

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Thermofit S1006 Adhesive, Parts A and B

MANUFACTURER: TE Connectivity
DIVISION: Aerospace, Defense & Marine
ADDRESS: 300 Constitution Drive
Menlo Park, CA 94025-1164 USA

EMERGENCY TELEPHONE NUMBERS: US: CHEMTREC 1-800-424-9300
CN: CHEMTREC 1-800-424-9300
Outside North America: 1-703-527-3887
(Collect calls accepted)

NON-EMERGENCY HEALTH/SAFETY INFORMATION: (US) 1-800-522-6752
(CAN) 1-905-475-6222

CHEMICAL FAMILY: Epoxy

PRODUCT USE: This product is a two-part epoxy resin adhesive.
Part A is an epoxy resin and Part B is a hardener (curing agent).

SECTION 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: This two-part epoxy resin consists of a viscous purple liquid (Part A) and a viscous tan liquid with an ammonia odor (Part B). Avoid all personal contact. Causes skin and eye irritation and burns.

OSHA HAZARDS: Irritant

GHS CLASSIFICATION: Eye Irritant (Category 2A) Parts A & B
Skin Irritant (Category 2) Parts A & B

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

PICTOGRAM:



SIGNAL WORD: Warning

HAZARD STATEMENT(S)

H315 Causes skin irritation.
H317 May cause an allergic skin reaction
H320 Causes eye irritation.
H335 May cause respiratory irritation.

PRECAUTIONARY STATEMENT(S):

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment
P280 Wear protective gloves/eye protection/face protection.
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.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P331 Do NOT induce vomiting.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P363 Was contaminated clothing before reuse.
P370 + P378 In case of fire: Use carbon dioxide, dry chemical, or foam to extinguish.



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P403 + P233
P501

Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container to an approved waste disposal facility.

HMIS HAZARD CLASSIFICATIONS (US/CN/EU):

Part A

HEALTH: 2 FLAMMABILITY: 2 REACTIVITY: 0 PROTECTION: See PPE section.

Part B

HEALTH: 1 FLAMMABILITY: 1 REACTIVITY: 0 PROTECTION: See PPE section.

POTENTIAL HEALTH EFFECTS:

Health Effects/Symptoms of Exposure:

Proper installation of this product creates no known acute or chronic health hazards.

ACUTE HEALTH HAZARDS:

EYES: **Part A:** This material is an eye irritant. Direct contact with the liquid or exposure to vapors or mists may cause stinging, tearing, redness, and swelling. Contact with molten material may cause thermal burns. Persons with pre-existing eye disorders may be more susceptible to the effects of this material.

Part B: This material is a severe eye irritant. Direct contact with the liquid or exposure to vapors or mists may cause stinging, tearing, redness, swelling, and eye damage. Persons with pre-existing eye disorders may be more susceptible to the effects of this material.

SKIN: **Part A:** This material is a skin irritant. Direct contact or exposure to vapors or mists may cause redness, burning, and skin damage. Repeated contact may cause an allergic skin reaction in sensitized individuals. Persons with pre-existing skin disorders may be more susceptible to the effects of this material. Contact with molten material may cause thermal burns.

Part B: This material may cause mild skin irritation. Prolonged or repeated contact or exposure to vapors or mists may cause redness and burning. Persons with pre-existing skin disorders may be more susceptible to the effects of this material.

SKIN

ABSORPTION:

Part A: No harmful effects are expected from skin absorption of this material.

Part B: Contact with this material may result in skin absorption but this route alone under normal conditions of use does not anticipate symptoms of toxicity.

INGESTION: **Part A:** Ingestion of this material is highly unlikely. However, in the event such an exposure should occur, this product is expected to have a low degree of toxicity by ingestion.

Part B: This material may be harmful or fatal if swallowed. Ingestion may result in severe irritation and burns of the mouth, throat, and digestive tract.

INHALATION: **Part A:** Because of its low volatility, exposure to vapors is unlikely. In common with most organic materials, degradation and combustion byproducts may be toxic and should not be inhaled. See comments below and **Section 5: FIRE FIGHTING MEASURES (Hazardous Combustion Products)** for more specific information.

Part B: Exposure to vapours or fumes may cause irritation of the respiratory tract. Pre-existing lung disorder (e.g., asthma-like conditions) may be aggravated by exposure to this material.

