



# SAFETY DATA SHEET

This SDS complies with REACH 1907/2006 and 2001/58/EC, GHS, OSHA 29CFR 1910.1200

## Section 1: Chemical Product and Company Identification

### MANUFACTURER'S NAME

Isola USA Corporation  
San Tan Corporate Center  
3100 West Ray Road  
Chandler, Arizona 85226  
Safety Data Sheet Competent Person:

### EMERGENCY TELEPHONE

INFOTRAC U.S.-Canada: 800-535-5053

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DATE PREPARED: May 3, 2016

**REVISION DATE: Initial version**

PRODUCT NAME: **IS400HR LAMINATE**

FORMULA: N/A (Product is an Article)

PRODUCT USE: Resin impregnated woven fiberglass used in the manufacture or copper-clad laminate for printed circuit boards.

## Section 2: Hazards Identification

### GHS Hazard Class

Not Applicable. This product does not meet the physical, health, or environmental classification criteria of GHS (Globally Harmonized System).

Signal word:

Not Applicable

Hazard Statement:

Not Applicable

Precautionary Statements:

No Precautionary statement

HAZARD CLASSIFICATION:

Not classified as hazardous based on IATA, IMDG, and DOT.

FIRE AND EXPLOSION:

Not considered flammable or combustible, but this product will burn if involved in a fire.

## Section 3: Composition, Information on Ingredients

PRODUCT COMPOSITION	APPRX %	ACGIH TLV	OSHA PEL	NIOSH REL	CAS NO.	EINECS/ELINCS/REACH	DANGER SYMBOL	RISK PHRASE	DSL CANADA	TSCA
Woven Continuous Filament Glass Fiber (E-glass) (Non Respirable)	30-60	-----	-----	-----	65997-17-3	266-046-0	-----	-----	Y	Y
Copper Foil	10-30	0.2 mg/m <sup>3(d)</sup> TWA <sup>(e)</sup> Fume 1 mg/m <sup>3(d)</sup> TWA <sup>(e)</sup> Dust/Mist	0.1 mg/m <sup>3(d)</sup> TWA <sup>(e)</sup> Fume 1 mg/m <sup>3(d)</sup> TWA <sup>(e)</sup> Dust/Mist	0.1 mg/m <sup>3(d)</sup> TWA <sup>(e)</sup> Fume 1 mg/m <sup>3(d)</sup> TWA <sup>(e)</sup> Dust/Mist	7440-50-8	231-159-6	-----	-----	Y	Y
Nonhazardous Cured Resin Matrix	30-60	-----	-----	-----	N/A	N/A	-----	-----	N	Y



## Section 4: First Aid Measures

INHALATION:	Remove to fresh air. If not breathing, provide CPR (cardio pulmonary resuscitation). Get immediate medical attention.
SKIN CONTACT:	Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing.
EYE CONTACT:	Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention if irritation persists.
INGESTION:	Not expected to be a significant route of exposure. If ingestion occurs, get immediate medical attention.

## Section 5: Fire-fighting Measures

FLASH POINT:	Not applicable
FLAMMABLE LIMITS IN AIR (% by vol):	Not applicable
EXTINGUISHING MEDIA:	Foam, Dry Chemical Powder, or Carbon Dioxide
SPECIAL FIREFIGHTING PROCEDURES:	None
UNUSUAL FIRE AND EXPLOSION HAZARDS:	Emits toxic fumes under fire conditions.

## Section 6: Accidental Release Measures

### ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Wear proper protective equipment as specified in Section 8: Exposure Controls/Personal Protection  
If material is released or spilled, sweep, or vacuum material and place in closed containers for subsequent reuse or disposal.

DISPOSAL METHOD: disposal should be made in accordance with federal, state and local regulations.

## Section 7: Handling and Storage

### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

HANDLING: Cured composite parts and resins are solid articles and do not pose a health hazard as shipped.

STORAGE: Store at room temperature. Avoid contact with incompatible materials.

INFORMATION ON EMPTIED CONTAINER: Not applicable

SPECIFIC USES: Resin impregnated woven fiberglass used in the manufacture of copper-clad laminate for printed circuit boards.

