



## MATERIAL SAFETY DATA SHEET (MSDS) SAFETY DATA SHEET (SDS)

MSDS Date: May 18, 2015

### 1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**IDENTIFICATION OF PREPARATION:** IS415 Prepreg

**USE OF PREPARATION:** Resin-impregnated woven fiberglass.

**COMPANY IDENTIFICATION** ISOLA USA Corp.  
San Tan II Corporate Center  
3100 West Ray Road  
Chandler, AZ 85226

**PHONE:** 480-963-0022  
**FAX:** 800-233-1068

**MSDS PREPARED BY:** Chemistry & Industrial Hygiene, Inc., (800) 420-9311, on the date shown above.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations of Canada and the MSDS contains all the information required by the Controlled Products Regulations.

**EMERGENCY TELEPHONE (24 HOUR): 800-468-1263 (Infotrac)**

### 2. HAZARDS IDENTIFICATION

#### GHS CLASSIFICATION FOR PREPARATION: WARNING

Skin Irritation Category 2 - Causes skin irritation; P264, P280, P302 + P352, P332 + P313, P362

Eye Irritation Category 2A - Causes serious eye irritation; P264, P280, P305 + P351 + P338, P337 + P313

Sensitization – Skin Category 1 - May cause an allergic skin reaction; P261, P272, P280, P302 + P352, P333 + P313, P363, P501

Specific target organ toxicity – single exposure Category 3 – May cause respiratory irritation; P261, P 271; P304 + P340, P312, P403 + P233, P501

Acute aquatic toxicity Category 1 – Very toxic to aquatic life; P273, P391, P501

Chronic aquatic toxicity Category 1 – Very toxic to aquatic life with long lasting effects; P273, P391, P501

#### CANADIAN WHMIS FOR THE PREPARATION:

Class D, Division 2B - Toxic Material Causing Eye and Skin Irritation, and Skin Sensitization.

#### EU PREPARATION CLASSIFICATION (1999/45/EC):

Irritant (X<sub>i</sub>), R36/37/38-43;  
R52/53

**EMERGENCY OVERVIEW:** Inhalation of product particulates or of residual solvent vapors may be harmful. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. May cause an allergic skin reaction. Airborne dusts may pose an explosion hazard. May cause eye, skin, and respiratory tract irritation.

**POTENTIAL HEALTH EFFECTS:** No information is available on this specific mixture as a whole. The information presented is based on each of the components present at concentrations greater than 1% (0.1 % for hazardous substances other than those classified as X<sub>n</sub>, X<sub>i</sub>, or category 3 carcinogens, mutagens or toxic for reproduction. Ingestion may cause digestive tract irritation. Dust particles and vapors may cause headache, nausea, and/or dizziness. This product contains less than one percent total residual solvents (methyl ethyl ketone, cyclohexanone, and/or acetone). Exposure to residual vapors may cause respiratory tract irritation, and may cause central nervous system depression and narcosis. Repeated or prolonged exposure to residual vapors may have effects on the liver and/or kidneys resulting in impaired function, and may cause toxicity to human reproduction or development. Dust generated during routine handling, machining, grinding, or sawing may cause mechanical irritation of skin, eyes, nose, and throat.



### POTENTIAL HEALTH EFFECTS (continued)

Machining, grinding or sawing this material may generate harmful dusts. Continuous filament glass fiber is not considered fibrogenic; however, it is woven from E-Glass fibers which are listed by IARC as "special purpose glass fibers" and designated as "possibility of carcinogenic in humans." See Section 8 for exposure controls.

**ROUTES OF ENTRY:** Dermal: YES Inhalation: POSSIBLE Ingestion: SLIGHT Injection: POSSIBLE

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

MATERIAL	CAS NUMBER	EC NUMBER	PERCENT	CLASSIFICATION
Woven Continuous Filament Glass Fiber (E-glass)	65997-17-3	266-046-0	35-60	X <sub>i</sub> , R36/37/38
Proprietary Resin	Proprietary	Proprietary	20-30	X <sub>i</sub> , R36
Proprietary Bisphenol A-Based Resin	Proprietary	Proprietary	10-20	X <sub>i</sub> , R36-43
Proprietary Copolymer	Proprietary	Proprietary	1-5	X <sub>i</sub> , R36
Brominated Flame Retardant	79-94-7	201-236-9	1 to 2	N, R50/53
Non-Hazardous Components	Proprietary	Proprietary	10-30	Not Classified

See Section 16 for details on Hazard Classifications.

Information regarding proprietary ingredients is available from the manufacturer upon request.