CHRONIC HEALTH HAZARDS:

Part A and part B of this product have no known significant effects or critical hazards. For further information, see **Section 11: TOXICOLOGICAL INFORMATION (Mutagenicity)**.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Overheating the material to temperatures above 149°C (300°F) may produce vapors that may cause eye, skin, nose, and throat irritation. Respiratory symptoms associated with pre-existing lung disorders (e.g., asthma-like conditions) may be aggravated by exposure to overheated material.

Additional Information

None



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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS (Chemical/Common Names):	CAS No.:	% by Wt:	EC No.:
Part A: Bisphenol A/Epichlorohydrin Epoxy Resin	25068-38-6	60 - 100	NE
Amorphous Silica*	7631-86-9	3 - 7	231-545-4
Part B: Polyamide/Amine Blend	68410-23-1	60 - 100	NE
Amorphous Silica*	7631-86-9	3 - 7	231-545-4

*The amorphous silica is physically bound within the resin matrix and is, therefore, unavailable for exposure.

NA – Not applicable/NE – Not Established/ND – Not determined

SECTION 4: FIRST AID MEASURES

This product is a two-part epoxy resin. The first aid statements described below refer to exposure to Part A or Part B of the uncured resin.

- EYE CONTACT:** Hold eyelids apart and flush affected eye(s) immediately with clean water for at least 15 minutes. Seek immediate medical attention.
- SKIN CONTACT:** Flush skin with plenty of water and wash affected area(s) with mild soap and water. Remove contaminated clothing and wash before reuse. Thoroughly clean shoes before reuse. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed to prevent reuse. If irritation persists, seek medical attention. If contact with hot product occurs, immediately flush with cool water for 15 minutes. Carefully remove clothing, if clothing is stuck to a burned area do not pull it off, but cut around it. Cover burned area with a clean material and seek medical attention immediately.
- INGESTION:** DO NOT induce vomiting. If vomiting occurs spontaneously, keep airway clear. If victim is conscious and alert, immediately rinse mouth with water and dilute the ingested material by giving at least one glass of water to drink. Seek immediate medical attention.
- INHALATION:** If respiratory symptoms or other symptoms of exposure develop, move victim to fresh air and seek medical attention. If breathing difficulties develop, qualified personnel should administer oxygen. Seek immediate medical attention. If victim is not breathing, move to fresh air and immediately begin artificial respiration. Keep victim warm and quiet; seek immediate medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASHPOINT: Part A: 249°C (480°F) Part B: >185°C (>365°F)
METHOD USED: Part A: Closed Cup Part B: Open Cup

FLAMMABLE LIMITS

UPPER FLAMMABILITY LIMIT (% BY VOLUME): Not established
LOWER FLAMMABILITY LIMIT (% BY VOLUME): Not established

AUTOIGNITION TEMPERATURE: Not determined

SUITABLE EXTINGUISHING MEDIA:

Use carbon dioxide, dry chemical, or foam.

Selection of extinguishing media should be based upon the size of the fire, the firefighting training/experience of the individual attempting to extinguish or control the fire, and the packaging materials exposed to the fire.

SPECIAL FIRE FIGHTING PROCEDURES & PROTECTIVE EQUIPMENT:

Firefighters should wear self-contained breathing apparatus with a full-face piece operated in the positive pressure demand mode when fighting fires. Use water spray to keep fire-exposed containers cool.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Sensitivity To Static Discharge: None known.

Sensitivity To Mechanical Impact: None known

SPECIFIC HAZARDS IN CASE OF FIRE:

None Known



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HAZARDOUS COMBUSTION PRODUCTS:

Degradation and combustion byproducts may be toxic and should not be inhaled. Thermal degradation is not significant at temperatures achieved during proper application, as directed by product instructions. At temperatures above 149°C (300°F), or most significantly if the products are burned, the thermal degradation products of Part A may include, but are not limited to, carbon monoxide, aldehydes, acids, and other organic substances. For Part B, the thermal degradation products may include, but are not limited to, oxides of carbon and nitrogen. The thermal degradation products of the cured product may include, but are not limited to, carbon monoxide and trace quantities of the thermal degradation products of both Parts A and B.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

Wear appropriate personal protection when responding, as specified under Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

ENVIRONMENTAL PRECAUTIONS:

Prevent spilled material from entering sewers and waterways or coming in contact with soil.

SPILL CONTAINMENT & CLEANUP METHODS/MATERIALS:

Contain spill with inert absorbent. Take measures to stop spillage at the source. Transfer contaminated absorbent into a container for disposal in accordance with local regulations. Wash area with dilute (5%) acetic acid, pick up with inert absorbent and dispose of properly.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING AND STORAGE:

Handling: Do not get in eyes. Avoid contact with skin or clothing. Avoid breathing vapors or mists. Keep container closed. Use with adequate ventilation. Wash hands thoroughly after handling. Launder contaminated clothing before reuse. Clean shoes thoroughly before reuse.

