

Issuing Date 2015-09-12

Revision Date 2015-12-14

Revision Number 1

## 1. Identification of the substance/preparation and of the Company/undertaking

### 1.1 Product Identifier

**Product Type** Welding powder  
**Product name** **Deloro 6325 powder**  
**Product code** KSPN1018-3  
  
**Type** Powder

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

**Recommended Use** Wear and Corrosion Resistant Welding Consumable. For use in industrial installations only.  
  
**Uses advised against** None reasonably foreseeable.

### 1.3 Details of the supplier of the safety data sheet

**Importer** **Prepared by** Kennametal Inc. 1600 Technology Way  
 Latrobe, PA 15650, USA

**For further information, please contact:**

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**Emergency Telephone Number** CHEMTREC: +1-703-527-3887 (INTERNATIONAL)  
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**NRC (National Response Center)** India, National Poisons Information Centre +91 112 659 36 77 or +91 112 658 93 91  
 Pakistan, National Poisons Control Centre +92 21 9920509/35686535  
 Philippines, National Poison Management & Control Center +632 524 10 78/+632 544 84 00/local 2311

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

Skin sensitization	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1

### 2.2 Label Elements

**Product name** Deloro 6325 powder  
**Product code** KSPN1018-3



**signal word** **DANGER**

**Hazard Statements** H317 - May cause an allergic skin reaction  
H351 - Suspected of causing cancer  
H372 - Causes damage to organs through prolonged or repeated exposure if inhaled

**precautionary statements** P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P264 - Wash hands thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P273 - Avoid release to the environment  
P308 + P313 - IF exposed or concerned: Get medical advice/attention  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

**precautionary statements** P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P210 - Keep away from heat/sparks/open flames/hot surfaces. — No smoking  
P271 - Use only outdoors or in a well-ventilated area  
P272 - Contaminated work clothing should not be allowed out of the workplace  
P285 - In case of inadequate ventilation wear respiratory protection  
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention  
P363 - Wash contaminated clothing before reuse

### 2.3 Other Hazards

**WARNING** May cause sensitization by skin contact. Vapors may be irritating to eyes, nose, throat, and lungs. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

#### *Welding Hazards*

CAUTION. Welding will create fumes which may be toxic. If welding is performed on plated or coated materials such as galvanised or painted steel, excessive fume may be produced which contains additional hazardous components, and may result in metal fume fever or other health effects. Arc Rays can injure eyes and burn skin. Electric shock can kill. The product and work surface will be hot during and after welding.

### 2.4 Additional Information

#### Product Information

#### Potential health effects

##### **Inhalation**

May be harmful if inhaled. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination. May cause allergy or asthma symptoms or breathing difficulties if inhaled. **MAY CAUSE ALLERGIC RESPIRATORY REACTION.**

##### **Eye Contact**

Contact with eyes may cause irritation. Particulates may cause irritation due to mechanical abrasion. May cause eye irritation with susceptible persons.

##### **Ingestion**

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion may cause irritation to mucous membranes.

##### **Irritation**

Repeated exposure may cause skin dryness or cracking.

##### **Sensitization**

May cause sensitization of susceptible persons.

##### **Chronic effects**

Prolonged exposure may cause chronic effects. CNS and psychiatric effects, Parkinson-like symptoms. Languor, sleepiness and weakness in legs. A stolid masklike appearance of face, emotional disturbances such as uncontrollable laughter and spastic gait with tendency to fall in walking and findings in more advanced cases. Repeated contact may cause

<b>Carcinogenicity</b>	allergic reactions in very susceptible persons. Avoid repeated exposure. Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons. Repeated or prolonged exposure may cause central nervous system damage.
<b>Main Symptoms</b>	This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).
<b>Aggravated Medical Conditions</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled. MAY CAUSE ALLERGIC SKIN REACTION. Neurological disorders.
<b>environmental hazard</b>	Skin disorders, Neurological disorders, Respiratory disorders, Preexisting eye disorders, Allergies, Blood disorders, Kidney disorders, Liver disorders, Overexposure may cause female and male reproductive disorder(s)
	See Section 12 for additional Ecological Information

