SAFETY DATA SHEET

## SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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| Product Identifier  **Nanodiamonds** | | | | [WHMIS Classification] |
| Product Use  **Research use only** | | | | |
| Manufacturer, and Supplier Name  **Columbus NanoWorks Inc** | | |
| Street Address  **1507 Chambers Rd** | | |
| City  **Columbus** | |  |
| Postal Code  **43212** | Emergency Telephone  **614-754-1648** | |

## SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

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| Hazardous Ingredients *(specific)* | % | CAS Number | OSHA PEL | ACGIH TWA |
| Nickel | Less than 0.1 | 7440-02-0 | Metal and insoluble compounds, as Ni less than 1 mg/m3 TWA; soluble compounds, as Ni: 1 mg/m3 | Metal, inhalable fraction; 1.5 mg/m3 TWA |

## SECTION 3 — HAZARDS IDENTIFICATION

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| **Emergency Overview**  HMIS Ratings Health =0; Flammability = 0; Reactivity = 0  Odorless, avoid breathing dust  Avoid skin contact |
| **Potential Health Effects**  No known OSHA hazards  **Ingestion:** No hazard  **Skin Contact:** May cause skin irritation resulting in redness and pain.  **Eye Contact:** May cause skin irritation resulting in redness and pain  **Chronic Exposure:** Not tested |

## SECTION 4 — FIRST AID MEASURES

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| **Skin Contact**  Immediately flush skin with plenty of water for at least 15 minutes. |
| **Eye Contact**  Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. |
| **Inhalation**  Remove to fresh air. If not breathing, give artificial respiration. Get medical attention. |
| **Ingestion**  If swallowed, give large quantities of water. Get medical attention immediately |

## SECTION 5 — FIRE FIGHTING MEASURES

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| Flammable  ~~❐~~No ❐ Yes | If yes, under which conditions?  Slight fire hazard at high heat. |
| Means of Extinction  **Flammability of the Product:** not flammable  **Auto-Ignition Temperature:** no data available  **Flash Points:** no data available, requires a continuous flame source to ignite  **Flammable Limits:**  **Products of Combustion:** These products are carbon oxides (CO, CO2).  **Fire Fighting Media and Instructions:**  Use water-spray, alcohol-resistant foam dry chemical or carbon dioxide | |

## SECTION 6 — ACCIDENTAL RELEASE MEASURES

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| **Leak and Spill Procedures**  Avoid dust formation. Do not flush to sewer! Sweep up using shovel |

## SECTION 7 — Handling and Storage

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| Wear protective gloves, and safety glasses, Keep in a tightly closed light-resistant container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Wash hands before eating and do not eat, drink, or smoke in workplace. |

## SECTION 8 — Exposure Controls and Personal Protection

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| **a. Exposure Limit**: Not determined.  **b. Engineering measurement:** Provide exhaust ventilation. Ensure that eyewash stations and safety showers are proximal  to the workstation location.  c. Personal protection  Respiratory protection: Not required.  Ventilation: not required.  Hand protection: Rubber or plastic gloves to prevent prolonged or repeated contacting with skin.  Eye Protection: Safety glasses with side shields or chemical goggles  Other Protective Equipment: Not required. |

## SECTION 9 — Physical and Chemical Properties

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| **Physical state and appearance:** Solid. (Powdered solid.)  **Odor and Appearance:** No odor; powder or as a suspension  **Molecular Weight:** Not applicable  **Color:** White. Slightly off-white.  **pH (1% soln/water):** Not available.  **Boiling Point:** Not available.  **Melting Point:** Not available.  **Critical Temperature:** Not available.  **Specific Gravity:** 3.5 ; water = 1.  **Vapor Pressure:** Not applicable.  **Vapor Density:** Not available.  **Volatility:** Not available.  **Odor Threshold:** Not available.  **Water/Oil Dist. Coeff.:** Not available.  **Ionicity (in Water):** Not available.  **Dispersion Properties:** Not applicable.  **Solubility:** insoluble in water, forms colloids at low concentrations |

## SECTION 10 — Stability and Reactivity

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| Stable under ordinary conditions of use and storage.  **Conditions to be avoided:**  Acids  Oxidizing agents  **Corrosivity:** Non-corrosive.  **Special Remarks on Reactivity:** Not available.  **Special Remarks on Corrosivity:** Not available |

## SECTION 11 — Toxicological Information

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| **Routes of Entry:** Inhalation. Ingestion.  **Toxicity to Animals:**  Oral LD50 estimated >5 grams/kg  **Chronic Effects on Humans:** Not available.  **Other Toxic Effects on Humans:** Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.  **Special Remarks on Toxicity to Animals:** Not available.  **Special Remarks on Chronic Effects on Humans:** Not available.  **Special Remarks on other Toxic Effects on Humans:**  Acute Potential Health Effects: Skin: May cause skin irritation. Eyes: May cause eye irritation. Inhalation: May cause respiratory tract irritation. Ingestion: May cause gastrointestinal tract irritation. |

## SECTION 12 — Ecological Information

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| **Ecotoxicity:** Not available.  **BOD5 and COD:** Not available.  **Products of Biodegradation:**  Possibly hazardous short term degradation products are not likely.  **Toxicity of the Products of Biodegradation:** The product itself and its products of degradation are not toxic.  **Special Remarks on the Products of Biodegradation:** Not available |

## SECTION 13 — Disposal considerations

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| Disposal must comply with all federal, state and local regulations. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements. |

## SECTION 14 — Transport information

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| **DOT Classification:** Not a DOT controlled material (United States).  **Identification:** Not applicable.  **Special Provisions for Transport:** Not applicable |

## SECTION 15 — Regulations

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| **Federal and State Regulations:** This product is in compliance with the rules and orders of TSCA  **SARA313:** Not reportable  **Other Classifications:**  **WHMIS (Canada):** Product classification D2  **DSCL (EEC):**  This product is not classified according to the EU regulations. Not applicable.  **HMIS (U.S.A.):**  **Health Hazard:** 1  **Fire Hazard:** 1  **Reactivity:** 0  **Personal Protection:** E  **National Fire Protection Association (U.S.A.):**  **Health:** 1  **Flammability:** 1  **Reactivity:** 0  **Specific hazard:**  **Protective Equipment:**  Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Safety glasses. |