



# SAFETY DATA SHEET

AMPACT\*/EXCLTAP\*

CARTRIDGES

(US, CN, EU Version for International Trade)

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** AMPACT\*/EXCLTAP\* Cartridges RAY9000 (MSDS 125-6217-NZ)  
**PRODUCT CODES:** Part Number 69338. Product family includes Blue (P/N 69338-1), Red (P/N 69338-2), Yellow (69338-4), White (69338-5), Green (1-69338-6), and Orange (1-69338-7)

**MANUFACTURER:** Tyco Electronics NZ Limited, (trading as TE Connectivity)

**ADDRESS:** Unit 5, 135 Cryers Road, East Tamaki, Auckland< New Zealand

**NZ DISTRIBUTOR:** TransNet NZ Limited

**ADDRESS:** 78 Cryers Road, East Tamaki, Auckland, New Zealand

**EMERGENCY TELEPHONE NUMBERS:** NZ: CHEMTREC +64 9 8010034

**NON-EMERGENCY HEALTH/SAFETY INFORMATION:** NZ: +64 9 273 4160

**CHEMICAL FAMILY:** Lead-free cartridges containing granular solid and primer activation system encapsulated in polyethylene. Cartridges do not contain mercury or cadmium.

**PRODUCT USE:** Cartridges for power-actuated connector installation tools. See TE Connectivity Product Installation and Use Instructions that accompany the product.

This product is considered a Hazardous Substance, Preparation or Article that is regulated under US-OSHA; CAN-WHMIS; IOSH; ISO; UK-CHIP; or EU Directives (1272/2008/EC-Classification, Labelling and Packaging of Substances and Mixtures, 98/24/EC-Chemical Agents at Work, 2001/58/EC-MSDS Content, and 1907/2006/EC-REACH), and an MSDS/SDS is required for this product considering that when used as recommended or intended, or under ordinary conditions, it may present a health and safety exposure or other hazard.

### Additional Information

This product is not intended for harsh environments, such as solvent-containing or extreme temperature or pressure. Please request information if considering non-STP, harsh-conditions or use beyond current product labeling.

## SECTION 2: HAZARDS IDENTIFICATION

**HNSO Approval Code:** HSR100264

### **GHS Classification:**

Health Hazards	Physical Hazards	Environmental Hazards
Acute Toxicity – NL(1) Skin Corrosion/Irritation – 3 Eye Corrosion/Irritation – 2B Respiratory or Skin Sensitization – Skin: 1B Inhalation – 4 Mutagenicity – NL Carcinogenicity – NL Reproductive/Developmental – NL Target Organ Toxicity – NL	Explosion Hazard – 1.4 Flammability – NL (Not flammable or combustible)	Aquatic Toxicity – NL Lead free <sup>(2)</sup>  <b>Notes:</b> 1. NL = Not listed 2. Cartridges manufactured before January 2005 may contain lead.

### **GHS Label: As required for Finished Goods according to End-Use Products Regulations**

**EMERGENCY OVERVIEW:** This product is a granular solid and primer activation system encapsulated in polyethylene. Avoid acids, crushing, short circuits, open flame, excessive heat and prolonged exposure to temperatures above 125 °F (52°C). Wear safety glasses when activating this product.



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**GHS LABEL ELEMENTS:** As required for Finished Goods according to End-Use Products Regulations

**PICTOGRAM:**



**SIGNAL WORD:**

Warning

**Hazard Statements**

H204 Fire or projection hazard  
H316 Causes mild skin irritation  
H317 May cause an allergic skin reaction  
H320 Causes eye irritation  
H332 Harmful if inhaled

**Precautionary Statements**

P370 +P380 In case of fire: evacuate area.  
P374 Fight fire with normal precautions from a reasonable distance.  
P373 DO NOT fight fire when fire reaches explosives.  
P210 Keep away from heat/sparks/open flames/hot surfaces.  
– No smoking.  
P250 Do not subject to grinding/shock/friction.  
P260 Do not breathe dust/fume/vapours/smoke.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P332 + P313 If skin irritation occurs: Get medical advice/attention.

