BOC ProFill Flux Coated Bronze Welding Rods

Version No: **2.1.1.1**
Safety Data Sheet according to WHS and ADG requirements

Issue Date: **01/01/2013**
Initial Date: **Not Available**

Not for sale in the USA

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	BOC ProFill NickelCoat and BOC ProFill MangCoat

Product/Article	Diameter(mm)	Packaging(kg)	Part Number
ProFill MangCoat	2.4	5 PCS	GRMC24H5
ProFill MangCoat	2.4	2.5	GRMC2425
ProFill MangCoat	3.2	5 PCS	GRMC32H5
ProFill MangCoat	3.2	2.5	GRMC3225
ProFill MangCoat	3.2	0.5	GRMC3205
ProFill MangCoat	2.4	0.5	GRMC2405
ProFil NickelCoat	2.4	5 PCS	GRNC24H5
ProFil NickelCoat	3.2	5 PCS	GRNC32H5
ProFil NickelCoat	3.2	2.5	GRNC3225
ProFil NickelCoat	3.2	0.5	GRNC3205

Chemical Name	Not Applicable
Synonyms	Flux Coated Bronze Welding Rods, MANG COAT, NICKEL COAT, flux coated bronze welding rods mang coat nickel coat
Proper shipping name	Not Applicable
Chemical formula	Not Applicable
Other means of identification	Not Available
CAS number	Not Applicable

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Gas torch braze welding.

Details of the manufacturer/importer

Registered company name	BOC Limited	BOC Limited
Address	10 Julius Avenue North Ryde NSW 2113 Australia	970-988 Great South Road Penrose, Auckland New Zealand
Telephone	131 262	0800 111 333
Fax	132 427	0800 229 923
Website	www.boc.com.au	www.boc.co.nz
Email	contact@boc.com	customer.servicenz@boc.com

Emergency telephone number

Emergency telephone numbers (24 hour)	1800 653 572 (Aus) or 0800 111 333 (NZ)

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

HAZARDOUS CHEMICAL. NON-DANGEROUS GOODS. According to the Model WHS Regulations and the ADG Code.

HAZARD RATINGS

		Min	Max
Flammability	0		
Toxicity	2		
Body Contact	2		
Reactivity	0		
Chronic	2		

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

Poisons Schedule	S6
GHS Classification [1]	Skin Sensitizer Category 1, Carcinogen Category 2, STOT - RE Category 1
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI*

Label elements

GHS label elements	

Continued...

SIGNAL WORD	DANGER

Hazard statement(s)

H317	May cause an allergic skin reaction
H351	Suspected of causing cancer
H372	Causes damage to organs through prolonged or repeated exposure

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P270	Do not eat, drink or smoke when using this product.

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: Get medical advice/attention.
P302+P352	IF ON SKIN: Wash with plenty of water and soap
P314	Get medical advice/attention if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.

Precautionary statement(s) Storage

P405	Store locked up.

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised chemical landfill or if organic to high temperature incineration

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
		Rods consisting of,
7440-02-0	0-15	nickel
7440-50-8	30-60	copper
Not Available	10-30	flux coating, proprietary
7440-66-6	30-60	zinc
7439-96-5	0-5	manganese
7440-31-5	0-5	tin
7440-21-3	0-1	silicon
7440-09-7	10-60	potassium
16984-48-8	10-60	fluorides as F-
7440-42-8	0-60	boron
		in use may generate
Not avail.		welding fumes

Rods consisting of, flux coating, proprietary in use may generate

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	▪ Generally not applicable.
Skin Contact	If skin or hair contact occurs: ▪ Flush skin and hair with running water (and soap if available). ▪ Seek medical attention in event of irritation.
Inhalation	▪ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▪ Other measures are usually unnecessary.
Ingestion	▪ Immediately give a glass of water. ▪ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

Copper, magnesium, aluminium, antimony, iron, manganese, nickel, zinc (and their compounds) in welding, brazing, galvanising or smelting operations all give rise to thermally produced particulates of smaller dimension than may be produced if the metals are divided mechanically. Where insufficient ventilation or respiratory protection is available these particulates may produce "metal fume fever" in workers from an acute or long term exposure.

