DIANAMIC®

SAFETY DATA SHEET • COMPLIANCE HAZCOM 2012

OSHA 29 CFR 1910.1200
Creation Date: 8/22/13

SECTION 1: IDENTIFICATION

1.1 - Product Identifier

Electroplated Diamond and cBN (Cubic Boron Nitride) Solid Core Abrasive Tooling Products.

1.2 - Manufacturer Name and Core Address

DIANAMIC®
2566 Industrial Row, Troy, Michigan 48084, USA
Telephone: +1-248-280-1185 | Facsimile: +1-248-280-2733 | Email: info@dianamic.com

1.3 - Emergency Telephone Number

Contact Corporate Support: +1-248-280-1185 (Available during localized standard operational hours)

1.4 - Recommended Product Application

Industrial engineered mechanical tools specified strictly for material abrasive grinding and cutting configurations.

SECTION 2: HAZARD(S) IDENTIFICATION

2.1 - GHS Hazard Classification Statements

GHS CODE	HAZARD HEALTH STATEMENTS	CLASSIFICATION LEVEL
H317	May cause an allergic skin reaction.	Skin Sensitization — Cat. 1
H318	Causes serious eye damage.	Eye Damage / Irritation — Cat. 1
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	Respiratory Sensitization — Cat. 1
H350	May cause cancer via respiratory dust pathways.	Carcinogenicity — Cat. 1A
H361	Suspected of damaging fertility or the unborn child.	Reproductive Toxicity — Cat. 2
H372	Causes damage to organs through prolonged or repeated inhalation exposure.	STOT Repeated Exposure — Cat. 1
H401	Toxic to aquatic life.	Acute Aquatic Toxicity — Cat. 2

2.2 - Signal Word & Warning Configuration

Signal Classification: **DANGER**

Associated Hazards: Carcinogenicity • Mutagenicity • Reproductive Endangerment • Respiratory Sensitization • Targeted Respiratory Organ Toxicity • Aspiration Risk.

HEALTH HAZARD

CORROSIVE / IRRITANT

2.3 - Precautionary Standard Mandates

PRECAUTIONARY CODE	SAFETY DIRECTION GUIDELINES
P260	Do not breathe dust, grinding debris, or mechanical process fumes.
P264	Wash face, hands, and exposed skin boundaries thoroughly after physical handling.
P270	Do not eat, drink, or smoke when interacting with this product.
P271	Use only outdoors or in a well-ventilated engineering operating zone.
P280	Wear protective task gloves, safety goggles, and full face shield protection gear.

PRECAUTIONARY CODE	SAFETY DIRECTION GUIDELINES
P314	Get targeted medical attention or clinical advice if you feel systemic discomfort or unwell.
P305+P351+P338	**IF IN EYES:** Rinse cautiously with clean water for several minutes. Remove contact lenses, if present and uncomplicated to perform. Continue flushing loops. Call a physician immediately.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL NAME	COMMON MATERIAL SHORTHAND	CAS NUMBER	REGULATED CARCINOGEN (Y/N)
Industrial Diamond	Diamond Matrix Element	7782-40-3	N
Cubic Boron Nitride	cBN Matrix Element	10043-11-5	N
Steel Core Substrate	Iron Base Alloy Core	12597-69-2	N
Aluminum Core Substrate	Aluminum Alloy Core	7429-90-5	N
Nickel	Nickel Metallic Binder Core	7440-02-0	**Y**

SECTION 4: FIRST-AID MEASURES

EXPOSURE VECTOR	ACUTE & CHRONIC SYMPTOM HAZARDS	IMMEDIATE TREATMENT REQUIREMENTS
Inhalation (Dust)	Airborne particulate loops prompt mechanical coughing or dyspnea. Long-term accumulation increases asthmatic lung hazards and respiratory tract malignancy risks.	Instantly transfer target individual to outdoor fresh air spaces. If breathing patterns stall, administer secondary oxygen. Contact medical personnel immediately.
Skin Exposure	Metallic dust can induce extreme localized sensitivity skin alerts ("Nickel Itch"). Chronic exposure loops prompt persistent allergic contact dermatitis.	Instantly drench affected skin spaces under copious flowing water. Wash layers thoroughly with neutral soap. Request medical attention if rashes develop.
Eye Contact	Grinding chips cause painful mechanical tearing and abrasions. Chronic unmitigated residue hazards pose clear risks of permanent corneal degradation.	Do not rub eye layers. Immediately flush wide-open eyes with clean running water loops for at least 15 minutes. Secure clinical ophthalmic attention immediately.
Ingestion	Accidental internal ingestion can provoke deep gastrointestinal irritation and stomach nausea.	Rinse buccal cavity with fresh water. **Never induce vomiting** if the subject is unconscious or slipping into lethargy. Request emergency medical support.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 - Extinguishing Media Selection

Utilize fine water spray, alcohol-resistant foam structural agents, dry chemical compounds, or Carbon Dioxide (CO_2) media matching surrounding environment variables.