**HMIS HAZARD CLASSIFICATIONS:**

HEALTH: 2

FLAMMABILITY: 2

REACTIVITY: 4

**POTENTIAL HEALTH EFFECTS:**

**ACUTE HEALTH HAZARDS:**

**EYES:** Eye irritation/redness, if exposed to contents of cartridge. Possible foreign object damage from granules.

**SKIN:** Repeated or prolonged contact with some ingredients, such as zinc and other metals, may cause mild skin irritation and possible allergic reaction.

**INGESTION:** May cause fainting, flushing of the skin, dizziness, rapid heartbeat, abdominal pain, liver or kidney damage.

**INHALATION:** Possible irritation of the respiratory system.

**CHRONIC HEALTH HAZARDS:**

Chronic skin contact may result in skin irritation/allergic reaction. Chronic inhalation of select components of this product may result in anemia, liver, kidney, or lung damage. Also possible are heart palpitations, abdominal pain, pain/pressure behind the sternum, muscle twitches, Heinz bodies, methemoglobinemia, depression, and confusion.

None of the ingredients to which users may be exposed and which are present at equal to or greater than 0.1% of the product, are listed by OSHA, NTP, or IARC as suspect carcinogens.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:**

Wilson's disease prevents normal elimination of copper and may result in copper-related kidney toxicity. Alcoholism increases the risk of systemic effects, such as liver and kidney damage.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

**INGREDIENTS (Chemical/Common Names):**

<b>INGREDIENTS (Chemical/Common Names):</b>	<b>CAS No.:</b>	<b>% by Wt:</b>	<b>EC No.:</b>
Iron	7439-89-6	3-7	231-096
Copper	7440-50-8	1-5	231-159-6
Nitroglycerin	55-63-0	0.5-<2	200-240-8
Nitrocellulose	9004-70-0	0.5-2	Not listed
Zinc	7440-66-6	0.5-2	231-175-3
Tetrazene	109-27-3	<0.1	203-659-4
Diazodinitrophenol	87-31-0	<0.2	Not listed
Bismuth trioxide	304-76-3	<0.3	Not listed
Aluminum	7429-90-5	<0.1	231-072-3

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



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### Additional Information

These ingredients reflect components of the finished product related to performance of the product as distributed into commerce.

### **SECTION 4: FIRST AID MEASURES**

- EYE CONTACT:** If irritation occurs due to dust exposure, treat as foreign particulate matter. If eye irritation occurs, flush with clean water for 15 minutes while holding eyelids apart. Seek medical attention if irritation persists.
- SKIN CONTACT:** First aid is normally not required. After handling product, it is good work practice to wash your hands. Seek medical attention if irritation / allergic skin reaction develops. If skin is exposed to powder or primer, Immediately wipe material from skin and wash affected area(s) with plenty of mild soap and water.
- INGESTION:** If powder or primer is swallowed, seek medical attention immediately. Never give anything by mouth to an unconscious person.
- INHALATION:** If powder or primer is inhaled and respiratory symptoms or other symptoms of exposure develop, move victim to fresh air. If symptoms persist, seek medical attention. If breathing difficulties develop, qualified personnel should administer oxygen. Seek immediate medical attention. Keep victim warm and quiet; seek immediate medical attention.

### Additional Information

Remove severely contaminated shoes and clothing and clean thoroughly before reuse.

### **SECTION 5: FIRE-FIGHTING MEASURES**

#### **FLAMMABLE PROPERTIES**

**FLASHPOINT:** Not Available  
**METHOD USED:** Not Applicable

#### **FLAMMABLE LIMITS**

**UPPER FLAMMABILITY LIMIT (% BY VOLUME):** Not applicable  
**LOWER FLAMMABILITY LIMIT (% BY VOLUME):** Not applicable

**AUTOIGNITION TEMPERATURE:** Passes MIL-286B, Para. 404.1. Does not explode at 120 °C for 5 hours

#### **SUITABLE EXTINGUISHING MEDIA:**

Water deluge.

