

1. IDENTIFICATION

Product identifier: Plated Diamond and CBN Products

Trade Name: Plated Products with Designations “D(grit size) PLATE S”, “D(grit size) PLATE S/R”, “B(grit size) PLATE S”, “B(grit size) PLATE S/R”

Manufacturer/ Radiac Abrasives, Inc.
Distributor A Tyrolit Company
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P.O. Box 1410
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2. HAZARD(S) IDENTIFICATION

The hazard identification is based on a formalistic procedure as the hazard statements of the ingredients are summarized in section 3. This does not correspond to the hazardousness of the product itself.

A greater hazard, in most cases, is the exposure to the dust/fumes from the material or paint/coatings being ground. Most of the dust generated during grinding is from the base material being ground and the potential hazard from this exposure must be evaluated. This dust may present a fire or dust explosion hazard and may present a serious health hazard.

Classification:

Physical	Health	Environment
Not Hazardous	Carcinogen Category 2 Skin Sensitization Category 1 Specific Target Organ Toxicity – Repeat Exposure Category 1	Not Hazardous

Hazards not otherwise classified: None

Symbol(s)



Signal word
Danger!

Hazard statement(s)

H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H372 Causes damage to lungs through prolonged or repeated exposure.

Precautionary statement(s)

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust or fume.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the

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workplace.

P280 Wear protective gloves, protective clothing, eye protection and protective clothing.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P333+P313 If skin irritation or rash occurs: Get medical attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

P308 + P313 If exposed or concerned: Get medical attention.

P405 Store locked up.

P501 Dispose of contents and container in accordance with local and national regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Mixtures:

Chemical name	CAS No.	Concentration
Steel	N/A	≤85%
Diamond Abrasive	7782-40-3	≤10%
Cubic Boron Nitride	10043-11-5	≤10%
Nickel & Nickel Compounds	7440-02-0	≤5%

The specific identity and/or exact percentage (concentration) of composition has been withheld as a trade secret and to cover products of variable composition. For more information about the composition for sampling purposes, contact Radiac Abrasives.

4. FIRST-AID MEASURES

Inhalation: Remove victim to fresh air. If irritation or other symptoms persist, get medical attention.

Skin contact: No first aid should be required. If contact with dust occurs, do not rub or scratch. Remove contaminated clothing. Rinse exposed skin with cold water then wash skin with soap and water. Get medical attention if irritation or rash occurs. Launder clothing before re-use.

Eye contact: If particles enter eyes, do not rub your eyes. Dust particles may cause abrasive eye injury. Wash eyes with water, while holding the eyelids apart. Get medical attention if irritation persists.

Ingestion: Not an anticipated route of exposure. If swallowed, drink 1 or 2 glasses of water to dilute. Never give anything by mouth to an unconscious or convulsing person. Get medical attention.

Most important symptoms/effects, acute and delayed: Dust may cause mechanical eye, skin and respiratory irritation. Dust particles may cause abrasive injury to the eyes. May cause skin sensitization (allergic reaction). Inhalation of fumes may cause metal fume fever with flu-like symptoms. Prolonged inhalation of dust or fumes from this product may cause perforation of the nasal septum and damage to the lungs. This product contains nickel and titanium dioxide, which are suspected of causing cancer based on animal studies. Risk of cancer depends on duration and level of exposure.

Indication of immediate medical attention and special treatment, if necessary: Immediate medical attention is generally not required.

5. FIRE-FIGHTING MEASURES

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Suitable (and unsuitable) extinguishing media: Use any media that is appropriate for the surrounding materials.

Specific hazards arising from the chemical: This product is not combustible; however, consideration must be given to the potential fire or explosion hazards from the base material being processed. Many materials create flammable or explosive dusts or turnings when machined or ground. Toxic metal fumes and oxides are emitted when product is heated above the metal point.

Special protective equipment and precautions for fire-fighters: Firefighters should wear full emergency equipment and NIOSH approved positive pressure self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Wear appropriate respirator and protective clothing as needed to avoid eye contact and inhalation of dust.

Environmental precautions: Avoid contamination of water supplies and environmental releases. Report spills as required to authorities.

Methods and materials for containment and cleaning up: Carefully collect dry material, avoiding the creation of airborne dust. Place in a suitable container for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid breathing dust. Use with adequate ventilation. Avoid eye and skin contact with grinding dust. Wear suitable gloves, eye protection and appropriate protective clothing according to the operation. Wash thoroughly after handling. Consider potential exposure to components of the base materials or coatings being ground. Refer to OSHA's substance specific standards for additional work practice requirements where applicable.

Conditions for safe storage, including any incompatibilities: Store in accordance with ANSI B7.1. Protect abrasive wheels from damage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

Steel	None Established
Diamond Abrasive	None Established
Cubic Boron Nitride	None Established
Nickel & Nickel Compounds (as elemental)	1.5 mg/m ³ TWA ACGIH TLV (Inhalable) 1 mg/m ³ TWA OSHA PEL

Appropriate engineering controls: Use local exhaust or general ventilation as required to minimize exposure to dust and maintain the concentration of contaminants below the TLVs.

Individual protection measures, such as personal protective equipment:

Respiratory protection: Use NIOSH approved respirator if exposure limits are exceeded or where dust exposures are excessive. Consider the potential for exposure to components of the coatings or base material being ground in selecting proper respiratory protection. Refer to OSHA's specific standards for lead, cadmium, etc. where appropriate. Selection of

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respiratory protection depends on the contaminant type, form and concentration. Select and use respirators in accordance with OSHA 1910.134 and good industrial hygiene practice.