### **4. FIRST AID MEASURES**

#### **SEEK IMMEDIATE MEDICAL ATTENTION IF IRRITATION OCCURS.**

**INHALATION:** Remove the person to fresh air. Treat respiratory distress as appropriate (artificial respiration, etc.) Provide oxygen if necessary. If not breathing, give mouth-to-mouth resuscitation and seek immediate medical attention.

**EYES:** Immediately flush eyes with large amounts of temperate water for a minimum of 15 minutes. Consult an ophthalmologist for a more detailed medical evaluation.

**SKIN:** Remove contaminated clothing. Wash skin thoroughly with mild soap and room temperature running water. DO NOT rub or scratch irritated areas, as this may force fibers into the skin. Seek immediate medical attention if irritation continues.

**INGESTION:** Not expected to be a significant route of exposure based on expected use. If ingestion occurs, seek immediate medical attention.

**SYMPTOMS OF EXPOSURE:** May include irritation of the eyes, skin, and respiratory tract, allergic skin reaction, confusion, cough, sore throat, nausea, diarrhea and/or vomiting, dizziness, headache, drowsiness, weakness, and unconsciousness.

### **5. FIRE FIGHTING MEASURES**

**EXTINGUISHING MEDIA:** Dry chemical powder, carbon dioxide, or alcohol-resistant foam. Water may be ineffective as an extinguishing medium, but can be used to cool fire-exposed containers. If using a fire extinguisher, make sure that it is an NFPA Class B extinguisher (e.g. label rating will read AB, ABC or BC)

**FIRE FIGHTING EQUIPMENT:** Wear full bunker gear including a positive pressure self-contained breathing apparatus.



## 6. ACCIDENTAL RELEASE MEASURES

**GENERAL:** Under conditions of inadequate ventilation, explosive vapor concentrations may form. Avoid contact with skin, eyes or clothing. Sweep or scrape into approved container for proper disposal. Avoid generating dusty conditions. See Section 13 for Disposal Considerations.

## 7. HANDLING AND STORAGE

**HANDLING:** May contain residual volatile organic compounds. Avoid contact with eyes, skin and clothing. Do not eat drink or smoke while handling this product. Use only in a well ventilated area. Avoid inhalation and ingestion. The use of appropriate gloves is recommended to minimize the potential for skin contact (See Section 8). Provide adequate ventilation to minimize exposure. Provide proper NIOSH- or local authority-approved respirators if exposure limits are exceeded. Wash thoroughly after handling this product.

**STORAGE:** Store in a tightly closed container in a cool, dry area. Avoid contact with incompatible materials. Keep from ignition sources, such as sparks and flames. NO SMOKING.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

MATERIAL	EXPOSURE LIMITS*		
	OSHA PEL <sup>(a)</sup>	ACGIH TLV <sup>(b)</sup>	NIOSH REL <sup>(c)</sup>
Woven continuous filament glass fibers (including special purpose glass fibers)	15 mg/m <sup>3(d)</sup> TWA <sup>(e)</sup> Total Dust (PNOR) <sup>(f)</sup> 5 mg/m <sup>3(d)</sup> TWA <sup>(e)</sup> Respirable Dust <sup>(g)</sup>	1 f/cc <sup>(h)</sup> TWA <sup>(e)</sup> Fibers <sup>(i)</sup> 5 mg/m <sup>3(d)</sup> TWA <sup>(e)</sup> Inhalable Dust <sup>(g)</sup>	3 f/cc <sup>(h)</sup> TWA <sup>(e)</sup> Fibers <sup>(i)</sup> 5 mg/m <sup>3(d)</sup> TWA <sup>(e)</sup> Total Fibrous Glass
Proprietary Resin	None Established	None Established	None Established
Proprietary Bisphenol A-Based Resin	None Established	None Established	None Established
Proprietary Copolymer	None Established	None Established	None Established
Brominated Flame Retardant	None Established	None Established	None Established

\*See Section 15 for additional Occupational Exposure Limits (OELs).

(a) U.S. Department of Labor, Occupational Safety and Health Administration, permissible exposure limit (PEL); (b) American Conference of Governmental Industrial Hygienists', threshold limit value (TLV); (c) National Institute for Occupational Safety and Health, recommended exposure limit (REL); (d) milligrams per cubic meter; (e) time-weighted average over an 8-hour day, 40-hour work week for OSHA PELs and ACGIH TLVs, or up to a 10-hour day, during a 40-hour work week for NIOSH RELs; (f) Particulates Not Otherwise Regulated (PNOR); (g) particles in the size range that are hazardous when deposited in the gas-exchange region of the lungs. (h) fibers per cubic centimeter; (i) Respirable fibers longer than 5 microns and having an aspect ratio of  $\geq 3:1$ .