Application of adhesive (Parts A and B) should be done in a well-ventilated area in accordance with good industrial hygiene practice. Parts A and B release heat when combined.

Storage: Store in a cool, dry area. Keep away from open flames and high temperatures. Protect containers from physical damage to avoid leaks and spills. Containers, even those that have been emptied, can contain hazardous product residues. Handle in accordance with the precautions outlined above.

OTHER PRECAUTIONS (e.g.; Incompatibilities):

Heating resin above 149°C (300°F) in the presence of air may cause slow oxidative decomposition. Above 260°C (500°F) polymerization may occur. Some curing agents, e.g., aliphatic polyamines, can produce exothermic reactions, which in large masses can cause runaway polymerization and charring of the reactants. Fumes and vapors from these thermal and chemical decompositions vary widely in composition and toxicity. Do not breathe fumes.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS/SYSTEM DESIGN INFORMATION:

None required under normal use conditions.

VENTILATION:

Provide general or local exhaust ventilation systems.

RESPIRATORY PROTECTION:

Depending on the airborne concentration of material, use a NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges. At temperatures above 149°C (300°F), thermal degradation is possible; therefore, air-supplied respirators are recommended.

EYE PROTECTION:

Avoid contact with eyes. Use safety glasses with side shield or goggles to prevent contact.



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SKIN PROTECTION:

Avoid prolonged or repeated contact with skin. Wear rubber gloves to prevent or minimize contact.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

None

EXPOSURE GUIDELINES & LIMITS:

Part A

BISPHENOL A/EPICHLOROHYDRIN EPOXY RESIN

OSHA	Permissible Exposure Limit (PEL/TWA)	Not established
ACGIH	Threshold Limit Value (TLV)	Not established
	Short-Term Exposure Limit	
Quebec	Permissible Exposure Value (PEV)	Not established
	Short Term Exposure Limit	
	Occupational Exposure Level (OEL)	Not established
Ontario	Short Term Exposure Value	

Part B:

MERCAPTAN/POLYAMIDE BLEND

OSHA	Permissible Exposure Limit (PEL/TWA)	Not established
ACGIH	Threshold Limit Value (TLV)	Not established
	Short-Term Exposure Limit	
Quebec	Permissible Exposure Value (PEV)	Not established
	Short Term Exposure Limit	
	Occupational Exposure Level (OEL)	Not established
Ontario	Short Term Exposure Value	

TWA – 8-Hour Time Weighted Average/ NE – Not Established

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	<u>Part A:</u> Viscous purple liquid <u>Part B:</u> Viscous tan liquid
ODOR:	<u>Part A:</u> Slight odor. <u>Part B:</u> Ammonia odor.
ODOR THRESHOLD:	<u>Part A:</u> Not available <u>Part B:</u> Not available
PHYSICAL STATE:	<u>Part A:</u> Liquid <u>Part B:</u> Liquid
pH:	<u>Part A:</u> Not determined <u>Part B:</u> Not determined
BOILING POINT:	<u>Part A:</u> >260°C(>500°F). <u>Part B:</u> Not determined.
MELTING POINT:	<u>Part A:</u> Not determined <u>Part B:</u> Not determined
FREEZING POINT:	<u>Part A:</u> Not determined <u>Part B:</u> Not determined
VAPOR PRESSURE (mmHg @ 25°C):	<u>Part A:</u> 0.03 mm Hg @25°C(77°F) <u>Part B:</u> Not determined
VAPOR DENSITY (AIR = 1):	<u>Part A:</u> Not determined <u>Part B:</u> Not determined
SPECIFIC GRAVITY (H2O = 1):	<u>Part A:</u> 1.17 <u>Part B:</u> 0.97
EVAPORATION RATE (Butyl acetate=1):	<u>Part A:</u> Not applicable <u>Part B:</u> Not applicable
SOLUBILITY IN WATER:	<u>Part A:</u> Negligible <u>Part B:</u> 1 – 10%