### 3. Composition/information on Ingredients

Chemical name	Formula	CAS-No	weight-%	GHS Classification
Nickel	Ni	7440-02-0	> 50	STOT RE 1 (H372) S,7 Carc. 2 (H351) S,7 Skin Sens. 1 (H317) S,7 Aquatic Chronic 3 (H412)
Chromium	Cr	7440-47-3	10 - 25	Not classified
Silicon Metal	Si	7440-21-3	3 - 5	Not classified
Iron	Fe	7439-89-6	3 - 5	Not classified
Boron	B	7440-42-8	3 - 5	Not classified
Molybdenum	Mo	7439-98-7	2.5 - 3	Not classified
Copper	Cu	7440-50-8	2.5 - 3	Aqua. Acute 1 (H400) Aqua. Cron. 3 (H412) M=1
Carbon	C	7440-44-0	0.1 - 1	Not classified

<b>NOTE</b>	This product may contain additional substances with a content of less than 0.1 % per substance, which are not listed. May contain additional substances in a range up to 2 % which are not classified hazardous or may not contribute to the products overall classification.
<b>Full text of H-Statements referred to under sections 2 and 3</b>	H317 - May cause an allergic skin reaction H351 - Suspected of causing cancer if inhaled H372 - Causes damage to the following organs through prolonged or repeated exposure if inhaled: Lungs H412 - Harmful to aquatic life with long lasting effects

### 4. First aid measures

**General advice** Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

#### 4.1 Description of first aid measures

<b>Eye Contact</b>	Keep eye wide open while rinsing. Call a physician immediately. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
<b>Skin contact</b>	Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash off immediately with soap and plenty of water.
<b>Inhalation</b>	Move to fresh air. Immediate medical attention is required. If not breathing, give artificial respiration.

**Ingestion** Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Rinse mouth.

**Self-protection of the first aider** Wear suitable gloves. Self-protection of the first aider.

**4.2. Most important symptoms and effects, both acute and delayed** CNS and psychiatric effects, Parkinson-like symptoms. Languor, sleepiness and weakness in legs. A stolid masklike appearance of face, emotional disturbances such as uncontrollable laughter and spastic gait with tendency to fall in walking and findings in more advanced cases. May cause allergy or asthma symptoms or breathing difficulties if inhaled

**4.3 Indication of any immediate medical attention and special treatment needed** Treat symptomatically. May cause sensitization by inhalation and skin contact.

**Notes to Physician** Treat symptomatically May cause sensitization by inhalation and skin contact May cause sensitization of susceptible persons

## 5. Fire-fighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Extinguishing media which must not be used for safety reasons** none.

**5.2 Special hazards arising from the substance or mixture** Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. May cause sensitization by inhalation and skin contact. Carbon oxides.

**5.3 Advice for fire-fighters** Use personal protective equipment as required. In the event of fire, wear self-contained breathing apparatus.

### Component Information

Chemical name	Extinguishing Media for Fires (Suitable)	Extinguishing Media for Fires (Unsuitable)
Chromium	Use extinguishing media appropriate for surrounding fire.	Do not use carbon dioxide, which may form an explosive mixture with powdered chromium.
Silicon Metal	SMALL FIRES: Dry chemical, sand, water spray, foam.; LARGE FIRES: Water spray, fog, foam	-

## 6. Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures** Avoid contact with skin and eyes. Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust accumulation in enclosed space.

**6.2 Environmental precautions** Avoid release to the environment.

**6.3 Methods and material for containment and cleaning up** Pick up and transfer to properly labeled containers. Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust.

