1. Identification of the substance/preparation and the company/undertaking

Product Name
GUR®, GHR®

The following SDS applies to products described by combinations of the following trade name, product grade and color code listed below.

Product Grade(s):

Color Code:
See Section 16 for list of Color Codes

Manufacturer or supplier's details

Celanese (Shanghai) International Trading Co., Ltd.
Room 239, Xinmao Building
South Taizhong Road
Waigaoqiao Free Trade Zone
Shanghai, China

Celanese Pte Ltd
10 Hoe Chiang Road, #07-05 / 06
Keppel Towers
Singapore 089315

Product Information
HazCom@celanese.com

Emergency telephone number
(+65) 62656917 (Operations Room direct dial)
or fax request to +(65) 62664696 (Facsimile to Operations Room)
or email to posh.er@paccoffshore.com.sg

In China Emergency Phone Number: +86-532-83889090 (NRCC)

Synonyms:
Ultra High Molecular Weight Polyethylene / PE-UHMW

Identified uses
Plastic processing industry.

2. Hazards identification
Statements of Hazard
Not a hazardous product according to GHS

3. Composition/Information on ingredients

Chemical characterization
High Molecular Weight Polyethylene (HMW-PE); Ultra High Molecular Weight Polyethylene (UHMW-PE); Ethylene, polymer CAS-RN. basic polymer: 9002-88-4

4. First aid measures

Skin
Wash off with soap and water. Cool skin rapidly with cold water after contact with molten polymer. If symptoms persist, call a physician.

Eyes
Immediately flush eye(s) with plenty of water. Call a physician if irritation persists.

Inhalation
Move to fresh air in case of accidental inhalation of dust. Get medical attention immediately if symptoms occur.

Ingestion
If swallowed, do not induce vomiting - seek medical advice.

Notes to physician
This product is essentially inert and nontoxic. However, if it is heated at too high a temperature or if it is burned, gases may be released. Patients who have been exposed to off-gases may need to have their arterial blood gases and carboxyhemoglobin levels checked. If the carboxyhemoglobin levels are normal, asphyxia (carbon dioxide replacing oxygen) is a possibility. As with any fire, irritant gases may have formed. If patients may have inhaled high concentrations of irritating fumes, they should be monitored for delayed onset pulmonary edema.

5. Fire-fighting measures

NFPA: Health: 1 Flammability: 0 Instability: 0

Suitable extinguishing media
Water, Foam, Dry powder

Extinguishing media which must not be used for safety reasons
Do not use a solid water stream as it may scatter and spread fire.

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases
Carbon monoxide
Carbon dioxide (CO2)

Special protective equipment for fire-fighters
Wear self-contained breathing apparatus and protective suit.

Other Information
Keep people away from and upwind of fire. Potential dust explosion hazard
Dust explosibility class
St-1

6. Accidental release measures

Personal precautions
Do not breathe dust. Avoid dust formation.

Environmental precautions
No special precautions required.

Methods for cleaning up
Avoid dust formation. Potential dust explosion hazard. Remove all sources of ignition. Do not create a powder cloud by using a brush or compressed air. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

7. Handling and storage

Advice on safe handling
Do not handle hot or molten material without appropriate protective equipment. Do not exceed recommended process temperatures to minimize release of decomposition products. Maintain good housekeeping in work areas. Provide appropriate exhaust ventilation at machinery and at places where dust can be generated.

Incompatible products
Halogen, Strong oxidizing agents, Aromatic solvents

Protection - fire and explosion:
Do not smoke in areas where polymer dust is present. Appropriate measures should be taken to control the generation and accumulation of dust during conveying and processing operations. All equipment used when handling the product must be grounded. Ground and bond containers when transferring material. Take measures to prevent the build up of electrostatic charge. Emptying of bags of powder directly into vessels where flammable vapors exist should be strictly prohibited because static discharges can be generated of sufficient strength to produce an explosion. Use explosion-proof equipment.

Dust Explosion Group
ST1

Material storage
Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible products
Halogen, Strong oxidizing agents, Aromatic solvents

Technical measures/Storage conditions
No special storage conditions required. Avoid dust formation.

