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PRODUCT SAFETY INFORMATION SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: RT/duroid® 5880 LZ
CHEMICAL FAMILY: Polytetrafluoroethylene Composite
HMIS RATING: H 1 F 1 R 0
USE OF MATERIAL: Printed Circuit Boards
DATE REVISED: March 11, 2013
EMERGENCY PHONE: 860-774-9605
CHEMTREC: 800-424-9300 (U.S. & Canada)
703-527-3887 (International – Call Collect)

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>CAS No.</u>	<u>EINECS /ELINCS</u>	<u>%</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>EU Classification</u>
Polytetrafluoroethylene (PTFE)	9002-84-0	204-126-9	<75	NE	NE	NC according to 67/548/EEC
Aluminum Silicate	1327-36-2	215-475-1	<25	5 mg/m ³ (Resp. Dust)	5 mg/m ³ (Inhalable)	NC according to 67/548/EEC
Copper	7440-50-8	231-159-6	Varies	1 mg/m ³	1 mg/m ³	NC according to 67/548/EEC

The Material contains no other hazardous ingredients as defined in OSHA's Hazard Communication Standard 29 CFR 1910.1200 or EU directive 1999/45/EC, and do not present a health or environmental hazard according to directive 67/548/EC.

3. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE MATERIAL: NE
LABELING REQUIREMENTS: NE
EFFECTS OF OVEREXPOSURE: None anticipated with normal handling. Machining may cause dusting. Processing material at temperatures exceeding decomposition temperature may release toxic fumes.
INHALATION: Dusts may cause respiratory irritation. Exposure to copper fume or PTFE decomposition products may cause symptoms of Metal or Polymer Fume Fever. This is characterized by flu like symptoms (fever, chills, muscle aches) that last about 24 hours.
EYE CONTACT: Dust may cause mechanical irritation.
SKIN CONTACT: Dust may cause mechanical irritation.
INGESTION: None known.
CHRONIC: NE

4. FIRST-AID MEASURES

INHALATION:	(Dust & Fumes) Remove to fresh air. Obtain medical attention if symptoms persist.
EYE CONTACT:	(Dust) Flush immediately with large amounts of water. Do not rub eyes. Obtain medical attention if symptoms persist.
SKIN CONTACT:	(Dust) Wash area of contact thoroughly with soap and water. Do not rub or scratch. Obtain medical attention if symptoms persist.
INGESTION:	(Dust) Obtain medical attention if symptoms persist.

5. FIRE-FIGHTING MEASURES

FLASH POINT:	NA °C (°F)	Flammable Limits:	LEL	<u>NA</u>	UEL	<u>NA</u>
METHOD USED:	NA					
AUTOIGNITION TEMPERATURE:	NA					
EXTINGUISHING MEDIA:	<u> X </u> Water Spray	<u> X </u> Foam	<u> X </u> CO ₂			
	<u> X </u> Dry Chemical	<u> </u> Other –				
SPECIAL FIRE FIGHTING PROCEDURES:	Firefighters should be equipped with self-contained breathing apparatus and turnout gear.					
UNUSUAL FIRE AND EXPLOSION HAZARDS:	None					

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:	In case of fire toxic fumes are emitted. Wear suitable protective equipment. Do not breathe dust. Eliminate sources of ignition. Avoid contact with skin and eyes.
ENVIRONMENTAL PRECAUTIONS:	Prevent from entering sewer system, surface water or soil.
CLEANING METHODS:	Sweep or shovel spills into appropriate container for disposal. Avoid creating airborne dust.

7. HANDLING AND STORAGE

HANDLING:	Wear suitable protective equipment, refer to Section 8.
STORAGE:	Keep in a cool, well-ventilated area.

8. ENGINEERING CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION:	If mechanical ventilation is absent or inadequate to maintain exposure levels below those listed in Section 2, use NIOSH/MSHA approved respirators.
<u>VENTILATION</u>	
LOCAL:	Recommended in operations that create airborne dust or where material is heated above 500°F. Local exhaust is recommended in all heating operations where fumes are emitted. Follow good industrial hygiene practice.
GENERAL:	Recommended.

PERSONAL PROTECTION

HAND: Cut resistant gloves.
EYE: Safety glasses with side shields. Do not wear contact lenses.
OTHER: Safety shower/eyewash in the area if tissue exposure to materials. Do not smoke or keep smoking materials in areas where material is machined or excessive dusting occurs. Wash thoroughly before eating or smoking.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Gray or White Sheet Clad with Copper, Aluminum
ODOR: None
PHYSICAL STATE: Solid
BOILING POINT: NA
FLASH POINT: NA
MELTING POINT: NA
FREEZING POINT: NA
WATER SOLUBILITY: NA
VAPOR PRESSURE: NA
SPECIFIC GRAVITY: Varies (Water = 1)
PARTITION COEFIECIENT: NA
EXPLOSIVE PROPERTIES: NA
EVAPORATION RATE: 0
DENSITY: NA
VISCOSITY: NA
IGNITION TEMPERATURE: NA
PH: NA
FLAMMABILITY: NA
OXIDIZING PROPERTIES: NA

10. STABILITY AND REACTIVITY

STABLE X UNSTABLE _____

CONDITIONS TO AVOID: PTFE begins to decompose very slowly above 500°F. Decomposition increases rapidly above 750°F and processing at these temperatures for prolonged periods of time is not recommended.

MATERIALS TO AVOID: None under normal use.
HAZARDOUS POLYMERIZATION: _____ May Occur X Does Not Occur
HAZARDOUS DECOMPOSITION PRODUCTS: Tetrafluoroethylene (above 800°F)
Hexafluoropropylene (above 825°F)
Perfluoroisobutylene (above 885°F)
Carbonyl Fluoride (above 930°F)

11. TOXICOLOGICAL INFORMATION

CARCINOGENIC STATUS: NA
ACUTE/CHRONIC: NA
REPRODUCTIVE HAZARDS: NA

12. ECOLOGICAL INFORMATION

NA

13. DISPOSAL CONSIDERATION

ENVIRONMENTAL TOXICITY DATA: NA
WASTE DISPOSAL METHOD: Dispose of in accordance with applicable, federal, state, provincial, and local laws and regulations.
CONTAINER DISPOSAL: NA

14. TRANSPORT INFORMATION

DOT CLASSIFICATION: NONE REGULATED
IMDG CLASSIFICATION: NONE REGULATED
ICAO/IATA CLASSIFICATION: NONE REGULATED

15. REGULATORY INFORMATION

INTERNATIONAL REGULATIONS:
Canadian (DSL/NDSL): NE
Australian (ACIS): NE
Korea (KECI): NE
Japan (ENCS, MITI): NE
EU Directive 2002/95/EC (RoHS): Compliant

European:
R-Phase(s): NA
S-Phase(s): NA

TSCA
(Toxic Substances Control Act): All ingredients are TSCA listed.

CERCLA
(Comprehensive Emergency Response,
Compensation, and Liability Act): NA

SARA TITLE III
(Superfund Amendments and
Reauthorization Act): NA

311/312 HAZARD CATEGORIES: None

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR 372:

<u>CAS #</u>	<u>CHEMICAL NAME</u>	<u>PERCENT BY WEIGHT</u>
7440-50-4	Copper	Varies

16. OTHER INFORMATION

NA = Not Applicable
NE = Not Established
NC = Not Classified

FILE: 99222-RT 5880 LZ-03112013
REVISED BY: Greg Sullivan, CIH

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