

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Form : Mixture
Product Name : Tungchip

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Speciality metal

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Company

Speciality Metals (Pty) Ltd.
P O Box 4522, Edenvale,
1610, South Africa / 53 Main Road,
Eastleigh, Edenvale, 1609
+27114524255

www.specialitymetals.co.za

info@specialitymetals.co.za

1.4. Emergency telephone number

Emergency number : +27114524255

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification According to Regulation (EC) No. 1272/2008 [CLP]

Resp. Sens. 1 H334
Skin Sens. 1 H317
Carc. 1B H350
Repr. 2 H361

Full text of hazard classes and H-statements : see section 16

2.2. Label elements

Labelling According to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS08

Signal word (CLP) : Danger

Hazard statements (CLP) : H317 - May cause an allergic skin reaction.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H350 - May cause cancer.
H361 - Suspected of damaging fertility or the unborn child.

Precautionary statements (CLP) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing dust.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective gloves, protective clothing, and eye protection.
P284 - Wear respiratory protection.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P321 - Specific treatment (see section 4 on this SDS).
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor.

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P362+P364 - Take off contaminated clothing and wash it before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Other hazards not contributing to the classification

: Under normal conditions of use and handling in the solid form, harmful substances cannot be released, nor is the solid metal piece considered flammable. Much of the information provided in this SDS is for situations of use in which hazardous exposures may occur, such as in welding applications or for metals in powder form. Dust generated from processing may present a dust explosion hazard. Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath. Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification According to Regulation (EC) No. 1272/2008 [CLP]
Tungsten	(CAS-No.) 7440-33-7 (EC-No.) 215-231-4;231-143-9	82,2 - 88,85	Not classified
Cobalt	(CAS-No.) 7440-48-4 (EC-No.) 231-158-0 (EC Index-No.) 027-001-00-9	5,5 - 10	Acute Tox. 4 (Oral), H302 Resp. Sens. 1B, H334 Skin Sens. 1, H317 Carc. 1B, H350 Repr. 2, H361fd Aquatic Chronic 4, H413
Carbon	(CAS-No.) 7440-44-0 (EC-No.) 231-153-3;931-328-0	5,65 - 5,8	Not classified
Iron	(CAS-No.) 7439-89-6 (EC-No.) 215-168-2;231-096-4	<= 1,5	Not classified
Titanium carbide (TiC)	(CAS-No.) 12070-08-5 (EC-No.) 235-120-4	<= 0,5	Not classified
Tantalum carbide (TaC)	(CAS-No.) 12070-06-3 (EC-No.) 235-118-3	<= 0,5	Not classified
Vanadium carbide (VC)	(CAS-No.) 12070-10-9 (EC-No.) 235-122-5	<= 0,5	Not classified

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation

: For particulates and dust: Using proper respiratory protection, move the exposed person to fresh air at once. Encourage exposed person to cough, spit out, and blow nose to remove dust. Immediately call a poison center, physician, or emergency medical service.

First-aid measures after skin contact

: For particulates and dust: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation/rash develops or persists. Removal of solidified molten material from skin requires medical assistance.

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First-aid measures after eye contact : For particulates and dust: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for at least 15 minutes. Obtain medical attention. Removal of solidified molten material from the eyes requires medical assistance.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : May cause allergy or asthma symptoms or breathing difficulties if inhaled. Skin sensitisation. Suspected of damaging fertility or the unborn child. May cause cancer.

Symptoms/effects after inhalation : During processing, the most significant route of exposure is by the inhalation (breathing) of dust or fumes. If fumes are inhaled, they can cause a condition commonly known as metal fume fever with symptoms which resemble influenza; Symptoms may be delayed 4-12 hours and begin with a sudden onset of thirst, and a sweet, metallic or foul taste in the mouth. Other symptoms may include upper respiratory tract irritation accompanied by coughing and a dryness of the mucous membranes, lassitude and a generalized feeling of malaise. Fever, chills, muscular pain, mild to severe headache, nausea, occasional vomiting, exaggerated mental activity, profuse sweating, excessive urination, diarrhea and prostration may also occur. Exposure may produce cough, mucous secretions, shortness of breath, chest tightness or other symptoms indicative of an allergic/sensitization reaction.

