#3402-1 THRU 3402-7

Safety Data Sheet

INDORAMA VENTURES

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

FILTERS

Product Name • **Polyester Fiber**

Product Code • 2000

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s) • Nonwovens and Textiles

1.3 Details of the supplier of the safety data sheet

Manufacturer • Auriga Polymers Inc.
1550 Dewberry Road
Spartanburg, SC 29307
United States

Telephone (General) • 1-864-579-5650

1.4 Emergency telephone number

Manufacturer • 1-800-424-9300 - CHEMTREC

Section 2: Hazards Identification

EU/EEC
According to Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Not classified

DSD/DPD • Not classified

2.2 Label Elements

CLP

Hazard statements • No label element(s) required

DSD/DPD

Risk phrases • No label element(s) required

2.3 Other Hazards

CLP • Titanium dioxide is not water soluble and is encapsulated. It is not extracted or released in normal processing. Therefore, titanium dioxide in this material does not present a hazard in normal handling, processing use, and disposal.
This material is exempt from CLP/REACH obligations as an article as specified in REACH (1907/2006) and related ECHA guidance.

DSD/DPD • Titanium dioxide is not water soluble and is encapsulated. It is not extracted or released in normal processing. Therefore, titanium dioxide in this material does not present a hazard in normal handling, processing use, and disposal.

According to European Directive 1999/45/EC this preparation is not considered dangerous.

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United States (US)

According to OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012 • Not classified

2.2 Label elements

OSHA HCS 2012

Hazard statements • No label element(s) required

2.3 Other hazards

OSHA HCS 2012 • Titanium dioxide is not water soluble and is encapsulated. It is not extracted or released in normal processing. Therefore, titanium dioxide in this material does not present a hazard in normal handling, processing use, and disposal. Under United States Regulations (29 CFR 1910.1200(c) - Hazard Communication Standard), the product(s) listed above are exempt as article(s) under stated normal conditions of use.

Canada

According to WHMIS

2.1 Classification of the substance or mixture

WHMIS • Not classified

2.2 Label elements

WHMIS • No label element(s) required

2.3 Other hazards

WHMIS • Titanium dioxide is not water soluble and is encapsulated. It is not extracted or released in normal processing. Therefore, titanium dioxide in this material does not present a hazard in normal handling, processing use, and disposal.
Under Canadian regulations (Workplace Hazardous Materials Information System (WHMIS) - Hazardous Products Act (HPA), Section 11(1)), these product(s) are exempt and considered manufactured article(s) under stated normal conditions of use.

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2.4 Other information

• This material, as an article, does not legally require a SDS.

Section 3 - Composition/Information on Ingredients

3.1 Substances

• Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008.

3.2 Mixtures

Composition				
Chemical Name	**Identifiers**	**%**	**Classifications According to Regulation/Directive**	**Comments**
Titanium dioxide	**CAS:**13463-67-7 **EC Number:**236-675-5	0% TO 5%	**EU DSD/DPD:** None **EU CLP:** None **OSHA HCS 2012:** None	NDA
Polyethyleneterephthalate	NDA	90% TO 99.9%	**EU DSD/DPD:** None **EU CLP:** None **OSHA HCS 2012:** None	NDA
Fiber Lubricants	NDA	0.02% TO 2%	**EU DSD/DPD:** None **EU CLP:** None **OSHA HCS 2012:** None	NDA

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation • No data available

Skin • Product is not expected to be hazardous by skin contact. Should irritation occur rinse with water.

Eye • Flush eyes with water as a precaution. If irritation persists get medical attention.

Ingestion • If swallowed, do NOT induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Consult a physician if necessary.

4.2 Most important symptoms and effects, both acute and delayed

• Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician • Treat symptomatically.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media • LARGE FIRE: Water spray, fog or regular foam.
SMALL FIRES: Dry chemical, CO2, water spray or regular foam.

Unsuitable Extinguishing Media • Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards • Some may burn, but none ignite readily.

Hazardous Combustion Products • Irritating and toxic gases or fumes may be released during a fire. Carbon monoxide, carbon dioxide, various hydrocarbon fragments as well as thick smoke.

5.3 Advice for firefighters

• Wear positive pressure self-contained breathing apparatus (SCBA).
Structural firefighters' protective clothing will only provide limited protection.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions • Do not touch or walk through spilled material.

Emergency Procedures • No emergency procedures are expected to be necessary if material is used under ordinary conditions as recommended.

6.2 Environmental precautions

• Avoid run off to waterways and sewers.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures • Sweep up or gather material and place in appropriate container.