**6.4 Reference to other sections**

## 7. Handling and Storage

### 7.1 Precautions for safe handling

Do not eat, drink or smoke when using this product. In case of insufficient ventilation, wear suitable respiratory equipment. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes, skin and clothing. Wear suitable protective clothing. Use only with adequate ventilation. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep in properly labeled containers. Keep container tightly closed in a dry and well-ventilated place. Keep containers tightly closed in a cool, well-ventilated place.

#### Storage temperature

#### Storage Life

Stable under normal conditions

#### incompatible materials

### 7.3 Specific end use(s)

Welding. Restricted to professional users. For use in industrial installations only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

#### Exposure controls

Chemical name	China	Hong Kong	India	Indonesia	Japan
Nickel	TWA: 1 mg/m <sup>3</sup> STEL: 2.5 mg/m <sup>3</sup>	TWA: 1.5 mg/m <sup>3</sup>	-	TWA: 1.5 mg/m <sup>3</sup>	-
Chromium	TWA: 0.05 mg/m <sup>3</sup> STEL: 0.15 mg/m <sup>3</sup>	TWA: 0.5 mg/m <sup>3</sup>	-	TWA: 0.5 mg/m <sup>3</sup>	-
Silicon Metal	-	-	-	TWA: 10 mg/m <sup>3</sup>	-
Iron	-	-	-	TWA: 1 mg/m <sup>3</sup>	-
Molybdenum	TWA: 6 mg/m <sup>3</sup> STEL: 15 mg/m <sup>3</sup>	-	-	TWA: 5 mg/m <sup>3</sup>	-
Copper	TWA: 1 mg/m <sup>3</sup> TWA: 0.2 mg/m <sup>3</sup> STEL: 2.5 mg/m <sup>3</sup> STEL: 0.6 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>	0.2 mg/m <sup>3</sup> TWA (fume)	TWA: 0.2 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>	-
Chemical name	Korea	Philippines	Singapore	Taiwan	Thailand
Nickel	TWA: 1 mg/m <sup>3</sup>	1 mg/m <sup>3</sup> TWA	PEL: 1 mg/m <sup>3</sup>	1 mg/m <sup>3</sup> TWA	-
Chromium	TWA: 0.5 mg/m <sup>3</sup>	1 mg/m <sup>3</sup> TWA	PEL: 0.5 mg/m <sup>3</sup>	1 mg/m <sup>3</sup> TWA	-
Silicon Metal	TWA: 10 mg/m <sup>3</sup>	-	PEL: 10 mg/m <sup>3</sup>	-	-
Molybdenum	TWA: 10 mg/m <sup>3</sup>	-	-	-	-
Copper	STEL: 2 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup> TWA (fume); 1.0 mg/m <sup>3</sup> TWA (dust and mist)	PEL: 0.2 mg/m <sup>3</sup> PEL: 1 mg/m <sup>3</sup>	0.2 mg/m <sup>3</sup> TWA (fume); 1 mg/m <sup>3</sup> TWA (dust and mist)	-
Carbon	TWA: 2 mg/m <sup>3</sup>	-	-	-	-
Chemical name	Vietnam	...	...	...	...
Nickel	0.05 mg/m <sup>3</sup> TWA 0.25 mg/m <sup>3</sup> STEL	-	-	-	-
Copper	0.5 mg/m <sup>3</sup> TWA (dust); 0.1 mg/m <sup>3</sup> TWA (fume) 0.5 mg/m <sup>3</sup> TWA 1 mg/m <sup>3</sup> STEL (dust); 0.2 mg/m <sup>3</sup> STEL (fume)	-	-	-	-

### During Welding

If welding is performed on plated or coated materials such as galvanised or painted steel, excessive fume may be produced which contains additional hazardous components, and may result in metal fume fever or other health effects

### 8.2 Exposure controls

#### Personal precautions

Use personal protective equipment as required. Avoid contact with eyes, skin and clothing. Wash hands before eating, drinking or smoking. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product.