Symptoms/effects after skin contact : May cause an allergic skin reaction. Contact with hot, molten metal will cause thermal burns.

Symptoms/effects after eye contact : Risk of thermal burns on contact with molten product.

Symptoms/effects after ingestion : Ingestion may cause adverse effects.

Chronic symptoms : Suspected of damaging fertility or the unborn child. If dust is generated, repeated exposure through inhalation may cause cancer or lung disease.

4.3. Indication of any immediate medical attention and special treatment needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use Class D extinguishing agents on dusts, fines or molten metal. Use coarse water spray on chips and turnings.

Unsuitable extinguishing media : Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Combustible Dust.

Explosion hazard : Dust explosion hazard in air.

Reactivity : Hazardous reactions will not occur under normal conditions.

Hazardous decomposition products in case of fire : Metal oxides.

5.3. Advice for firefighters

Precautionary measures fire : Exercise caution when fighting any chemical fire.

Firefighting instructions : Use water spray or fog for cooling exposed containers.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

Other information : Do not allow run-off from fire fighting to enter drains or water courses. Risk of dust explosion.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Do not get in eyes, on skin, or on clothing. Do not breathe dust. Avoid generating dust. Remove ignition sources. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.

6.1.1. For non-emergency personnel

Protective equipment : Use appropriate personal protective equipment (PPE).

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

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Emergency procedures : Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Avoid release to the environment. Collect spillage.

6.3. Methods and material for containment and cleaning up

For containment : Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams. Avoid generation of dust during clean-up of spills.

Methods for cleaning up : Clean up spills immediately and dispose of waste safely. Contact competent authorities after a spill. Use explosion proof vacuum during cleanup, with appropriate filter. Do not mix with other materials. Vacuum clean-up is preferred. If sweeping is required use a dust suppressant. Use only non-sparking tools.

6.4. Reference to other sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Accumulation and dispersion of dust with an ignition source can cause a combustible dust explosion. Keep dust levels to a minimum and follow applicable regulations.

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Obtain special instructions before use. Do not get in eyes, on skin, or on clothing. Handle empty containers with care because they may still present a hazard. Avoid creating or spreading dust. Keep away from heat, sparks, open flames, and hot surfaces. No smoking.

Hygiene measures : Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations. Avoid creating or spreading dust. Use explosion-proof electrical, ventilating, lighting equipment. Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up/in a secure area.

Incompatible materials : Strong acids, strong bases, strong oxidizers. Alkalis.

7.3. Specific end use(s)

Speciality metal

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Cobalt (7440-48-4)		
Austria	TRK Daily average value (mg/m ³)	0,5 mg/m ³ (hardened metal-inhalable fraction) 0,1 mg/m ³ (all others-inhalable fraction)
Austria	OEL chemical category (AT)	Group A2 Carcinogen, Respiratory sensitizer, Skin notation, Skin sensitizer
Belgium	Limit value (mg/m ³)	0,02 mg/m ³ (dust and fume)
Bulgaria	OEL TWA (mg/m ³)	0,1 mg/m ³
Croatia	GVI (granična vrijednost izloženosti) (mg/m ³)	0,1 mg/m ³
France	France - BLV	0,001 mg/l Parameter: Cobalt - Medium: blood - Sampling time: end of shift at end of workweek (Background noise on non-exposed subjects) 0,015 mg/l Parameter: Cobalt - Medium: urine - Sampling time: end of shift at end of workweek (Background noise on non-exposed subjects)
Greece	OEL TWA (mg/m ³)	0,1 mg/m ³ (dust and fume)

