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

Product name

Vectra®

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

Product Grade(s):
A430, A430FDA, V200P

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:
Liquid crystal polymer / LCP

Identified uses
Plastic processing industry.

2. Hazards identification

Statements of Hazard
Not a dangerous product according to GHS
3. Composition/Information on ingredients

Chemical characterization
Aromatic liquid crystal polyester / LCP with Polytetrafluoroethylene / PTFE, CAS-RN. PTFE: 9002-84-0

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No</th>
<th>Percent %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrahydrofuran</td>
<td>109-99-9</td>
<td>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 overheated so that excessive off-gassing occurs, a condition called polymer fume fever may be seen in individuals exposed to the gases. Polymer fume fever is a flu-like syndrome (aches, chest pain, cough and fever) that clears within one to two days. 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 and the exposure occurred in an enclosed space, axphyxia (carbon dioxide replacing oxygen) is a possibility. Fluorinated hydrocarbons and hydrogen fluoride are respiratory irritants. If patients may have inhaled high concentrations of irritating fumes, they should be monitored for delayed onset pulmonary edema. The greatest hazard is from respiratory tract irritation; specific antidotes for hydrogen fluoride (HF) are not recommended because HF is not likely to be present in high enough concentration for an antidote to be of use.

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
Under conditions giving incomplete combustion, hazardous gases produced may consist of:
- Carbon monoxide
- Carbon dioxide (CO2)
- Nitrogen oxides (NOx)
- Hydrogen fluoride (HF)

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

Environmental precautions
Dike and collect water used to fight fire.

Other Information
Potential dust explosion hazard

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
   Avoid dust formation. Do not breathe vapours/dust. Provide appropriate exhaust ventilation at machinery and at places where dust can be generated.

   Incompatible products
   strong bases

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

   Incompatible products
   strong bases

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

8. Exposure controls / personal protection

ACGIH Exposure Limits
No exposure limits established.

<table>
<thead>
<tr>
<th>Components</th>
<th>TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrahydrofuran</td>
<td>50 PPM</td>
</tr>
</tbody>
</table>
Components | STEL
---|---
Tetrahydrofuran | 100 PPM

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. Do not handle hot or molten material without appropriate protective equipment.

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

Respiratory protection
In case of insufficient ventilation wear suitable respiratory equipment.

Eye protection
safety glasses. Safety goggles.

Skin protection
Avoid contact with skin

Hand protection
protective gloves
Suitable material
Butyl-rubber
Type
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
Form: pellets
Odor: slight, specific

Molecular Weight
> 20,000 (base resin) g/mol
Flash point
> 93°C
Ignition temperature
> 540°C
Method
ASTM D 1929
Density
1.3 - 1.4 g/ml @ 20°C
Bulk density
approx 600-900 kg/m³ @20 °C
Water solubility
insoluble

10. Stability and reactivity
10. Stability and reactivity

**Chemical stability**
Stable under normal conditions

**Conditions to avoid**
Flame. Contact with strong alkali solutions may soften the material. Avoid prolonged heating at or above the recommended processing temperature.

**Incompatible Materials**
strong bases

**Hazardous Combustion or Decomposition Products:**
Thermal decomposition products may include oxides of nitrogen and carbon. Hydrogen fluoride Fluorinated hydrocarbons

11. Toxicological information

Toxicological data are not available. Observe the usual hygienic measures for handling chemicals.

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

**ADR/RID** Not regulated

**ADN** Not regulated

**ICAO/IATA** Not restricted

**IMDG** Not regulated

15. Regulatory information
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

16. Other information

Color code(s)
VA3031, VF3001, VL3159, WT010

Prepared By
Product Stewardship Department
Celanese

Other Information:
Observe national and local legal requirements. Except as otherwise noted, all of the trademarks referenced herein are owned by Ticona or its affiliates.

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. The absence of data elements required by ANSI or 1907/2006/EC indicates that no data meeting these requirements is available.

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