

# Safety Data Sheet

Date of Print: 11/11/2015


according to 1907/2006/EC, Article 31

Version: 1.0

## SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

- 1.1 Product Identifier**  
**Substance name:** SupraNano Black Magnetic Latent Fingerprint Powder  
**Product no.:** 02BLK030
- 1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against**  
**Relevant identified uses:** Professional Uses [SU 22]; Law enforcement/forensic applications. [PC0] Other; Fingerprint development  
**Uses advised against:** No further relevant information available
- 1.3 Details of Supplier of Safety Data Sheet**  
**Manufacturer:** ArroGen Supranano Ltd.  
**Address:** INEX Business Facility, Herschel Annex  
 Newcastle University Campus  
 Newcastle upon Tyne  
 NE1 7RU  
 United Kingdom  
 www.arrogroup.co.uk
- 1.4 Emergency Telephone Number**  
**Telephone number:** +44 (0) 560 364 6985 (Languages: English)  
**Opening hours:** Monday – Friday, 0900 - 1700

## SECTION 2: Hazards Identification

- 2.1 Classification of the Substance or Mixture**  
**2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]**
-  GHS07 Warning
- |               |      |                                  |
|---------------|------|----------------------------------|
| Skin Irrit. 1 | H315 | Causes skin irritation           |
| Eye Irrit. 2  | H319 | Causes serious eye irritation    |
| STOT SE 3     | H335 | May cause respiratory irritation |
- 2.2 Labelling according to Regulation (EC) No 1272/2008 [CLP]:**  
 This mixture is classified and labelled according to the CLP regulation
- |  |                |  |
|--|----------------|--|
| <b>Hazard pictograms:</b>                    | GHS07          |  |
| <b>Signal word:</b>                          | Warning        |  |
| <b>Hazard statements:</b>                    | H315           | Causes skin irritation   |
|  | H319           | Causes serious eye irritation  |
|  | H335           | May cause respiratory irritation   |
| <b>Precautionary statements:</b>             | P261           | Avoid breathing dust/fume/gas/mist/vapours/spray   |
|  | P280           | Wear protective gloves/protective clothing. Eye protection/face protection   |
|  | P304+P340      | IF INHALED: Remove person to fresh air and keep comfortable for breathing  |
|  | P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
|  | P405           | Store locked up  |
|  | P501           | Dispose of contents/container in accordance with local/regional/national/international regulations.                              |
| <b>Supplemental hazard information (EU):</b> |                | Not applicable   |
- 2.3 Other Hazards**  
 Care should be taken to avoid dust formation.

### SECTION 3: Composition/Information on Ingredients

#### 3.2 Mixtures

**Description of Mixture:** Black Powder

**Hazardous Ingredients:** Carbon black, iron (II,III) oxide

CAS No.	EC No.	% [Weight]	Name	Classification according to Regulation (EC) No. 1278/2008 (CLP)	Classification according to Directive 67/548/EEC or Directive 1999/45/EC
7439-89-6	231-096-4	>90%	Iron Powder	Not applicable	Not applicable
1333-86-4	215-609-9	5 – 15%	Carbon Black	Not applicable	Not applicable
1317-61-9	215-277-5	5 – 15%	Iron(II,III) Oxide	Flam. Sol. 2, H228 Eye Irrit. 2, H319 STOT SE 3, H335	Xi; Irritant, R36/R37/R38

### SECTION 4: First Aid Measures

#### 4.1 Description of First Aid Measures

**Following inhalation:** Supply fresh air. If required, provide artificial respiration. Keep warm. Consult doctor if symptoms persist. Seek immediate medical advice.

**Following skin contact:** Instantly wash with water and soap and rinse thoroughly. Seek immediate medical advice

**Following eye contact:** Rinse opened eye for several minutes under running water. Then consult doctor.

**Following ingestion:** Seek medical treatment

#### 4.2 Most Important Symptoms and Effects, Both Acute and Delayed

**If ingested:** Irritating if swallowed; redness of mouth and throat may occur.

**If inhaled:** Dust may be irritating to respiratory tract. Provide appropriate local exhaust ventilation at machinery and at places where dust can be generated. Chronic lung conditions may be aggravated by high concentrations of dust.