6.4 Reference to other sections

• Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling • When fiber products are cut, chopped, or manipulated in other similar methods, some dust may be produced. Use good housekeeping methods to keep accumulation of dust to a minimum.

7.2 Conditions for safe storage, including any incompatibilities

Storage • Ventilate enclosed areas. Keep container closed. Keep away from heat, sparks and flame.

7.3 Specific end use(s)

• Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	ACGIH	Canada Ontario	Canada Quebec	China	OSHA
Titanium dioxide (13463-67-7)	STELs	Not established	Not established	Not established	16 mg/m3 STEL (total dust)	Not established
	TWAs	10 mg/m3 TWA	10 mg/m3 TWA	10 mg/m3 TWAEV (containing no Asbestos and <1% Crystalline silica, total dust)	8 mg/m3 TWA (total dust)	15 mg/m3 TWA (total dust)

Exposure Control Notations

Germany DFG

•Titanium dioxide (13463-67-7): **Carcinogens:** (Category 3A (could be carcinogenic for man, inhalable fraction with the exception of ultra small particles))

8.2 Exposure controls

Engineering Measures/Controls • Dilution ventilation. Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Personal Protective Equipment

Respiratory • For limited exposure use an N95 dust mask. For prolonged exposure use an air-purifying respirator with high efficiency particulate air (HEPA) filters. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face • Wear safety goggles.

Hands • Wear appropriate gloves.

Skin/Body • Wear long sleeves and/or protective coveralls.

General Industrial Hygiene Considerations • Wash hands before eating.

Environmental Exposure Controls • Follow best practice for site management and disposal of waste.

8.3 Other Information

• Molten polymer or prolonged air drying of polymer at temperatures above 195 F will release small quantities of acetaldehyde (CAS#75-07-0).

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	Polyester fiber that may be filament, yarn, staple, or tow.
Color	Based on specification.	Odor	Odorless
Particulate Type	Fiber	Odor Threshold	Data lacking
General Properties			
Boiling Point	Data lacking	Melting Point	482 to 572 F(250 to 300 C)
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	Data lacking	Water Solubility	Insoluble
Viscosity	Data lacking	Explosive Properties	Not explosive.
Oxidizing Properties:	Not an oxidizer.		
Volatility			
Vapor Pressure	Data lacking	Vapor Density	Data lacking
Evaporation Rate	Data lacking	VOC (Wt.)	0.5 %
Flammability			
Flash Point	Not relevant	UEL	Not relevant
LEL	Not relevant	Autoignition	Not relevant
Flammability (solid, gas)	Not flammable.		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization not indicated.

10.4 Conditions to avoid

- Keep away from heat, sparks, and flame.

10.5 Incompatible materials

- This product may react with strong oxidizing agents.

10.6 Hazardous decomposition products

- Molten polymer or prolonged air drying of polymer at temperatures above 195 F will release small quantities of acetaldehyde (CAS#75-07-0).

Section 11 - Toxicological Information

11.1 Information on toxicological effects

GHS Properties	Classification
Acute toxicity	**EU/CLP**•Not relevant **OSHA HCS 2012**•Not relevant
Aspiration Hazard	**EU/CLP**•Not relevant **OSHA HCS 2012**•Not relevant
Carcinogenicity	**EU/CLP**•Not relevant **OSHA HCS 2012**•Not relevant
Germ Cell Mutagenicity	**EU/CLP**•Not relevant **OSHA HCS 2012**•Not relevant
Skin corrosion/Irritation	**EU/CLP**•Not relevant **OSHA HCS 2012**•Not relevant
Skin sensitization	**EU/CLP**•Not relevant **OSHA HCS 2012**•Not relevant
STOT-RE	**EU/CLP**•Not relevant **OSHA HCS 2012**•Not relevant
STOT-SE	**EU/CLP**•Not relevant **OSHA HCS 2012**•Not relevant
Toxicity for Reproduction	**EU/CLP**•Not relevant **OSHA HCS 2012**•Not relevant
Respiratory sensitization	**EU/CLP**•Not relevant **OSHA HCS 2012**•Not relevant
Serious eye damage/Irritation	**EU/CLP**•Not relevant **OSHA HCS 2012**•Not relevant

Potential Health Effects

Inhalation

Acute (Immediate)
- Exposure to dust may cause irritation. Processes such as cutting, grinding, crushing, or impact may result in generation of excessive amounts of airborne dusts in the workplace. Nuisance dust may affect the lungs but reactions are typically reversible.

