SAFETY DATA SHEET FOR SYNTHETIC DIAMOND POWDER

1. Identification of the Substance/Preparation and of the Company/Undertaking

1.1. Product Identifier

Synthetic Diamond Powder, SYNGRIT, WHEELGRIT, PremaDia, PDA, Micron+.

Substance Name: Synthetic Diamond Powder.

EC No.: 231-953-2

REACH Registration No.: 01-2119852677-24-0000

CAS No.: 7782-40-3

1.2. Relevant Identified Uses of the Substance or Mixtures and Uses Advised Against

Identified Uses of the Substance: Abrasive material used in saw blades and core drills.

Uses Advised Against: None.

1.3. Details of the Supplier of the Safety Data Sheet

Company: Element Six Ltd

Address: Shannon Airport
Shannon, Co Clare,
Ireland.

Phone: +353 61 471655 Fax: +353 61 471201

E-mail: E6SHE@e6.com

1.4. Emergency number: +353 61 471655

2. Hazards Identification

2.1. Classification of the Substance

2.1.1. Classification According to Regulation (EC) No 1272/2008 (CLP/GHS)

This substance is classified as not hazardous according to Regulation (EC) 1272/2008.

2.1.2. Additional Information

None.

2.2. Label Elements

2.2.1. Labelling According to Regulation (EC) No 1272/2008 (CLP/GHS)

There is no obligation to label this product according to Regulation (EC) 1272/2008.

2.3. Other Hazards

Exposure to dusts, by skin contact, ingestion and inhalation can occur when handling, chemically treating, heat treating, abrasive cutting, grinding, polishing or abrading the surface of this material in a manner which generates particulates.

3. Composition/Information on Ingredients

3.1. Substances

No	Name	EINECS No. REACH No. CAS No.	Concentration (%(w/w))	Classification According to Regulation (EC) No. 1272/2008 (CLP/GHS)
1	Diamond	231-953-2 01-2119852677-24-0000 7782-40-3	100%	Classified as not hazardous.

3.2. Mixtures

None

4. First Aid Measures

4.1. Description of First Aid Measures

General Notes: As a general rule, in case of doubt or if symptoms persist, always consult a doctor or seek medical attention.

Following Inhalation: Move subject to fresh air.

Following Skin Contact: Wash skin thoroughly with soap and water.

Following Eye Contact: Keeping the eyelids apart, flush thoroughly with water.

Following Ingestion: Rinse out mouth and drink plenty of water.

Notes for the Doctor: None.

4.2. Most Important Symptoms and Effects, both Acute and Delayed

No information available.

4.3. Indication of Immediate Medical Attention and Special Treatment Needed

No information available.

5. Fire Fighting Measures

5.1. Extinguishing Media

Suitable Extinguishing Media: Water, foam, sand, powder, carbon dioxide (CO2).

Unsuitable Extinguishing Media: No information available.

5.2. Special Hazards Arising from the Substance or Mixture

During fire fighting, toxic fumes may occur.

5.3. Advice for Fire-Fighters

Wear special protective equipment for fire-fighters such as self contained respiratory protective equipment and full protective suit.

5.4. Additional Information

No information available.

6. Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Avoid dust formation. Ventilate area leak or spill. Wear appropriate personal protective equipment. Isolate hazard area. Keep unnecessary and unprotected personnel from entering area of leak or spill.

6.2. Environmental Precautions

Avoid product from entering into drains, surface water or groundwater.

6.3. Methods and Materials for Contamination and Cleaning Up

Avoid dust formation. Ventilate area of leak or spill. Wear appropriate personal protective equipment. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Vacuum or carefully scoop up material spillages and place in appropriate containers for disposal.

6.4. Reference to Other Sections

Reference section 7 and 8 for personal protection equipment. Refer section 13 on disposal of waste.

7. Handling and Storage

7.1. Precautions for Safe Handling

7.1.1. Protective Measures

Measures to Prevent Fire: Keep away from sources of ignition.

Measures to Prevent Aerosol and Dust Generation: Not possible to create aerosol under normal working conditions. Do not permit dust to collect on walls, floors, machinery or equipment. Ensure the area is well ventilated.

Measures to Protect the Environment: Keep container tightly closed. Clean-up all spillages.

7.1.2. Advice on General Occupational Hygiene

Wear personal protection equipment. Avoid generation and inhalation of dusts. Avoid contact with skin, eyes and clothes. Wash hands and face after handling. Do not eat, drink or smoke in the workplace. Wash contaminated clothes prior to reuse.

7.2. Conditions for Safe Storage, Including and Incompatibilities

Technical Measures and Storage Conditions: Store in a cool, dry, well ventilated area. Keep containers sealed when not in use.

