

Issuing Date 2014-04-30

Revision Date 2014-09-08

Revision Number 1

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

Product Identifier

Product Type Stellite - Welding powder
Product name **JK7112/JK112/Stelcar 9672 Powder**
Product code KSPC9672 POWDER

Other means of identification

UN-No UN3288

Synonyms No information available

Recommended use of the chemical and restrictions on use

Recommended Use Wear and Corrosion Resistant Welding Consumable. For use in industrial installations only.

Uses advised against None reasonably foreseeable

Details of the Supplier of the Safety Data Sheet

Emergency Telephone Number

Emergency Telephone Number CHEMTREC: +1-703-527-3887 (INTERNATIONAL)
 1-800-424-9300 (NORTH AMERICA)

NRC (National Response Center) USA, Poison Centres +1 800 222 1222
 Canada, IWK Regional Poison Center +1 902 470 8161 or 1 800 565 8161

Prepared by Kennametal Inc. 1600 Technology Way Latrobe, PA 15650, USA
E-mail k-corp-product.safety@kennametal.com

2. Hazards Identification

Classification

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 2
Serious eye damage/eye irritation	Category 2
Respiratory sensitization	Category 1B
Skin sensitization	Category 1
Carcinogenicity	Category 1B
Reproductive Toxicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1

Label Elements

Emergency Overview

DANGER

Hazard Statements

- Harmful if swallowed
 - Fatal if inhaled
 - Causes serious eye irritation
- May cause allergy or asthma symptoms or breathing difficulties if inhaled
 - May cause an allergic skin reaction
 - May cause cancer by inhalation
 - Suspected of damaging fertility
- Causes damage to organs through prolonged or repeated exposure
 - Very toxic to aquatic life with long lasting effects



- Avoid breathing dust/fume/gas/mist/vapors/spray
- Wash thoroughly after handling and before eating or drinking
 - 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

Appearance metallic Powder

Physical State solid

Odor none

Precautionary Statements - Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required
 Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Do not get in eyes, on skin, or on clothing
 Do not breathe dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area
 Wear respiratory protection
 In case of inadequate ventilation wear respiratory protection
 Contaminated work clothing should not be allowed out of the workplace
 Wear protective gloves

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
 Specific measures (see .? on this label)
 Specific treatment is urgent (see supplemental first aid instructions on this label)

Skin

Immediately call a POISON CENTER or doctor/physician
 IF ON SKIN: Gently wash with plenty of soap and water
 Remove/Take off immediately all contaminated clothing
 Wash contaminated clothing before reuse
 If skin irritation or rash occurs: Get medical advice/attention

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician

Ingestion IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Storage Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Precautionary Statements - Disposal Dispose of contents/container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC)

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.

OTHER INFORMATION

Other Hazards Harmful to aquatic life with long lasting effects.

Unknown Aquatic Toxicity 4.725% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/Information on Ingredients

Chemical name	Formula	CAS-No	weight-%	GHS Classification
Tungsten carbide	WC	12070-12-1	> 50	
Cobalt	Co	7440-48-4	10 - 25	Acute Oral 4 (H302) Acute dust/mist 1 (H330) Eye damage 2 (H319) Resp. Sens. 1B (H334) Skin Sens. 1 (H317) Carc. 1B (H350i) Repr. tox 2 (H361f) Aquatic Acute 1 M=10 (H400) Aquatic Chronic 1 M=1 (H410)
Iron	Fe	7439-89-6	0.1 - 1	

* The exact percentage (concentration) of composition has been withheld as a trade secret.

Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H330 - Fatal if inhaled
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H350i - May cause cancer if inhaled
H361f - Suspected of damaging fertility
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

4. First aid measures

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).
Eye Contact	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.
Skin contact	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.
Inhalation	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.

Most important symptoms and effects, both acute and delayed

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.
--	--

Indication of any immediate medical attention and special treatment needed

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

5. Fire-fighting measures

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.
Specific hazards arising from the chemical	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
Protective equipment and precautions for firefighters	Use personal protective equipment as required In the event of fire, wear self-contained breathing apparatus

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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

OTHER INFORMATION See Section 12 for additional Ecological Information.

Environmental precautions Avoid release to the environment.

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.

7. Handling and Storage

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.

Conditions for safe storage, including any incompatibilities

Storage 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.

Incompatible products None known based on information supplied.

Specific use(s) Welding. Restricted to professional users. For use in industrial installations only.