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FLASH POINT:	<u>Part A:</u> Not established <u>Part B:</u> Not established
AUTO-IGNITION TEMPERATURE:	<u>Part A:</u> Not established <u>Part B:</u> Not established
LOWER EXPLOSIVE LIMIT (LEL):	<u>Part A:</u> Not established <u>Part B:</u> Not established
UPPER EXPLOSIVE LIMIT (UEL):	<u>Part A:</u> Not established <u>Part B:</u> Not established
PARTITION COEFFICIENT:	<u>Part A:</u> Not determined <u>Part B:</u> Not determined
VISCOSITY (centipoise @ 25° C):	<u>Part A:</u> Not determined <u>Part B:</u> Not determined
DECOMPOSITION TEMPERATURE:	<u>Part A:</u> Not determined <u>Part B:</u> Not determined

SECTION 10: STABILITY AND REACTIVITY

STABILITY:	This product is stable under normal conditions, at ambient temperature.
INCOMPATIBILITY (MATERIAL TO AVOID):	<u>Part A:</u> Avoid contact with strong oxidizers, acids and bases, especially primary and secondary aliphatic amines. Reaction with some curing agents may produce considerable heat. <u>Part B:</u> Avoid contact with strong oxidizers and bases.
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:	See Section 5: FIRE FIGHTING MEASURES (Hazardous Combustion Products).
HAZARDOUS POLYMERIZATION:	Will not occur. Polymerization may occur above 260°C (500°F). Some curing agents, e.g. aliphatic polyamines, can produce exothermic reactions, which in large masses can cause runaway polymerization and charring of the reactants.
CONDITIONS TO AVOID:	Avoid excessive heat for long periods of time.

SECTION 11: TOXICOLOGICAL INFORMATION

Note: The LD₅₀ / LC₅₀ information below refers only to the principal component of each Part of this product.

LD₅₀ / LC₅₀:	<u>Part A:</u> LD50 Oral Rat 30,000 mg/kg LD50 Oral Mouse 20,000 mg/kg LD50 Oral Rabbit 19.8 mg/kg LD50 Dermal Rat > 1,200 mg/kg LD50 Dermal Mouse > 1,270 mg/kg LD50 Dermal Rabbit = > 2000 mg/kg
	<u>Part B:</u> LD50 Oral Rat >16 ml/kg LD50 Dermal Rabbit 6.5 ml/kg

ROUTES OF ENTRY

Skin absorption is the most important route of entry. Eye contact may also occur. Inhalation of significant amounts is unlikely due to low volatility. Ingestion is unlikely to occur in normal use.

ACUTE TOXICITY (Test Results Basis and Comments):

Part A and Part B cause skin and eye irritation.

SUBCHRONIC/CHRONIC TOXICITY (Test Results and Comments):

None Known



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IRRITANCY OF PRODUCT: Both Part A and Part B cause skin and eye irritation.

Part A: Test results not available.

Part B: Irritation testing of the major component of Part B yielded the following results:
Skin Irritation 1.2 (Scale 0-8) Rabbit
Eye Irritation 105 (Scale 0-110) Rabbit

SENSITIZATION TO MATERIAL: Part A has the potential to cause sensitization in susceptible individuals.

CARCINOGENICITY:

Part A: The ingredients of this product, present at equal to or greater than 0.1% of the product, are not listed by OSHA, NTP, or IARC as suspect carcinogens.

Part B: The ingredients of this product, present at equal to or greater than 0.1% of the product, are not listed by OSHA, NTP, or IARC as suspect carcinogens.

REPRODUCTIVE TOXICITY: None known.

TERATOGENICITY: None known.

MUTAGENICITY: None known.

TOXICOLOGICALLY SYNERGISTIC PRODUCTS: None known

SECTION 12: ECOLOGICAL INFORMATION

PERSISTENCE & DEGRADABILITY:

No data available on biodegradation.

BIO-ACCUMULATIVE POTENTIAL (Including Mobility):

Part A: Not expected due to physicochemical properties of the substance.

AQUATIC TOXICITY (Test Results & Comments):

Part A: Fish (Brachydanio rerio) LC50 (96 h): > 10,000 mg/l; (Method: OECD 203)

Additional Information

- No known effects on stratospheric ozone depletion.
- Water Endangering Class (WGK): NA

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:

Treatment, storage, and disposal must be in accordance with applicable, federal, state, provincial, and local regulations.

HAZARDOUS WASTE

Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any byproducts should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

CLASS/CODE:

US - Not applicable to material as manufactured for distribution into commerce.
CN – Not applicable to material as manufactured for distribution into commerce.
EWC – Not applicable to material as manufactured for distribution into commerce.

Additional Information

Not Included – Dispose/Recycle as allowed by local jurisdiction for the end-of-life characteristics as-disposed.