Packaging Materials: Keep/store in original packaging.

Requirements for Storage Rooms and Vessels: No information available.

Hints on Storage Assembly: No information available.

Storage Class: 13 (Non combustible solid materials)

Further Information on Storage Conditions: No information available.

7.3. Specific End Use(s)

Recommendations: Refer to section 1.2.

Industrial Sector Specific Solutions: Refer to section 1.2.

8. Exposure Controls / Personal Protection

8.1. Control Parameters

8.1.1. Occupational Exposure Limit Values

Country Code	Name	EC No. CAS No.	Specification	Long Term OEL	Short Term OEL	Remarks
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8.1.2. DNEL and PNEC Values

No DNEL values derived/calculated. No PNEC values derived/calculated.

8.1.3. Control Banding

No information available.

8.2. Exposure Controls

8.2.1. Appropriate Engineering Controls

Product Related Measures to Prevent Exposure: Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke in the workplace. Wear personal protection equipment. Wash hands and face before breaks and at the end of work.

Structural Measures to Prevent exposure: Provide adequate ventilation in the workplace. Use appropriate engineering controls such as process enclosures, local exhaust ventilation or other engineering controls too control airborne levels below recommended exposure limits as indicated in section 8.1.1.

Organisational Measures to Prevent Exposure: No information available.

Technical Measures to Prevent Exposure: No information available.

8.2.2. Personal Protection Equipment

8.2.2.1. Eye and Face Protection:

Wear safety glasses, goggles or face shield. PPE specification is process dependent.

8.2.2.2. Skin Protection:

Hand Protection: Wear appropriate chemical resistant gloves. PPE specification is process dependent.

Body Protection: Wear body protection. PPE specification is process dependent.

Other Protection: Wear other appropriate protection as detailed in risk assessment and depending on process being undertaken.

8.2.2.3. Respiratory Protection:

Use respiratory protection in situations where adequate ventilation is not supplied. PPE specification is process dependent.

8.2.2.4. Thermal Hazards:

In situations where thermal hazards exist, wear appropriate protection such as thermal gloves and aprons. PPE specification is process dependent.

8.2.3. Environmental Exposure Controls:

Refer to section 6.

9. Physical and Chemical Properties

9.1. Information on Basic Physical and Chemical Properties

Appearance:	Solid, Powder, Yellowish, Crystalline.
Odour:	Odourless.
Odour Threshold:	None.
pH:	Not applicable.
Melting Point / Freezing Point:	3,800 ^{0}C at 130 kbar.
Initial Boiling Point and Boiling Range:	Not applicable.
Flash Point:	Not applicable.
Evaporation Rate:	Not applicable.
Flammability:	Not flammable.
Upper/Lower Flammability or Explosive Limits:	Not flammable.
Vapour Pressure:	Not applicable.
Vapour Density:	Not applicable.
Relative Density:	3.51 at 20^{o}C.
Solubility in Water:	Insoluble.
Partition Coefficient: n-octanol/water:	Not applicable.
Auto-ignition Temperature:	> 410^{o}C for dust.
Decomposition Temperature:	No data.
Viscosity:	Not applicable.
Explosive Properties: Lower Explosive Limit	250 g/m^{3} for dust.
Explosive Properties: Upper Explosive Limit	No data.
Oxidising Properties:	None.

9.2. Other Safety Information

Molecular Weight:	12.01 g/mol.

10. Stability and Reactivity

10.1. Reactivity

Under standard conditions, no ignition, explosion, self-heating or visible decomposition.

10.2. Chemical Stability

Inorganic solid with a high chemical inertness. It is stable under normal temperatures and pressures. Does not react with oxygen below 600^{o}C and is completely inert against all known acids.

10.3. Possibility of Hazardous Reactions

Explosive dust-air mixtures may occur.

10.4. Conditions to Avoid

Avoid ignition sources.

10.5. Incompatible Materials

Inert against all known acids. Insoluble in water and organic solvents.

10.6. Hazardous Decomposition Products

Toxic fumes may be generated in case of fire.

11. Toxicological Information

11.1. Toxicokinetics, Metabolism and Distribution

No data.

11.2. Information on Toxicological Effects

11.2.1. Substances

Acute Toxicity:

Diamond is not Acute Toxic.

Acute Oral/Dermal Toxicity LD50 rat: >2000 mg/kg.

Acute Inhalation Toxicity LC50 rat: > 5.2 mg/m^3 air.

Skin Corrosion/Irritation: Dusts may cause skin irritation. Not a skin sensitizer.

Serious Eye Damage/Irritation: Dusts may cause irritation to eyes.

