

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

Section 1 - Identification

Product Identifier

| | |
|-----------------------------|-------------------------------------|
| Product Name | <u>Brass foil, alloy 260</u> |
| Molecular Formula | Cu:Cn 70:30 |
| Recommended Use | Laboratory chemicals. |
| Uses advised against | No Information available |

| | |
|--------------------------------|---|
| Product Code | 47224 |
| Address | Thermo Fisher Scientific New Zealand Ltd 244 Bush Road, Albany, Auckland, New Zealand |
| Emergency Tel. | CHEMTREC® 09 980 6780 or +64 9 980 6780 |
| Telephone / Fax Numbers | Tel: 09 980 6700 Fax: 09 980 6788 |
| E-mail address | <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

GHS Classification

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

| | |
|---|------------|
| Acute Oral Toxicity | Category 2 |
| Acute Inhalation Toxicity - Dusts and Mists | Category 2 |
| Serious Eye Damage/Eye Irritation | Category 2 |
| Skin Sensitization | Category 1 |
| Germ Cell Mutagenicity | Category 1 |

Environmental hazards

| | |
|--------------------------|------------|
| Acute aquatic toxicity | Category 1 |
| Chronic aquatic toxicity | Category 1 |

Label Elements None required

**Signal Word****Danger****Hazard Statements**

H319 - Causes serious eye irritation
 H317 - May cause an allergic skin reaction
 H340 - May cause genetic defects
 H410 - Very toxic to aquatic life with long lasting effects
 H300 + H330 - Fatal if swallowed or if inhaled

Precautionary Statements**Prevention**

P273 - Avoid release to the environment

Response

P391 - Collect spillage

Storage

P403 - Store in a well-ventilated place

Disposal

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

Other hazards which do not result in classification

Toxicity to Soil Dwelling Organisms
 Toxic to terrestrial vertebrates

Section 3 - Composition and Information on Ingredients

| Component | CAS No | Weight % |
|------------|-----------|----------|
| Copper | 7440-50-8 | 70.0 |
| Zinc metal | 7440-66-6 | 30.0 |

Section 4 - First Aid Measures

Description of first aid measures

| | |
|---|---|
| General Advice | If symptoms persist, call a physician. |
| New Zealand Emergency Tel. | CHEMTREC® 09 980 6780 or +64 9 980 6780 |
| Inhalation | Remove to fresh air. Get medical attention immediately if symptoms occur. |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur. |
| Self-Protection of the First Aider | No special precautions required. |

| | |
|--|--------------------------------------|
| First Aid Facilities | Eyewash, safety shower and washroom. |
| Most important symptoms and effects | None reasonably foreseeable. |
| Notes to Physician | Treat symptomatically. |

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media

approved class D extinguishers. Do not use water or foam.

Extinguishing media which must not be used for safety reasons

Water may be ineffective.

Specific Hazards Arising from the Chemical

Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous Combustion Products

Zinc oxide, Copper oxides.

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.

Section 6 - Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation. No special precautions required.

Environmental Precautions

Do not flush into surface water or sanitary sewer system. 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. Pick up and transfer to properly labelled containers.

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

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid contact with skin, eyes or clothing. Avoid dust formation.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

Conditions for Safe Storage, Including any Incompatibilities**Storage Conditions**

Keep in a dry place. Keep away from acids.

Incompatible Materials

Acids.

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.

AUS - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)]

Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] updated in August, 2005. Safe Work Australia

UK - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.

| Component | New Zealand WEL | Australia | ACGIH TLV | The United Kingdom |
|-----------|-----------------------------|--|----------------------------|--|
| Copper | TWA: 0.01 mg/m ³ | TWA: 1 mg/m ³ TWA: 0.2 mg/m ³ | TWA: 0.2 mg/m ³ | STEL: 0.6 mg/m ³ 15 min STEL: 2 mg/m ³ 15 min TWA: 1 mg/m ³ 8 hr TWA: 0.2 mg/m ³ 8 hr |

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**

None under normal use conditions.

