1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name: RELENE LLDPE
Company Identification: Reliance Industries Limited, Polymer Business, Reliance Corporate Park, Block 8A, (First Floor) Thane Belapur Road, Ghansoli Navi Mumbai, 400701 - India
Telephone: +91-22-44781022
FAX: +91-22-44770851
E-mail: polymer_patsupport@ril.com
Emergency Phone No. +91-265-6696000 (10.30 – 18.00 hrs.)
Use of Substance / Preparation: Industrial use only. Raw material for plastics processing industry.

2. HAZARDS IDENTIFICATION

Not classified as dangerous for supply/use. The preparation does not meet the criteria for classification in accordance with Directive 1999/45/EC and Directive 1272/2008/EC.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Chemical composition:
Linear Low Density Polyethylene CAS No.: 26221-73-8; 99 % (Minimum).

<table>
<thead>
<tr>
<th>HAZARDOUS INGREDIENT(S)</th>
<th>%W/W</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>EC Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>None.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

4.1 Inhalation
Remove patient from exposure. Keep patient at rest and give oxygen if breathing difficult. If symptoms develop, obtain medical attention.

4.2 Skin Contact
After contact with skin, wash with water. In case of burns from hot material immediately cool affected skin as long as possible with cold water. Obtain medical attention.

4.3 Eye Contact
Remove particles by irrigating with eye wash solution or clean water, holding the eyelids apart. If symptoms persist, obtain medical attention.

4.4 Ingestion
Unlikely to be hazardous if swallowed. Provided the patient is conscious, wash out mouth with water and give 200-300 ml (half a pint) of water to drink. Do not induce vomiting. If symptoms develop, obtain medical attention.

4.5 Further Medical Treatment
Unlikely to be required but if necessary treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media
As appropriate for surrounding fire. Extinguish preferably with foam, carbon dioxide or dry chemical.

5.2 Unsuitable Extinguishing Media
Do not use water jet or waterspray.

5.3 Fire Fighting Protective Equipment
A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.
5.4 Hazardous Decomposition

Product(s)

Combustion or thermal decomposition will evolve toxic and irritant vapours.

5.5 Other

Can melt and burn in a fire. Molten material tends to flow or drip and will propagate fire.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions

Caution - spillages may be slippery. Ensure suitable personal protection (including respiratory protection) during removal of spillages. Dust clouds are sensitive to ignition by electrostatic discharge.

6.2 Environmental Exposure Controls

Avoid release to the environment. Do not allow to enter drains, sewers or watercourses.

6.3 Methods for cleaning up

Sweep up and shovel into waste drums or plastic bags.

7. HANDLING AND STORAGE

7.1 HANDLING

Control dust formation. Do not eat, drink or smoke at the workplace. Wash face and hands before eating, drinking or smoking. Will accumulate static charges that may cause an electric spark (ignition source). Take precautionary measures against static discharges.

7.2 STORAGE

Keep only in the original container. Keep container tightly closed. Keep in a cool, well ventilated place. Keep away from heat and direct sunlight. This product should be kept away from naked flames and other sources of ignition.

Storage Temperature: Ambient.

Storage Life: Stable at ambient temperature.

Specific use: Industrial use only.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Provide adequate ventilation when using the material and follow the principles of good occupational hygiene to control personal exposures.

OCCUPATIONAL EXPOSURE LIMITS

<table>
<thead>
<tr>
<th>SUBSTANCE.</th>
<th>CAS No.</th>
<th>LTEL (8 hr TWA ppm)</th>
<th>LTEL (8 hr TWA mg/m³)</th>
<th>STEL (ppm)</th>
<th>STEL (mg/m³)</th>
<th>Note:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear Low Density Polyethylene</td>
<td>26221-73-8</td>
<td>No Occupational Exposure Limit assigned.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dust.</td>
<td>-</td>
<td>10</td>
<td>4</td>
<td>Total Dust.</td>
<td>Respirable Dust.</td>
<td></td>
</tr>
</tbody>
</table>

8.1 Respirators

No special requirements. Provide adequate ventilation, including appropriate local extraction if dusts, fumes or vapours are likely to be evolved. Where engineering controls are not fitted or inadequate wear suitable respiratory protective equipment.

8.2 Eye Protection

Eye protection with side protection (EN 166).

8.3 Gloves

Wear suitable gloves if prolonged skin contact is likely. When dealing with hot material: Insulating gloves EN 407 (heat).

8.4 Other

Protective working garments (e.g. safety shoes EN 344, long sleeved protective working garments). Contaminated clothing should be thoroughly cleaned.

