



MATERIAL SAFETY DATA SHEET

PRODUCT NUMBER: 101860

SECTION 1 PRODUCT IDENTIFICATION AND MANUFACTURE

SUPPLIER: METPREP LTD.
CURRIERS CLOSE
CHARTER AVENUE
COVENTRY CV4 8AW

TELEPHONE: 024 7642 1222
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PRODUCT: DIAMOND CUT-OFF WHEEL (CUBIC BORON NITRIDE) HIGH CONC

SECTION 2 HAZARDS IDENTIFICATION

Potential Health Effects:

Eye: Dust may cause slight irritation.

Skin: Dust from this product may cause temporary mechanical irritation.

Inhalation: Dusts from this product may cause mechanical irritation of the nose, throat and respiratory tract.

Ingestion: Ingestion of this product is unlikely. However, ingestion of product may produce Gastrointestinal irritation and disturbances.

Chronic Health Effects: Chronic health effects are not expected as long as good hygiene and proper Safety precautions are practiced.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
Iron	7439-89-6	30 – 60 by weight	231-096-4
Cubic Boron Nitride (CBN)	10043-11-5	1 – 5 by weight	233-136-6
Tin	7440-31-5	1 – 5 by weight	231-141-8
Zinc oxide	1314-13-2	5 – 10 by weight	215-222-5
Copper	7440-50-8	10 – 30 by weight	231-159-6
Nickel	7440-02-0	1 – 5 by weight	231-111-4
Tungsten	7440-33-7	5 – 10 by weight	231-143-9
Chromium	7440-47-3	5 – 10 by weight	231-157-5
Lead	7439-92-1	0 – 1 by weight	231-100-4
Cobalt	7440-48-4	5 – 10 by weight	231-158-0



SECTION 4 FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Get medical attention, if irritation or symptoms of overexposure persists.
Skin Contact:	Immediately wash skin with soap and plenty of water. Get medical Attention if irritation develops or persists.
Inhalation:	If dust from cutting or drilling is inhaled, remove the affected person to Fresh air. If symptoms persist, get medical attention.

SECTION 5 FIRE FIGHTING MEASURES

Flammable Properties:	Non Flammable.
Flash Point:	Does not apply.
Auto Ignition Temperature:	Not determined.
Lower Flammable/Explosive Limit:	Not available.
Upper Flammable/Explosive Limit:	Not available.
Extinguishing Media:	Use any extinguishing media appropriate for the surrounding fires.
Unsuitable Media:	None.
Protective Equipment:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or Equivalent) and full protective gear.
<u>NFPA Ratings:</u>	
NFPA Health:	1
NFPA Flammability:	0
NFPA Reactivity:	1
NFPA Other:	

SECTION 6 ACCIDENTAL RELEASE MEASURES

Methods for containment:	Containment of this material should not be necessary.
Methods for cleanup:	Shovel or sweep up for re-use or disposal. Avoid creating dusty conditions. Evaluate residue to determine if it is a hazardous waste by characteristic. Dispose of in accordance with Local, State, Federal and Provincial regulations.

SECTION 7 HANDLING AND STORAGE

Handling:	Always HANDLE AND STORE wheels in a CAREFUL manner. Always VISUALLY INSPECT all wheels before mounting. Always CHECK MACHINE SPEED against the established Maximum safe operating speed MARKED ON THE WHEEL.
Storage:	No special storage conditions required.
Hygiene Practices:	Wear suitable gloves and eye/face protection.



SECTION 8

EXPOSURE CONTROL/PERSONAL PROTECTION

- Engineering Controls:** General dilution ventilation and/or local exhaust ventilation should be provided as necessary to maintain exposures below occupational exposure limits.
- Eye/Face Protection:** Always WEAR SAFETY GLASSES or some type of eye protection when grinding.
- Skin Protection Description:** Protective gloves.
Long sleeved shirt and long pants.
- Respiratory Protection:** When workers are facing airborne particulate/dust concentrations above the exposure limit they must use appropriate certified respirators.
A properly fitted NIOSH approved disposable N 95 type dust respirator or better is recommended.
- Other Protective:** Use of this product may create elevated sound levels. Hearing protection should be worn where required (see OSHA 29 CFR 1910.134 and other applicable regulations).
- General Hygiene Considerations:** Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. avoid getting dust into boots and gloves through wrist bands and pant tucks.