### ENGINEERING CONTROLS:

Use local exhaust to minimize exposures and maintain airborne dust and vapor concentrations below occupational exposure limits, especially where heating or machining/grinding/sawing operations occur.

### PERSONAL PROTECTIVE EQUIPMENT:

**RESPIRATORY PROTECTION:** In the absence of adequate general or local ventilation, or other appropriate engineering controls, use a NIOSH- or local authority-approved respirator appropriate for the contaminant if exposure limits are exceeded. Consult an industrial hygienist for assistance as needed.

**SKIN PROTECTION:** Avoid skin contact! Use impervious gloves, and splash-resistant clean body-covering clothing to minimize exposure. Due to the combination of chemical ingredients, an industrial hygienist should be consulted to select appropriate glove material for specific product application. Wash contaminated clothing before reuse.



#### **PERSONAL PROTECTIVE EQUIPMENT (continued)**

**EYE PROTECTION:** Use chemical resistant goggles when handling, and safety glasses or a face shield when machining, grinding or sawing.

**WORK/HYGIENE PRACTICES:** Good personal hygiene should be exercised by all users of this product to minimize potential dermal and inhalation exposures.

### **9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance:	Resin impregnated woven glass fibers
Odor:	Not Applicable
Odor Threshold:	Not Applicable
Boiling Point:	Not Applicable
Flash Point:	Not Applicable
Auto-ignition Temperature:	Not Applicable
Lower Explosive Limit (LEL):	Not Applicable Under Foreseeable Uses
Upper Explosive Limit (UEL):	Not Applicable Under Foreseeable Uses
Vapor Pressure:	Not Applicable
Specific Gravity:	Not Applicable
Total Volatile Organic Compounds (TVOC) (G/L):	Not Applicable
Solubility in Water:	Not Applicable
Partition Coefficient:	Not Applicable
Viscosity of Solution:	Not Applicable
Vapor density (Air=1.0):	Not Applicable
Percent Volatility:	Less than 1% Volatile Organic Compounds

### **10. STABILITY AND REACTIVITY**

**This material is stable under expected conditions of use, handling and storage.**

**CONDITIONS TO AVOID:** Avoid exposure to excessive heat, flames, sparks and other ignition sources as well as moist air and water. Avoid dust generation. Avoid contact with incompatible materials. Hazardous polymerization not expected to occur by itself.

**INCOMPATIBLE MATERIALS:** Strong acids, strong bases, strong oxidizers, and amines.

**HAZARDOUS DECOMPOSITION:** Dense smoke, acrid vapors and fumes, aliphatic and aromatic hydrocarbons of variable composition, silicon oxides, bromine, hydrogen bromide, CO<sub>x</sub>, NO<sub>x</sub>.

**EXOTHERMIC REACTION FIGHTING PROCEDURES:** Dissipate heat by spreading material apart and dousing with water. Contain vapors with local exhaust.

### **11. TOXICOLOGICAL INFORMATION**

**NO DATA AVAILABLE ON THE SPECIFIC MIXTURE.**

#### **CONTINUOUS FILAMENT GLASS FIBERS**

NIOSH RTECS No.: LK3651000

**Acute Effects of Overexposure:** Exposure to dust may cause irritation to the eyes, skin and respiratory system, and may cause difficulty breathing.

**Chronic Effects of Overexposure:** Repeated or prolonged contact with skin may cause dermatitis. Tumors have been detected in experimental animals but may not be relevant to humans.

**Target Organs:** Eyes, skin, respiratory system.

**Carcinogenicity:** ACGIH A4, IARC Group 3

Special purpose glass fibers (E-Glass): ACGIH A3, IARC Group 2B

**Toxicity Data:** LD<sub>50</sub> data not available in sources utilized.

Mouse-Intratracheal Lethal Dose > 20 mg/kg

## **TOXICOLOGICAL INFORMATION (continued)**

### **PROPRIETARY RESIN**

NIOSH RTECS No.: Not Listed

Acute Effects of Overexposure: May cause eye, skin, and respiratory tract irritation.

Chronic Effects of Overexposure: No chronic health effects observed during animal studies.

Target Organs: Eyes, skin, respiratory system.

Carcinogenicity: Not listed as a carcinogen by IARC, ACGIH, NTP, OSHA, or NIOSH.

Toxicity Data: No information available in sources utilized.

### **PROPRIETARY BISPHENOL A-BASED RESIN**

NIOSH RTECS No.: Not Listed

Acute Effects of Overexposure: May cause eye irritation. May cause allergic skin reaction.