8. Exposure controls / personal protection

ACGIH Exposure Limits

<table>
<thead>
<tr>
<th>Components</th>
<th>TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respirable Dust</td>
<td>3 mg/m³</td>
</tr>
<tr>
<td>Total Dust</td>
<td>10 mg/m³</td>
</tr>
</tbody>
</table>

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OSHA Exposure Limits

<table>
<thead>
<tr>
<th>Components</th>
<th>TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respirable Dust</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td>Total Dust</td>
<td>15 mg/m³</td>
</tr>
</tbody>
</table>

Exposure controls

Engineering measures

General: May not be adequate as the sole means to control employee exposure. Local Exhaunt: Recommended when appropriate to control employee exposure to dust or process vapors.

Personal protective equipment

Hygiene measures
Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

Eye protection
Safety glasses.

Skin protection
Protective suit.

Hand protection
Protective gloves
- Suitable material: Butyl-rubber
- Type: Butoject (Company KCL) or comparable article; or refer to glove manufacturer's recommendation
- Evaluation: according to EN 374: level 6
- Material thickness: Approx. 0,3 mm
- Break through time: 480 min

9. Physical and chemical properties

Appearance
- Form: powder
- Odor: slight, specific

Flash point: Not applicable
Ignition temperature: 350°C
Density
- approx 0,92-0,95 g/ml @ 25°C
- Method: EN ISO 1183-1, A

Bulk density
- approx 0,1 - 0,5 g/cm³ @ 20°C
- Method: DIN EN ISO 60

Water solubility: insoluble

10. Stability and reactivity
10. Stability and reactivity

Reactivity
Stable under normal conditions

Conditions to avoid
Flame. Avoid prolonged heating at or above the recommended processing temperature. Fine powder may present a dust explosion hazard. Appropriate measures should be taken to control the generation and accumulation of dust during conveying and processing operations. Electrical grounding of equipment and the minimization of ignition sources is required when handling powder to avoid possible dust explosion.

Incompatible Materials
Halogens, Strong oxidizing agents, Aromatic solvents

Hazardous Combustion or Decomposition Products:
Thermal decomposition products may include oxides of carbon.

11. Toxicological information

Potential health effects

Routes of exposure
Skin, eyes, inhalation, ingestion.

Immediate effects

Skin
Polymer particles may cause mechanical irritation.

Eyes
Resin particles, like other inert materials, are mechanically irritating to eyes

Inhalation
Dust irritating to respiratory tract. Overheating in processing may generate hazardous, irritating vapours.

Ingestion
Low toxicity by this route is expected based on the biological activity of high molecular weight polymers.

Toxicological data are not available. When handled appropriately, even after long years of experience with this product, no adverse health effects are known.

12. Ecological Information

Ecotoxicity: Ecotoxicological data are not available.

Environmental Fate/Information: This material is considered to be non-biodegradable.

13. Disposal considerations
13. Disposal considerations

Product information
Disposal required in compliance with all waste management related state and local regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal.

Uncleaned empty packaging
Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

14. Transport information

US Department of Transportation Not regulated

ADR/RID Not regulated

ADN Not regulated

ICAO/IATA Not restricted

IMDG Not regulated

15. Regulatory information

INTERNATIONAL REGULATIONS
This preparation is not classified as dangerous according to Chinese legislation.
This mixture is not classified as dangerous according to Japanese legislation.
This mixture is not classified as dangerous according to Korean legislation.

16. Other information

HMIS: Health: 1 Flammability: 0 Physical Hazard: 0

Color code(s) 10/7000, 20/1000, 30/8200, 50/4100, 60/6006, 70/5000, 70/6000, 80/3000, 80/3300, 80/3400, 80/3500, NATUR, NATURAL

Prepared By
Product Stewardship Department
Celanese

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Changes against the previous version are marked by ***

Sources of key data used to compile the datasheet
Information contained in this safety data sheet is based on Celanese owned data and public sources deemed valid or acceptable.
Further information

This information is based on our present state of knowledge. It shall describe our products regarding safety requirements and shall not be construed as a guarantee or statement of condition and/or quality.