MATERIAL SAFETY DATASHEET

Product name: Eli-Glow Photo-Luminescent Pigments

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Common Name:</th>
<th>Eli-Glow</th>
<th>Internal Code:</th>
<th>Validation Date: 20.11.2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonym:</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


SUPPLIER: Eli-Chem Resins UK Ltd
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Cranleigh, Surrey, GU6 8GA
United Kingdom
Tel: +44 (0) 1483 26 66
36 Fax: +44 (0)1483 26 66 50
sales@elichem.co.uk
www.elichem.co.uk

Section 2. Composition, Information on Ingredients

Substance/Preparation: Preparation

Alkaline Earth Aluminates (Europium-doped).

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>CAS No.</th>
<th>%</th>
<th>Elincs No.</th>
<th>EU/SABS 0265 Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLO-7C, MO.A12O3:Eu</td>
<td>669771-69-1</td>
<td>&gt;95</td>
<td>416-840-1</td>
<td></td>
</tr>
<tr>
<td>S.G : 3.6 g/cm³</td>
<td></td>
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</tr>
</tbody>
</table>

* Occupational Exposure Limit(s), if available, are listed in section 8

Section 3. Hazardous Identification

The preparation is classified as not dangerous according to Regulation (EC) No 1272/2008 and its amendments.

This MSDS has been prepared in compliance with Federal OSHA hazard communication standard 29 CFR1910.1200.

This product is considered to be a non-hazardous substance under those standards.

Human health hazards: Non-irritating to eyes and skin.
Will not cause sensitisation by skin contact.

Environmental Hazards: Aquatic Chronic 2 H411 Toxic to aquatic life. May cause long-term adverse effects in the aquatic environment. Avoid release into watercourses and water supply.
Section 4. First Aid Measures

No toxic effects observed in human beings.

**Eye Contact:** In cases of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

**Skin Contact:** Wash skin thoroughly with soap and water or use recognized skin cleanser. Get medical attention if symptoms appear.

**Inhalation:** If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if symptoms persist.

**Ingestion:** Drink quantities of water & induce vomiting. If large quantities of this material are swallowed, call a physician immediately.

**Notes to Physician:** No specific treatment, treat symptomatically.

See Section 11 for more detailed information on health effects and symptoms.

Section 5. Fire Fighting Measures

<table>
<thead>
<tr>
<th>Flammability of the Product</th>
<th>Not flammable but may be combustible at extremely high temperatures.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto-ignition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash Points</td>
<td>&gt; 1050ºC</td>
</tr>
<tr>
<td>Flammable Limits</td>
<td>Not available</td>
</tr>
<tr>
<td>Products of Combustion</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Presence of Various Substances:** Not identified

**Explosion Hazards in Presence of Various Substances:** Product is not Explosive

**Fire Fighting Media and Instructions:** In case of fire, use water spray (fog), foam, dry chemical, or CO₂.

**Special protective Equipment for fire-fighters:** Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

**Special Remarks on Fire Hazards:** No additional remarks.

**Explosion Hazards:** No additional remarks.

Section 6. Accidental Release Measures

**Personal precautions:** Minimise the generation of airborne dust, Use suitable protective equipment (Section 8).

**Environmental Precautions and Clean-up Methods:** Minimize contact of spilled material with soils to prevent runoff to surface waterways. See Section 13 for Waste Disposal Information.

If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

**Methods for cleaning up:** Pick up mechanically.

**Note:** See section 8 for personal protective equipment and section 13 for waste disposal.
Section 7. Handling and Storage

Store closed in cool, dry area. When handling wear protective clothing. Avoid scatter into the air.

Handling: Wash thoroughly after handling. Use suitable protective equipment (Section 8).
Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Shelf life: >24 months.
Packaging materials Recommended: Use original container.

Section 8. Exposure Controls, Personal Protection

Exposure Controls

Occupational exposure Controls: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Respiratory protection: A respirator is not needed under normal and intended conditions of product use. Wear appropriate respirator when ventilation is inadequate.
Eye protection: Safety glasses. Goggles, face shield is recommended.
Skin protection: Not required as product is an inert solid and not irritant.