<b>Engineering controls</b>	Ensure adequate ventilation, especially in confined areas.
<b>Eye Protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin Protection</b>	Wear suitable gloves. Wear suitable protective clothing.
<b>Hand Protection</b>	Protective gloves. The product and work surface will be hot during and after welding. Ensure adequate protection is in place to stop individuals from burning themselves.
<b>Respiratory protection</b>	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
<b>Hygiene Measures</b>	Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling.
<b>Special Precautions for users</b>	Eye-irrigation bottle with pure water. Health Surveillance should be in place for employees who are exposed while using this product. Training required.
<b>Biological standards</b>	
<b>Environmental exposure controls</b>	Do not allow to enter into soil/subsoil. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

<b>Physical State</b>	solid	<b>Appearance</b>	metallic, Powder
<b>Odor</b>	none	<b>Melting point / melting range</b>	965-1040 °C / 1770-1900 °F
<b>flash point</b>	not applicable	<b>Vapor Pressure</b>	not applicable
<b>Vapor Density</b>	not applicable	<b>Water solubility</b>	Insoluble in water
<b>Autoignition temperature</b>	N/A	<b>Dynamic viscosity</b>	solid
<b>Density</b>	8.44 g/cm <sup>3</sup>	<b>Explosive properties</b>	not applicable

### 9.2. Other information

**VOC Content (%)** Not Applicable

### Component Information

Chemical name	Mol. Weight	Water Solub.	Vap. Press.	Vap. Dens.	pH Val.	Autoign. Temp.	Evap. Rate	Boil. Temp.
Nickel	58.69 g/mol	-	1 mmHg at 1810 °C	-	-	-	-	-
Chromium	51.99 g/mol	-	-	-	-	-	-	2642 °C
Silicon Metal	28.08 g/mol	<1 mg/L	-	-	-	-	-	-
Iron	55.84 g/mol	-	0.000001 hPa at 25 °C	-	-	>100 °C	-	-
Boron	10.81 g/mol	-	0.0000156 atm at 2140 °C	-	-	-	-	-
Molybdenum	95.95 g/mol	0 mg/L at 20 °C	-	-	-	-	-	4612 °C at 101.3 hPa
Copper	63.54 g/mol	-	0 hPa at 1400 °C	-	-	-	-	2567 °C
Carbon	12.01 g/mol	-	-	-	-	300 - 500 °C	-	-
Chemical name	Density	Melt. Temp.	Flash Point	Water Sol.	Bulk Dens.	Odor	State	color
Nickel	8.9 g/cm <sup>3</sup> at	-	-	insoluble	-	-	-	-

	25 °C							
Chromium	7.19 g/cm <sup>3</sup> at 20 °C	1900 °C	-	insoluble	-	-	-	grey
Silicon Metal	2.33 g/cm <sup>3</sup> at 25 °C	1410 °C	-	-	-	-	-	dark grey; dark brown
Iron	7.87 g/cm <sup>3</sup> at 25 °C	1539 °C	-	insoluble	3000 - 4000 kg/m <sup>3</sup>	-	-	-
Molybdenum	10.2 g/cm <sup>3</sup> at 20 °C	2617 °C (sublimes)	-	insoluble	-	-	-	-
Copper	8.89 g/cm <sup>3</sup> at 20 °C	1083 °C	-	insoluble	-	odorless	-	red
Carbon	-	>=3500 °C	-	insoluble	0.25 - 0.75 kg/m <sup>3</sup> at 20 °C	-	-	-

## 10. Stability and Reactivity

- 10.1 Reactivity** Stable under normal conditions
- 10.2 Chemical stability** Stable under normal conditions
- 10.3 Possibility of hazardous reactions** Stable under normal conditions
- 10.4 Conditions to avoid** Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.
- 10.5 Incompatible materials** Acids. Strong oxidizing agents.
- 10.6 Hazardous decomposition products** Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