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

Wear safety glasses with side shields (or goggles) (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

Hand Protection

No special protective equipment required

| Glove material | Breakthrough time | Glove thickness | AUS/NZ Standard | Glove comments |
|--------------------|-----------------------------------|-----------------|-----------------|-----------------------|
| Disposable gloves. | See manufacturers recommendations | - | AS/NZS 2161 | (minimum requirement) |

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:

Particle filter (or AUS/NZ equivalent)

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water

system. Local authorities should be advised if significant spillages cannot be contained.

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

| | | |
|---|--------------------------|-----------------------------------|
| Physical State | Solid | |
| Appearance | Yellow | |
| Odor | Odorless | |
| Odor Threshold | No data available | |
| pH | No information available | |
| Melting Point/Range | No data available | |
| Softening Point | No data available | |
| Boiling Point/Range | No information available | |
| Flammability (liquid) | Not applicable | Solid |
| Flammability (solid,gas) | No information available | |
| Explosion Limits | No data available | |
| Flash Point | No information available | Method - No information available |
| Autoignition Temperature | No data available | |
| Decomposition Temperature | No data available | |
| Viscosity | Not applicable | Solid |
| Water Solubility | Insoluble in water | |
| Solubility in other solvents | No information available | |
| Partition Coefficient (n-octanol/water) | | |
| Vapor Pressure | 23 hPa @ 20 °C | |
| Density / Specific Gravity | No data available | |
| Bulk Density | No data available | |
| Vapor Density | Not applicable | Solid |
| Particle characteristics | No data available | |

Other information

| | |
|-------------------|------------------------|
| Molecular Formula | Cu:Cn 70:30 |
| Evaporation Rate | Not applicable - Solid |

Section 10 - Stability and Reactivity

| | |
|----------------------------------|---------------------------------|
| Reactivity | Yes |
| Stability | Stable under normal conditions. |
| Sensitivity to Mechanical Impact | No information available |
| Sensitivity to Static Discharge | No information available |
| Hazardous Polymerization | No information available. |
| Hazardous Reactions | None under normal processing. |
| Conditions to Avoid | Heat, flames and sparks. |
| Incompatible Materials | Acids. |

Hazardous Decomposition Products Zinc oxide. Copper oxides.

Section 11 - Toxicological Information

Acute Effects**Information on likely routes of exposure****Product Information**

| | |
|------------|--|
| Inhalation | Not an expected route of exposure. |
| Eyes | Not an expected route of exposure. |
| Skin | No known effect based on information supplied. |
| Ingestion | Not an expected route of exposure. |

Numerical measures of toxicity**(a) acute toxicity;**

| | |
|------------|--|
| Oral | Based on available data, the classification criteria are not met |
| Dermal | No data available |
| Inhalation | No data available |

Toxicology data for the components

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|------------|--------------------------|-------------|------------------------------|
| Copper | | | LC50 > 5.11 mg/L (Rat) 4 h |
| Zinc metal | LD50 = 630 mg/kg (Rat) | | |

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;

| | |
|-------------|-------------------|
| Respiratory | No data available |
| Skin | No data available |

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; Not applicable
Solid

Symptoms / effects, both acute and delayed

No information available.

Section 12 - Ecological Information

Ecotoxicity**Aquatic ecotoxicity**

The product contains following substances which are hazardous for the environment. Contains a substance which is: Very toxic to aquatic organisms. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

| Component | Freshwater Fish | Water Flea | Freshwater Algae | Microtox |
|------------|--|--|--|----------|
| Copper | LC50: = 1.25 mg/L, 96h static (Lepomis macrochirus) LC50: = 0.3 mg/L, 96h semi-static (Cyprinus carpio) LC50: = 0.8 mg/L, 96h static (Cyprinus carpio) LC50: = 0.112 mg/L, 96h flow-through (Poecilia reticulata) LC50: = 0.052 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: 0.0068 - 0.0156 mg/L, 96h (Pimephales promelas) LC50: < 0.3 mg/L, 96h static (Pimephales promelas) LC50: = 0.2 mg/L, 96h flow-through (Pimephales promelas) | EC50: = 0.03 mg/L, 48h Static (Daphnia magna) | EC50: 0.031 - 0.054 mg/L, 96h static (Pseudokirchneriella subcapitata) EC50: 0.0426 - 0.0535 mg/L, 72h static (Pseudokirchneriella subcapitata) | |
| Zinc metal | LC50: = 0.41 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 0.59 mg/L, 96h semi-static (Oncorhynchus mykiss) LC50: 2.16 - 3.05 mg/L, 96h flow-through (Pimephales promelas) LC50: 0.211 - 0.269 mg/L, 96h semi-static (Pimephales promelas) LC50: = 2.66 mg/L, 96h static (Pimephales promelas) LC50: = 30 mg/L, 96h (Cyprinus carpio) LC50: = 0.45 mg/L, 96h semi-static (Cyprinus carpio) LC50: = 7.8 mg/L, 96h static (Cyprinus carpio) LC50: = 0.24 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: = 3.5 mg/L, 96h static (Lepomis macrochirus) | EC50: 0.139 - 0.908 mg/L, 48h Static (Daphnia magna) | EC50: 0.09 - 0.125 mg/L, 72h static (Pseudokirchneriella subcapitata) EC50: 0.11 - 0.271 mg/L, 96h static (Pseudokirchneriella subcapitata) | |