**If contact with skin:** May cause mechanical irritation, soiling and skin drying. Avoid contact with skin. No cases of sensitization in humans have been reported.

**If contact with eyes:** May cause mechanical irritation. Avoid contact with eyes.

#### 4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

No further relevant information available

### SECTION 5: Firefighting Measures

#### 5.1 Extinguishing Media

**Suitable extinguishing media:**

**For safety reasons unsuitable extinguishing agents:**

Use foam, carbon dioxide or dry chemical.  
Water: may scatter and spread fire. DO NOT USE high pressure media which could cause formation of a potentially explosive dust-air mixture.

#### 5.2 Special Hazards Arising from the Substance or Mixture

**If this product is involved in a fire, the following can be released:**

Metal oxide, carbon monoxide, carbon dioxide and sulphur dioxides.

<p><b>5.3 <u>Advice for Firefighters</u></b>  <b>Protective equipment:</b></p> <p><b>Hazardous combustion products/special hazards:</b></p>	<p>Wear self-contained breathing apparatus.  Wear full protective suit.</p> <p>Fine, dry dust suspensions can explode in presence of ignition. Combustion produces carbon monoxide, carbon dioxide, smoke, soot and minor amount of nitrogen oxides and sulphur. It may not be obvious that material is burning unless the material is stirred and embers and/or sparks are apparent. Material should be observed closely for at least 48 hours to ensure no smoldering material is present.</p>
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### SECTION 6: Accidental Release Measures

<p><b>6.1 <u>Personal Precautions, Protective Equipment and Emergency Procedures</u></b></p>	<p>Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Refer to section 8 for personal protection. Do not create dust. Wet material may produce slippery walking surfaces.</p>
<p><b>6.2 <u>Environmental Precautions</u></b></p>	<p>Do not allow material to be released to the environment without proper government permits. Do not allow product to reach sewage system or water bodies. Do not allow to enter the ground/soil.</p>
<p><b>6.3 <u>Methods and Material for Containment and Cleaning Up</u></b></p>	<p>Keep away from ignition sources. Ensure adequate ventilation. Vacuum or sweep and transfer to a sealable, labelled container and dispose according to local regulations. If the spilled material contains dust or has the potential to create dust use explosion-proof vacuums and/or cleaning systems suitable for combustible dusts. Use of a vacuum with high efficiency particulate air (HEPA) filtration is recommended. Do not create dust could by using a brush or compressed air. Prevent further leakage or spillage if safe to do so. Dry sweeping is not recommended. Water spray will produce slippery walking surfaces and will not result in satisfactory removal of contamination.</p>
<p><b>6.4 <u>Reference to Other Sections</u></b></p>	<p>See section 7 for information on safe handling  See section 8 for information on personal protection equipment  See section 13 for information on disposal.</p>

### SECTION 7: Handling and Storage

<p><b>7.1 <u>Precautions for Safe Handling</u></b></p>	<p>Keep containers tightly sealed. Store in a cool, dry place in tightly closed containers. Ensure good ventilation/exhaustion at the workplace. Avoid formation of dust. Minimise release of the mixture into the environment.</p> <p><b>Information about protection against explosions and fires:</b> Protect against electrostatic charges.</p>
<p><b>7.2 <u>Conditions for Safe Storage, Including any Incompatibilities</u></b></p>	<p>Store in a cool, well-ventilated location. Store in a cool location. Keep away from oxidising agents. Keep container tightly closed until in use.</p>
<p><b>7.3 <u>Specific End Use(s)</u></b></p>	<p>The intended used of the product is for the visualisation of latent fingermarks only. The powder should be picked up using a suitable brush, ensuring excess powder is tapped back into the jar. The powder should be brushed gently across the surface of the mark to allow for visualisation. Waste powder should be transferred to a sealable container. See section 13 for information regarding disposal.</p>
<p><b>7.4 <u>Reference to Other Sections:</u></b></p>	<p>See section 13 for information on disposal.</p>