## Section 8: Exposure Controls/Personal Protection

VENTILATION:	Provide general ventilation and local exhaust ventilation to meet TLV requirements of individual ingredients (see Section 2) and to control dusting conditions. If cutting or rimming with power equipment, dust collectors and local ventilation should be used. Avoid unnecessary exposure to dust and handle with care. Keep work area clean of dust and fibers by using an industrial vacuum cleaner with high efficiency filter or wetting down area with water. Never use compressed air and avoid dry sweeping.
EYE PROTECTION:	Wear safety glasses with side shields. Always provide good general, mechanical room ventilation where this chemical/material is used.
RESPIRATORY PROTECTION:	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or the CEN European Standards (EU). Use a NIOSH/MSHA or European Standard (EN) approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
PROTECTIVE GLOVES:	Recommend use of gloves.
EYE PROTECTION:	Recommend eye protection using safety glasses, face shield or goggles.
SKIN PROTECTION:	Suitable protective clothing to prevent skin contact



WORK/HYGIENE PRACTICES: Provide good personal hygiene after handling. Avoid contact with eyes. Wash hands after handling.

EXPOSURE LIMITS Reference Section 2

OTHER EQUIPMENT: Make safety shower, eyewash stations, and hand washing equipment available in the work area.

## Section 9: Physical and Chemical Properties

APPEARANCE - COLOR: Reinforced resin / copper laminate

PHYSICAL STATE: Solid

ODOR: Odorless

### PRODUCT CRITERIA

	PRODUCT CRITERIA
ODOR THRESHOLD	Not Available for product
PH	Not Available for product
FLASH POINT:	Not Available for product
LOWER EXPLOSIVE LIMIT; UPPER EXPLOSIVE LIMIT	Not Available for product
FLAMMABILITY (Solid, gas)	Not Available for product
EXPLOSIVE PROPERTIES	Not Available for product
OXIDIZING PROPERTIES	Not Available for product
SPECIFIC GRAVITY (@25 °C):	Not Available for product
EVAPORATION RATE:	Not Available for product
% VOLATILE by VOLUME	Not Available for product
PARTITION COEFFICIENT	Not Available for product
AUTO IGNITION TEMPERATURE	Not Available for product
DECOMPOSITION TEMPERATURE	Not Available for product
BOILING POINT:	Not Available for product
MELTING POINT:	Not Available for product
VAPOR PRESSURE	Not Available for product
VAPOR DENSITY (AIR = 1)	Not Available for product
SOLUBILITY IN WATER:	Insoluble
WATER SOLUBILITY IN THE SOLVENT	Not Available for product
FREEZING POINT:	Not Available for product
VISCOSITY	Not Available for product
VOC CONTENT	Not Available for product
VOLATILITY %	Not Available for product

## Section 10: Stability and Reactivity

STABILITY: Stable

CONDITIONS TO AVOID: Avoid exposure to heat, flames, sparks and other ignition sources. Hazardous polymerization will not occur. Avoid contact with incompatible materials. Avoid dust generation.

HAZARDOUS DECOMPOSITION PRODUCTS: Dense smoke, acrid vapors and fumes, aliphatic and aromatic hydrocarbons of variable composition, silicon dioxide, CO<sub>x</sub>, NO<sub>x</sub>.

HAZARDOUS POLYMERIZATION: Will not occur

INCOMPATIBLE MATERIALS: Strong acids, strong bases, strong oxidizers, amines, and some metallic salts.

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



## Section 11: Toxicological Information

There is no toxicological information available for the product mixture.

