PRODUCT SAFETY INFORMATION SHEET

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

TRADE NAME:	RO3000® Series Laminates
CHEMICAL FAMILY:	Polytetrafluoroethylene Composite
HMIS RATING:	H 1 F 1 R 0
USE OF ARTICLE	Printed Circuit Boards
DATE ISSUED:	August 13, 2020
COMPANY/UNDERTAKING IDENTIFICATION:	Rogers Corporation 100 South Roosevelt Avenue Chandler, AZ 85226-3415 Phone: 001-480-961-1382 Fax: 001-480-961-4533 Email: msdsinfo@rogerscorporation.com

2. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE MATERIAL:	NE
LABELING REQUIREMENTS:	NE
EFFECTS OF OVEREXPOSURE:	None anticipated with normal handling. Machining may create dust. 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:	IARC has listed Glass filament, continuous as Group 3 (Not classifiable as to its carcinogenicity to humans).

3. COMPOSITION/INFORMATION ON INGREDIENTS

This material is produced as an "article" as defined in 20 CFR 1910.1200 and REGULATION (EC) N° 1907/2006 is therefore exempt from the Hazard Communication Standard and REACH. Since this material does not release and will not result in exposure to a hazardous chemical under normal conditions of use, no Safety Data Sheet is required.

Chemical Name	CAS No.	EINECS /ELINCS	%	OSHA PEL	ACGIH TLV
DIELECTRIC					
Fused Silica	60676-86-0	262-373-8	Varies	5 mg/m^3 (Resp. Dust)	3 mg/m^3 (Resp. Dust)
Continuous Filament Fiber Glass (3200™ Series & 3730™ products)	65997-17-3	266-046-0	Varies	5 mg/m^3 (Resp. Dust)	1 f/cc
Ceramic Filler (Nuisance Dust)	NA	NA	Varies	15 mg/m^3 (Total Dust)	10 mg/m^3 (Total Dust)

CLADDING (Copper, Aluminum or Brass)

Copper	7440-50-8	231-159-6	Varies	1 mg/m^3 (dust & mist)	1 mg/m^3 (dust & mist)
Aluminum	7429-90-5	231-072-3	Varies	5 mg/m^3 (Resp. Dust)	1 mg/m^3 (Resp. Dust)
Zinc (Component of Brass)	7440-66-6	231-175-3	Varies	5 mg/m^3 (ZnO fume)	2 mg/m^3 (as ZnO)

4. FIRST-AID MEASURES

INHALATION: (Dust & Fume) Remove to fresh air. Obtain medical attention if symptoms persist.

EYE CONTACT: (Dust) Flush immediately with large amounts of water for 15 to 20 minutes. Do not rub eyes. Obtain medical attention if symptoms persist.

SKIN CONTACT: (Dust) Remove contaminated clothing and flush area with water for 15 to 20 minutes. Obtain medical attention if symptoms persist.

INGESTION: (Dust) Not a likely route of entry – obtain medical attention.

5. FIRE-FIGHTING MEASURES

FLASH POINT: NE °C (°F) Flammable Limits: NE

AUTOIGNITION TEMPERATURE: NE °C (°F)

EXTINGUISHING MEDIA: X Water Spray X Foam X CO_2 X Dry Chemical X Other –

SPECIAL FIRE FIGHTING PROCEDURES: Decomposition in a fire may produce toxic fumes. Firefighters should be equipped with self-contained breathing apparatus and turnout gear.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known.

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 into appropriate container for disposal. Avoid creation of nuisance dust.

7. HANDLING AND STORAGE

HANDLING: Wear suitable protective equipment, refer to Section 8.

STORAGE: Keep in a cool, well-ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION: None needed under normal conditions. If mechanical ventilation is absent or inadequate to maintain exposure levels below those listed in Section 2, a respirator meeting NIOSH requirements should be used. A qualified individual should evaluate each situation.

VENTILATION

LOCAL: Recommended for all industrial operations.

GENERAL: Recommended for all industrial operations.

PERSONAL PROTECTION

HAND: Cut resistant gloves.

EYE:	Safety glasses with side-shields are recommended in all industrial operations
SKIN:	None required.
OTHER:	Safety shower/eyewash in the area. 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 board Clad with Copper, Aluminum, or Brass
ODOR:	None
PHYSICAL STATE:	Solid
BOILING POINT:	NA °C (°F)
MELTING POINT:	NE °C (°F)
FREEZING POINT:	NA °C (°F)
FLASH POINT:	NE °C (°F)
WATER SOLUBILITY:	NE
VAPOR DENSITY:	NA
VAPOR PRESSURE:	NA
SPECIFIC GRAVITY:	NE (Water = 1)
PARTITION COEFFICIENT:	NA
EVAPORATION RATE:	NA
RELATIVE DENSITY:	NA
VISCOSITY:	NA
AUTO-IGNITION TEMPERATURE:	NE °C (°F)
DECOMPOSITION TEMPERATURE:	NE °C (°F)
PH:	NA
FLAMMABILITY:	NE

10. STABILITY AND REACTIVITY

STABILITY	Stable
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:	NE
HAZARDOUS POLYMERIZATION:	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:	IARC has listed Glass filament, continuous as Group 3 (Not classifiable as to its carcinogenicity to humans).

12. ECOLOGICAL INFORMATION

ECOTOXICITY:	NE

13. DISPOSAL CONSIDERATION

PHYSICAL/CHEMICAL PROPERTIES AFFECTING DISPOSAL:

ENVIRONMENTAL TOXICITY DATA:	NE

WASTE DISPOSAL METHOD:	Dispose of in accordance with applicable federal, state, provincial, and local laws and regulations.

14. TRANSPORT INFORMATION

UN NUMBER:	Not Regulated
UN PROPER SHIPPING NAME:	Not Regulated
HAZARD CLASS (ES):	Not Regulated
PACKING GROUP:	Not Regulated
ENVIRONMENTAL HAZARDS:	NE

15. REGULATORY INFORMATION

INTERNATIONAL REGULATIONS:

Canadian (DSL/NDSL):	Article – exempt.
Australian (ACIS):	Article – exempt.
Korea (KECI):	Article – exempt.
Japan (ENCS, MITI):	Article – exempt.
China (IECSC)	Article – exempt.
EU Directive 2011/65/EC (RoHS):	Does not contain any intentionally added substances mentioned by the RoHS directive.
European REACH SVHC:	No SVHC above 0.1% wt. are in this article.
TSCA *(Toxic Substances Control Act):*	All materials are listed or exempt from TSCA listing.
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:

CAS #	CHEMICAL NAME	PERCENT BY WEIGHT
7429-90-5	Aluminum	Varies
7440-50-4	Copper	Varies
7440-66-6	Zinc	Varies

16. OTHER INFORMATION

NA = Not Applicable	FILE:	99279-RO3000 Series Laminates PSIS-08132020
NE = Not Established		
NC = Not Classified	PREPARED BY:	EHS Department
Date Prepared: 09/16/2015	REVIEWED BY:	EHS Department