Chronic (Delayed)
- No data available

Skin

Acute (Immediate)
- Exposure to dust may cause mechanical irritation.

Chronic (Delayed)
- No data available.

Eye

Acute (Immediate)
- Exposure to dust may cause mechanical irritation. Excessive concentrations of nuisance dust in the workplace may reduce visibility and may cause unpleasant deposits in eyes.

Chronic (Delayed)
- No data available.

Ingestion

Acute (Immediate)
- Excessive concentrations of nuisance dust in the workplace may cause mechanical irritation to mucous membranes.

Chronic (Delayed)
- No data available.

Carcinogenic Effects
- Titanium dioxide (airborne particles of respirable size) is a listed carcinogen by IARC (2B). Titanium dioxide used in products of this material is not believed to have the potential to become of respirable size.

Carcinogenic Effects		
	CAS	**IARC**
Titanium dioxide	13463-67-7	Group 2B-Possible Carcinogen

Section 12 - Ecological Information

12.1 Toxicity

- This product is not expected to produce significant ecotoxicity exposure to aquatic organisms and aquatic systems. Based on similar substances, this material is expected to be essentially non-biodegradable.

12.2 Persistence and degradability

- Material data lacking. Based on the physical properties of this product, significant environmental persistence is not expected.

12.3 Bioaccumulative potential

- Material data lacking. Based on the physical properties of this product, significant environmental bioaccumulation is not expected.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- Material data lacking.

12.6 Other adverse effects

Ecological Fate • Material data lacking.

Potential Environmental Effects • Material data lacking.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA
TDG	NDA	Not Regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not Regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not Regulated	NDA	NDA	NDA

14.6 Special precautions for user • None known.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • Not relevant.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • None

State Right To Know				
Component	CAS	MA	NJ	PA
Titanium dioxide	13463-67-7	Yes	Yes	Yes

Inventory						
Component	CAS	Canada DSL	Canada NDSL	China	EU EINECS	EU ELNICS
Titanium dioxide	13463-67-7	Yes	No	Yes	Yes	No

Inventory (Con't.)				
Component	CAS	Japan ENCS	Korea KECL	TSCA
Titanium dioxide	13463-67-7	Yes	Yes	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

•Titanium dioxide	13463-67-7	D2A (In certain cases, this classification does not apply. For more information, consult the section Substance Specific Issues - Titanium dioxide, mixture containing on Health Canada's WHMIS Division website.)

Canada - WHMIS - Ingredient Disclosure List

•Titanium dioxide	13463-67-7	Not Listed

Environment

Canada - CEPA - Priority Substances List

•Titanium dioxide	13463-67-7	Not Listed

Europe

Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

•Titanium dioxide	13463-67-7	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

•Titanium dioxide	13463-67-7	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

•Titanium dioxide	13463-67-7	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

•Titanium dioxide	13463-67-7	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

•Titanium dioxide	13463-67-7	Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

•Titanium dioxide	13463-67-7	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

•Titanium dioxide	13463-67-7	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

•Titanium dioxide	13463-67-7	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

•Titanium dioxide	13463-67-7	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

•Titanium dioxide	13463-67-7	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

•Titanium dioxide	13463-67-7	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

•Titanium dioxide	13463-67-7	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

•Titanium dioxide	13463-67-7	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

•Titanium dioxide	13463-67-7	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

•Titanium dioxide	13463-67-7	carcinogen, initial date 9/2/11 (airborne, unbound particles of respirable size)

U.S. - California - Proposition 65 - Developmental Toxicity

•Titanium dioxide	13463-67-7	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

•Titanium dioxide	13463-67-7	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

•Titanium dioxide	13463-67-7	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

•Titanium dioxide	13463-67-7	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

•Titanium dioxide	13463-67-7	Not Listed

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

•Titanium dioxide	13463-67-7	Not Listed

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

•Titanium dioxide	13463-67-7	Not Listed

15.2 Chemical Safety Assessment

- Chemical Safety Assessment is not required.

Section 16 - Other Information

Last Revision Date
- 16/July/2014

Preparation Date
- 16/July/2014

Disclaimer/Statement of Liability
- This material safety data sheet and the information it contains is offered to you in good faith as accurate. We have reviewed all the information contained in this data sheet which we received from sources outside our company. We believe that information to be correct but cannot guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulation. No statement made in this data sheet shall be construed as a permission or recommendation for the use of any product in a manner that may infringe existing patents. No warranty is made, either express or implied.

Key to abbreviations
NDA = No data available