Chronic Effects of Overexposure: No information available in sources utilized.

Target Organs: Eyes, skin.

Carcinogenicity: Not listed as a carcinogen by IARC, ACGIH, NTP, OSHA, or NIOSH.

Toxicity Data: Rat-Oral LD<sub>50</sub> > 2,000 mg/kg  
Rabbit-Skin LD<sub>50</sub> > 2,000 mg/kg

### **PROPRIETARY COPOLYMER**

NIOSH RTECS No.: Not Listed

Acute Effects of Overexposure: May cause eye, skin, and respiratory tract irritation. May cause headache, nausea, and dizziness.

Chronic Effects of Overexposure: Prolonged or repeated exposure to dust may cause lung irritation.

Target Organs: Eyes, skin, respiratory system.

Carcinogenicity: Not listed as a carcinogen by IARC, ACGIH, NTP, OSHA, or NIOSH.

Toxicity Data: Rat-Oral LD<sub>50</sub> > 5,000 mg/kg  
Rabbit-Skin LD<sub>50</sub> > 5,000 mg/kg  
Rat-Inhalation LC<sub>50</sub> > 3.4 mg/L/4h

### **BROMINATED FLAME RETARDANT**

NIOSH RTECS No.: SM0894500

Acute Effects of Overexposure: Causes eye, skin and respiratory tract irritation. May cause digestive tract irritation.

Chronic Effects of Overexposure: Adverse reproductive effects have occurred in experimental animals

Target Organs: Eyes, skin, respiratory system, digestive system.

Carcinogenicity: Not listed as a carcinogen by IARC, ACGIH, NTP, OSHA, or NIOSH.

Toxicity Data: Rat-Oral LD<sub>50</sub> > 5,000 mg/kg  
Rabbit-Dermal LD<sub>50</sub> > 2,000 mg/kg  
Rat-Inhalation LC<sub>50</sub> > 2,550 mg/m<sup>3</sup>/2h

## **12. ECOLOGICAL INFORMATION**

### **NO DATA AVAILABLE ON THE SPECIFIC MIXTURE.**

#### **CONTINUOUS FILAMENT GLASS FIBERS (E-GLASS)**

Information not available in sources utilized.

#### **PROPRIETARY RESIN**

Ecotoxicity: LC<sub>50</sub>(24h) > 200 mg/L Daphnia Magna.

Mobility: No information available in sources utilized.

Persistence and Degradability: No information available in sources utilized.

Bioaccumulation Potential: No information available in sources utilized.



**ECOLOGICAL INFORMATION (continued)**

**PROPRIETARY BISPHENOL A-BASED RESIN**

Ecotoxicity: No information available in sources utilized.  
Mobility: Insoluble in water.  
Persistence and Degradability: Not readily biodegradable.  
Bioaccumulation Potential: Bioaccumulation potential is low.

**PROPRIETARY COPOLYMER**

Ecotoxicity: No information available in sources utilized.  
Mobility: No information available in sources utilized.  
Persistence and Degradability: No information available in sources utilized.  
Bioaccumulation Potential: No information available in sources utilized.

**BROMINATED FLAME RETARDANT**

Ecotoxicity: LC<sub>50</sub>(96h) 0.40 mg/l Rainbow Trout  
LC<sub>50</sub>(96h) 0.54 mg/l Fathead Minnow  
LC<sub>50</sub>(48h) 0.96 mg/l Daphnia Magna  
Mobility: Low water solubility.  
Persistence and Degradability: Not readily biodegradable.  
Bioaccumulation Potential: Bioconcentration potential in aquatic organisms is considered moderate to high.

**13. DISPOSAL CONSIDERATIONS**

**GENERAL**: Follow all applicable local, national, provincial, territorial, and international regulations. As supplied, this material is not regulated as a hazardous waste under the US EPA Resource Conservation and Recovery Act (RCRA). Refer to the European Waste Catalog (EWC) for appropriate waste code(s).

**14. TRANSPORT INFORMATION**

Not regulated by US DOT, ICAO/IATA, RID/ADR, IMDG, Canada TDG

**15. REGULATORY INFORMATION**

**CANADIAN ENVIRONMENTAL PROTECTION ACT**: All of the components of this product are listed on the Canadian Domestic Substances List (DSL).

**EPA TOXIC SUBSTANCES CONTROL ACT (TSCA) STATUS**: All of the components of this product are listed on the TSCA inventory.

**EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES (EINECS)**: All of the components of this product are listed on the EINECS inventory, are no longer polymers (NLP), or are polymer exempt.