## 11. Toxicological Information

### 11.1 Information on toxicological effects

#### Product Information

- Acute toxicity**
- Inhalation** May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Eye Contact** Contact with eyes may cause irritation. Particulates may cause irritation due to mechanical abrasion. May cause eye irritation with susceptible persons.
- Skin contact** Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Prolonged contact may cause redness and irritation. Prolonged skin contact may defat the skin and produce dermatitis. May cause sensitization by skin contact.
- Carcinogenicity** Category 2
- Neurological effects** Repeated or prolonged exposure may cause central nervous system damage. Prolonged or excessive exposure to manganese in dust or fume may cause irreversible central nervous system damage (Manganism). Symptoms resemble Parkinson's disease and include tremors, impaired speech, mask like face and impaired movement.
- Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea Ingestion may cause irritation to mucous membranes
- Irritation** Repeated exposure may cause skin dryness or cracking.
- Corrosivity** No information available
- Sensitization** May cause sensitization of susceptible persons

Chemical name	Oral LD50	dermal LD50	Inhalation LC50
Nickel	>9000 mg/kg bw	Data waiving - Other Justification	NOAEC >=10.2 mg/L air
Chromium	LD50 >5000 mg/kg bw	Data waiving - Study Scientifically Unjustified	LC50 >5.41 mg/L air (analytical)
Silicon Metal	LD50 >3160 mg/kg bw	LD50 >5000 mg/kg bw	Acutely Non Toxic
Iron	= 984 mg/kg ( Rat )	-	-
Boron	650 mg/kg ( Rat )	Not Listed in C&L Inventory	Not Listed in C&L Inventory
Molybdenum	LD50 >2000 mg/kg bw	Not Classified	LC50 >3.92 mg/L air
Carbon	> 10000 mg/kg ( Rat )	-	-

### Chronic toxicity

Prolonged exposure may cause chronic effects. CNS and psychiatric effects, Parkinson-like symptoms. Languor, sleepiness and weakness in legs. A stolid masklike appearance of face, emotional disturbances such as uncontrollable laughter and spastic gait with tendency to fall in walking and findings in more advanced cases. Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure. Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons. Repeated or prolonged exposure may cause central nervous system damage.

### **Carcinogenicity**

This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).

### **Carcinogenic effects**

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

Chemical name	IARC	China - Carcinogens	India - Carcinogens	Indonesia - Carcinogens
Nickel	Nickel Compounds: Group 1 - Known Human Carcinogen - Nickel, Metallic & Alloy: Group 2B - Possible Human Carcinogen	Possibly carcinogenic to humans	-	-
Chromium	Group 3 - Not Classified as a Human Carcinogen	-	-	-
Chemical name	Japan	Japan - ISHL Designated Carcinogens	Korea - Carcinogens	Philippines
Nickel	Group 1 Group 2B	-	-	-

### **MUTAGENIC EFFECTS**

None known

### **Reproductive toxicity**

None known.

### **Developmental toxicity**

None known

### **Target organ effects**

blood, Eyes, Jaw, kidney, liver, Lungs, Nasal Cavities, respiratory system, Skin, Teeth

### **Neurological effects**

Repeated or prolonged exposure may cause central nervous system damage. Prolonged or excessive exposure to manganese in dust or fume may cause irreversible central nervous system damage (Manganism). Symptoms resemble Parkinson's disease and include tremors, impaired speech, mask like face and impaired movement.  
none

### 11.2 Other Information

#### Substance related information

## 12. Ecological Information

### 12.1. Ecotoxicity

#### **Ecotoxicity**

VERY TOXIC TO AQUATIC ORGANISMS.



