

WASHINGTON MILLS

MATERIAL SAFETY DATA SHEET

1. Chemical Product & Company Identification

Chemical Name	Product Name/Synonyms	Molecular Formula
Boron Carbide	Boron Carbide	B ₄ C

Company Name: *Washington Mills Electro Minerals Corp.*
1801 Buffalo Avenue
Niagara Falls, NY 14302
Tel: (716) 278-6600 Fax: (716) 278-6650
Technical Information: (716) 278-6763

CHEMTREC (24HR Emergency Telephone) Call: 800-424-9300

HMIS

HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0
Personal Protection	E

2. Composition/Information on Ingredients

Chemical Name	CAS No.	EINECS	% by Weight	OSHA PEL (Exposure Guidelines)	
				Total (TWA)	Respirable (TWA)
Boron Carbide	12069-32-8	235-111-5	93.0 – 98.0	15 mg/m ³	5 mg/m ³
Boron Oxide	1303-86-2	215-125-8	0.3 – 3.0		
Boron	7440-42-8	231-151-2	0.3 – 3.0		
Impurities	C + Fe		0.5 - 1.0		

3. Hazard Identification/Potential Health Effects

Emergency Overview: Dust irritating to eyes and respiratory tract.

ROUTES OF ENTRY & SYMPTOMS

EYE	Mechanical eye irritant. May cause tearing and redness.
SKIN	Mechanical skin irritant. Prolonged contact may cause skin abrasion, redness, itching.
SENSITIZATION	No data available.
INGESTION	May cause nausea and vomiting. No long-term health effects are anticipated.
INHALATION	Dust may be slightly irritating to respiratory tract. May cause coughing or shortness of breath.
TARGET ORGANS	Eyes, skin, respiratory system.
ACUTE EFFECTS of EXPOSURE	Exposure may include persistent cough, shortness of breath.
CHRONIC EFFECTS of EXPOSURE	N/A
SIGNS & SYMPTOMS of EXPOSURE	Coughing, shortness of breath

4. First Aid Measures

EYES	Flush eyes with large amounts of water. If signs/symptoms persist, seek medical attention.
SKIN	Wash affected area with soap and water. If signs/symptoms persist, seek medical attention.
INHALATION	Remove person to fresh air. If signs/symptoms develop, seek medical attention.
INGESTION	Ingestion is an unlikely route of exposure. Leave decision to induce vomiting to qualified medical personnel, since particles may be aspirated into the lungs. Seek immediate medical

	attention.
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5. Fire Fighting Measures	
FLAMMABLE/COMBUSTIBLE PROPERTIES	None
EXTINGUISHING MEDIA	Extinguisher suitable for ordinary combustible materials. Class A extinguishing agents.
SPECIAL FIRE FIGHTING PROCEDURES	In fire conditions, fire-fighters should wear appropriate respiratory protection and full protective gear.
FIRE & EXPLOSION HAZARDS	Not applicable. None inherent in this product.

6. Accidental Release Measures	
PERSONAL SAFETY PRECAUTIONS	Avoid creating dust. Avoid contact with skin and eyes. Use with adequate ventilation.
ENVIRONMENTAL PRECAUTIONS	Ensure material is properly disposed of.
CLEANUP MEASURES	Collect spilled material mechanically and place in a suitable, compatible, properly labeled container. Avoid creating any dust. Ensure adequate ventilation and dispose of material in accordance with all applicable local, state and federal laws.

7. Handling & Storage	
HANDLING	Avoid contact with skin and eyes. Wash hands before eating. Prevent the formation of dust. Handle with adequate ventilation.
STORAGE	Normal Storage: Store in the original container in a cool, dry well ventilated area. Keep containers tightly sealed.

8. Exposure Controls & Personal Controls	
ENGINEERING CONTROLS	Provide sufficient mechanical ventilation to reduce airborne concentrations and minimize exposure. Maintain employee exposure below applicable permissible exposure limits.
HYGIENIC MEASURES	Do not inhale dust/smoke/mist. Avoid contact with skin and eyes. Wash hands before eating.
RESPIRATORY PROTECTION	Avoid breathing dust. Assess exposure concentrations of all materials involved in the workplace. If concentrations exceed the exposure limits listed in Section 2, Exposure Guidelines, or irritation or other symptoms are experienced, follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard 149 approved respirator.
EYE PROTECTION	Avoid eye contact. To minimize the risk of injury to eyes, always wear appropriate protective safety glasses or chemical safety goggles.
SKIN PROTECTION	Avoid skin contact. Wear appropriate protective clothing to minimize risk of injury to skin from contact with dust or physical abrasion.

9. Physical & Chemical Properties			
FORMULA	B ₄ C	APPEARANCE	Black to Green
PHYSICAL STATE	Solid-granular	ODOR	Odorless
BOILING POINT	N/A	FLASH POINT	N/A
MELTING POINT	2350° C	DECOMPOSITION TEMPERATURE	N/A

pH at 20°	N/A	VAPOR PRESSURE	N/A
VAPOR DENSITY	N/A	OXIDIZING PROPERTIES	N/A
EXPLOSIVE PROPERTIES	None	SPECIFIC GRAVITY	2.52
SOLUBILITY	Insoluble	BULK DENSITY	N/A

10. Stability & Reactivity

CHEMICAL STABILITY	Stable
THERMAL DECOMPOSITION	N/A
INCOMPATIBILITY	NA
CONDITIONS TO AVOID	None known
HAZARDOUS DECOMPOSITION PRODUCTS	None expected
DANGEROUS REACTIONS	None known
HAZARDOUS POLYMERIZATION	Will not occur

11. Toxicological Information

CAS # 12069-32-8	
COMPONENT ANALYSIS	Data Not Available
LD50/LC50	
CARCINOGENICITY	
EPIDEMIOLOGY	
TERATOGENICITY	
NEUROTOXICITY	
MUTAGENICITY	
REPRODUCTIVE EFFECTS	

12. Ecological Information

ECOTOXICITY	Not Available
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13. Disposal Considerations

Solid or chemical waste generators must determine whether a discarded waste is classified as a hazardous waste. U.S. EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

14. Transportation Information

U.S. DOT	This product is not regulated by USDOT as a Hazardous Material (49 CFR 172.101). No UN code assigned. No placard required for transportation.
IMDG	Not regulated as a Hazardous Material.
ACAO/IATA	Not regulated as a Hazardous Material.
EU (ADR, RID)	Not regulated as a Hazardous Material.

15. Regulatory Information

TSCA	Boron Carbide is listed on the TSCA inventory under CAS# 12069-32-8
RCRA	Boron Carbide is not classified as a hazardous material under RCRA or its regulations, 40 CFR 261.

CERCLA	Boron Carbide is not classified as a hazardous substance under CERCLA regulations, 40 CFR 302.
SARA	Boron Carbide is not an extremely hazardous substance in Section 302 and is not a toxic chemical subject to the requirements of 313.

Prepared by Kevin J. Schroeder, Environmental, Health and Safety Manger

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