**ADDITIONAL OCCUPATIONAL EXPOSURE LIMITS (OELs)**. There are currently no established international OELs for Proprietary Resin, Proprietary Bisphenol A-Based Resin, Proprietary Copolymer, or the Brominated Flame Retardant. See Section 8 for OSHA, ACGIH and NIOSH OELs.

Country	CONTINUOUS FILAMENT GLASS FIBERS (based on mineral wool)
Arab Republic of Egypt	Not Listed
Australia	Not Listed
Austria	Not Listed
Belgium	Not Listed
Canada	

**REGULATORY INFORMATION (continued)**

-Alberta	1.0 f/cc 8-hour OEL
-British Columbia	1 f/cc 8-hour TWA 5 mg/m <sup>3</sup> 8-hour TWA Inhalable Dust
-Manitoba, New Brunswick, Nova Scotia, Prince Edward Island	See ACGIH TLV
-Northwest Territory	3 f/cc 8-hour OEL 5 mg/m <sup>3</sup> 8-hour OEL (Total Mass)
-Ontario	1 f/cc TWAEV 5 mg/m <sup>3</sup> TWAEV Inhalable Dust
-Quebec	10 mg/m <sup>3</sup> VEMP (8-hour OEL)
-Saskatchewan	Not Listed
-Yukon Territory	10 mg/m <sup>3</sup> 8-hour OEL
Denmark	Not Listed
Finland	Not Listed
France	Not Listed
Germany	Not Listed
Hungary	Not Listed
India	Not Listed
Italy	Not Listed
Japan	Not Listed
Mexico	Not Listed
The Netherlands	2 fibers/cm <sup>3</sup> MAC-TGG Respirable Dust
New Zealand	Not Listed
Norway	Not Listed
The Philippines	Not Listed
Poland	Not Listed
Russia	Not Listed
Sweden	Not Listed
Switzerland	Not Listed
Thailand	Not Listed
United Kingdom	Not Listed
Argentina, Bulgaria, Colombia, Jordan, Korea, New Zealand, Singapore, Vietnam	See ACGIH TLV

**16. OTHER INFORMATION**

**HAZARD CLASSIFICATIONS:**

X<sub>i</sub>=Irritant

N=Dangerous for the Environment

**R-PHRASES:**

R36/37/38-Irritating to eyes, respiratory system and skin

R38-Irritating to skin

R43-May cause an allergic skin reaction

R50/53-Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

R52/53-Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

**OTHER INFORMATION (continued)**

**Precautionary Statements:**

- P201 – Obtain special instructions before use.
- P202 – Do not handle until all safety precautions have been read and understood.
- P261 – Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 – Wash exposed body areas thoroughly after handling.
- P271 – Use only outdoors or in a well-ventilated area.
- P272 – Contaminated work clothing should not be allowed out of the workplace.
- P273 – Avoid release to the environment (if this is not intended use).
- P280 – Wear protective gloves/eye protection/face protection.
- P281 – Use personal protective equipment as required.
- P302 + P352 – IF ON SKIN: Wash with plenty of soap and water.
- P304 + P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308 + P313 – IF exposed or concerned: Get medical advice/attention.
- P332+P313 – If skin irritation occurs: Get medical advice/attention.
- P333 + P313 – If skin irritation or rash occurs: Get medical advice/attention.
- P337 + P313 – If eye irritation persists: Get medical advice/attention.
- P362 – Take off contaminated clothing and wash before reuse.
- P363 – Wash contaminated clothing before reuse.
- P391 – Collect Spillage.
- P403 + P233 – Store in a well-ventilated place. Keep container tightly closed.
- P405 – Store locked up.
- P501 – Dispose of contents/container in accordance with local/regional/national/international regulations.

**Current MSDS Revision Date:** May 18, 2015

**Previous MSDS Date(s):** April 13, 2012; January 18, 2007, December 2, 2005, October 7, 2005, October 2004, April 7, 2009

**NOTE:** This product contains partially cured resin(s). Curing should only be performed in well-ventilated or closed systems. In accordance with good industrial hygiene practices, handle with care and avoid unnecessary personal contact.

**DISCLAIMER:** The information contained in this MSDS relates specifically to the product as a whole and may not be valid if used in combination with other materials or in any specified process. The information on IS415 is accurate to the best of our knowledge but does not purport to be all inclusive and should only be used as a general guide. It is the user's responsibility to ensure that the product will be suitable for particular usage. The user assumes all responsibility for compliance with applicable Federal, State and Local Regulations. We do not accept liability for damage or loss that may occur from the use of this information.