

<b>Product name</b>	Vectra®	<b>Revision Date</b>	TNA/EN
<b>MSDS number</b>	87101003	<b>Issuing date</b>	Oct.01.2013
<b>Revision Number</b>	1		Oct.06.2014

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

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

**Trade Name**

Vectra®

**Product Grade(s):**

A430, A430FDA, V200P

**Color Code:**

See Section 16 for list of Color Codes

**Manufacturer, importer, supplier**

Ticona Polymer, Inc.

A business of Celanese

8040 Dixie Hwy.

Florence, KY 41042

United States

www.celanese.com

**Transportation emergency phone numbers:**

In USA, call 800 424 9300

Outside USA, call 703 527 3887, collect calls accepted.

**Product Information**

info-engineeredmaterials-am@celanese.com

**Synonyms:**

Liquid crystal polymer / LCP

**Identified uses**

Plastic processing industry.

## 2. Hazards identification

**Emergency Overview**

This product is considered non-hazardous under the OSHA Hazard Communication Standard (29CFR1910.1200)

**Potential health effects**

**Immediate effects**

**Skin**

Polymer particles may cause mechanical irritation. The molten product can cause serious burns.

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<b>Eyes</b>	Resin particles, like other inert materials, are mechanically irritating to eyes
<b>Inhalation</b>	Dust irritating to respiratory tract. Overheating in processing may generate hazardous, irritating vapours. Thermal decomposition may evolve hazardous fumes which can cause "polymer fume fever", which has flu-like symptoms.
<b>Ingestion</b>	Low toxicity by this route is expected based on the biological activity of high molecular weight polymers.

**Medical conditions which may be aggravated by exposure:** No specific information available on the product. Off-gases, which may be released if overheated, may affect those with chronic diseases of the respiratory system.

### 3. Composition/information on ingredients

**Chemical characterization**      Liquid crystal polymer / LCP, unreinforced

Components	CAS-No	Percent %
Tetrahydrofuran	109-99-9	0.5

This product may contain proprietary ingredients.  
 This is a polymeric material. Any hazardous constituents are wetted by the polymer system, and therefore are unlikely to present exposure under normal conditions of processing and handling.

### 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, asphyxia (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

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## 5. Fire-fighting measures

**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 (CO<sub>2</sub>)
- Nitrogen oxides (NO<sub>x</sub>)
- 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**

Do not handle hot or molten material without appropriate protective equipment. Maintain good housekeeping in work areas. Do not exceed recommended process temperatures to minimize release of decomposition products.

**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.

**Material storage**

Store in a cool dry place. Maintain dryness of resin.

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**Incompatible products**  
strong bases

**8. Exposure controls/personal protection**

**OSHA Exposure Limits**

No exposure limits established.

Components	TWA
Tetrahydrofuran	200 PPM

**ACGIH Exposure Limits**

No exposure limits established.

Components	TWA
Tetrahydrofuran	50 PPM

Components	STEL
Tetrahydrofuran	100 PPM

**Mexico National Exposure Limits**

Components	LMPE - PPT	
Tetrahydrofuran	590 mg/m <sup>3</sup>	200 PPM

Components	STEL	
Tetrahydrofuran	735 mg/m <sup>3</sup>	250 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

**General advice**

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

**Respiratory protection**

In case of insufficient ventilation wear suitable respiratory equipment

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**Skin protection:**

When thermal or melt processing, wear long pants, long sleeves, well insulated gloves, and face shield when there is a chance of contact.

**Eye/face protection:**

Safety goggles. safety glasses with side-shields.

**Comments:**

Operations involving grinding and machining of parts should be reviewed to assure that particulate levels are kept below recommended standards

## 9. Physical and chemical properties

**Appearance**

<b>Form</b>	pellets
<b>Odor</b>	slight , specific .
<b>Molecular Weight</b>	> 20.000 (base resin)
<b>Flash point</b>	> 93°C(200°F)
<b>Ignition temperature</b>	> 540°C (1004°F)
<b>Method</b>	ASTM D 1929
<b>Density</b>	1.3 - 1.4 g/ml @ 20°C
<b>Bulk density</b>	approx 600-900 kg/m <sup>3</sup> @20 °C
<b>Water solubility</b>	insoluble

## 10. Stability and reactivity

**Chemical stability**

Stable under normal conditions.

**Conditions to avoid**

Flame. 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.

**Possibility of hazardous reactions**

No hazards to be especially mentioned.

## 11. Toxicological information

No data is available on the product itself

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**12. Ecological information**

**Ecotoxicity:**

The effects of resin pellets on the wildlife that may ingest them is not well understood. In the case of seabirds, some marine biologists believe that the fowl may not be able to pass plastic pellets through their digestive tracts. Thus, large quantities of ingested pellets may cause intestinal blockage, false feelings of satiation or reduction in absorption of nutrients, causing malnutrition and starvation. The goal of SPI's Operation Clean Sweep is zero loss of pellets into the environment.

**Environmental Fate/Information:**

This material is considered to be non-biodegradable.

**13. Disposal considerations**

**Disposal considerations**

Recycling is encouraged. Dispose of spilled material in accordance with state and local regulations for waste that is non-hazardous by Federal definition. Note that this information applies to the material as manufactured; processing, use, or contamination may make this information inappropriate, inaccurate, or incomplete.

This product as shipped is not a RCRA hazardous waste under present EPA regulations

**14. Transport information**

**US Department of Transportation** Not regulated

**TDG** Not regulated

**Mexico Transport Information** Not regulated

**ICAO/IATA** Not restricted

**IMDG** Not regulated

**15. Regulatory information**

**U.S. FEDERAL REGULATIONS**

**TSCA Inventory**

This product complies with the U.S. Toxic Substances Control Act (TSCA).

**SARA 313 Chemicals**

Contains no substances at or above the reporting threshold under Section 313.

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## **CANADIAN REGULATIONS**

### **WHMIS Classification:**

Not a WHMIS controlled product.

### **WHMIS Ingredient Disclosure List IDL:**

This product does not contain substances required to be disclosed according to the Canada WHMIS Ingredient Disclosure List.

## **16. Other information**

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

### **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 \*\*\*

This product is not intended for use in medical or dental implants.

The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones which exist. Celanese makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances. Effects can be aggravated by other materials and/or this material may aggravate or add to the effects of other materials. User has sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. User must meet all applicable safety and health standards.

### **Abbreviation and Acronym:**

ADR = Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID = Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG = International Maritime Code for Dangerous Goods

IATA = International Air Transport Association

ICAO = International Civil Aviation Organization

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

EINECS = European Inventory of Existing Commercial Chemical Substances

CAS = Chemical Abstracts Service (division of the American Chemical Society)

CLP = Classification, Labelling and Packaging

DNEL = Derived No Effect Level

PNEC = Predicted No Effect Concentration

# Safety Data Sheet



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