Chemical name	Algae toxicity	Acute Fish toxicity	Toxicity to Microorganisms	Daphnia magna
Nickel	EC10 - 316.5 ug/L	LC50 - 15.3 mg/L	Not available	LC50 >200ug/L (@6-6.5 pH), 13ug/L (@8-8.5pH)
Chromium	Data Waiving - Study Scientifically Unjustified	Data Waiving - Study Scientifically Unjustified	Not available	Data Waiving - Study Scientifically Unjustified
Silicon Metal	Data Waiving - Study Scientifically Unjustified	Data Waiving - Other Justification	Not available	Data Waiving - Study Scientifically Unjustified
Iron	NOEC - 1.4 mg/L	Data Waiving - Study Scientifically Unjustified	Not available	Data Waiving - Study Scientifically Unjustified
Molybdenum	EC10 - 150 mg/L, NOEL - 169.9 ,h/L	LC50 - 609 mg/L	Not available	EC50 - 2847.5 mg/L

**12.2 Persistence and degradability** Product/Substance is inorganic. not applicable.

**12.3 Bioaccumulative potential** This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

**12.4 Mobility in soil** No information available

**12.5 Results of PBT and vPvB assessment** The components in this formulation do not meet the criteria for classification as PBT or vPvB

**12.6 Other adverse effects**

## 13. Disposal Considerations

### 13.1 Waste treatment methods

**Disposal Considerations** It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Improper disposal or reuse of this container may be dangerous and illegal. Refer to applicable local, state and federal regulations as well as industry standards.

Waste from residues/unused products Reuse or recycle.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

**OTHER INFORMATION** Waste codes should be assigned by the user based on the application for which the product was used.

## 14. Transport Information

**IMO / IMDG** Not regulated

Chemical name	IMO/IMDG - Marine Pollutants
Copper	IMDG regulated marine pollutant (Listed in the index, listed under Copper metal powder)

**ICAO / IATA-DGR** Not regulated

**China Dangerous Goods** Not regulated

**Australia Dangerous Goods**

**Japan** Not regulated

## 15. Regulatory Information

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

All of the components in the product are on the following Inventory lists:

Chemical name	India - Hazardous and Toxic Chemicals	Japan - ISHL Disclosure cut-off list
Nickel	-	>0.1%
Chromium	-	>0.1%
Silicon Metal	-	Ignitable substance (listed under Metallic powder)
Molybdenum	-	Ignitable substance (listed under Metallic powder) >1%
Copper	-	>0.1%
Chemical name	Thailand - Hazardous Substances	Vietnam - Chemicals
Nickel	-	1000 kg (inhalable powder)
Boron	-	2804 50 (Customs shall make a chemical safety data sheet)

All of the components in the product are on the following Inventory lists:

Chemical name	IECSC	Inventory - Japan - Existing and New Chemical Substances (ENCS)	Inventory - Japan - Industrial Safety and Health Law Substances (ISHL)	Inventory - Korea - Existing Chemicals Inventory (KECI/KECL)	Inventory - Philippines - Inventory of Chemicals and Chemical Substances (PICCS)
Nickel	Present [25343]	-	-	Present [KE-25818]	Present
Chromium	Present [13603]	-	-	Present [KE-05970]	Present
Silicon Metal	Present [13814]	-	-	Present [KE-31029]	Present
Iron	Present [34355]	-	-	Present [KE-21059]	Present
Boron	Present [25541]	-	-	Present [KE-03518]	Present
Molybdenum	Present [25031]	-	-	Present [KE-25427]	Present
Copper	Present [34399]	-	-	Present [KE-08896]	Present
Carbon	Present [34023]	-	-	Present [KE-04671]	Present

### Legend

**15.2 Chemical Safety Assessment** Chemical Safety Assessment available for this product

## 16. Other Information

### Global Automotive Declarable Substance List Classifications

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thresholds
Nickel	Declarable Substance (FI)	0.1 %
Copper	Declarable Substance (FI)	0.1 %

**Prepared by** Kennametal Inc. 1600 Technology Way Latrobe, PA 15650, USA

**Issuing Date** 2015-09-12

**Revision Date** 2015-12-14

**Revision Note** not applicable

### Disclaimer

Kennametal urges each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since

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conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific SDSs, we are not and cannot be responsible for SDS's obtained from any source other than ourselves. If you have obtained an SDS from another source or if you are not sure that the SDS you have is current, please contact us for the most current version

End of Safety Data Sheet