- Onset occurs in 4-6 hours generally on the evening following exposure. Tolerance develops in workers but may be lost over the weekend. (Monday Morning Fever)
- Pulmonary function tests may indicate reduced lung volumes, small airway obstruction and decreased carbon monoxide diffusing capacity but these abnormalities resolve after several months.
- Although mildly elevated urinary levels of heavy metal may occur they do not correlate with clinical effects.

Continued...

- The general approach to treatment is recognition of the disease, supportive care and prevention of exposure.
- Seriously symptomatic patients should receive chest x-rays, have arterial blood gases determined and be observed for the development of tracheobronchitis and pulmonary edema.

[Ellenhorn and Barceloux: Medical Toxicology]

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

	▪ There is no restriction on the type of extinguisher which may be used. ▪ Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility	Welding arc and metal sparks can ignite combustibles.No known incompatibility with normal range of industrial materials

Advice for firefighters

Fire Fighting	▪ Alert Fire Brigade and tell them location and nature of hazard. ▪ Wear breathing apparatus plus protective gloves in the event of a fire. ▪ Prevent, by any means available, spillage from entering drains or water courses. ▪ Use fire fighting procedures suitable for surrounding area.
Fire/Explosion Hazard	▪ Non combustible. ▪ Not considered a significant fire risk, however containers may burn. Decomposition may produce toxic fumes of:, metal oxidesMay emit poisonous fumes.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills	▪ Clean up all spills immediately. ▪ Secure load if safe to do so. ▪ Bundle/collect recoverable product. ▪ Collect remaining material in containers with covers for disposal.
Major Spills	▪ Clean up all spills immediately. ▪ Wear protective clothing, safety glasses, dust mask, gloves. ▪ Secure load if safe to do so. Bundle/collect recoverable product.
	Personal Protective Equipment advice is contained in Section 8 of the MSDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	▪ Avoid all personal contact, including inhalation. ▪ Wear protective clothing when risk of exposure occurs. ▪ Use in a well-ventilated area. ▪ Prevent concentration in hollows and sumps.
Other information	▪ Store away from incompatible materials.

Conditions for safe storage, including any incompatibilities

Suitable container	▪ Packaging as recommended by manufacturer. ▪ Check that containers are clearly labelled
Storage incompatibility	Welding electrodes should not be allowed to come into contact with strong acids or other substances which are corrosive to metals.

PACKAGE MATERIAL INCOMPATIBILITIES

Not Available

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	nickel	Nickel, metal	1 mg/m3	Not Available	Not Available	Sen
Australia Exposure Standards	copper	Copper (fume) / Copper, dusts & mists (as Cu)	0.2 mg/m3 / 1 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	zinc	Fume (thermally generated) (respirable dust)(g)	2 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	manganese	Manganese, fume (as Mn)	1 mg/m3	3 mg/m3	Not Available	Not Available
Australia Exposure Standards	tin	Tin, metal	2 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	silicon	Silicon (a)	10 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	fluorides as F-	Fluorides (as F)	2.5 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	boron	Fume (thermally generated) (respirable dust)(g)	2 mg/m3	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Continued...

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
nickel	Nickel	4.5 mg/m3	50 mg/m3	99 mg/m3
copper	Copper	1 mg/m3	1 mg/m3	45 mg/m3
zinc	Zinc	1.9 mg/m3	21 mg/m3	120 mg/m3
manganese	Manganese	3 mg/m3	5 mg/m3	1800 mg/m3
tin	Tin	6 mg/m3	67 mg/m3	400 mg/m3
silicon	Silicon	45 mg/m3	100 mg/m3	630 mg/m3
potassium	Potassium	2.3 mg/m3	25 mg/m3	150 mg/m3
fluorides as F-	Fluorides (as F)	2.5 mg/m3	2.5 mg/m3	500 mg/m3
boron	Boron	7.9 mg/m3	87 mg/m3	130 mg/m3