EXPOSURE GUIDELINES

Ingredient	Guideline OSHA	Guideline ACGIH	Quebec Canada	Ontario Canada	Alberta Canada
Iron				OEL-TWAEV 5mg/m ³	
Tin	PEL-TWA: 2 mg/m ³	TLV-TWA: 2 mg/m ³	VEMP-TWA: 2 mg/m ³		OEL-TWA: 2 mg/m ³
Zinc Oxide	PEL-TWA: 15mg/m ³ Total particulate/dust (T) PEL-TWA: 5 mg/m ³ Respirable fraction (R) PEL-TWA: 5 mg/m ³	TLV-TWA: 2 mg/m ³ Respirable fraction (R) TLV-STEL: 10 mg/m ³ Respirable fraction (R)	VEMP-TWA: 10 mg/m ³ Total particulate/dust (T) VEMP-TWA: 5mg/m ³	OEL-TWAEV: 2mg/m ³ Respirable fraction (R) OEL-TWAEV: 10 mg/m ³ Total particulate/dust (T)	OEL-TWA: 10mg/m ³ OEL-TWA: 5mg/m ³ OEL-STEL: 10mg/m ³
Copper	TLV-TWA: 1 mg/m ³ (Dusts and /or mists as Cu) TLV-TWA: 0.1 mg/m ³ (Fume as Cu)	TLV-TWA: 1 mg/m ³ (Dusts and /or mists as Cu) TLV-TWA: 0.2 mg/m ³ (Fume as Cu)	VEMP-TWA: 1 mg/m ³ VEMP-TWA: 0.2 mg/m ³		OEL-TWA: 1 mg/m ³ OEL-TWA: 0.2 mg/m ³
Nickel	PEL-TWA: 1 mg/m ³ PEL-TWA: 1 mg/m ³ PEL-TWA: 1 mg/m ³	TLV-TWA 1.5 mg/m ³ Inhalable fraction (I) TLV-TWA: 0.2 mg/m ³ Inhalable fraction (I) TLV-TWA: 0.1 mg/m ³ Inhalable fraction (I)	VEMP-TWA: 1 mg/m ³ VEMP-TWA: 1 mg/m ³ VEMP-TWA: 0.1 mg/m ³	OEL-TWAEV: 1 mg/m ³ Inhalable fraction (I) OEL-TWAEV: 0.2 mg/m ³ Inhalable fraction (I)	OEL-TWA: 1 mg/m ³ OEL-TWA: 0.2 mg/m ³ OEL-TWA: 0.1 mg/m ³
Tungsten		TLV-TWA: 5 mg/m ³ TLV-TWA: 5 mg/m ³ TLV-TWA: 1 mg/m ³ TLV-STEL: 10 mg/m ³ TLV-STEL: 10 mg/m ³ TLV-STEL: 3 mg/m ³	VEMP-TWA: 5 mg/m ³ VEMP-TWA: 1 mg/m ³ VEMP-STEL 10mg/m ³ VEMP-STEL: 3 mg/m ³		OEL-TWA: 5 mg/m ³ OEL-TWA: 5 mg/m ³ OEL-TWA: 1 mg/m ³ OEL-STEL 10 mg/m ³ OEL-STEL: 10 mg/m ³ OEL-STEL: 3 mg/m ³
Chromium	PEL-TWA: 1 mg/m ³ as Cr metal PEL-TWA: 0.5 mg/m ³ as Cr (III) PEL-TWA: 0.005 mg/m ³ as Cr (VI)	TLV-TWA: 0.5 mg/m ³ as Cr metal TLV-TWA: 0.5 mg/m ³ as Cr (III) TLV-TWA: 0.01 mg/m ³ as Cr (VI)	VEMP-TWA: 0.5 mg/m ³ VEMP-TWA: 0.01 mg/m ³ VEMP-TWA: 0.05 mg/m ³ Sensitizer: Sen Sensitizer: Sen	OEL-TWAEV: 0.01 mg/m ³	OEL-TWA 0.5 mg/m ³ OEL-TWA 0.5 mg/m ³ OEL-TWA: 0.5 mg/m ³ OEL-TWA: 0.1 mg/m ³ OEL-TWA: 0.05 mg/m ³ OEL-STEL: 1.5 mg/m ³
Lead	PEL-TWA: 0.05 mg/m ³	TLV-TWA: 0.05 mg/m ³	VEMP-TWA: 0.15 mg/m ³	OEL-TWAEV: 0.05 mg/m ³	OEL-TWA: 0.05 mg/m ³
Cobalt	PEL-TWA: 0.1 mg/m ³	TLV-TWA: 0.02 mg/m ³ TLV-TWA: 0.02 mg/m ³	VEMP-TWA: 0.02 mg/m ³ VEMP-TWA: 0.02 mg/m ³	OEL-TWAEV: 0.02 mg/m ³	OEL-TWA: 0.05 mg/m ³ OEL-TWA: 0.05 mg/m ³



