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Material Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Identifier
Trade name : Photochromic Powder
Relevant identified uses of the substance or mixture and uses advised against : colouring agent
Uses advised against : not known
Details of the supplier of the safety data sheet: Good Life Innovations Ltd

2. HAZARD IDENTIFICATION

Classification of the substance or mixture
According to Regulation (EC) No.
1272/2008(CLP) : not classified
Additional information : not available

Label elements
GHS label elements : not applicable
Hazard pictogram(s) : not applicable
Signal word(s) : not applicable
Hazard statement(s) : not applicable
Precautionary statement(s) : not applicable
Other hazards : not known

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical family : Potassium nitrate- silica- sodium nitrate- azobenzene (Butyl Methoxydibenzoylmethane).
Contains no hazardous ingredients

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Nitrate</td>
<td>7757-79-1</td>
<td></td>
<td>50-55</td>
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<tr>
<td>Silica</td>
<td>7631-86-9</td>
<td>231-545-4</td>
<td>18-23</td>
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<tr>
<td>Material</td>
<td>CAS Number</td>
<td>UN No.</td>
<td>LD₅₀ (mg/kg)</td>
<td>Classification</td>
<td></td>
</tr>
<tr>
<td>----------------------------------</td>
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<td></td>
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<tr>
<td>Sodium Nitrate</td>
<td>7631-99-4</td>
<td>231-554-3</td>
<td>10-15</td>
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<tr>
<td>Azobenzene (Butyl Methoxydibenzoylethane)</td>
<td>70356-09-1</td>
<td>274-581-6</td>
<td>7.22</td>
<td>Not classified</td>
<td></td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

Description of first aid measures
Inhalation: in case of accident by inhalation: remove causality to fresh air and keep at rest
Skin contact: wash affected skin with plenty of water
Eye contact: if contact with eyes directly, flush with gently flowing fresh water thoroughly; If eye irritation persists, get medical advice/attention
Ingestion: if ingested, wash mouth with water, drink milk or egg white
Notes to physician: no special measures are required

Most important systems and effects,
Both acute and delayed
Actue: none
Long term (repeated): may cause irritation to the respiratory system. Cough. Increased difficulty in breathing

Indication of immediate medical attention and special treatment needed
Recommended: a. Chest XRay   
b. Lung functionality tests

5. FIREFIGHTING MEASURES

Extinguishing media
Suitable extinguishing media: extinguish with waterspray, foam or dry chemical
Unsuitable extinguishing media: carbon dioxide

Special hazards arising from the substance or mixture
Thermal hazards: noncombustible. None anticipated
Advice for firefighters: fire fighters should wear complete protective clothing including self-contained breathing apparatus

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Personal precautions: do not breathe dust
Personal protection equipment: wear appropriate personal protective equipment, avoid direct contact
In case of emergency: a self contained breathing apparatus and suitable protective clothing should be worn in fire conditions
Environmental precautions: do not allow to enter drains, sewers or watercourses
Methods and material for
Containment and cleaning up: collect mechanically and dispose of according to Section 13. Use vacuum equipment for collecting spilt materials, where practicable
Reference to other sections: see sections 8 and 13
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7. HANDLING AND STORAGE

Precautions for safe handling: avoid breathing dust
Conditions for safe storage including any incompatibilities: keep container in a well-ventilated place
Specific end use(s): not known

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters: provide adequate ventilation when using the material and follow the principles of good occupational hygiene to control personal exposures
Exposure limit values: not known
Exposure controls
Appropriate engineering controls: provide adequate ventilation to ensure that the occupational exposure limit is not exceeded. Isolate the dispersive process step away from other operations. This can be achieved by local exhaust ventilation or general ventilation

Individual protections measures, such as personal protective equipment (PPE)
Hand/eye/face protection: wear gloves, eye protection and an approved dust mask if dust is generated during handling. Goggles giving complete protection to eyes. Dust mask covering nose and mouth
Skin protection: apron or other light protective clothing, boots and plastic or synthetic rubber gloves
Respiratory protection: dust mask covering nose and mouth
Thermal hazards: none
Environmental exposure controls: avoid dust generation. Avoid accumulation of dust