SECTION 14: TRANSPORT INFORMATION

GROUND – US-DOT/CAN-TDG/EU-ADR/APEC-ADR:

Proper Shipping Name	Not Subject to HMR		
Hazard Class	NA	ID Number	NA
Packing Group	NA	Labels	NA



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AIRCRAFT – ICAO-IATA:

Proper Shipping Name	Not Subject to DGR		
Hazard Class	NA	ID Number	NA
Packing Group	NA	Labels	NA

VESSEL – IMO-IMDG:

Proper Shipping Name	Not Subject to IMDG		
Hazard Class	NA	ID Number	NA
Packing Group	NA	Labels	NA

Additional Information

- Transportation must be in accordance with applicable, federal, state, provincial, and local regulations.
- Transport requires proper packaging and paperwork, including the Nature and Quantity of goods, per applicable origin/destination/customs points as-shipped. Statement of Jurisdictional/Modal Special Provision(s) required.
- Not restricted for any mode of international transport as finished goods.
- Not a Marine Pollutant as-shipped per IMO/IMDG.

SECTION 15: REGULATORY INFORMATION

INVENTORY STATUS:

All components are listed on the TSCA, EINECS/ELINCS; and DSL, unless noted otherwise below.

U.S. FEDERAL REGULATIONS:

TSCA Section 8b – Inventory Status: All chemicals comprising this product are either exempt or listed on the TSCA Inventory.

TSCA Section 12b – Export Notification: If the product contains chemicals subject to TSCA Section 12b export notification they are listed below:

<u>Chemical</u>	<u>CAS #</u>
None	NA

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT)

Chemicals present in the product which could require reporting under the statute:

<u>Chemical</u>	<u>CAS #</u>
None	NA

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

If the product contains chemicals subject to the reporting requirements of Section 313 of SARA Title III, they are listed below.

<u>Chemical</u>	<u>CAS #</u>	<u>% wt</u>
None	NA	NA

CERCLA SECTION 311/312 HAZARD CATEGORIES: Note that this product is exempt from these regulations.

Fire Hazard	No
Pressure Hazard	No
Reactivity Hazard	Yes (Part A)
Immediate Hazard	Yes (Part A)
Delayed Hazard	No

STATE REGULATIONS (US):

California Proposition 65

The following chemicals identified to exist in the product as distributed into commerce are known to the State of California to cause cancer, birth defects, or other reproductive harm:

<u>Chemical</u>	<u>CAS #</u>	<u>% Wt</u>
None	NA	NA

INTERNATIONAL REGULATIONS (Non-US):

Canadian Domestic Substance List (DSL)

All ingredients remaining in the product as distributed into commerce are included on the Domestic Substances List.



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WHMIS Classifications

Part A D2B Toxic Material Causing Other Toxic Effects (skin sensitization in animals).

Part B D2B Toxic Material Causing Other Toxic Effects (skin sensitization in animals).

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

NPRI and Ontario Regulation 127/01

This product contains the following chemicals subject to the reporting requirements of Canada NPRI and/or Ont. Reg. 127/01:

<u>Chemical</u>	<u>CAS #</u>	<u>% Wt</u>
None	NA	NA

European Inventory of Existing Commercial Chemical Substances (EINECS)

All ingredients remaining in the product as distributed into commerce are exempt from, or included on, the European Inventory of Existing Commercial Chemical Substances.

European Communities (EC) Hazard Classification according to directives 67/548/EEC and 1999/45/EC.

Information below refers only to the principal component of each Part of this product.

R-Phrases

Part A: This chemical substance is not classified in the Annex I of Directive 67/548/EEC

Part B: This chemical substance is not classified in the Annex I of Directive 67/548/EEC

S-Phrases

Part A: This chemical substance is not classified in the Annex I of Directive 67/548/EEC

Part B: This chemical substance is not classified in the Annex I of Directive 67/548/EEC

Additional Information

This product may be regulated under additional regulations and laws not identified above, such as for uses other than described or as-designed/as-intended by the manufacturer, or for distribution into specific domestic destinations.

SECTION 16: OTHER INFORMATION

OTHER INFORMATION:

Distribution into Quebec to follow Canadian Controlled Product Regulations (CPR) 24(1) and 24(2).

Distribution into the EU to follow applicable Directives to the Use, Import/Export of the product as-sold.

SDS/SDS PREPARATION INFORMATION:

Department Issuing SDS: TE Connectivity, Menlo Park

Contact: Stefanie Gravano, Ph.D. Materials Manager

Tel: 001 650 361 2066

Email: stefanie.gravano@te.com

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