Section 8. Exposure Controls, Personal Protection (Continue/…)

Personal protective Equipment (Pictograms):  

Occupational exposure limits: n/a

Do not eat, drink or smoke while working with this product.

Section 9. Physical and Chemical Properties

Physical State and Appearance: Powder of varying micron sizes (25-40mu, 40-60mu, 75mu, 100mu, 200mu, 500mu, 1000mu).
Colour: Light Yellow / Straw coloured powder
Odour: None
Taste: Not available
Molecular Weight: N/A
Molecular Formula: N/A
pH: N/A
Boiling/Condensation Point: Not available
Melting/Freezing Point: Not available
Critical Temperature: Not available
Specific Gravity: 3.6g/cm³
Vapour Pressure: Not available
Vapour Density: Not available
Volatility: Not available
Odour Threshold: Not available
Evaporation Rate: Not available
VOC: N/A
Viscosity: Powder
LogK<sub>ow</sub>: The standard product is soluble in water. A treated version is available.
Ionicity (in Water): Not available
Dispersion Properties: Is dispersed in low, medium and high viscosity binders. Binders should be clear and non-waterbased.
Solubility: The standard product is soluble in water. A treated version is also available.
Physical Chemical Properties: No additional remarks.

**Section 10. Stability and Reactivity**

Stability and Reactivity: The product is inert, non-volatile, odourless and stable.
Conditions of Instability: None identified.
Incompatibility with Various Substances: Not available
Hazardous Decomposition Products: Not a dust explosion risk
Hazardous Polymerization: N/A

**Section 11. Toxicological Information**

Potential Acute Health Effects
No sensitising effects known

Inhalation: Use adequate ventilation and avoid dust generation.
Ingestion: Ingestion may cause gastrointestinal irritation.
Skin contact: Not normally irritating to skin. May cause sensitisation by skin contact.
Eye contact: Irritating to eyes.

Chronic toxicity
LD/LC50 values:
Oral LD50 > 2000 mg/kg (Rat)
Dermal LD50 > 2000 mg/kg (Rat)

Carcenogenicity: No known effect
Mutagenicity: No known effect
Reproductive hazards: No known effect

Potential Chronic Health Effects

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Carcinogenic Effects</th>
<th>Mutagenic Effects</th>
<th>Developmental toxicity</th>
<th>Impairs fertility</th>
</tr>
</thead>
<tbody>
<tr>
<td>No evidence of risk in humans</td>
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</table>

Other adverse effects: None identified.
Section 12. Ecological Information

Ecotoxicity Data

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Species</th>
<th>Period</th>
<th>Result</th>
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<tbody>
<tr>
<td>BOD and COD:</td>
<td>Not available.</td>
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<tr>
<td>Biodegradable/OECD:</td>
<td>Not available.</td>
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<tr>
<td>Mobility:</td>
<td>Not available.</td>
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<tr>
<td>Products of Degradation: Toxicity of the Products of Biodegradation:</td>
<td>These products are carbon oxides (CO, CO$_2$) and water, nitrogen oxides (NO, NO$_2$...).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Special Remarks on the Products of Biodegradation: Not expected to bio-accumulate.

Section 13. Disposal Considerations

Do not allow product to reach the sewage system.

Waste Disposal: Incinerate in a licensed high temperature hazardous waste incinerator. Dispose of according to all federal, state and local applicable regulations.

Section 14. Transport Information

The product does not require a hazard warning label in accordance with EC directives on Dangerous Substances.

<table>
<thead>
<tr>
<th>Regulatory Information</th>
<th>UN number</th>
<th>Proper shipping name</th>
<th>Class</th>
<th>Packing Group</th>
<th>Label</th>
<th>Additional information</th>
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<tbody>
<tr>
<td>ADR/RID/SABS 0228 Class</td>
<td>Not Classified</td>
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<tr>
<td>IMDG Class</td>
<td>Not Regulated</td>
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<tr>
<td>IATA-DGR Class</td>
<td>Nor Regulated</td>
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</table>

Section 15. Regulatory Information

EU / SABS 0265 Classification

Hazard symbol(s): N/A

Risk phrases: N/A

N/A

R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Section 16. Other information
Notice to Reader
To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.