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>powder</td>
</tr>
<tr>
<td>Colour</td>
<td>Purple</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>no data available</td>
</tr>
<tr>
<td>pH</td>
<td>not applicable</td>
</tr>
<tr>
<td>Specific gravity (Water=1)</td>
<td>1.20 ± 0.05</td>
</tr>
<tr>
<td>Melting point</td>
<td>237-238°C (458.6-460.4 °F)</td>
</tr>
<tr>
<td>Flash point</td>
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</tr>
<tr>
<td>Evaporation rate</td>
<td>not applicable</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>not applicable</td>
</tr>
<tr>
<td>Upper/lower / flammability or explosive limits</td>
<td>not applicable</td>
</tr>
<tr>
<td>Vapour density</td>
<td>not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>not applicable</td>
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<tr>
<td>Solubility (in water)</td>
<td>insoluble</td>
</tr>
<tr>
<td>Particle size</td>
<td>1-10 µm</td>
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</table>
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10. STABILITY AND REACTIVITY

Reactivity: there may be violent or incandescent reaction of the product with metals at high temperatures (e.g., aluminium; calcium; magnesium; potassium; sodium; zinc; lithium)
Chemical stability: stable under normal conditions
Possibility of hazardous reactions: none
Conditions to avoid: high temperature
Incompatible materials: strongly acidic, strongly alkaline, oxidizing agents
Decomposition products: no information available

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
This inorganic pigment in general is considered to be practically nontoxic.
Acute toxicity: not available
Carcinogenicity: not available

12. ECOLOGICAL INFORMATION

Toxicity: no data
Persistence and degradability: insoluble in water. This product is predicted not to degrade in soil and water
Bioaccumulative potential: no data
Mobility in soil: not applicable
Results of PBT and vPvB assessment: not applicable
Other adverse effects: not known

13. DISPOSAL CONSIDERATIONS

Waste treatment methods: dispose of contents in accordance with local, state or national legislation

14. TRANSPORT INFORMATION

Not classed as dangerous for transport.

<table>
<thead>
<tr>
<th>International Transport Regulations</th>
<th>ADR/RID</th>
<th>ADN</th>
<th>IMDG</th>
<th>ICAO/IATA</th>
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<tbody>
<tr>
<td>UN number</td>
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<td>Not applicable</td>
<td>Not applicable</td>
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<tr>
<td>Proper shipping name</td>
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<td>Not applicable</td>
<td>Not applicable</td>
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<tr>
<td>Transport hazard class(es)</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
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<tr>
<td>Packing group</td>
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<tr>
<td>Environmental hazards</td>
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<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>None</td>
<td>None</td>
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</table>
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<table>
<thead>
<tr>
<th>Transport in bulk according to Annex II of MARPOL 73/78 and The IBC Code</th>
<th>Not applicable</th>
<th>Not applicable</th>
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<th>Not applicable</th>
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<tbody>
<tr>
<td>Hazard label(s)</td>
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<tr>
<td>Additional information</td>
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15. REGULATORY INFORMATION

According to Directive 67/548/EEC &
Directive 1999/45/EC: not classified as dangerous for supply/use
Safety, health and environmental regulations/legislations specific for the
substance or mixture: not available

16. OTHER INFORMATION

Annex to the extended Safety Data Sheet (eSDS)
ADR: European Agreement concerning international carriage of Dangerous goods by Road
CAS: Chemical Abstracts Service
EC: European Community
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
IATA: International Air Transport Association

DATA SOURCES
Book on “Safe Handling of Pigments”, European Edition 1995, BCMA, EPSOM ETAD, VdMi
HSDB
NIOSH ICSC
Hazardous Substance Fact Sheet, New Jersey Department of Health and Senior Service

We have described our product concerning possible safety requirements by the abovementioned information given to the best of our knowledge and experience. All data given are never meant to guarantee any quality description nor product properties.