

SAFETY DATA SHEET: CRYSTALLINE CVD DIAMOND

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SECTION I: IDENTIFICATION

Chemical Name: Crystalline CVD Diamond

Trade Names and Synonyms: Single crystal CVD Diamond plate (chemical vapor deposited)

Manufacturer Information: Diamond Elements Pvt Ltd.

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Email: sales@diamondelements.com

Recommended Use: For fabrication of Optical/ Nanophotonic Device, Nano Needle for AFM, Optical Transmission window.

SECTION II: HAZARDS IDENTIFICATION

Note: During routine handling CVD diamond, it does not present inhalation, ingestion, skin contact or other chemical hazards. However, operations such as grinding, cutting, and brazing may release dust or fumes which may present health hazards if the exposure limits described in section VIII are exceeded. The health hazards described below relate to these operations, as well as exposure to components of powder.

Hazard Classification

Physical Hazard: Not Classified

Health Hazard: National Fire Protection Association Hazard Rating: (0-4 Scale)

Health = 0, Flammability = 0, Reactivity = 0

Article Exemption: This product meets the definition of an article under 29 CFR 1910.1200(c), which states: Article means a manufactured item other than a fluid or particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical (as determined under paragraph (d) of this section), and does not pose a physical hazard or health risk to employees.

SECTION III: FIRST-AID MEASURES

Emergency & First Aide Procedures: Applicable for dust or mist.

Inhalation: If symptoms of pulmonary involvement develop (i.e. productive cough, wheezing, shortness of breath, chest tightness and weight loss) remove oneself from exposure and seek medical attention.

Skin Contact: If irritation or a rash occurs, thoroughly wash affected area with soap and water and isolate oneself from exposure. If irritation persists, seek medical attention.

Eye Contact: If irritation occurs, flush eyes with copious amounts of water. If irritations persist, seek medical attention.

Ingestion: If substantial quantities are swallowed dilute with a large amount of water, induce vomiting and seek medical attention.

SECTION IV: FIRE-FIGHTING MEASURES

Flash Point: N/A Test Method Used: N/A Flammable Limits: N/A LEL: N/A

SECTION V: HANDLING AND STORAGE

Precautions for Handling and Storage: Maintain good housekeeping procedures to prevent dust accumulation during grinding. Avoid dust inhalation and direct skin contact with dust.

Personal Protective Measures

Respiratory Protection: Use an appropriate NIOSH/MSHA approved respirator if airborne dust concentration levels exceed the appropriate PEL or TLV. All appropriate requirements set forth in 29 CFR 1910.134 should be met.

Ventilation: Use local exhaust ventilation which is adequate to limit personal exposure to airborne dust levels which do not exceed the PEL or TLV. If such equipment is not available use respirators.

Protective Gloves: Protective gloves or barrier cream are recommended when contact with powder, dust or grinder mist is likely. Prior to applying the barrier cream or use of protective gloves, wash thoroughly.

Eye Protection: Safety glasses with side shields or goggles are recommended.

SECTION VI: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Gray/clear transparent crystalline pieces

Upper/Lower flammability/Explosive limits: N/A; Odor: Odorless

Vapor Pressure: N/A :Odor threshold: N/A :Vapor Density (Air=1): N/A

Specific Gravity (H₂O=1): 2.26 :PH: N/A ; Melting Point: N/A

Solubility in Water: Practically Insoluble ;Boiling Point: 4827°C

Flash Point: N/A ;Evaporation Rate: N/A

Flammability (Solid/Gas): N/A ; Partition coefficient: n-octanol/water: N/A

Auto-ignition temperature: N/A ; Decomposition temperature: N/A

Percent Volatile by Volume: 0 ; How Best Monitored: Air Sample

SECTION VII: STABILITY AND REACTIVITY

Reactivity: Not Reactive; Chemical Stability: Stable

Incompatibility: Contact of dust with strong oxides may cause fire or explosion

Hazardous Decomposition Products: None

Hazardous Polymerizations Products: Will not occur

Conditions to Avoid: DO NOT use or operate damaged tools or products. Cutting tools may fragment in use. Always wear safety equipment and keep machine guards in place. If tool or product shows signs of damage, return tools to appropriate location for repair, replacement or recycling.

SECTION VIII: TOXICOLOGICAL INFORMATION

Note: During routine handling, CVD diamond products do not present inhalation, ingestion, skin contact or other chemical hazards. However, operations such as grinding, cutting, and brazing of the products may release dust or fumes which may present health hazards if the exposure limits exceeded