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Cobalt (7440-48-4)		
USA ACGIH	ACGIH TWA (mg/m ³)	0,02 mg/m ³ (inhalable particulate matter)
Latvia	OEL TWA (mg/m ³)	0,5 mg/m ³
Spain	VLA-ED (mg/m ³)	0,02 mg/m ³
Spain	OEL chemical category (ES)	Sensitizer
Spain	Spain - BLV	15 µg/l Parameter: Cobalt - Medium: urine - Sampling time: end of workweek 1 µg/l Parameter: Cobalt - Medium: blood - Sampling time: end of workweek
Switzerland	MAK (mg/m ³)	0,05 mg/m ³ (inhalable dust)
Switzerland	OEL chemical category (CH)	Category C1B carcinogen, Category 2 mutagen, Category 1B reproductive toxin, Sensitizer, Skin notation
Switzerland	Switzerland - BLV	30 µg/l Parameter: Cobalt - Medium: urine - Sampling time: end of shift
Netherlands	Grenswaarde TGG 8H (mg/m ³)	0,02 mg/m ³ (dust and smoke)
United Kingdom	WEL TWA (mg/m ³)	0,1 mg/m ³
United Kingdom	WEL STEL (mg/m ³)	0,3 mg/m ³ (calculated)
United Kingdom	WEL chemical category	Capable of causing cancer and/or heritable genetic damage, Capable of causing occupational asthma
Czech Republic	Expoziční limity (PEL) (mg/m ³)	0,05 mg/m ³ (inhalable fraction of aerosol)
Czech Republic	OEL chemical category (CZ)	Sensitizer
Denmark	Grænsevædi (8 timer) (mg/m ³)	0,01 mg/m ³ (dust, fume and powder)
Estonia	OEL TWA (mg/m ³)	0,05 mg/m ³
Estonia	OEL chemical category (ET)	Sensitizer
Finland	HTP-arvo (8h) (mg/m ³)	0,02 mg/m ³
Finland	Finland - BLV	130 nmol/L Parameter: Cobalt - Medium: urine - Sampling time: after the work phase or shift after a working week or exposure period
Hungary	AK-érték	0,1 mg/m ³
Hungary	CK-érték	0,4 mg/m ³
Hungary	OEL chemical category (HU)	Sensitizer
Ireland	OEL (8 hours ref) (mg/m ³)	0,02 mg/m ³
Ireland	OEL (15 min ref) (mg/m ³)	0,3 mg/m ³ (calculated)
Ireland	OEL chemical category (IE)	Sensitizer
Lithuania	IPRV (mg/m ³)	0,05 mg/m ³
Lithuania	OEL chemical category (LT)	Carcinogen, Mutagen, Sensitizer
Norway	Grenseverdier (AN) (mg/m ³)	0,02 mg/m ³ (fume)
Norway	Grenseverdier (Korttidsverdi) (mg/m ³)	0,06 mg/m ³ (value calculated-fume)
Norway	OEL chemical category (NO)	Carcinogen, Potential reproductive hazard fume, Sensitizing substance fume
Poland	NDS (mg/m ³)	0,02 mg/m ³
Romania	OEL TWA (mg/m ³)	0,05 mg/m ³
Romania	OEL STEL (mg/m ³)	0,1 mg/m ³
Romania	Romania - BLV	15 µg/l Parameter: Cobalt - Medium: urine - Sampling time: end of work week 1 µg/l Parameter: Cobalt - Medium: blood - Sampling time: end of work week
Slovakia	NPHV (priemerná) (mg/m ³)	0,05 mg/m ³ (metal)

