

Classified as hazardous in accordance with the criteria of EPA New Zealand

## Section 1 - Identification

### Product Identifier

**Product Name** TNTplus metals preparation kitMetals Prep Set Reagent B

**Recommended Use** Laboratory chemicals.  
**Uses advised against** No Information available

<b>Product Code</b>	<b>HACTNT890</b>
<b>Address</b>	Thermo Fisher Scientific New Zealand Ltd 244 Bush Road, Albany, Auckland, New Zealand
<b>Emergency Tel.</b>	<b>CHEMTREC®</b> <b>09 980 6780 or +64 9 980 6780</b>
<b>Telephone / Fax Numbers</b>	Tel: 09 980 6700 Fax: 09 980 6788
<b>E-mail address</b>	<u>ANZinfo@thermofisher.com</u>

## Section 2 - Hazard(s) Identification

### Classification under Work Safe New Zealand

Classified as hazardous in accordance with the criteria of EPA New Zealand

**HSNO Approval Number** **HSR002596**

### GHS Classification

#### Physical hazards

Oxidizing solids Category 3

#### Health hazards

Acute Oral Toxicity	Category 4
Skin Corrosion/Irritation	Category 1 A
Serious Eye Damage/Eye Irritation	Category 1
Respiratory Sensitization	Category 1
Skin Sensitization	Category 1
Specific target organ toxicity - (single exposure)	Category 3

#### Environmental hazards

Chronic aquatic toxicity Category 4

### Label Elements



Signal Word

Danger

#### Hazard Statements

H314 - Causes severe skin burns and eye damage  
H272 - May intensify fire; oxidizer  
H302 - Harmful if swallowed  
H317 - May cause an allergic skin reaction  
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled  
H335 - May cause respiratory irritation  
H413 - May cause long lasting harmful effects to aquatic life

#### Precautionary Statements

##### Prevention

P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P271 - Use only outdoors or in a well-ventilated area  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P220 - Keep away from clothing and other combustible materials  
P221 - Take any precaution to avoid mixing with combustibles  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
P270 - Do not eat, drink or smoke when using this product  
P272 - Contaminated work clothing should not be allowed out of the workplace  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P284 - In case of inadequate ventilation wear respiratory protection

##### Response

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower  
P304 + P340 - IF INHALED: Remove person to fresh air and keep 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  
P310 - Immediately call a POISON CENTER or doctor  
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P330 - Rinse mouth  
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention  
P337 + P313 - If eye irritation persists: Get medical advice/attention  
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor  
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish  
P362 + P364 - Take off contaminated clothing and wash it before reuse

##### Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

##### Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

#### Other hazards which do not result in classification

Toxic to terrestrial vertebrates

This product does not contain any known or suspected endocrine disruptors

## Section 3 - Composition and Information on Ingredients

Component	CAS No	Weight %
Potassium persulfate	7727-21-1	100

## Section 4 - First Aid Measures

### Description of first aid measures

<b>General Advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>New Zealand Emergency Tel.</b>	CHEMTREC® 09 980 6780 or +64 9 980 6780
<b>Inhalation</b>	If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove to fresh air. Call a physician or poison control center immediately.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. Keep eye wide open while rinsing.
<b>Skin Contact</b>	Call a physician immediately. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Ingestion</b>	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Drink plenty of water.
<b>Self-Protection of the First Aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.
<b>First Aid Facilities</b>	Eyewash, safety shower and washroom.
<b>Most important symptoms and effects</b>	Causes burns by all exposure routes. . May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing
<b>Notes to Physician</b>	Treat symptomatically.

## Section 5 - Fire Fighting Measures

### Suitable Extinguishing Media

CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam.

### Extinguishing media which must not be used for safety reasons

No information available.

### Specific Hazards Arising from the Chemical

The product causes burns of eyes, skin and mucous membranes. Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.).

### Hazardous Combustion Products

None under normal use conditions.

### Special protective equipment and precautions for fire fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

## Section 6 - Accidental Release Measures

### Personal Precautions, Protective Equipment and Emergency Procedures

#### Emergency procedures

Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing.

#### Environmental Precautions

Should not be released into the environment. Do not allow material to contaminate ground water system.

#### Methods for Containment and Clean Up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal.

#### Precautions to prevent secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations

#### Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## Section 7 - Handling and Storage

### Precautions for Safe Handling

#### Advice on safe handling

Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Do not breathe dust. Keep away from clothing and other combustible materials.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

### Conditions for Safe Storage, Including any Incompatibilities

#### Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area. Do not store near combustible materials.

#### Incompatible Materials

Strong reducing agents. Combustible material.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

## Section 8 - Exposure Controls and Personal Protection

### Control parameters

#### Exposure limits

**NZ** - Workplace Exposure Standards and Biological Exposure Indices (6th edition). New Zealand Department of Labor

**ACGIH** - Threshold Limit Values - Ceiling (TLV-C) guidelines by the American Conference of Governmental Industrial Hygienists (ACGIH) for controlling worker exposure to airborne chemical concentrations in the workplace.