Note: Ingredients are self-oxidizing

#### **SPECIAL FIRE FIGHTING PROCEDURES & PROTECTIVE EQUIPMENT:**

Wear a self-contained breathing apparatus and protective clothing to prevent skin and eye contact. Cool exposed containers with water spray.

#### **UNUSUAL FIRE AND EXPLOSION HAZARDS:**

This product is sensitive to mechanical impact. Use caution as powder is sensitive to friction, impact and electrostatic discharge

#### **SPECIFIC HAZARDS IN CASE OF FIRE:**

Highly combustible. Will readily ignite. Protect from fire sparks and extreme heat (temperatures above 392 °F (200 °C)).

#### **HAZARDOUS COMBUSTION PRODUCTS:**

Smoke, fumes, and oxides of carbon, nitrogen, and various metals and hydrogen cyanide.

### **SECTION 6: ACCIDENTAL RELEASE MEASURES**

#### **PERSONAL PRECAUTIONS:**

Wear appropriate personal protection. Avoid Contact with Skin.

#### **ENVIRONMENTAL PRECAUTIONS:**

Prevent spilled material from entering sewers and waterways.



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## SPILL CONTAINMENT & CLEANUP METHODS/MATERIALS:

Shut off ignition source, eliminate smoking and open flames, and/or remove from extreme heat. Clean up spills of intact cartridges so as not to release powder. Clean up spills of loose powder immediately using a soft bristle brush and a non-conductive plastic shovel wearing nylon or polyethylene gloves. See Section 13 for disposal information. Add absorbent to spill area. Sweep or shovel spilled material and absorbent and place in approved container.

## SECTION 7: HANDLING AND STORAGE

### PRECAUTIONS FOR SAFE HANDLING AND STORAGE:

**Handling:** Handle packages/containers with care. For industrial or professional use only. Keep out of reach of children. This product is sensitive to mechanical impact.

**Storage:** Store at temperatures below 125 °F (52 °C), at normal temperature and pressure and below 90% relative humidity. Do not store near acids, bases and oxidizers.

### OTHER PRECAUTIONS (e.g.; Incompatibilities):

Avoid acids, crushing, short circuits, open flame, excessive heat and prolonged temperatures above 125 °F (52 °C).

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### ENGINEERING CONTROLS/SYSTEM DESIGN INFORMATION:

Use with adequate ventilation.

### VENTILATION:

Provide general exhaust ventilation systems. Use local exhaust ventilation in poorly ventilated areas.

### RESPIRATORY PROTECTION:

Not required for normal conditions of use. If ventilation is inadequate to keep concentrations below the Exposure Limits, use a NIOSH certified air-purifying respirator with HEPA (P100) filter cartridges. See also special firefighting procedures (Section 5).

### EYE PROTECTION:

Wear protective glasses or goggles.

### SKIN PROTECTION:

Wear chemical resistant gloves as a standard procedure to prevent skin contact. If exposure to powder charges is possible, nylon or polyethylene gloves with sweat absorptive liners are recommended.

### OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

None required under normal use conditions.

### EXPOSURE GUIDELINES & LIMITS:

Particulate not otherwise classified (inhalable)