8. Exposure Controls/Personal Protection

Control parameters

Exposure Guidelines

Exposure Guidelines

Chemical name	USA - ACGIH TLV	USA - OSHA PEL	USA - NIOSH IDLH	Argentina	Brazil
Tungsten carbide	-	-	-	TWA: 5 mg/m ³ STEL: 10 mg/m ³	
Cobalt	0.02 mg/m ³ TWA	0.1 mg/m ³ TWA (dust and fume)	20 mg/m ³ IDLH (dust and fume)	TWA: 0.02 mg/m ³	
Chemical name	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec	Canada - Manitoba
Tungsten carbide					5 mg/m ³ TWA (as W)
Cobalt	0.02 mg/m ³ TWA	0.02 mg/m ³ TWA	0.02 mg/m ³ TWA	0.02 mg/m ³ TWAEV	0.02 mg/m ³ TWA 0.02 mg/m ³ TWA (as Co)
Chemical name	Chile	Mexico OEL (TWA)	Peru	Uruguay	Venezuela
Tungsten carbide		-			STEL: 10 mg/m ³ TWA: 5 mg/m ³
Cobalt	TWA: 0.016 mg/m ³	0.1 mg/m ³ TWA LMPE-PPT (dust and fume, as Co)	0.02 mg/m ³ TWA	0.02 mg/m ³ TWA	TWA: 0.02 mg/m ³

NIOSH IDLH: Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye Protection Wear safety glasses with side shields (or goggles).

Skin Protection Wear suitable gloves. Wear suitable protective clothing.

Hand Protection 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.

Respiratory protection 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.

Hygiene Measures 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.

Biological standards

Chemical name	USA ACGIH -BEI	Argentina - Occupational Exposure Limits - Biological Exposure Indices (BEIs)	Chile - Occupational Exposure Limits - Biological Exposure Indices (BEIs)
Cobalt 7440-48-4	15 µg/L Medium: urine Time: end of shift at end of workweek Parameter: Cobalt (background); 1 µg/L Medium: blood Time: end of shift at end of workweek Parameter: Cobalt (background, semi-quantitative)	15 µg/L urine end of shift on the last day of workweek Co (Background); 1 µg/L blood end of shift on the last day of workweek Co (Background, semi-quantitative)	
Chemical name	Mexico - Occupational Exposure Limits - BEIs (IBE)	Venezuela - Biological Exposure Indices (BEIs)	...
Cobalt 7440-48-4	15 µg/L Medium: urine Time: end of shift at end of work week Parameter: Cobalt (background); 1 µg/L Medium: blood Time: end of shift at end of work week Parameter: Cobalt (background, semi-quantitative)	15 µg/L urine end of shift at end of workweek Cobalt (F); 1 µg/L urine end of shift at end of workweek Cobalt (F,Sc)	

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State	solid	Appearance	metallic Powder
Odor	none	pH	
Melting point/freezing point	965-1040 °C / 1770-1900 °F	Boiling temperature / boiling range	No information available
Flash Point	No information available	Evaporation Rate	
Flammability (solid, gas)		Flammability Limits in Air	
Upper flammability limits		Lower Flammability Limit	



Vapor Pressure	Vapor Density	
Specific gravity	Water solubility	Insoluble in water
Solubility in other solvents	Partition coefficient	
Autoignition temperature	Decomposition Temperature	
Kinematic viscosity	Dynamic viscosity	
Explosive properties	not applicable	

OTHER INFORMATION

VOC Content (%) Not Applicable
Density 8.44 g/cm³

10. Stability and Reactivity

Reactivity Stable under normal conditions
 No data available

Chemical stability Stable under normal conditions.
 Stable under normal conditions.

Possibility of Hazardous Reactions None under normal processing.

Conditions to avoid Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

incompatible materials Acids. Strong oxidizing agents.
Hazardous decomposition products Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

11. Toxicological Information

Information on likely routes of exposure

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.

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

Chemical name	Oral LD50	dermal LD50	Inhalation LC50
Tungsten carbide - 12070-12-1	> 2000 mg/kg bw (OECD 401)	> 2000 mg/kg bw (OECD 402)	> 5.3 mg/L (4h) (OECD 403)
Cobalt - 7440-48-4	550 mg/kg bw	>2000 mg/kg bw	0.05 mg/L
Iron - 7439-89-6	= 984 mg/kg (Rat)		Inhalation LC50 (4 hrs)

Information on toxicological effects

Chemical name	US ACGIH - Critical effects
Cobalt - 7440-48-4	asthma; myocardial effects; pulmonary function

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Repeated exposure may cause skin dryness or cracking.

Sensitization May cause sensitization of susceptible persons.

MUTAGENIC EFFECTS None known.

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).

Chemical name	ACGIH	IARC	NTP	OSHA
Cobalt - 7440-48-4	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans	Group 2B - Possible Human Carcinogen	Not Listed	Not Listed
Chemical name	Chile	Argentina	Venezuela	Peru
Cobalt - 7440-48-4	A3 - Animal Carcinogen	A3 - Confirmed animal carcinogen with unknown relevance to humans	Present	

Reproductive toxicity Contains a known or suspected reproductive toxin.

Developmental toxicity None known

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. Contains a known or suspected reproductive toxin.