Terrestrial ecotoxicity

There is no data for this product

Persistence and Degradability

Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary

Persistence

Insoluble in water, May persist.

| | |
|--|---|
| Degradability | Not relevant for inorganic substances. |
| Degradation in sewage treatment plant | Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants. |
| Bioaccumulative Potential | May have some potential to bioaccumulate Product has a high potential to bioconcentrate |
| Mobility | Spillage unlikely to penetrate soil. Is not likely mobile in the environment due its low water solubility. |
| <u>Other adverse effects</u> | |
| 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. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition. |
| Other Information | Disposal agencies or waste contractors must comply with the New Zealand Hazardous Substances (Disposal) Regulations . Do not flush to sewer. |

Section 14 - Transport Information

| Component | Hazchem Code |
|--------------------|--------------|
| Zinc metal | 4Y |
| 7440-66-6 (30.0) | 4W |

NZS 5433:2020 Not regulated

IATA Not regulated

IMDG/IMO Not regulated

| Component | IMDG Marine Pollutant |
|--------------------|---|
| Copper | IMDG regulated marine pollutant (Listed in the index, listed under Copper metal powder) |
| 7440-50-8 (70.0) | |

Environmental hazards Dangerous for the environment
Product is a marine pollutant according to the criteria set by IMDG/IMO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable, packaged goods

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

National Regulations

Any applicable tolerable exposure limits and environmental exposure limits according to the EPA Controls for Hazardous Substances are listed below

| Component | Tolerable Exposure Limit (TEL) Air | Tolerable Exposure Limit (TEL) Water | Tolerable Exposure Limit (TEL) Surface | Environmental Exposure Limits (EEL) |
|------------|------------------------------------|--------------------------------------|--|--|
| Copper | | | | 0.0014 mg/L (Freshwater) 0.0013 mg/L (Marine water) |
| Zinc metal | | | | 8 µg/L (Freshwater) 15 µg/L (Marine) |

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 licencing 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

| Component | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | IMDG Marine Pollutant |
|-----------|---|--|---|
| Copper | | | IMDG regulated marine pollutant (Listed in the index, listed under Copper metal powder) |

Authorisation/Restrictions according to EU REACH Not applicable

| 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) |
|------------|---|---|---|
| Copper | - | Use restricted. See item 75. (see link for restriction details) | - |
| Zinc metal | - | Use restricted. See item 75. (see link for restriction details) | - |

International Inventories

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

| Component | CAS No | NZIoC | AICS | EINECS | ELINCS | NLP | KECL | IECSC | TCSI |
|------------|-----------|-------|------|--------|--------|-----|----------|-------|------|
| Copper | 7440-50-8 | X | X | - | - | - | KE-08896 | X | X |
| Zinc metal | 7440-66-6 | X | X | - | - | - | KE-35518 | X | X |

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | DSL | NDSL | PICCS | ISHL | ENCS |
|------------|-----------|------|---|-----|------|-------|------|------|
| Copper | 7440-50-8 | X | ACTIVE | X | - | X | - | X |
| Zinc metal | 7440-66-6 | X | ACTIVE | 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/NDSL - 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]:

Physical hazards On basis of test data

Health Hazards Calculation method

Environmental hazards Calculation method

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Revision Date 22-Mar-2023

Revision Summary Not applicable

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

End of Safety Data Sheet