Administration (OSHA) https://www.osha.gov/Publications/OSHA3514.html • Data from RTECS for CAS: 112-80-1 http://www.drugfuture.com/toxic/q83-q300.html • Data from RTECS for CAS: 60-33-3 http://www.drugfuture.com/toxic/g83-g214.html Data from ECOTOX database http://cfpub.epa.gov/ecotox/report.cfm? Type =short • Data from Chem ID Plus http://chem.sis.nlm.nih.gov/chemidplus/rn/60-33-3 http://chem.sis.nlm.nih.gov/chemidplus/rn/112-80-1 • * Data compared to the previous version altered. Section 1: Identification Section 2: Hazard(s) identification • Section 3: Composition/information on ingredients • Section 4: First-aid measures Section 5: Fire-fighting measures Section 6: Accidental Release measures • Section 7: Handling and storage. • Section 8: Exposure Controls/Personal protection. Section 9: Physical and Chemical properties • Section 10: Stability and Reactivity. • Section 11: Toxicological Information.

Registered office: Godrej One, Pirojshanagar, Eastern express highway, Vikhroli, Mumbai-400079, India Phone: (91-22) 2518 8010 / 2518 8020 / 2518 8030 Ext.: 4768 Fax: (91-22) 2518 8096 / 2518 8068 E-mail: rv.dubhashi@godrejinds.com

Rev. No.: 01, Dated: 01.04.2021

Page 11 of 11

Trade Name: Lubolic E

- Section 12: Ecological Information
- Section 13: Disposal consideration
- Section 14: Transport Information
- Section 15: Regulatory Information
- Section 16: Other Information