5.2 - Special Chemical Decomposition Hazards

Thermal degradation of the dense metallic binding core under fire temperatures can yield flammable Hydrogen gas, highly dangerous Nickel Carbonyl vapors, and aggressive Nitrogen Oxides (NO_x).

5.3 - Firefighter Personal Protections

Response forces must wear a positive-pressure, self-contained breathing apparatus (SCBA) certified to NIOSH standards paired with complete tactical protective turn-out structures.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Solid structural wheels present no fluid mechanical spill hazards. For fine dust debris generated during grinding processes: implement clean, dust-controlled housekeeping practices. Utilize HEPA-filtered vacuum machinery loops or wet suppression techniques to safely retrieve particulate matter. Avoid dry-sweeping or compressed air blowout loops that kick fine particles into the breathing environment.

SECTION 7: HANDLING AND STORAGE

All handling operations, parameter auditing, speed verification, and tooling layout storage must strictly comply with the **American National Standards Institute (ANSI) B7.1** safety codes and matching OSHA structural directives. Store all tools inside climatically controlled, dry environments to mitigate moisture corrosion on exposed wheel substrate surfaces.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 - Workplace Air Permissible Exposure Limits (TWA)

REGULATED CHEMICAL COMPONENT	OSHA PEL (8-HOUR TIME-WEIGHTED AVERAGE)	ACGIH TLV (INHALABLE PARTICULATE FRACTION)
Nickel Metal (CAS 7440-02-0)	**1.0 mg/m³**	**1.5 mg/m³**

8.2 - Ventilation & Controls Engineering

Provide targeted localized exhaust enclosure systems directly over the tool/part interface zone during processing to intercept grinding swarf before it migrates into coworker breathing space.

8.3 - Personal Protective Equipment (PPE) Directives

- **Respiratory Defense:** Utilize NIOSH-certified particulate filters or half-face air-purifying respirators meeting **OSHA 29 CFR 1910.134** standards when grinding dry.
- **Hand Defense:** Deploy resilient industrial task gloves (heavy leather or puncture/cut-resistant polymers) to block cut hazards.
- **Ocular Defense:** Enforce the absolute use of impact safety spectacles with fixed side shielding or comprehensive clear safety face shields meeting ANSI Z87.1 rules.
- **Auditory Defense:** Deploy certified hearing plugs or ear protection masks when surrounding machine grinding or blasting loops cross legal sound thresholds as per **OSHA 29 CFR 1910.95**.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES OF NICKEL MATRIX

Physical Appearance:	Silver-Gray Solid Metal	**Relative Density:**	8.90 g/cm³ @ 25°C
Odor Profile:	Completely Odorless	**Solubility in Water:**	Completely Insoluble
Melting Point:	1455°C (2651°F)	**Boiling Point:**	2730°C (4946°F)
Vapor Pressure / Density:	Not Applicable (Ambient)	**Decomposition Temp:**	400°C (Surface Oxide Layers)
Flammability (Solid/Liquid):	Non-Flammable Solid Form	**Flash Limits / Auto-Ign:**	No Data Available

SECTION 10: STABILITY AND REACTIVITY

10.1 - Chemical Reactivity Profile: Product behaves as an inert, highly stable metal system under nominal workplace operational and warehouse parameters. High thermal stability around ambient open-flame systems. Hazardous polymerization will not execute.

10.2 - Prohibited Materials & Conditions: Prevent exposure to strong mineral acids and powerful halogenated oxidation compounds. Grinding processes naturally generate high-surface-area metal swarf powder; ensure compatible fluid choices are maintained to mitigate localized degradation pathways.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 - Agency Carcinogenicity Registry Status

REGULATORY BODY EVALUATOR	CARCINOGEN SAFETY TRACKING STATUS
IARC Registry Grouping	Group 2B — Suspected Human Carcinogen via Inhalation Debris
NTP Evaluation Report	Reasonably Anticipated to behave as a Human Carcinogen
OSHA Safety Standards	Explicitly Tracked / Regulated Carcinogen Pathway Substance

11.2 - Short & Long-Term Exposure Toxicological Indicators

Respiratory Track: High inhalation loops can provoke respiratory tract inflammation and coughing. Long-term exposure increases nasal tissue destruction and malignancy risks. **Dermal Track:** Non-absorbing through solid hide barriers; continuous dust friction can trigger contact dermatitis loops on sensitized individuals.

SECTION 16: OTHER INFORMATION

Compliance Statement: The information contained within this document is structured to fulfill regulatory compliance conditions under OSHA 29 CFR 1910.1200 HazCom 2012. Operating personnel must evaluate actual processing environments to determine tailored personal protections.
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