Skin protection: Impervious gloves recommended.

Eye protection: Safety goggles or face shield over safety glasses with side shields.

Other: Protective clothing as needed to prevent contamination of personal clothing. Hearing protection may be required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.): Solid of various colors.

Odor: May give off odor during use.

Odor threshold: Not applicable	pH: Not applicable
Melting point/freezing point: Not applicable	Initial boiling point and boiling range: Not applicable
Flash point: Non-Combustible	Evaporation rate: Not applicable
Flammability (solid, gas): Not applicable	UEL: Not applicable
Flammable limits: LEL: Not applicable	Vapor density:
Vapor pressure: Not applicable	Solubility(ies): Very slightly
Relative density: Not available	Auto-ignition temperature: Not applicable
Partition coefficient: n-octanol/water: Not applicable	Viscosity: Not applicable
Decomposition temperature: Not applicable	

10. STABILITY AND REACTIVITY

Reactivity: Not reactive

Chemical stability: Stable

Possibility of hazardous reactions: If nickel powder comes into contact with bromine pentafluoride at ambient or slightly elevated temperatures, ignition will probably occur. Powdered nickel may react violently or explosively with fused ammonium nitrate below 200°C.

Conditions to avoid: None known

Incompatible materials: None known.

Hazardous decomposition products: Dust from grinding could contain ingredients listed in Section 3 and other, potentially more hazardous components of the base material being ground or coatings applied to the base material. Toxic metal fumes and oxides are emitted when product is heated above the metal point.

11. TOXICOLOGICAL INFORMATION

Likely routes of exposure:

Inhalation: Dust generated from processing may cause respiratory irritation. Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, chest pain, and fatigue and muscle pain. Symptoms generally resolve in 24-48 hours.

Ingestion: None expected under normal use conditions. Swallowing large pieces may cause obstruction of the gastrointestinal tract.

Skin contact: Dust generated from processing may cause abrasive irritation. May cause allergic skin reaction (sensitization).

Eye contact: Dust may cause serious eye irritation. Dust particles may cause abrasive injury to the eyes.

Chronic effects from short- and long-term exposure: Long-term overexposure to respirable dust may cause lung damage (fibrosis) with symptoms of coughing, shortness of breath and diminished breathing capacity. Prolonged inhalation of nickel dust or fumes may cause perforation of the nasal septum and lung damage. Chronic effects may be aggravated by smoking. Prolonged exposure to elevated noise levels during operations may affect hearing. A greater hazard, in most cases, is the

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exposure to the dust/fumes from the material or paint/coatings being ground. Most of the dust generated during grinding is from the base material being ground and the potential hazard from this exposure must be evaluated.

Numerical measures of toxicity:

Steel: No data available

Diamond Abrasive: Oral rat LD50 > 2000 mg/kg, inhalation rat LC50 > 5.2 mg/L, dermal rat LD50 > 2000 mg/kg

Cubic Boron Nitride: Oral rat LD50 > 5000 mg/kg, inhalation rat LC50 > 5.3 mg/L

Nickel & Nickel Compounds (as elemental): Oral rat LD50 > 9000 mg/kg

Carcinogenicity: Nickel compounds are classified by IARC as known human carcinogens (Group 1) and by NTP as known human carcinogens. Metallic nickel is classified by IARC as possibly carcinogenic to humans (Group 2B) and by NTP as reasonably anticipated to be a carcinogen. None of the other components of this product are listed as carcinogens by OSHA, IARC, NTP, or the EU CLP.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Diamond Abrasive: *Oncorhynchus mykiss* LC50 > 100 mg/L/96hr

Nickel & Nickel Compounds (as elemental): *Oncorhynchus mykiss* LC50: 15.3 mg/L/96hr, *Pimephales promelas* NOEC 0.057 mg/L/32days

This product is not expected to be hazardous to the environment.

Persistence and degradability: Biodegradation is not applicable to inorganic compounds.

Bioaccumulative potential: No data available

Mobility in soil: No data available.

Other adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable local, state/provincial and federal regulations. Local regulations may be more stringent than regional and national requirements. It is the responsibility of the waste generator to determine the toxicity and physical characteristics of the material to determine the proper waste identification and disposal in compliance with applicable regulations.

14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT	None	Not Regulated	None	None	None
TDG	None	Not Regulated	None	None	None

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None identified.

15. REGULATORY INFORMATION

SARA Section 311/312 Hazard Categories: Not Applicable (manufactured articles)

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SARA Section 313: This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372 (Toxic Chemical Release Reporting):

Components	C.A.S. #	WT %
Nickel	7440-02-0	≤5%

California Proposition 65: WARNING You create dust when you cut, sand, drill or grind materials such as wood, paint, cement, masonry or metal. This dust often contains chemicals known to cause cancer, birth defects or other reproductive harm.

This SDS has been prepared in accordance with US OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

16. OTHER INFORMATION

NFPA Rating: Health = 2 Flammability = 0 Instability = 0
HMIS Rating: Health = 2* Flammability = 0 Physical Hazard = 0
*Chronic Health Hazard

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The information and recommendations set forth are taken from sources believed to be accurate. Radiac Abrasives, Inc., a Tyrolit Company, makes no warranty with respect to the accuracy of this information or the suitability of these recommendations, assumes no liability to any user thereof. It is the responsibility of the user to investigate and understand pertinent sources of information to comply with all laws and procedures applicable to the safe use and handling of the product and to determine the suitability of the product for its intended use.

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DANGER



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