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Cobalt (7440-48-4)		
Slovakia	OEL chemical category (SK)	Sensitizer metal
Sweden	nivågränsvärde (NVG) (mg/m ³)	0,02 mg/m ³ (inhalable fraction)
Sweden	OEL chemical category (SE)	Carcinogen, Sensitizer, Skin notation
Portugal	OEL TWA (mg/m ³)	0,02 mg/m ³
Portugal	OEL chemical category (PT)	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
Titanium carbide (TiC) (12070-08-5)		
Switzerland	MAK (mg/m ³)	5 mg/m ³ (inhalable dust)
Carbon (7440-44-0)		
Austria	MAK (mg/m ³)	5 mg/m ³ (alveolar dust with <1% Quartz, respirable fraction)
Austria	MAK Short time value (mg/m ³)	10 mg/m ³ (alveolar dust with <1% Quartz, respirable fraction)
Poland	NDS (mg/m ³)	6 mg/m ³ (synthetic-inhalable fraction)
Vanadium carbide (VC) (12070-10-9)		
Austria	MAK (mg/m ³)	0,5 mg/m ³ (inhalable fraction)
Austria	MAK Short time value (mg/m ³)	1 mg/m ³ (inhalable fraction)
Iron (7439-89-6)		
Bulgaria	OEL TWA (mg/m ³)	6 mg/m ³ (containing <2% free Crystalline silicon dioxide in respirable fraction-dust, inhalable fraction)
Slovakia	NPHV (priemerná) (mg/m ³)	6 mg/m ³ (total aerosol)
Tungsten (7440-33-7)		
Austria	MAK (mg/m ³)	5 mg/m ³ (inhalable fraction)
Austria	MAK Short time value (mg/m ³)	10 mg/m ³ (inhalable fraction)
Bulgaria	OEL TWA (mg/m ³)	5 mg/m ³ (applies to its insoluble compounds) 1 mg/m ³ (applies to its soluble compounds)
Bulgaria	OEL STEL (mg/m ³)	3 mg/m ³ (Tungsten soluble compounds) 10 mg/m ³ (Tungsten insoluble compounds)
Croatia	GVI (granična vrijednost izloženosti) (mg/m ³)	5 mg/m ³
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m ³)	3 mg/m ³
USA ACGIH	ACGIH TWA (mg/m ³)	3 mg/m ³ (respirable particulate matter)
Spain	VLA-ED (mg/m ³)	5 mg/m ³
Spain	VLA-EC (mg/m ³)	10 mg/m ³
United Kingdom	WEL TWA (mg/m ³)	5 mg/m ³
United Kingdom	WEL STEL (mg/m ³)	10 mg/m ³
Denmark	Grænsevædi (8 timer) (mg/m ³)	5 mg/m ³ (dust and powder)
Estonia	OEL TWA (mg/m ³)	5 mg/m ³
Finland	HTP-arvo (8h) (mg/m ³)	5 mg/m ³
Ireland	OEL (8 hours ref) (mg/m ³)	5 mg/m ³ (metal)
Ireland	OEL (15 min ref) (mg/m ³)	10 mg/m ³ (metal)
Norway	Grænseverdier (AN) (mg/m ³)	5 mg/m ³
Norway	Grænseverdier (Korttidsverdi) (mg/m ³)	10 mg/m ³ (value calculated)
Poland	NDS (mg/m ³)	5 mg/m ³ (inhalable fraction)
Romania	OEL TWA (mg/m ³)	2 mg/m ³
Romania	OEL STEL (mg/m ³)	6 mg/m ³

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Tungsten (7440-33-7)		
Sweden	nivågränsvärde (NVG) (mg/m ³)	5 mg/m ³ (total dust)
Portugal	OEL TWA (mg/m ³)	5 mg/m ³
Portugal	OEL STEL (mg/m ³)	10 mg/m ³

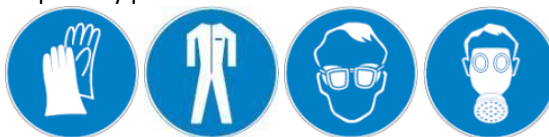
8.2. Exposure controls

Appropriate engineering controls

: For particulates and dust: Suitable eye/body wash equipment should be available in the vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment. Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits. Power equipment should be equipped with proper dust collection devices. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment.

Personal protective equipment

: Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection.



Materials for protective clothing

: Chemically resistant materials and fabrics.

Hand protection

: Wear protective gloves.

Eye and Face Protection

: Chemical safety goggles.

Skin and body protection

: Wear suitable protective clothing.

Respiratory protection

: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other information

: When using, do not eat, drink or smoke.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: Dark grey
Odour	: Odourless
Odour threshold	: No data available
pH	: No data available
Evaporation rate	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 2870 °C (5198 °F)
Flash point	: No data available
Auto-ignition temperature	: 480 °C (896 °F)
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Water: Insoluble
Partition coefficient: n-octanol/water	: No data available
Viscosity	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

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Explosive limits : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Hazardous reactions will not occur under normal conditions.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Direct sunlight, extremely high or low temperatures, and incompatible materials. Sparks, heat, open flame and other sources of ignition. Dust accumulation (to minimize explosion hazard).