Ingredient	Original IDLH	Revised IDLH
nickel	N.E. mg/m3 / N.E. ppm	10 mg/m3
copper	N.E. mg/m3 / N.E. ppm	100 mg/m3
flux coating, proprietary	Not Available	Not Available
zinc	Not Available	Not Available
manganese	N.E. mg/m3 / N.E. ppm	500 mg/m3
tin	Unknown mg/m3 / 400 mg/m3 / Unknown ppm	25 mg/m3 / 100 mg/m3
silicon	Not Available	Not Available
potassium	Not Available	Not Available
fluorides as F-	500 mg/m3	250 mg/m3
boron	Not Available	Not Available
welding fumes	Not Available	Not Available

MATERIAL DATA

Exposure controls

Appropriate engineering controls	If risk of inhalation or overexposure exists, wear SAA approved respirator or work in fume hood. Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk.
Personal protection	
Eye and face protection	Goggles or other suitable eye protection shall be used during all gas welding or oxygen cutting operations. Spectacles without side shields, with suitable filter lenses are permitted for use during gas welding operations on light work, for torch brazing or for inspection. For most open welding/brazing operations, goggles, even with appropriate filters, will not afford sufficient facial protection for operators. Where possible use welding helmets or handshields corresponding to EN 175, ANSI Z49:12005, AS 1336 and AS 1338 which provide the maximum possible facial protection from flying particles and fragments.
Skin protection	See Hand protection below
Hands/feet protection	Wear general protective gloves, eg. light weight rubber gloves. Welding Gloves Safety footwear
Body protection	See Other protection below
Other protection	Aprons, sleeves, shoulder covers, leggings or spats of pliable flame resistant leather or other suitable materials may also be required in positions where these areas of the body will encounter hot metal. ▪ Eyewash unit. Overalls
Thermal hazards	Not Available

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:
"Forsberg Clothing Performance Index".
The effect(s) of the following substance(s) are taken into account in the ***computer-generated*** selection:
BOC ProFill Flux Coated Bronze Welding Rods Not Available

Material	CPI

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -
* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Respiratory protection

Not Applicable

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SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Metal rods 750mm long, 2 to 5mm in diameter; does not mix with water.

Physical state	Manufactured	**Relative density (Water = 1)**	Not Applicable
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Applicable
pH (as supplied)	Not Applicable	**Decomposition temperature**	Not Available
Melting point / freezing point (°C)	865	**Viscosity (cSt)**	Not Applicable
Initial boiling point and boiling range (°C)	Not Available	**Molecular weight (g/mol)**	Not Applicable
Flash point (°C)	Not Available	**Taste**	Not Available
Evaporation rate	Not Applicable	**Explosive properties**	Not Available
Flammability	Not Available	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Applicable	**Surface Tension (dyn/cm or mN/m)**	Not Applicable
Lower Explosive Limit (%)	Not Applicable	**Volatile Component (%vol)**	Not Applicable
Vapour pressure (kPa)	Not Applicable	**Gas group**	Not Available
Solubility in water (g/L)	Immiscible	**pH as a solution(1%)**	Not Applicable
Vapour density (Air = 1)	Not Applicable	**VOC g/L**	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	Effects on lungs are significantly enhanced in the presence of respirable particles. Overexposure to respirable dust may produce wheezing, coughing and breathing difficulties leading to or symptomatic of impaired respiratory function. Fumes evolved during welding operations may be irritating to the upper-respiratory tract and may be harmful if inhaled.
Ingestion	Not normally a hazard due to physical form of product.
Skin Contact	Skin contact does **not** normally present a hazard, though it is always possible that occasionally individuals may be found who react to substances usually regarded as inert.
Eye	Fumes from welding/brazing operations may be irritating to the eyes.
Chronic	On the basis, primarily, of animal experiments, concern has been expressed that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment. Principal route of exposure is inhalation of welding fumes from electrodes and workpiece. Reaction products arising from electrode core and flux appear as welding fume depending on welding conditions, relative volatilities of metal oxides and any coatings on the workpiece. Studies of lung cancer among welders indicate that they may experience a 30-40% increased risk compared to the general population.

