SAFETY DATA SHEET

STANDARD PURITY MICRONISED GRAPHITE

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 PRODUCT IDENTIFIER

Product form: Natural flake graphite – various grades in particle size and purity

1.2 USES AND USES ADVISED AGAINST

Use(s): Chemical and manufacturing industries

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Supplier name: International Graphite
Address: D/333 Charles St, North Perth. Western Australia. 6050
Telephone: 1300 613 623
Email: info@ig6.com.au

1.4 EMERGENCY TELEPHONE NUMBER

Emergency: 1300 613 623

2. HAZARDS IDENTIFICATION

Not classified as hazardous according to Safe Work Australia criteria

Risk phrases: None allocated
Safety phrases: None allocated

Refer to section 11: Toxicological Information

Other Hazards

Graphite is not a hazardous or toxic material. However, it may contain trace amounts of silica.

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3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 SUBSTANCES / MIXTURES

Table 3.1 Substance Details

Ingredient	CAS number	EC number	Content
GRAPHITE (C)	7782-42-5	231-955-3	95-99%
NON HAZARDOUS INGREDIENTS	Not Available	Not Available	5-1%%

*May contain trace crystalline silica (Quartz CAS-No. 14808-60-7).

*Hazard: Natural Graphite concentrate may contain crystalline silica, quartz, and mineral impurities, which are listed as Group 1 carcinogens and by ACGHI as A2 (suspected human carcinogen). Impurities are naturally occurring mineral gangue, which is consequent to the commination and beneficiation of regional lithology and, as such, is intimately associated with graphite. Long-term exposure and inhalation of dispersed fine crystalline silica powder is known to be carcinogenic and may result in elevated risk of silicosis or pneumoconiosis (IARC Monograph Vol. 68, 1997).

4. FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

Eyes: If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

Inhalation: If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

Skin: If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

Ingestion: For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

First aid facilities: No information provided.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

No information provided.

4.3 IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Treat symptomatically.

5. FIREFIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

Water fog or foam. Prevent contamination of drains and waterways.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Combustible. Carbon oxides and hydrocarbons may evolve when heated to decomposition. Dust may form explosive mixtures with air.

5.3 ADVICE FOR FIREFIGHTERS

Evacuate the area and contact emergency services. Toxic gases may evolve in a fire situation. Remain upwind and notify those downwind of the hazard. Wear protective equipment, including Self-Contained Breathing Apparatus (SCBA), when combating fire. Use watermist to cool intact containers and nearby storage areas.

5.4 HAZCHEM CODE

None allocated

6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

6.2 ENVIRONMENTAL PRECAUTIONS

Prevent product from entering drains and waterways.

6.3 METHODS OF CLEANING UP

Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

6.4 REFERENCE TO OTHER SECTIONS

See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Before use, carefully read the product label. Safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Store in a cool, dry, well-ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled and tightly closed when not in use.

7.3 SPECIFIC END USE(S)

No information provided.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1 CONTROL PARAMETERS EXPOSURE STANDARDS

Table 8.1 Control parameters Exposure standards

Substance	Reference	TWA		STEL	
		ppm	mg/m^3	ppm	mg/m^3
Graphite (all forms except fibres)	SWA (AUS)	--	3	--	--

Biological limits: No biological limit values have been entered for this product.

8.2 EXPOSURE CONTROLS

Engineering Controls:

Avoid inhalation. Use in well-ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended. Wet where possible. Maintain dust levels below the recommended exposure standard.

PPE:

Eye/Face: Wear dust-proof goggles.

Hand: Wear PVC or rubber gloves.

Body: When using large quantities or where heavy contamination is likely, wear coveralls.

Respiratory: Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. At high dust levels, wear a Powered Air Purifying Respirator (PAPR) with a Class P3 (Particulate) filter or a Full-face Class P3 (Particulate) respirator.

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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Black/grey powder
Odour:	Odourless
Odour Threshold:	Not available
pH:	Not available
Melting Point:	> 2000°C
Boiling Point:	Not available
Flash Point:	Not relevant
Evaporation Rate:	Not available
Flammability:	Non-flammable
Upper Explosion Limit:	Not relevant
Lower Explosion Limit:	Not relevant
Vapour Pressure:	Not available
Vapour Density:	Not available
Solubility (water):	Insoluble
Partition Coefficient:	Not available
Autoignition Temperature:	> 1500°C
Decomposition Temperature:	Not available
Viscosity:	Not available
Explosive Properties:	Not available
Oxidising Properties:	Not available
Specific Gravity:	2.1 to 2.5

9.2 OTHER INFORMATION

% Volatiles:	Not available

10. STABILITY AND REACTIVITY

10.1 REACTIVITY

Carefully review all information in sections 10.2 to 10.6.