Respirable particulate not otherwise classified

OSHA	Permissible Exposure Limit (PEL/TWA)	0.2 mg/m <sup>3</sup> (fumes, as Cu) 0.2 ppm 5 mg/m <sup>3</sup> 15 mg/m <sup>3</sup> 5 mg/m <sup>3</sup> (as fume)	Copper Nitroglycerin (Respirable Dust) (Total Dust) Zinc:
ACGIH	Threshold Limit Value (TLV)	0.2 mg/m <sup>3</sup> (fumes, as Cu) 0.05 ppm (skin) 3 mg/m <sup>3</sup> 10 mg/m <sup>3</sup> 2 mg/m <sup>3</sup>	Copper Nitroglycerin (Respirable Dust) (Total Dust) Zinc:
Quebec	Permissible Exposure Value (PEV)	0.2 mg/m <sup>3</sup> (fumes, as Cu) 0.05 ppm 5 mg/m <sup>3</sup> 15 mg/m <sup>3</sup> 5 mg/m <sup>3</sup> (as fume)	Copper Nitroglycerin (Respirable Dust) (Total Dust) Zinc:
Ontario	Time-Weighted Average Exposure Values (TWAEV)	0.2 mg/m <sup>3</sup> (fumes, as Cu) 0.2 ppm 2 mg/m <sup>3</sup> 10 mg/m <sup>3</sup> 2 mg/m <sup>3</sup> (as fume)	Copper Nitroglycerin (Respirable Dust) (Total Dust) Zinc:



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United Kingdom

Occupational Exposure Standard  
(OES)

0.2 mg/m<sup>3</sup> (fumes, as Cu)

NE

5 mg/m<sup>3</sup>

10 mg/m<sup>3</sup>

NE

Copper

Nitroglycerin

(Respirable Dust)

(Total Dust)

Zinc:

TWA – 8-Hour Time Weighted Average

NE – Not Established

## Additional Information

The “skin” notation indicates that pure nitroglycerin can be absorbed through the skin. There are exposure limits for other ingredients, but the percentages and hazards of other constituents were lower than the substances above

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>APPEARANCE:</b>	Granular solid and primer activation system encapsulated in polyethylene
<b>ODOR:</b>	Little or no odor
<b>ODOR THRESHOLD:</b>	Not Determined
<b>PHYSICAL STATE:</b>	Solid
<b>pH:</b>	Not Applicable
<b>BOILING POINT:</b>	Not Applicable
<b>MELTING POINT:</b>	Not Applicable
<b>FREEZING POINT:</b>	Not Applicable
<b>VAPOR PRESSURE (mmHg @ 20°C):</b>	Not Applicable
<b>VAPOR DENSITY (AIR = 1):</b>	Not Applicable
<b>VOLATILITY (% by Volume)</b>	<2.4%
<b>SPECIFIC GRAVITY (H<sub>2</sub>O = 1):</b>	ca. 1.67
<b>EVAPORATION RATE (Butyl acetate=1):</b>	Not Applicable
<b>SOLUBILITY IN WATER:</b>	Insoluble
<b>FLASH POINT:</b>	Not Determined
<b>AUTO-IGNITION TEMPERATURE:</b>	Passes MIL-286B, Para. 404.1. Does not explode at 120 °C for 5 hours
<b>LOWER EXPLOSIVE LIMIT (LEL):</b>	Not Applicable
<b>UPPER EXPLOSIVE LIMIT (UEL):</b>	Not Applicable
<b>PARTITION COEFFICIENT:</b>	Not Applicable
<b>VISCOSITY (centipoise @ 25° C):</b>	Not Applicable
<b>DECOMPOSITION TEMPERATURE:</b>	Not Determined

## SECTION 10: STABILITY AND REACTIVITY

<b>STABILITY:</b>	Due to the product design and amount of powder in the charge, this product is stable under normal conditions at ambient temperature. Nitroglycerin is shock-sensitive.
<b>INCOMPATIBILITY (MATERIAL TO AVOID):</b>	Acid, bases, and strong oxidizers
<b>HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:</b>	See Section 5: FIRE FIGHTING MEASURES (Hazardous Combustion Products).
<b>HAZARDOUS POLYMERIZATION:</b>	Will not occur. No known polymerization conditions to avoid.
<b>CONDITIONS TO AVOID:</b>	Avoid acids, crushing, short circuits, open flame, excessive heat and prolonged temperatures above 125 °F (52 °C).

## SECTION 11: TOXICOLOGICAL INFORMATION

### ACUTE TOXICITY (Test Results Basis and Comments):

The information presented below corresponds to the individual components of this product. Toxicity studies have not been performed on the mixture as a whole. The product is encapsulated in polyethylene, so bioavailability will be limited.