BOC ProFill Flux Coated Bronze Welding Rods	**TOXICITY**	**IRRITATION**
	Not Available	Not Available
nickel	**TOXICITY**	**IRRITATION**
	Intravenous (dog) LD50: 40 mg/kg	
	Oral (rat) LDLo: 5000 mg/kg	
	Not Available	Not Available
copper	**TOXICITY**	**IRRITATION**
	Oral (human) TDLo: 0.12 mg/kg	Nil Reported
	Oral (rat) LD50: 5800 mg/kg	
	Not Available	Not Available

zinc	**TOXICITY**	**IRRITATION**
	Not Available	Not Available
manganese	**TOXICITY**	**IRRITATION**
	Inhalation (man) TCLo: 2.3 mg/m3	Eye (rabbit): 500 mg/24h - mild
	Oral (rat) LD50: 9000 mg/kg	Skin (rabbit): 500 mg/24h - mild
	Not Available	Not Available
tin	**TOXICITY**	**IRRITATION**
	Not Available	Not Available
silicon	**TOXICITY**	**IRRITATION**
	Oral (rat) LD50: 3160 mg/kg	Nil reported
	Not Available	Not Available
potassium	**TOXICITY**	**IRRITATION**
	Not Available	Not Available
fluorides as F-	**TOXICITY**	**IRRITATION**
	Oral (human) LDLo: 50 mg/kg	
	Oral (human) TDLo: 3 mg/kg	
	Not Available	Not Available
boron	**TOXICITY**	**IRRITATION**
	Intraperitoneal (Mouse) LD50: 11000 mg/kg	
	Intraperitoneal (Rat) LD50: 7000 mg/kg	
	Oral (Cat) LD50: 250 mg/kg	
	Oral (Dog) LD50: 310 mg/kg	
	Oral (Guinea pig) LD50: 310 mg/kg	
	Oral (Mouse) LD50: 560 mg/kg	
	Oral (Rabbit) LD50: 310 mg/kg	
	Oral (Rat) LD50: 650 mg/kg	
	Not Available	Not Available
welding fumes	**TOXICITY**	**IRRITATION**
	Not Available	Not Available

Not available. Refer to individual constituents.

NICKEL	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. Oral (rat) TDLo: 500 mg/kg/5D-I Inhalation (rat) TCLo: 0.1 mg/m3/24H/17W-C
COPPER	for copper and its compounds (typically copper chloride): **Acute toxicity:** There are no reliable acute oral toxicity results available. In an acute dermal toxicity study (OECD TG 402), one group of 5 male rats and 5 groups of 5 female rats received doses of 1000, 1500 and 2000 mg/kg bw via dermal application for 24 hours. The LD50 values of copper monochloride were 2,000 mg/kg bw or greater for male (no deaths observed) and 1,224 mg/kg bw for female. Four females died at both 1500 and 2000 mg/kg bw, and one at 1,000 mg/kg bw. WARNING: Inhalation of high concentrations of copper fume may cause "metal fume fever", an acute industrial disease of short duration. Symptoms are tiredness, influenza like respiratory tract irritation with fever.
ZINC	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.
MANGANESE	The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis.
TIN	No significant acute toxicological data identified in literature search.

POTASSIUM	No significant acute toxicological data identified in literature search. Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant.
BORON	Elemental boron produces lower foetal body weight in rats. As dose levels increase the effects seen include rib effects, increased foetal cardiovascular malformations in the rabbit and severe testicular pathology in the rat, including testicular atrophy and sterility. Reduced foetal weight also occurs in mice.
WELDING FUMES	**WARNING:** This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans. Most welding is performed using electric arc processes - manual metal arc, metal inert gas (MIG) and tungsten inert gas welding (TIG) – and most welding is on mild steel. There has been considerable evidence over several decades regarding cancer risks in relation to welding activities. Several case-control studies reported excess risks of ocular melanoma in welders.
SILICON, BORON	Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS.