8.5 Environmental precautions

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form

Solid. Granular.
RELENE LLDPE : ETHYLENE 1-OCTENE COPOLYMER

Colour
White. Off-white.
Odour
Odourless.
pH (Value)
Not applicable.
Decomposition Temperature (°C)
> 300 (572°F)
Boiling Point (°C)
Not applicable.
Melting Point (°C)
115 - 135 (239 - 275°F)
Flash Point (°C) [Closed cup]
> 300 (> 572°F)
Auto Ignition Temperature (°C)
> 300 (> 572°F)
Explosive Properties
Not explosive. Unlikely to represent a dust hazard under normal handling conditions. Minimum explosive limit:: 10 mg/m³ (typically).
Minimum Ignition Energy (mJ)
10 (typically)
Oxidising Properties
Not applicable.
Vapour Pressure (Pascal)
Not applicable.
Specific Gravity
0.90 – 0.94
Solubility (Water)
Insoluble.
Percent Volatile by volume (%)
< 0.1

10. STABILITY AND REACTIVITY

10.1 Chemical Stability
Stable under normal conditions. Decomposes at temperatures above 300°C.
10.2 Conditions to avoid
Heat and direct sunlight.
10.3 Materials to avoid
Direct contact with open flames, self igniting and explosive materials.
10.4 Hazardous Decomposition
Product(s)
Carbon monoxide, Carbon dioxide, Hydrocarbons and Acrid smoke.

11. TOXICOLOGICAL INFORMATION

Low toxicity under normal conditions of handling and use.
11.1 Ingestion
Low oral toxicity. Linear Low Density Polyethylene: LD50 (rat) : >5000 mg/kg
11.2 Inhalation
Low acute toxicity. Dusts and vapours or fumes evolved during thermal processing may cause irritation to the respiratory system.
11.3 Skin Contact
No evidence of irritant effects from normal handling and use.
11.4 Eye Contact
Dust may have irritant effect on eyes. Permanent damage is unlikely.
11.5 Long Term Exposure
Chronic effects are unlikely.

12. ECOLOGICAL INFORMATION

12.1 Environmental Fate and Distribution
Solid insoluble in water. Floats on water. The product has low mobility in soil.
12.2 Persistence and Degradation
The product is non-biodegradable.
12.3 Toxicity
Low toxicity to aquatic organisms.
12.4 Effect on Effluent Treatment
Unlikely to affect biological treatment processes.

13. DISPOSAL CONSIDERATIONS

13.1 Regulatory information
Do not allow to enter drains, sewers or watercourses. Disposal should be in accordance with local, state or national legislation.
13.2 Recommended:
Normal disposal is via incineration operated by an accredited disposal contractor. Refer to manufacturer/supplier for information on recovery/recycling.

14. TRANSPORT INFORMATION

International Transport Regulations: Not classified as dangerous for transport.
UN No.:
Not applicable.
Road/Rail (ADR/RID):
Not applicable.
Class/Packing Group:
Not applicable.
IMDG Class
Not applicable.
ICAO/IATA Class
Not applicable.

15. REGULATORY INFORMATION

EC Classification
Not classified as dangerous for supply/use.
Hazard Symbol
Not applicable.
Risk Phrases
Not applicable.
Safety Phrases
Not applicable.
RELENE LLDPE : ETHYLENE 1-OCTENE COPOLYMER

INTERNATIONAL INVENTORIES
EINECS (Europe) EINECS: Polymer. Monomers included.

16. OTHER INFORMATION

This Material Safety Data Sheet was prepared in accordance with Directive 2001/58/EC and EC Regulation (EC) No. 1907/2006.

RELENE meets the requirements stipulated in IS 10146 on, ‘Specification for Polyethylene and its copolymers for safe use in contact with foodstuff, pharmaceuticals and drinking water’. Additives incorporated in RELENE grades conform to the positive list of constituents as prescribed in IS 16738:2018. The product and the additives incorporated in it also comply with the FDA: CFR Title 21,177.1520 Olefin polymer.

The following sections contain revisions or new statements: 1 - 16

This Material Safety Data Sheet and the health, safety and environmental information it contains are intended to provide a summary of our knowledge and guidance regarding use of the designated Product. Its contents are offered in good faith as accurate and complete as of the date specified below, but without guarantee. The data herein applies only to the Product sold by entities of the Reliance group and not to products sold by others. It relates only to the Product and does not relate to its use in combination with any other product or material or in any process.

Local laws and regulations and conditions of use and suitability of the product for particular uses are beyond the control of Reliance; all risks of use, storage, handling, transportation and disposal of the Product are therefore assumed by the user and Reliance expressly disclaims all warranties of every kind and nature, including warranties of merchantability and fitness for a particular purpose in respect to the use or suitability of the Product. Reliance shall not be responsible for any damage or injury resulting from abnormal use of the Product, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the Product.

Appropriate warnings and safe handling procedures should be provided to all handlers and users. In the case of a user in the European Union, as per Article 34 of REACH Regulation (EC) No. 1907/2006, user shall communicate to Reliance any new information on hazardous properties of the Product and/or new information relevant to risk management measures for the identified uses.

Alteration or re-publication of this document in whole or part is strictly prohibited.

Date of issue : March 2019