<i>Ingredient</i>	Mexico	British Columbia Canada			
<i>Tin</i>	LMPE-PPT: 2 mg/m ³ LMPE-CT: 4 mg/m ³	OEL-TWA: 2 mg/m ³			
<i>Zinc oxide</i>	LMPE-PPT: 10mg/m ³ LMPE-PPT: 5 mg/m ³ LMPE-CT: 10mg/m ³	OEL-TWA: 2 mg/m ³ Respirable fraction (R) OEL-STEL: 10 mg/m ³ Respirable fraction (R)			
<i>Copper</i>	LMPE-PPT: 1 mg/m ³ LMPE-PPT: 0.2 mg/m ³ LMPE-CT: 2 mg/m ³ LMPE-CT: 2 mg/m ³	OEL-TWA: 1 mg/m ³ OEL-TWA: 0.2 mg/m ³			
<i>Nickel</i>	LMPE-PPT: 1 mg/m ³ LMPE-PPT: 0.1 mg/m ³ LMPE-CT: 0.3 mg/m ³	OEL-TWA: 0.05 mg/m ³ OEL-TWA: 0.05 mg/m ³ OEL-TWA: 0.05mg/m ³			
<i>Tungsten</i>	LMPE-PPT: 5 mg/m ³ LMPE-PPT: 1 mg/m ³ LMPE-CT: 10 mg/m ³ LMPE-CT: 3 mg/m ³	OEL-TWA: 5 mg/m ³ OEL-TWA: 5 mg/m ³ OEL-TWA: 1 mg/m ³ OEL-STEL: 10 mg/m ³ OEL-STEL: 10 mg/m ³ OEL-STEL: 3 mg/m ³			
<i>Chromium</i>	LMPE-PPT: 0.5 mg/m ³ LMPE-PPT: 0.5 mg/m ³ LMPE-PPT: 0.01 mg/m ³ LMPE-PPT: 0.05 mg/m ³ LMPE-PPT: 0.01 mg/m ³ LMPE-PPTL 0.05 mg/m ³	OEL-TWA: 0.5 mg/m ³ OEL-TWA: 0.5 mg/m ³ OEL-TWA: 0.01 mg/m ³ OEL-TWA: 0.02 mg/m ³ OEL-Ceiling/Peak: 0.1 mg/m ³			
<i>Lead</i>	LMPE-PPT: 0.15 mg/m ³	OEL-TWA: 0.05 mg/m ³ OEL-TWA: 0.05 mg/m ³			
<i>Cobalt</i>	LMPE-PPT: 0.1 mg/m ³	OEL-TWA: 0.02 mg/m ³ OEL-TWA: 0.02 mg/m ³			

SECTION 9	PHYSICAL AND CHEMICAL PROPERTIES
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Physical State Appearance: Solid article

Odor: Odorless

Flash Point: Does not apply

Auto Ignition Temperature: Not determined



SECTION 10	STABILITY AND REACTIVITY PROPERTIES
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Chemical Stability:	Stable under normal conditions.
Hazardous Polymerization:	Hazardous polymerization doesd not occur.
Conditions to Avoid:	Keep away from heat, sparks or open flame.
Special Decomposition Products:	In use, dust and decomposing odors may be generated. In most cases, the material removed from the workplace will be generated. In most cases, the material removed from the workplacwe will be significantly greater than the grinding wheel components. Coolants may product other decomposition products.

SECTION 11	TOXICOLOGICAL INFORMATION
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Acute Toxicity: This product has not been tested for its toxicity.

Nickel

ACGIH:	A5 – Not Suspected as a Human Carcinogen As NI element
NIOSH:	NIOSH carcinogen
OSHA:	No Data
IARC:	Group 2B – Possibly carcinogenic to humans.
NTP:	RAC – Reasonably anticipated to be a human carcinogen.

Iron :

RTECS Number: N08225000

Cubic Boron Nitride (CBN) :

RTECS Number: ED07850000

Tin :

RTECS Number: XP7320000

Zinc oxide :

RTECS Number: ZH4817000

Copper :

RTECS Number: GL7440000

Nickel :

RTECS Number: QR6555000



Tungsten :

RTECS Number: YO7175000
Eye: Eye – Rabbit Standard Draize test : 500 mg/24H (RTECS)
Skin: Administration onto the skin – Rabbit Standard Draize test: 500 mg/24H (RTECS)

Chromium :

RTECS Number: GB4200000

Lead :

RTECS Number: OF7525000

Cobalt :

RTECS Number: GG0375000

SECTION 12 ECOLOGICAL INFORMATION

Biodegradation: In harsh environments, metal bonded products will decay similar to their metallic components.