10.5. Incompatible materials

Strong acids, strong bases, strong oxidizers. Alkalis.

10.6. Hazardous decomposition products

None expected under normal conditions of use.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified (Based on available data, the classification criteria are not met)

Cobalt (7440-48-4)	
LD50 oral rat	215,9 - 1140 mg/kg
LC50 inhalation rat (mg/l)	> 10 mg/l (Exposure time: 1 h)
LC50 inhalation rat (Dust/Mist - mg/l/4h)	< 0,05 mg/l/4h
Carbon (7440-44-0)	
LD50 oral rat	> 10000 mg/kg
Iron (7439-89-6)	
LD50 oral rat	98,6 g/kg

Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met)
Respiratory or skin sensitisation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: May cause cancer.

Cobalt (7440-48-4)	
IARC group	2B
National Toxicology Program (NTP) Status	Evidence of Carcinogenicity, Reasonably anticipated to be Human Carcinogen.

Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)

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Symptoms/Injuries After Inhalation	: During processing, the most significant route of exposure is by the inhalation (breathing) of dust or fumes. If fumes are inhaled, they can cause a condition commonly known as metal fume fever with symptoms which resemble influenza; Symptoms may be delayed 4-12 hours and begin with a sudden onset of thirst, and a sweet, metallic or foul taste in the mouth. Other symptoms may include upper respiratory tract irritation accompanied by coughing and a dryness of the mucous membranes, lassitude and a generalized feeling of malaise. Fever, chills, muscular pain, mild to severe headache, nausea, occasional vomiting, exaggerated mental activity, profuse sweating, excessive urination, diarrhea and prostration may also occur. Exposure may produce cough, mucous secretions, shortness of breath, chest tightness or other symptoms indicative of an allergic/sensitization reaction.
Symptoms/Injuries After Skin Contact	: May cause an allergic skin reaction. Contact with hot, molten metal will cause thermal burns.
Symptoms/Injuries After Eye Contact	: May cause slight irritation to eyes. Risk of thermal burns on contact with molten product.
Symptoms/Injuries After Ingestion	: Ingestion may cause adverse effects.
Chronic Symptoms	: Suspected of damaging fertility or the unborn child. If dust is generated, repeated exposure through inhalation may cause cancer or lung disease.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Not classified.

Cobalt (7440-48-4)

LC50 fish 1	> 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
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12.2. Persistence and degradability

Tungchip

Persistence and degradability	May cause long-term adverse effects in the environment.
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12.3. Bioaccumulative potential

Tungchip

Bioaccumulative potential	Not established.
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Cobalt (7440-48-4)

BCF fish 1	(no bioaccumulation)
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations	: Dispose of contents/container in accordance with local, regional, national, and international regulations.
Ecology - waste materials	: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: Transport information

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued. In accordance with ADR / RID / IMDG / IATA / ADN

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ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not regulated for transport				
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No

14.6. Special precautions for user

No additional information available

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Cobalt (7440-48-4)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Titanium carbide (TiC) (12070-08-5)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Carbon (7440-44-0)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Tantalum carbide (TaC) (12070-06-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Vanadium carbide (VC) (12070-10-9)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Iron (7439-89-6)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Tungsten (7440-33-7)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Date of Preparation or Latest Revision : 16/06/2020

Data sources : Information and data obtained and used in the authoring of this safety data sheet could come from database subscriptions, official government regulatory body websites, product/ingredient manufacturer or supplier specific information, and/or resources that include substance specific data and classifications according to GHS or their subsequent adoption of GHS.

Other information : According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Full Text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
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Tungchip

Safety Data Sheet

According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Aquatic Chronic 4	Hazardous to the aquatic environment — Chronic Hazard, Category 4
Carc. 1B	Carcinogenicity, Category 1B
Repr. 2	Reproductive toxicity, Category 2
Repr. 2	Reproductive toxicity, Category 2
Resp. Sens. 1	Respiratory sensitisation, Category 1
Resp. Sens. 1B	Respiratory sensitisation, Category 1B
Skin Sens. 1	Skin sensitisation, Category 1
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H350	May cause cancer.
H361	Suspected of damaging fertility or the unborn child.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H413	May cause long lasting harmful effects to aquatic life.