Component	New Zealand WEL	Australia	ACGIH TLV	The United Kingdom
Potassium persulfate			TWA: 0.1 mg/m <sup>3</sup>	

#### Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

### Appropriate engineering controls

**Engineering Measures**

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

**Individual protection measures, such as personal protective equipment**

**Eye Protection** Goggles (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

**Hand Protection** Protective gloves

Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
Natural rubber, Nitrile rubber, Neoprene, PVC.	See manufacturers recommendations	-	AS/NZS 2161	(minimum requirement)

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Skin and body protection** Long sleeved clothing

**Respiratory Protection** Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of respiratory protective devices

**Recommended Filter type:** Particulates filter conforming to EN 143 (or AUS/NZ equivalent)

**Recommended half mask:-** Particle filtering: EN149:2001 (or AUS/NZ equivalent)

When RPE is used a face piece Fit Test should be conducted

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** No information available.

## Section 9 - Physical and Chemical Properties

**Information on basic physical and chemical properties**

<b>Physical State</b>	Solid	
<b>Appearance</b>	White to yellow	
<b>Odor</b>	No information available	
<b>Odor Threshold</b>	No data available	
<b>pH</b>	4.1	
<b>Melting Point/Range</b>	No data available >100	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	Not applicable	
<b>Flammability (liquid)</b>	Not applicable	Solid
<b>Flammability (solid,gas)</b>	Not applicable	Liquid
<b>Explosion Limits</b>	No data available	
<b>Flash Point</b>	Not applicable	<b>Method -</b> No information available
<b>Autoignition Temperature</b>	Not applicable	
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	Not applicable	Solid
<b>Water Solubility</b>	Soluble	
<b>Solubility in other solvents</b>	No information available	

**Partition Coefficient (n-octanol/water)**

<b>Vapor Pressure</b>	No data available	
<b>Density / Specific Gravity</b>	No data available	
<b>Bulk Density</b>	Not applicable	Liquid
<b>Vapor Density</b>	Not applicable	Solid
<b>Particle characteristics</b>	No data available	

**Other information**

<b>Oxidizing Properties</b>	Oxidizer
<b>Evaporation Rate</b>	Not applicable - Solid

## Section 10 - Stability and Reactivity

<b>Reactivity</b>	Yes
<b>Stability</b>	Stable under normal conditions. Oxidizer: Contact with combustible/organic material may cause fire.
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.
<b>Conditions to Avoid</b>	Incompatible products, Excess heat, Combustible material.
<b>Incompatible Materials</b>	Strong reducing agents, Combustible material.
<b>Hazardous Decomposition Products</b>	None under normal use conditions.

## Section 11 - Toxicological Information

**Acute Effects**

**Information on likely routes of exposure**

**Product Information**

<b>Inhalation</b>	Not an expected route of exposure.
<b>Eyes</b>	Not an expected route of exposure.
<b>Skin</b>	No known effect based on information supplied.
<b>Ingestion</b>	Not an expected route of exposure.

**Numerical measures of toxicity**

<b>(a) acute toxicity;</b>	
<b>Oral</b>	Category 4
<b>Dermal</b>	Based on available data, the classification criteria are not met
<b>Inhalation</b>	Based on available data, the classification criteria are not met

**Toxicology data for the components**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Potassium persulfate	802 mg/kg ( Rat )	> 10000 mg/kg ( Rabbit )	LC50 > 42.9 mg/L ( Rat ) 1 h

<b>(b) skin corrosion/irritation;</b>	Category 1 A
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(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

Respiratory

Category 1

Skin

Category 1

Sensitization

No information available

(e) germ cell mutagenicity;

Based on available data, the classification criteria are not met

(f) carcinogenicity;

Based on available data, the classification criteria are not met

The table below indicates whether each agency has listed any ingredient as a carcinogen

(g) reproductive toxicity;

Based on available data, the classification criteria are not met

(h) STOT-single exposure;

Category 3

(i) STOT-repeated exposure;

Based on available data, the classification criteria are not met

Target Organs

None known.

(j) aspiration hazard;

Not applicable  
Solid

#### Symptoms / effects, both acute and delayed

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

## Section 12 - Ecological Information

### Ecotoxicity

#### Aquatic ecotoxicity

Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Potassium persulfate	LC50: 100 mg/L/96h (P.reticulata)	EC50: 357 mg/L/24H (Daphnia magna)		

#### Terrestrial ecotoxicity

There is no data for this product

### Persistence and Degradability

#### Persistence

Soluble in water, Persistence is unlikely, based on information available.

#### Degradability

Not relevant for inorganic substances.

#### Bioaccumulative Potential

Bioaccumulation is unlikely

**Mobility** The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

**Other adverse effects**

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors  
**Persistent Organic Pollutant** This product does not contain any known or suspected substance  
**Ozone Depletion Potential** This product does not contain any known or suspected substance

## Section 13 - Disposal Considerations

**Waste treatment methods**

**Waste from Residues/Unused Products** Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

**Contaminated Packaging** Dispose of this container to hazardous or special waste collection point.

**Other Information** Disposal agencies or waste contractors must comply with the New Zealand Hazardous Substances (Disposal) Regulations . Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not flush to sewer. Large amounts will affect pH and harm aquatic organisms.