#### Nitroglycerin

LD50: 105 mg/kg (Rat)



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### ROUTES OF ENTRY/EFFECTS OF ACUTE OVEREXPOSURE:

**Eye Contact:** Dust may cause eye irritation or redness.

**Skin Contact:** Repeated or prolonged contact with some ingredients, such as zinc and other metals, may cause mild skin irritation and possible allergic reaction.

**Ingestion (Swallowing):** Ingestion of this product may cause fainting, flushing of the skin, dizziness, rapid heartbeat, abdominal pain.

**Inhalation (Breathing):** Possible irritation of the respiratory system. (See the Thermal Degradation and Combustion Byproducts Section for more specific information.)

### SUBCHRONIC/CHRONIC TOXICITY (Test Results and Comments):

**IRRITANCY OF PRODUCT:** Vapours from the heated product may cause irritation of the eyes, skin, nose, and throat.

**SENSITIZATION TO MATERIAL:** Not known.

**CARCINOGENICITY:** None of the ingredients to which users may be exposed and which are present at equal to or greater than 0.1% of the product, are listed by OSHA, NTP, or IARC as carcinogens.

**REPRODUCTIVE TOXICITY:** Possible reproductive effects from Nitroglycerin, Aluminum and Copper

**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):

No data available on bioaccumulation.

### AQUATIC TOXICITY (Test Results & Comments):

Copper, zinc and nitroglycerin are toxic to various aquatic organisms. No specific bioassays have been completed for this product.

#### Additional Information

No known effects on stratospheric ozone depletion.

Water Endangering Class (WGK): NA

## SECTION 13: DISPOSAL CONSIDERATIONS

### WASTE DISPOSAL METHOD:

Detonated cartridges may be treated as non-hazardous waste.

### HAZARDOUS WASTE

Undetonated cartridges must be managed as a reactive hazardous waste. Follow local, State/Provincial, and Federal/National regulations applicable to as-used.

### CLASS/CODE:

US - Undetonated cartridge waste is classified as a reactive hazardous waste, D003 and P081.  
CN – Not determined  
EWC – Not determined.

#### Additional Information

End-of-life characteristics to be determined by end-user.

## SECTION 14: TRANSPORT INFORMATION

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

Proper Shipping Name	UN-0014, Cartridges for tools, blank, Class 1.4S, PG II, USDOT PI-173.62/63	ID Number	UN0014
Hazard Class	1.4S	Labels	None
Packing Group	II	Placard	NA
Packaging	PI-173.62/63		
Freight Class	85		

Bulk packaging not allowed except as provided for in PI-173.63



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### **AIRCRAFT – ICAO-IATA:**

Proper Shipping Name	Cartridges for tools, blank	ID Number	UN0014
Hazard Class	1.4S	Labels	1.4S hazard label
Packing Group	None	Placard	NA
Packaging	PI 130		
Quantity Limit:	Cargo Air Only 100 kg, Passenger Air 25 kg		

### **VESSEL – IMO-IMDG:**

Proper Shipping Name	Cartridges for tools, blank	ID Number	UN0014
Hazard Class	1.4S	Labels	1.4S hazard label
Packing Group	II	Location	05
Packaging	PI 130		

May be stored on deck in closed cargo transport units or under deck on a cargo vessel (up to 25 passengers) and on a passenger vessel

### **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.

## **SECTION 15: REGULATORY INFORMATION**

**HNSO Approval Code:** HRC100264

National regulatory information

HSNO Group Standard Approval: not required

Tracking Required: not required

Approved Handler Cert.: not required -

All Ingredient Listed





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**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 PREPARATION INFORMATION:**

DATE OF ISSUE: **01 March, 2021**

SUPERCEDES: **18 July, 2016**

**DISCLAIMER:**

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*Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application and to establish safe handling and installation procedures. Distributors of this product are advised to forward this document, or the information contained herein, to every purchaser of this product.*

**END**