Indication of Changes No additional information available

Abbreviations and Acronyms

ACGIH – American Conference of Governmental Industrial Hygienists	NDS - Najwyższe Dopuszczalne Stezenie
ADN – European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways	NDSCh - Najwyższe Dopuszczalne Stezenie Chwilowe
ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road	NDSP - Najwyższe Dopuszczalne Stezenie Pulapowe
ATE - Acute Toxicity Estimate	NOAEL - No-Observed Adverse Effect Level
BCF - Bioconcentration Factor	NOEC - No-Observed Effect Concentration
BEI - Biological Exposure Indices (BEI)	NRD - Nevirsytinas Ribinis Dydis
BOD – Biochemical Oxygen Demand	NTP – National Toxicology Program
CAS No. - Chemical Abstracts Service Number	OEL - Occupational Exposure Limits
CLP – Classification, Labeling and Packaging Regulation (EC) No 1272/2008	PBT - Persistent, Bioaccumulative and Toxic
COD – Chemical Oxygen Demand	PEL - Permissible Exposure Limit
EC – European Community	pH – Potential Hydrogen
EC50 - Median Effective Concentration	REACH – Registration, Evaluation, Authorisation, and Restriction of Chemicals
EEC – European Economic Community	RID – Regulations Concerning the International Carriage of Dangerous Goods by Rail
EINECS – European Inventory of Existing Commercial Chemical Substances	SADT - Self Accelerating Decomposition Temperature
EmS-No. (Fire) - IMDG Emergency Schedule Fire	SDS - Safety Data Sheet
EmS-No. (Spillage) - IMDG Emergency Schedule Spillage	STEL - Short Term Exposure Limit
EU – European Union	STOT - Specific Target Organ Toxicity
Erc50 - EC50 in Terms of Reduction Growth Rate	TA-Luft - Technische Anleitung zur Reinhaltung der Luft
GHS – Globally Harmonized System of Classification and Labeling of Chemicals	TEL TRK – Technical Guidance Concentrations
IARC - International Agency for Research on Cancer	ThOD – Theoretical Oxygen Demand
IATA - International Air Transport Association	TLM - Median Tolerance Limit
IBC Code - International Bulk Chemical Code	TLV - Threshold Limit Value
IMDG - International Maritime Dangerous Goods	TPRD - Trumpalaikio Poveikio Ribinis Dydis
IPRV - Ilgalaikio Poveikio Ribinis Dydis	TRGS 510 - Technische Regel für Gefahrstoffe 510 - Lagerung von Gefahrstoffen in ortsbeweglichen Behältern
IOELV – Indicative Occupational Exposure Limit Value	TRGS 552 – Technische Regeln für Gefahrstoffe - N-Nitrosamine
LC50 - Median Lethal Concentration	TRGS 900 - Technische Regel für Gefahrstoffe 900 – Arbeitsplatzgrenzwerte
LD50 - Median Lethal Dose	TRGS 903 - Technische Regel für Gefahrstoffe 903 - Biologische Grenzwerte
LOAEL - Lowest Observed Adverse Effect Level	TSCA - Toxic Substances Control Act
LOEC - Lowest-Observed-Effect Concentration	TWA - Time Weighted Average
Log Koc - Soil Organic Carbon-water Partitioning Coefficient	VOC – Volatile Organic Compounds
Log Kow - Octanol/water Partition Coefficient	VLA-EC - Valor Límite Ambiental Exposición de Corta Duración
Log Pow - Ratio of the equilibrium concentration (C) of a dissolved substance in a two-phase system consisting of two largely immiscible solvents, in this case octanol and water	VLA-ED - Valor Límite Ambiental Exposición Diaria
MAK – Maximum Workplace Concentration/Maximum Permissible Concentration	VLE – Valeur Limite D'exposition
MARPOL - International Convention for the Prevention of Pollution	VME – Valeur Limite De Moyenne Exposition
EU GHS SDS	vPvB - Very Persistent and Very Bioaccumulative
	WEL – Workplace Exposure Limit
	WGK - Wassergefährdungsklasse

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.