### SECTION 8: Exposure Controls/Personal Protection

<p><b>8.1 <u>Control Parameters</u></b></p>	<p>Not required.</p>
<p><b>8.2 <u>Exposure Controls</u></b>  <b>Personal Protective Equipment</b>  <b>General protective and hygienic measures:</b></p>	<p>The usual precautionary measures should be adhered to in handling chemicals. Keep away from foodstuffs, beverages and food. Instantly remove any impregnated garments. Wash hands during breaks and at</p>

<b>Breathing equipment:</b>	the end of work. Avoid contact with eyes and skin. Handle in accordance with good industrial hygiene and safety practice by using adequate ventilation and personal protection as needed. Maintain an ergonomically appropriate working condition. Not required in unconfined or well-ventilated areas. Use NIOSH or EU EN149 standard approved respirators for areas where general ventilation is not possible.
<b>Protection of hands:</b>	Check protective gloves prior to each use for their proper condition. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
<b>Material of gloves:</b>	Impervious gloves
<b>Penetration time of glove material:</b>	Not determined.
<b>Eye protection:</b>	Safety glasses or splash goggles are advised to be worn while handling.
<b>Body protection:</b>	Protective work clothing.

## SECTION 9: Physical and Chemical Properties

<b>9.1</b>	<b><u>Information on Basic Physical and Chemical Properties</u></b>	
	<b>General Information</b>	
	<b>Appearance:</b>	
	<b>Form:</b>	Powder
	<b>Colour:</b>	Black
	<b>Smell:</b>	Not determined
	<b>Odour threshold:</b>	Not determined
	<b>pH-value:</b>	Not applicable
	<b>Change in condition</b>	
	<b>Melting point/range:</b>	Not determined
	<b>Boiling point/range:</b>	Not determined
	<b>Sublimation temperature/start:</b>	Not determined
	<b>Inflammability (solid, gaseous)</b>	
	<b>Ignition temperature:</b>	Not determined
	<b>Decomposition temperature:</b>	Not determined
	<b>Self-inflammability:</b>	Not determined
	<b>Danger of explosion</b>	
	<b>Critical values for explosion:</b>	
	<b>Lower:</b>	Not determined
	<b>Upper:</b>	Not determined
	<b>Steam pressure:</b>	Not applicable
	<b>Density at 20 °C</b>	Not determined
	<b>Settled apparent density at 20 °C:</b>	Not determined
	<b>Relative density:</b>	Not determined
	<b>Vapour density:</b>	Not applicable
	<b>Evaporation rate:</b>	Not applicable
	<b>Solubility in / Miscibility with water:</b>	Insoluble in water and solvents, dispersible in liquids
	<b>Partition coefficient (n-octanol/water):</b>	Not determined
	<b>Viscosity:</b>	
	<b>Dynamic:</b>	Not applicable
	<b>Kinematic:</b>	Not applicable
<b>9.2</b>	<b><u>Other Information:</u></b>	No further relevant information available

## SECTION 10: Stability and Reactivity

<b>10.1</b>	<b><u>Reactivity</u></b>	May react exothermically upon contact with strong oxidisers. In presence of diluted acid some product may dissolve, generating hydrogen and turning into iron (II) salt.
<b>10.2</b>	<b><u>Chemical Stability</u></b>	Stable under recommended storage conditions
	<b>Thermal Decomposition/conditions to avoid:</b>	No decomposition if used and stored according to specifications.
<b>10.3</b>	<b><u>Possibility of Hazardous Reactions</u></b>	Reacts with strong oxidising agents

<b>10.4</b>	<b><u>Conditions to Avoid</u></b>	Do not expose to heat above 300 °C. Keep away from oxidising agents in order to avoid exothermic reactions.
<b>10.5</b>	<b><u>Incompatible Materials</u></b>	Oxidising agents such as chlorates, bromates and nitrates.
<b>10.6</b>	<b><u>Hazardous Decomposition Products</u></b>	Metal oxide, carbon monoxide, carbon dioxide and oxides of sulphur. In combustion emits smoke, soot and toxic fumes.