Acute Toxicity	⊘	**Carcinogenicity**	✔
Skin Irritation/Corrosion	⊘	**Reproductivity**	⊘
Serious Eye Damage/Irritation	⊘	**STOT - Single Exposure**	⊘
Respiratory or Skin sensitisation	✔	**STOT - Repeated Exposure**	✔
Mutagenicity	⊘	**Aspiration Hazard**	⊘

Legend: ✔ *– Data required to make classification available*
✘ *– Data available but does not fill the criteria for classification*
⊘ *– Data Not Available to make classification*

CMR STATUS

REPROTOXIN	nickel	ILO Chemicals in the electronics industry that have toxic effects on reproduction	A
	manganese	ILO Chemicals in the electronics industry that have toxic effects on reproduction	H si

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

NOT AVAILABLE

Ingredient	Endpoint	Test Duration	Effect	Value	Species	BCF
nickel	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
copper	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
flux coating, proprietary	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
zinc	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
manganese	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
tin	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
silicon	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
potassium	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
fluorides as F-	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
boron	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
welding fumes	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

Metal-containing inorganic substances generally have negligible vapour pressure and are not expected to partition to air. Once released to surface waters and moist soils their fate depends on solubility and dissociation in water. Environmental processes (such as oxidation and the presence of acids or bases) may transform insoluble metals to more soluble ionic forms. Microbiological processes may also transform insoluble metals to more soluble forms.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Continued...

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	▪ Containers may still present a chemical hazard/ danger when empty. ▪ Return to supplier for reuse/ recycling if possible. Otherwise: ▪ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. ▪ Where possible retain label warnings and MSDS and observe all notices pertaining to the product.

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

SECTION 15 REGULATORY INFORMATION

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

nickel(7440-02-0) is found on the following regulatory lists	"Australia Exposure Standards","Australia Inventory of Chemical Substances (AICS)","Australia Hazardous Substances Information System - Consolidated Lists"
copper(7440-50-8) is found on the following regulatory lists	"Australia Exposure Standards","International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs","Australia Inventory of Chemical Substances (AICS)","Australia Hazardous Substances Information System - Consolidated Lists"
zinc(7440-66-6) is found on the following regulatory lists	"Australia Exposure Standards","International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs","Australia Inventory of Chemical Substances (AICS)","Australia Hazardous Substances Information System - Consolidated Lists"
manganese(7439-96-5) is found on the following regulatory lists	"Australia Exposure Standards","International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs","Australia Inventory of Chemical Substances (AICS)","Australia Hazardous Substances Information System - Consolidated Lists"
tin(7440-31-5) is found on the following regulatory lists	"Australia Exposure Standards","Australia Inventory of Chemical Substances (AICS)","Australia Hazardous Substances Information System - Consolidated Lists"
silicon(7440-21-3) is found on the following regulatory lists	"Australia Exposure Standards","International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs","Australia Inventory of Chemical Substances (AICS)","Australia Hazardous Substances Information System - Consolidated Lists"
potassium(7440-09-7) is found on the following regulatory lists	"Australia Inventory of Chemical Substances (AICS)","Australia Hazardous Substances Information System - Consolidated Lists"
fluorides as F-(16984-48-8) is found on the following regulatory lists	"Australia Exposure Standards","International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs","Australia Hazardous Substances Information System - Consolidated Lists"
boron(7440-42-8) is found on the following regulatory lists	"Australia Exposure Standards","International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs","Australia Inventory of Chemical Substances (AICS)"
welding fumes(Not avail.) is found on the following regulatory lists	"Not Applicable"

SECTION 16 OTHER INFORMATION

Other information

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.