MATERIAL	EXPOSURE LIMITS*		
	OSHA PEL <sup>(a)</sup>	ACGIH TLV <sup>(b)</sup>	NIOSH REL <sup>(c)</sup>
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 Fraction <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</sup> TWA <sup>(e)</sup> Total Fibrous Glass
Copper	0.1 mg/m <sup>3(d)</sup> TWA <sup>(e)</sup> Fume 1 mg/m <sup>3(d)</sup> TWA <sup>(e)</sup> Dust/Mist	0.2 mg/m <sup>3(d)</sup> TWA <sup>(e)</sup> Fume 1 mg/m <sup>3(d)</sup> TWA <sup>(e)</sup> Dust/Mist	0.1 mg/m <sup>3(d)</sup> TWA <sup>(e)</sup> Fume 1 mg/m <sup>3(d)</sup> TWA <sup>(e)</sup> Dust/Mist

(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  $\geq 3:1$ .

## Section 12: Ecological Information

BIODEGRADATION:	No Information available	
BIOACCUMULATION:	No Information available	
ECO TOXICITY:	LC <sub>50</sub> (96h) 52-150 µg/l Rainbow Trout	Copper
	LC <sub>50</sub> (48h) 24-101 µg/l Daphnia Magna	Copper
	LC <sub>50</sub> (72h) 62.3 µg/l Green Algae	Copper
MOBILITY:	No Information available	

Note: all of the ingredients have been tested for Ecotoxicity.

## Section 13: Disposal Considerations

WASTE FROM RESIDUES / UNUSED PRODUCTS:

Follow the waste disposal requirements of your country, state, or local authorities.

CONTAMINATED PACKAGING:

Recommend contaminated packaging material should be disposed of as stated above for residues and unused product.

RINSATE: Do not dispose of rinse water containing product in a sanitary sewer system or storm water drainage system.

## Section 14: Transport Information

**DOT TRANSPORT:** Not Regulated

**ADR = International Carriage of Dangerous Goods by Road** Not Regulated

**RAIL TRANSPORT:** Not Regulated

**SEA TRANSPORT:** IMDG Not Regulated

**AIR TRANSPORT:** IATA/ICAO Not Regulated

## Section 15: Regulatory Information

Directive 1999/45/EC Not applicable

LABEL FOR SUPPLY: None

RISK PHRASES: None



**TOXIC SUBSTANCES CONTROL ACT (TSCA) STATUS:**

**This product is in compliance with rules, regulations, and orders of TSCA. All components are listed on the TSCA Inventory.**

**SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III SECTION 313 SUPPLIER NOTIFICATION:**

This regulation requires submission of annual reports of toxic chemical(s) that appear in section 313 of the Emergency Planning and Community Right To Know Act of 1986 and 40 CFR 372. This information must be included in all MSDS's that are copied and distributed for the material.

The Section 313 toxic chemicals contained in this product are: None

**CALIFORNIA PROPOSITION 65:**

This regulation does not require a warning for California Proposition 65 chemical(s) under the statute.

The California proposition 65 chemical(s) contained in this product are: None

**STATE RIGHT-TO-KNOW TOXIC SUBSTANCE OR HAZARDOUS SUBSTANCE LIST:**

Florida Toxic Substance(s):	Not listed
Massachusetts's hazardous substance(s):	Not listed
Pennsylvania hazardous substance code(s):	65997-17-3
New Jersey	65997-17-3
Illinois	Not listed
Michigan	Not listed

**CANADA:**

This MSDS/SDS will be non-compliant 3 years after the issue date. This MSDS contains all of the information required by the Controlled Products Regulations (CPR).

**WHMIS-INFORMATION:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR), SOR/88-66. The classes of controlled products listed in the CPR, Section 32, Part IV, have been reviewed and based on Professional Judgment this product has been determined to not be WHMIS controlled.

**EUROPEAN UNION:**

This product has been reviewed for compliance with the following European Community Directives: REACH 1907/2006; Directive 1999/45/EC, Regulation (EC) No 1272/2008 on classification, labeling and packaging (CLP) of substances and mixtures.

WGK: 0 (German Federal Water Management Act) (Water Hazard Class)

## Section 16: Other Information

**European Community Hazards Identification:**

R:	None
S:	None
Danger Symbol(s):	None

Revision Comments:	Initial version May 3, 2016
Revision Number:	0
Information Sources:	RTECS, REACH, OSHA 29CFR 1910.1200

**FOR INDUSTRIAL USE ONLY**

**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 IS400HR Laminate 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.