### SECTION 11: Toxicological Information

#### 11.1 Information on Toxicological Effects

##### 11.1.1 Acute toxicity:

Hazardous components	EC No.	CAS no.	LC/LD <sub>50</sub> values relevant for classification
Iron(II,III) Oxide	215-277-5	1317-61-9	No effects known

<b>Skin irritation or corrosion:</b>	May cause irritation
<b>Eye irritation or corrosion</b>	Causes serious eye irritation.
<b>Sensitization:</b>	No sensitizing effect known.
<b>Germ cell mutagenicity:</b>	No effects known.
<b>Carcinogenicity:</b>	No effects known.
<b>Reproductive toxicity:</b>	No effects
<b>Specific organ system toxicity</b>	
<b>Repeated exposure:</b>	No effects known.
<b>Single exposure:</b>	May cause respiratory irritation.
<b>Aspiration hazard:</b>	No effects known
<b>Other information (experimental toxicity):</b>	CARBON BLACK: Mutagenic effects have been observed on tests with bacteria and with laboratory animals.
<b>Additional toxicological information:</b>	The acute and chronic toxicity of this substance is not fully known.

### SECTION 12: Ecological Information

<b>12.1</b>	<b><u>Toxicity</u></b>	
	<b>Aquatic toxicity:</b>	No further relevant information available
<b>12.2</b>	<b><u>Persistence and Degradability:</u></b>	No further relevant information available
<b>12.3</b>	<b><u>Bioaccumulative Potential:</u></b>	No further relevant information available
<b>12.4</b>	<b><u>Mobility in Soil:</u></b>	No further relevant information available
	<b>Additional ecological information:</b>	Do not allow material to be released to the environment without proper government permits. Generally not hazardous for water. Avoid transfer into the environment.
<b>12.5</b>	<b><u>Results of PBT and vPvB Assessment</u></b>	
	<b>PBT:</b>	Not applicable
	<b>vPvB:</b>	Not applicable
<b>12.6</b>	<b><u>Other Adverse Effects:</u></b>	No further relevant information available.

### SECTION 13: Disposal Considerations

<b>13.1</b>	<b><u>Waste Treatment Methods</u></b>	
	<b>Recommendation:</b>	Hand over to disposers of hazardous waste. Must be treated under adherence to official regulations. Consult state, local or national regulations for proper disposal of used and unused product.
	<b>Packaging:</b>	Disposal must be in line with official regulations.

### SECTION 14: Transport Information

<b>14.1</b>	<b><u>UN Number:</u></b>	Not applicable
<b>14.2</b>	<b><u>UN Proper Shipping Name:</u></b>	Not applicable
<b>14.3</b>	<b><u>Transport Hazard Class(es):</u></b>	Not applicable
<b>14.4</b>	<b><u>Packing Group</u></b>	Not applicable
<b>14.5</b>	<b><u>Environmental Hazards:</u></b>	Not applicable
<b>14.6</b>	<b><u>Special Precautions for User:</u></b>	Not applicable
<b>14.7</b>	<b><u>Transport in Bulk According to Annex II of MARPOL73/78 and the IBC Code:</u></b>	Not applicable

**SECTION 15: Regulatory Information****15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture**

No data available

**15.2 Chemical Safety Assessment**

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

**SECTION 16: Other Information****16.1 Disclaimer:**

The above information is believed to be correct, however it does not proclaim to be all-inclusive and shall be used only as a guide. ARRO SupraNano Ltd shall not be held liable for any damage from handling or contact with the above product. Independent judgement of the suitability of this product should be exercised in supplement to this information to ensure proper use and protect the health and safety of employees.

- (i) **Abbreviations and acronyms:**
- |                    |   |
|--------------------|---|
| GHS:               | Globally Harmonized System of Classification and Labelling of Chemicals |
| CAS:               | Chemical Abstracts Service (division of the American Chemical Society)  |
| LC <sub>50</sub> : | Lethal concentration, 50 percent  |
| LD <sub>50</sub> : | Lethal dose, 50 percent   |

(ii) **Key literature references and sources for data**

**Toxicity Values:** Retrieved from Toxicology Data Network <http://toxnet.nlm.nih.gov/>

This SDS has been compiled and is solely intended for this product.