Respiratory or Skin Sensitisation: Dusts may irritate the respiratory tract.

Germ Cell Mutagenicity: No mutagenic effect known.

Carcinogenicity: No carcinogenic effect known.

Reproductive Toxicity: No reproductive effect known.

STOT-single exposure: No data.

STOT-repeated exposure: No data.

Aspiration Hazard: No data.

11.2.2. Mixtures

12. Ecological Information

12.1. Toxicity

No potential known.

Acute toxicity, fish (oncorhynchus mykiss): LC50(96h) >100 mg/L.

Acute toxicity, daphnia (daphnia magna): EC50(48h) >100 mg/L.

12.2. Persistence and Degradability

Diamond is not degradable or biodegradable in water.

12.3. Bioaccumulative Potential

No Bioaccumulative potential.

12.4. Mobility in Soil

No potential known.

12.5. Results of PBT and vPvB Assessment

Diamond is an inorganic substance. The PBT/vPvB criteria of REACH Annex XIII do not apply to inorganic substances.

12.6. Other Adverse Effects

No other potential adverse effects known.

13. Disposal Considerations

13.1. Waste Treatment Methods

13.1.1. Product/Packaging Disposal

Waste disposal according to official state regulations.

13.1.2. Waste Treatment Options:

No data.

13.1.3. Sewage Disposal Options:

No data.

13.1.4. Other Disposal Recommendations:

Consult the appropriate authorities about waste disposal.

13.2. Additional Information:

Waste must be disposed of in accordance with the regulations after consultation with the competent local authorities and the disposal company in a suitable and licensed facility.

14. Transport Information

14.1. Land Transport (ADR/RID): Not Regulated.

14.2. Inland Water Ways Transport (ADN): Not Regulated.

14.3. Inland Water Ways Transport (ADNR/GGVSEB): Not Regulated.

14.4. Sea Transport (IMDG Code): Not Regulated.

14.5. Air Transport (ICAO-TI/IATA-DGR): Not Regulated.

14.6. Annex II of Marpol 73/78 / IBC Code: Not Regulated.

14.7. Additional Information: No data.

15. Regulatory Information

15.1. Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

EU Regulations

Regulation (EC) No 1907/2006 of the European Parliament and the Council of the 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH Regulations).

Regulation (EC) No 1272/2008 on the Classification, Labelling and Packaging of Substances and Mixtures (CLP Regulations).

Regulation (EC) No 453/2010 Amending Regulation (EC) No 1907/2006 Annex II (Safety Data Sheets)

Other EU Regulations

Observe and comply with the requirements of associated EU Regulations.

National Regulations

Observe and comply with the requirements of regional and national legislation.

Other Regulations

- Australian: Inventory of Chemical Substances (AICS): Components of this product are not listed.
- Canadian: Domestic Substance List (DSL): Components of this product are listed.
- China: Inventory of Existing Chemical Substances (IECSC): Components of this product are listed.
- Japan: Existing and New Chemical Substances (MITI): Components of this product are listed.
- New Zealand: Inventory of Chemicals (NZIOC): Components of this product are not listed.
- US: Toxic Substance Control Act List (TSCA): Components of this product are listed.
- US: Proposition 65 List: Components of this product are not listed.
- EU: European Inventory of Existing Commercial Chemicals Substances (EINECS): Components of this product are listed.
- EU: European Chemical Agency, Registered Substances (ECHA CHEM): Components of this product are listed.
- EU: European Classification & Labelling Inventory: Components of this product are not listed.

15.2. Chemical Safety Assessment

A Chemical Safety assessment has been carried out.

16. Other Information

16.1. Indication of Changes

Revision 4 of this Safety Data Sheet, updated sections 1.3, 2.1.2 and 3.1.

16.2. Abbreviations and Acronyms

DNEL: Derived No Effect Level. EWC: European Waste Catalogue. LD50: Lethal Dose 50%. NOEL: No Observed Effect Level. OEL: Occupational Exposure Limit. PBT: Persistent, Bioaccumulative, Toxic. PNEC: Predicted No Effect Concentration.
vPvB: Very Persistent and Very Bioaccumulative.

16.3. Key Literature References and Sources of Data

Reference Manuals and Publications. Company Studies and Studies from Other Manufacturers. Reference Work and Literature

16.4. Relevant R- and H-phrases

None

16.5. Training Advice

Please contact our customer service department for training advice.

16.6. Further Information

The above information is based on our current standard of knowledge and does not constitute any warranty of conditions of the product. The product must not be used for any purposes other than those specified. It remains the user's responsibility to adhere to existing laws and regulations. The information given in this safety data sheet must be regarded as a description of the safety

requirements relating to the product and not a guarantee of its properties.