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.

Numerical measures of toxicity - Product Information

Unknown Aquatic Toxicity 4.725% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 732 mg/kg
ATEmix (dermal) 5 mg/kg
ATEmix (inhalation-gas) 10 mg/l

12. Ecological Information

This product contains a chemical which is listed as a severe marine pollutant according to DOT.

12.1. Ecotoxicity 4.60000000000001% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Algae toxicity	Acute Fish toxicity	Toxicity to Microorganisms	Daphnia magna
Tungsten carbide 12070-12-1	Desmodesmus subspicatus (algae) 72-h EC50 > 1 mg/L (OECD 201)	96-h Lc50 > 1000 mg/L (OECD 203) Zebrafish		48-h EC50 > 1000 mg/L (OECD 202)
Cobalt 7440-48-4	EC50 - 270ug/L	NOEC - 100 mg/L - Cobalt Powder	Not available	LOEC - 5.6 mg/L, LC50 > 100 mg/L
Iron 7439-89-6	NOEC - 1.4 mg/L	Data Waiving - Study Scientifically Unjustified	Not available	Data Waiving - Study Scientifically Unjustified

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

Bioaccumulation/Accumulation No information available.

12.6 Other adverse effects

13. Disposal Considerations

Waste treatment methods Should not be released into the environment.

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.

California Waste Status This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste Status
Cobalt - 7440-48-4	Toxic Ignitable

14. Transport Information

DOT UN3288, Toxic solid, inorganic, n.o.s (Tungsten carbide, Cobalt), 6.1, II,
UN-No UN3288
Proper shipping name Toxic solid, inorganic, n.o.s.
Hazard Class 6.1
Packing group II
Marine pollutant This product contains a chemical which is listed as a severe marine pollutant according to DOT.
Emergency Response Guide Number 151

TDG UN3288, Toxic solid, inorganic, n.o.s (Tungsten carbide, Cobalt), 6.1, II
UN-No UN3288

Proper shipping name Toxic solid, inorganic, n.o.s.
Hazard Class 6.1
Packing group II
Marine pollutant This product contains a chemical which is listed as a severe marine pollutant according to TDG.

MEX Not regulated UN3288, Toxic solid, inorganic, n.o.s (Tungsten carbide, Cobalt), 6.1, II
UN-No UN3288
Proper shipping name Toxic solid, inorganic, n.o.s.
Hazard Class 6.1
Packing group II

ICAO / IATA-DGR UN3288, Toxic solid, inorganic, n.o.s (Tungsten carbide, Cobalt), 6.1, II
14.1 UN number UN3288
14.2. UN proper shipping name Toxic solid, inorganic, n.o.s.
14.3. Transport hazard class(es) 6.1
14.4 Packing group II
ERG Code 6L

IMO / IMDG UN3288, Toxic solid, inorganic, n.o.s (Tungsten carbide, Cobalt), 6.1, II
14.1 UN number UN3288
14.2. UN proper shipping name Toxic solid, inorganic, n.o.s.
14.3. Transport hazard class(es) 6.1
14.4 Packing group II
EmS No. F-A, S-A
14.5 Environmental hazards This product contains a chemical which is listed as a severe marine pollutant according to IMDG/IMO

15. Regulatory Information

Chemical name	Bolivia - hazardous substances regulated under Bolivia's Environmental Regulations for the Industrial Manufacturing Sector
Cobalt - 7440-48-4	Present

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	CAS-No	weight-%	SARA 313 - Threshold Values %
Cobalt - 7440-48-4	7440-48-4	10 - 25	Present

SARA 311/312 Hazard Categories

Acute health hazard yes
Chronic Health Hazard yes
Fire Hazard no
Sudden release of pressure hazard no

Reactive Hazard

no

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:.

Chemical name	California - Proposition 65 - Carcinogens List	California - Proposition 65 - Developmental Toxicity	California - Proposition 65 - Reproductive Toxicity	California - 22 CCR - Toxic and Extremely Hazardous Carcinogenic Wastes
Cobalt - 7440-48-4	carcinogen, initial date 7/1/92 (powder)			

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Tungsten carbide - 12070-12-1	sn 1960		
Cobalt - 7440-48-4	sn 0520	Present	Environmental hazard (fume) Present

U.S. EPA Label information

CANADA

Chemical name	WHMIS Classifications of Components
Cobalt - 7440-48-4	D2A, D2B
Iron - 7439-89-6	Uncontrolled product according to WHMIS classification criteria

16. Other Information

NFPA	Health hazard 2	Flammability 0	Instability 0	Physical and Chemical Hazards -
HMIS	Health hazard 2	Flammability 0	Physical hazards 0	Personal precautions -
Issuing Date	2014-04-30			
Revision Date	2014-09-08			
Revision Note	No information available			

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 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