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

Product name

Vandar

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

Product Grade(s):
8000, 8000A

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
138 Robinson Road
#17-00
Singapore (068906)

Product Information
info-engineeredmaterials-asia@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 Number: 86-532-83889090 (NRCC)

Synonyms:
Polybutylene terephthalate / PBT Thermoplastic polyester

Identified uses
Plastic processing industry.

2. Hazards identification

GHS Classification

<table>
<thead>
<tr>
<th>Hazards</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carcinogenicity</td>
<td>Category 2</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Product name: Vandar
MSDS number: 870310031
Revision Number: 1.01
Revision Date: Oct.01.2013
Issuing date: Mar.07.2014

Symbol(s)

Labeling

Signal Word: Warning
Hazard Statements: H351 - Suspected of causing cancer

Precautionary Statements:
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P281 - Use personal protective equipment as required
P308 + P313 - IF exposed or concerned: Get medical attention/advice
P405 - Store locked up
P501 - Dispose of contents/container in accordance with local regulations.

3. Composition/Information on ingredients

Chemical characterization: Polybutylene Terephthalate / PBT; Basic CAS-RN: 30965-26-5 and 26062-94-2 with flame retardant

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No</th>
<th>Percent %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony trioxide</td>
<td>1309-64-4</td>
<td>&lt; 8</td>
</tr>
<tr>
<td>Tetrahydrofuran</td>
<td>109-99-9</td>
<td>&lt; 0,5</td>
</tr>
</tbody>
</table>

4. First aid measures

Skin
Cool skin rapidly with cold water after contact with molten polymer. Immediate medical attention is required. Do not peel solidified product off the skin.

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 vapors. 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

Suitable extinguishing media
Water, Foam, Dry powder

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases
Carbon monoxide
Carbon dioxide (CO2)
Hydrogen halides
Sb(x)O(y)Br(z) compounds

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

Other Information
Keep people away from and upwind of fire

6. Accidental release measures

Personal precautions
Do not breathe dust. Avoid dust formation.

Environmental precautions
No special environmental precautions required.

Methods for cleaning up
Use mechanical handling equipment.

7. Handling and storage

Advice on safe handling
Provide appropriate exhaust ventilation at machinery and at places where dust can be generated. Avoid dust formation.

Incompatible products
strong bases

Protection - fire and explosion:
Keep away from sources of ignition - No smoking. Potential dust explosion hazard.

Material storage
Keep in a dry, cool place.
8. Exposure controls / personal protection

ACGIH Exposure Limits

<table>
<thead>
<tr>
<th>Components</th>
<th>TWA</th>
<th>STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrahydrofuran</td>
<td>50 PPM</td>
<td></td>
</tr>
<tr>
<td>Antimony trioxide</td>
<td>0.5 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Exposure controls

Engineering measures

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

Personal protective equipment

General advice
Do not breathe dust. Avoid contact with skin and eyes.

Hygiene measures
When using, do not eat, drink or smoke. Clean skin thoroughly after work; apply skin cream. Do not inhale dust particles, during processing glass or glass dust particles are set free and cause irritation to the respiratory passage. Wash hands before breaks and at the end of workday.

Respiratory protection
Wear dust mask when handling large quantities.

Eye protection
Safety glasses with side-shields.

Skin protection
Avoid contact with skin

Hand protection
Chemicals resistant gloves
Butyl-rubber
Butject (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
Pellets
9. Physical and chemical properties

- **Odor**: slight, specific
- **Flash point**: Not applicable
- **Ignition temperature**: >420°C
- **Density**: approx 1.38 - 1.55 g/ml @ 20°C
- **Bulk density**: approx 600 - 900 kg/m³ @ 20°C
- **Water solubility**: insoluble
- **VOC Content(%)**: None

10. Stability and reactivity

- **Chemical stability**: Stable under normal conditions
- **Conditions to avoid**: Flame. Avoid temperatures above 271 °C / 520 °F.
- **Incompatible Materials**: strong bases

**Hazardous Combustion or Decomposition Products:**
- Aldehydes, ketones, esters, acids, alcohols, butadiene, tetrahydrofuran, toluene, benzoic acid, terephthalic acid

11. Toxicological information

When handled appropriately, even after long years of experience with this product, no adverse health effects are known. Antimontrioxide is fixed inside the polymer granulate. Therefore there is no health hazard regarding dust formation of Antimontrioxide.

12. Ecological Information

Ecotoxicological data are not available. Do not discharge product unmonitored into the environment.

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
14. Transport information

ADR/RID
Not regulated

ADN
Not regulated

ICAO/IATA
Not restricted

IMDG
Not regulated

15. Regulatory information

INTERNATIONAL REGULATIONS
This preparation is classified as dangerous according to Chinese legislation
This mixture is classified as dangerous according to Japanese legislation

16. Other information

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

Color code(s)
MD3060, MF2001, MG3164

Prepared By
Product Stewardship Department
Celanese

Other Information:
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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