SECTION 13 DISPOSAL CONSIDERATIONS

Waste Disposal: Use standard landfill methods consistent with applicable Federal, State, Provincial and local laws.

SECTION 14 TRANSPORT INFORMATION

DOT Shipping Name: Not regulated as hazardous material for transportation.
DOT UN Number: Not regulated as hazardous material for transportation.
IATA Shipping Name: Not regulated as hazardous material for transportation.
Canadian Shipping Name: This product is Not Regulated under the Transportation of Dangerous Goods Act. (CAN).



SECTION 15 REGULATORY INFORMATION

Inventory Status

	Canada DSL	TSCA Inventory Status			
Iron	Listed	Listed			
Cubic Boron Nitride (CBN)	Listed	Listed			
Tin	Listed	Listed			
Zinc oxide	Listed	Listed			
Copper	Listed	Listed			
Nickel	Listed	Listed			
Tungsten	Listed	Listed			
Chromium	Listed	Listed			
Lead	Listed	Listed			
Cobalt	Listed	Listed			

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.

Tin :

Canada IDL: Identified under the Canadian Hazardous Products Act Ingredient Disclosure List: 0.1%.1571(804)

Zinc oxide :

Canada IDL: Identified under the Canadian Hazardous Products Act Ingredient Disclosure List: 0.1%.1717(1326)

Section 313: EPCRA – 40 – CFR Part 372 – (SARA Title III) Section 313 Listed Chemical.

Copper :

Canada IDL: Identified under the Canadian Hazardous Products Act Ingredient Disclosure List: 0.1%.433(578)

Section 313: EPCRA – 40 CFR Part 372 – (SARA Title III) Section 313 Listed Chemical.

Nickel :

Canada IDL: Identified under the Canadian Hazardous Products Act Ingredient Disclosure List: 0.1%.1126(1193)

CA PROP 65: Listed: cancer

Section 313: EPCRA – 40 CFR Part 372 – (SARA Title III) Section 313 Listed Chemical.

Tungsten :

Canada IDL: Identified under the Canadian Hazardous Products Act Ingredient Disclosure List: 0.1%.1664(1703)



Chromium :

Canada IDL: Identified under the Canadian Hazardous Products Act Ingredient Disclosure List:
0.1%.399(561)

Section 313: EPCRA – 40 – CFR Part 372 – (SARA Title III) Section 313 Listed Chemical.

Lead :

Canada IDL: Identified under the Canadian Hazardous Products Act Ingredient Disclosure List:
0.1%.937(1435)

Section 313: EPCRA – 40 – CFR Part 372 – (SARA Title III) Section 313 Listed Chemical.

Cobalt :

Canada IDL: Identified under the Canadian Hazardous Products Act Ingredient Disclosure List:
0.1%.417(566)

CA PROP 65: Listed: cancer.

Section 313: EPCRA – 40-CFR Part 372 – (SARA Title III) Section 313 Listed Chemical.

Iron :

EC Number: 231-096-4

Cubic Boron Nitride (CBN) :

EC Number: 233-136-6

Tin :

Ec Number 231-141-8

Zinc oxide :

EC Number: 215-222-5

Copper :

EC Number: 231-159-6

Nickel :

EC Number: 231-111-4

Tungsten :

EC Number: 231-143-9

Chromium :

EC Number: 231-157-5



Lead :

EC Number: 231-100-4

Cobalt :

EC Number: 231-158-0

State Right to Know

	RI	NY	MN	MI	IL
Copper				Listed	
Nickel	Listed	Listed	Listed		Listed

	PA	MA	NJ		
Tin	Listed	Listed	Listed NJ Hazardous List; Substance Number: 1858		
Zinc oxide	Listed	Listed			
Copper	Listed	Listed Massachusetts Oil and Hazardous List	Listed NJ Hazardous List; Substance Number: 0528		
Nickel	Listed	Listed: Massachusetts Oil and Hazardous List	Listed: NJ Hazardous List: Substance Number: 1341		
Tungsten	Listed	Listed:			
Chromium	Listed	Listed: Massachusetts Oil and Hazardous List	Listed: NJ Hazardous List: Substance Number: 0432		
Lead	Listed	Listed: Massachusetts Oil and Hazardous List	Listed: NJ Hazardous List; Substance Number: 1096		
Cobalt	Listed	Listed: Massachusetts Oil And Hazardous List	Listed: NJ Hazardous List: Substance Number: 0520		

SECTION 16 ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard: 1
 HMIS Fire Hazard 0
 HMIS Reactivity 0
 HMIS Personal Protection X
 SDS Creation Date: July 27, 2011
 SDS Revision Date: July 01, 2013