10.2 CHEMICAL STABILITY

Stable under recommended conditions of storage.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

Polymerization is not expected to occur.

10.4 CONDITIONS TO AVOID

Avoid heat, sparks, open flames and other ignition sources.

10.5 INCOMPATIBLE MATERIALS

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Carbon oxides and hydrocarbons may evolve when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Acute toxicity:	This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated.
Skin:	Not classified as a skin irritant. Prolonged or repeated contact may result in mild irritation and rash.
Eye:	Not classified as an eye irritant. Contact may result in mild irritation, lacrimation and redness.
Mutagenicity:	Insufficient data is available to classify it as a mutagen.
Carcinogenicity:	Insufficient data is available to classify it as a carcinogen.
Reproductive:	Insufficient data is available to classify it as a reproductive toxin.

STOT – single exposure

STOT – repeated exposure

Not classified as causing organ damage from a single exposure.

Chronic exposure may result in lung disease (graphite pneumoconiosis), which is more likely in those also exposed to silica. Graphite pneumoconiosis is more common following exposure to natural graphite than synthetic graphite (possibly because of silica impurities).

Aspiration:	Not relevant.
Sensitisation:	Not classified as causing skin or respiratory sensitisation.

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12. ECOLOGICAL INFORMATION

12.1 TOXICITY

No information provided.

12.2 PERSISTENCE AND DEGRADABILITY

No information provided.

12.3 BIOACCUMULATIVE POTENTIAL

No information provided.

12.4 MOBILITY IN SOIL

No information provided.

12.5 RESULTS OF PBT AND vPvB ASSESSMENT

No information provided.

12.6 OTHER ADVERSE EFFECTS

No information provided.

13. DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Waste disposal:	Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required).
Legislation:	Dispose of per relevant local legislation.

14. TRANSPORT INFORMATION

Not classified as a dangerous good by the criteria of the ADG code, IMDG or IATA

Table 14.1 Transport Information

		Land Transport (ADG)	Sea Transport (IMDG/IMO)	Air Transport (IATA/ICAO
UN number		None Allocated	None Allocated	None Allocated
UN proper shipping name		None Allocated	None Allocated	None Allocated
Transport hazard classes				
	DG Class	None Allocated	None Allocated	None Allocated
	Subsidiary risk(s)	None Allocated	None Allocated	None Allocated
Packing group		None Allocated	None Allocated	None Allocated
Environmental hazards		None Allocated	None Allocated	None Allocated
Special precautions for user				
	Hazchem Code	None Allocated	None Allocated	None Allocated

15. REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Poison schedule: This product has not been allocated a poison schedule number using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Classifications: None allocated

Inventory listing(s) AUSTRALIA: AICS (Australian Inventory of Chemical Substances)

All components are listed on AICS or are exempt.

15.2 CHEMICAL SAFETY ASSESSMENT

No information provided.

16. OTHER INFORMATION

Additional information:

COMBUSTIBLE - EXPLOSIVE CARBONACEOUS DUST:

Carbonaceous/organic dusts have the potential, with dispersion, to present an explosion hazard if an ignition source exists. All equipment used to handle, transfer or store this product MUST BE cleaned thoroughly before cutting, welding, drilling or exposure to any other form of heat or ignition sources. If bulk stored, containers should be ventilated routinely to avoid vapour accumulation (where applicable, eg for flocculants).

RESPIRATORS:

In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The protective equipment recommendation in this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and theavailability of engineering controls should be considered before final selection of personal protective equipment is made.

ACGIH	American Conference of Governmental Industrial Hygienists	
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds CNS	Central Nervous System
EC No.	EC No - European Community Number	
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide	
IARC	International Agency for Research on Cancer	
LC50	Lethal Concentration, 50% / Median Lethal Concentration LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m^3	Milligrams per Cubic Metre	
OEL	Occupational Exposure Limit	
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). ppm	Parts Per Million
STEL	Short-Term Exposure Limit	
STOT-RE	Specific target organ toxicity (repeated exposure) STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons SWA	Safe Work Australia
TLV	Threshold Limit Value	
TWA	Time Weighted Average	

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16. OTHER INFORMATION (continued)

Report Status:

This report has been independently compiled by BatteryLimits Pty Ltd (BL) utilising Safety Data Sheet ('SDS') information for the general product provided to BL. The information is based on the latest chemical and toxicological research. It is believed to represent the current state of knowledge regarding the appropriate safety and handling precautions for the product at the time of issue. Its content has not been authorised or verified by the manufacturer/distributor of the chemical to which it relates. Clarification regarding any aspect of the product should be obtained directly from the manufacturer.

The information contained herein are based on our present state of knowledge and upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. Users should conduct their own investigations to determine the suitability of the information for their particular purposes. In no event shall International Graphite Ltd. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages.

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.