1. Product and company identification

Trade 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):
A115D-2, A130D-2, A130D-3, A150D-2, A410D-2, A700, B130D-2, CEL135I, C115D-2, C130D-2, C150D-2, E115I, E130, E130D-2, E130G, E130G D-3, E130I, E130ID-2, E130ID-2REG, E130ID-3, E135I, E150ID-2, E440I, E440ID-3, E463I, E463ID-2, E463ID-3, E471I, E471ID-2, E471ID-3, E473I, E480I, E488ID-2, FIT30, FIT70 D-3, FIT70 SMP, G131, G331, H130D-2, H140D-2, L115D-2, L130D-2, L140D-2, LCP335, LCP360, RD1040, S120P, S135, S471, S475, S471D-3, T130D-2, T140D-3, T150D-2, V143LC

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 +001 703 527 3887, collect calls accepted.

Product Information
info-engineeredmaterials-am@celanese.com

Synonyms:
Liquid crystal polymer / LCP

Identified uses
Plastic processing industry.

2. Hazard Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200:
This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard (29CFR 1910.1200)

3. Composition/information on ingredients

Chemical characterization Liquid crystal polymers / LCP, glass fiber reinforced

3. Composition/information on ingredients

Components	CAS-No	Percent %
Glass oxide; Fiberglass continuous filament	65997-17-3	5 - 60
Carbon black	1333-86-4	1 - 5

Remarks
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 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
Under conditions giving incomplete combustion, hazardous gases produced may consist of
Carbon monoxide
Carbon dioxide (CO_2)
Nitrogen oxides (NOx)

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
Keep people away from and upwind of fire. Dust can form an explosive mixture in air

6. Accidental release measures

Personal precautions
Do not breathe dust. Avoid dust formation. Use adequate ventilation.

Environmental precautions
No special precautions required.

Methods for cleaning up
Use mechanical handling equipment. Dispose of in accordance with local regulations.

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.

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..

Technical measures/Storage conditions
No special storage conditions required.

Material storage
Keep in a dry, cool place.. Maintain dryness of resin..

Incompatible products
strong bases

8. Exposure controls / personal protection

OSHA Exposure Limits

Components	TWA
Carbon black	3.5 mg/m^3

ACGIH Exposure Limits

Components	TWA
Glass oxide; Fiberglass continuous filament	5 mg/m^3 1 fibers / cm3
Carbon black	3.5 mg/m^3

Mexico National Exposure Limits

Components	LMPE - PPT	
Glass oxide; Fiberglass continuous filament	10 mg/m^3	
Carbon black	3.5 mg/m^3	

Components	STEL	
Carbon black	7 mg/m^3	

Components	Mexican Carcinogen Category
Carbon black	A4

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.

Protective equipment
A safety shower and eyebath should be readily available.

Respiratory protection
In case of insufficient ventilation wear suitable respiratory equipment

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

Form	pellets

9. Physical and chemical properties

Odor	slight , specific
Molecular Weight	> 20.000 (base resin)
Flash point	Not applicable
Ignition temperature	> 540°C (1004°F)
Method	ASTM D 1929
Water solubility	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. Contact with strong alkali solutions may soften the material.

Incompatible Materials
strong bases

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

Possibility of hazardous reactions
Incompatible with bases.

11. Toxicological information

Potential health effects

Routes of exposure Skin, eyes, inhalation, ingestion.

Immediate effects

Skin	Polymer particles may cause mechanical irritation. The molten product can cause serious burns.
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	May be harmful if swallowed.
Other:	Carbon Black is listed by IARC as possibly carcinogenic to humans (Group 2B) based on inadequate evidence of carcinogenicity in humans and sufficient evidence in experimental animals.

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.

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

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. Do not discharge product unmonitored into the environment.

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

US State Regulations
Chemicals associated with the product which are subject to the state right-to-know regulations are listed along with the applicable state(s):
none

U.S. FEDERAL REGULATIONS

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

Environmental Regulations:

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

SARA 311:

Acute health:	No
Chronic health:	No
Fire:	No
Sudden release of pressure:	No
Reactive:	No

INTERNATIONAL REGULATIONS

CANADIAN REGULATIONS

WHMIS Classification: Not a WHMIS controlled product.

WHMIS Ingredient Disclosure List IDL:
Fiberglass (65997-17-3)
Carbon Black (1333-86-4)

16. Other information

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

Color code(s)
BK010P, BK210P, BK211P, BLACK, VD3005, VD3005SP, VD3006, VD3018, VD3071, VD3137, VD-BLK, VF3001

Prepared By
Product Stewardship Department
Celanese

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..

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