## Section 14 - Transport Information

Component	Hazchem Code
Potassium persulfate 7727-21-1 ( 100 )	2Z

**NZS 5433:2020**

**UN-No** UN3316  
**Proper Shipping Name** CHEMICAL KIT  
**Technical Shipping Name** Potassium Persulphate  
**Hazard Class** 9  
**Packing Group** III

**IATA**

**UN-No** UN3316  
**Proper Shipping Name** CHEMICAL KIT  
**Technical Shipping Name** Potassium Persulphate  
**Hazard Class** 9  
**Packing Group** III

**IMDG/IMO**

**UN-No** UN3316  
**Proper Shipping Name** CHEMICAL KIT  
**Technical Shipping Name** Potassium Persulphate  
**Hazard Class** 9  
**Packing Group** III

**Environmental hazards** No hazards identified

**Transport in bulk according to** Not applicable, packaged goods



Annex II of MARPOL 73/78 and the  
IBC Code

**Special Precautions** No special precautions required. Please refer to the applicable dangerous goods regulations for additional information.

**Additional information** None known

## Section 15 - Regulatory Information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

<b>HSNO Approval Number</b>	HSR002596
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#### National Regulations

There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

#### Certified handlers, tracking and controlled substance license requirements

Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information. Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information.

#### Prohibition or notification/licensing requirements

Shown below are details of specific prohibition/notifications or licensing requirements when they apply.

#### International Regulations

**Ozone Depletion Potential** This product does not contain any known or suspected substance

**Persistent Organic Pollutant** This product does not contain any known or suspected substance

**Rotterdam Convention (PIC)** Not applicable

#### Authorisation/Restrictions according to EU REACH

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Potassium persulfate	-	Use restricted. See item 75. (see link for restriction details)	-

<https://echa.europa.eu/substances-restricted-under-reach>

#### International Inventories

New Zealand (NZIoC), Australia (AICS), Europe (EINECS/ELINCS/NLP), Korea (KECL), China (IECSC), Taiwan (TCSI), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	NZIoC	AICS	EINECS	ELINCS	NLP	KECL	IECSC	TCSI
Potassium persulfate	7727-21-1	X	X	231-781-8	-	-	KE-12177	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	PICCS	ISHL	ENCS
Potassium persulfate	7727-21-1	X	ACTIVE	X	-	X	X	X

Legend: X - Listed '-' - Not Listed

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

## Section 16 - Other Information

This safety data sheet complies with the requirements of the EPA Hazardous Substances (Hazard Classification) Notice 2020 and WorkSafe New Zealand Regulations

### Legend

**NZIoC** - New Zealand Inventory of Chemicals  
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**IECSC** - Chinese Inventory of Existing Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**TWA** - Time Weighted Average  
**IARC** - International Agency for Research on Cancer  
**NZS 5433:2020** - Transport of Dangerous Goods on Land  
**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association  
**MARPOL** - International Convention for the Prevention of Pollution from Ships  
**LD50** - Lethal Dose 50%  
**EC50** - Effective Concentration 50%  
**WEL** - Workplace Exposure Limit  
**DNEL** - Derived No Effect Level  
**POW** - Partition coefficient Octanol:Water  
**vPvB** - very Persistent, very Bioaccumulative  
**VOC** - (Volatile Organic Compound)

**AICS** - Australian Inventory of Chemical Substances  
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances  
**ENCS** - Japanese Existing and New Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**CAS** - Chemical Abstracts Service  
**ACGIH** - American Conference of Governmental Industrial Hygienists  
**PNEC** - Predicted No Effect Concentration  
**OECD** - Organisation for Economic Co-operation and Development  
**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code  
**ADG** - Australian Code for the Transport of Dangerous Goods by Road and Rail  
**LC50** - Lethal Concentration 50%  
**ATE** - Acute Toxicity Estimate  
**RPE** - Respiratory Protective Equipment  
**NOEC** - No Observed Effect Concentration  
**BCF** - Bioconcentration factor  
**PBT** - Persistent, Bioaccumulative, Toxic

### Key literature references and sources for data

HSNO classifications provided in the New Zealand Chemical Classification Information Database (CCID).  
<https://echa.europa.eu/information-on-chemicals>  
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS  
EPA Guide to classifying hazardous substances in New Zealand  
EPA - Assigning a product to an existing HSNO approval guide

### Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

<b>Physical hazards</b>	On basis of test data
<b>Health Hazards</b>	Calculation method
<b>Environmental hazards</b>	Calculation method

### Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.  
Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.  
First aid for chemical exposure, including the use of eye wash and safety showers.

<b>Revision Date</b>	14-Jul-2023
<b>Revision Summary</b>	Update to GHS format

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

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## End of Safety Data Sheet