

# Phoslock Granules / Powder

## Phoslock Environmental Technologies Ltd

Chemwatch: 4621-39

Version No: 19.1

Safety Data Sheet (Conforms to Annex II of REACH (1907/2006) - Regulation 2020/878)

Issue Date: 08/03/2022

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S.REACH.GB-NIR.EN

### SECTION 1 Identification of the substance / mixture and of the company / undertaking

#### 1.1. Product Identifier

|                                      |                            |
|--------------------------------------|----------------------------|
| <b>Product name</b>                  | Phoslock Granules / Powder |
| <b>Chemical Name</b>                 | Not Applicable             |
| <b>Synonyms</b>                      | Not Available              |
| <b>Chemical formula</b>              | Not Applicable             |
| <b>Other means of identification</b> | Not Available              |

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

|                                 |                                                                                                                                                                                                                                                                                                                   |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Relevant identified uses</b> | Used to remove prescribed oxyanions in a variety of natural environments such as lakes, rivers, estuaries, dams, ornamental ponds and natural wetlands. artificial environments including waste effluents such as sewage and industrial effluents and as a barrier within containment cells for leachable wastes. |
| <b>Uses advised against</b>     | Not Applicable                                                                                                                                                                                                                                                                                                    |

#### 1.3. Details of the supplier of the safety data sheet

|                                |                                                                            |
|--------------------------------|----------------------------------------------------------------------------|
| <b>Registered company name</b> | Phoslock Environmental Technologies Ltd                                    |
| <b>Address</b>                 | Sterling House, 19/23 High Street Kidlington Oxford OX5 2DH United Kingdom |
| <b>Telephone</b>               | 07553 773426                                                               |
| <b>Fax</b>                     | Not Available                                                              |
| <b>Website</b>                 | <a href="http://www.phoslock.com.au">www.phoslock.com.au</a>               |
| <b>Email</b>                   | info@phoslock.com.eu                                                       |

#### 1.4. Emergency telephone number

|                                          |               |
|------------------------------------------|---------------|
| <b>Association / Organisation</b>        | Not Available |
| <b>Emergency telephone numbers</b>       | Not Available |
| <b>Other emergency telephone numbers</b> | Not Available |

Once connected and if the message is not in your preferred language then please dial 01

### SECTION 2 Hazards identification

#### 2.1. Classification of the substance or mixture

Not considered a hazardous mixture according to Reg. (EC) No 1272/2008 and their amendments. Not classified as Dangerous

## Goods for transport purposes.

|                                                                                                     |                |
|-----------------------------------------------------------------------------------------------------|----------------|
| <b>Classification according to regulation (EC) No 1272/2008 [CLP] and amendments <sup>[1]</sup></b> | Not Applicable |
|-----------------------------------------------------------------------------------------------------|----------------|

### 2.2. Label elements

|                            |                       |
|----------------------------|-----------------------|
| <b>Hazard pictogram(s)</b> | Not Applicable        |
| <b>Signal word</b>         | <b>Not Applicable</b> |

### Hazard statement(s)

Not Applicable

### Precautionary statement(s) General

|             |                                                                       |
|-------------|-----------------------------------------------------------------------|
| <b>P101</b> | If medical advice is needed, have product container or label at hand. |
| <b>P102</b> | Keep out of reach of children.                                        |
| <b>P103</b> | Read carefully and follow all instructions.                           |

### Precautionary statement(s) Prevention

Not Applicable

### Precautionary statement(s) Response

Not Applicable

### Precautionary statement(s) Storage

Not Applicable

### Precautionary statement(s) Disposal

Not Applicable

### 2.3. Other hazards

REACH - Art.57-59: The mixture does not contain Substances of Very High Concern (SVHC) at the SDS print date.

## SECTION 3 Composition / information on ingredients

### 3.1. Substances

See 'Composition on ingredients' in Section 3.2

### 3.2. Mixtures

| 1.CAS No<br>2.EC No<br>3.Index No<br>4.REACH No                        | %[weight] | Name                                                      | Classification according to regulation (EC) No 1272/2008 [CLP] and amendments | SCL / M-Factor | Nanoform Particle Characteristics |
|------------------------------------------------------------------------|-----------|-----------------------------------------------------------|-------------------------------------------------------------------------------|----------------|-----------------------------------|
| 1.302346-65-2<br>2.Not Available<br>3.Not Available<br>4.Not Available | >60       | <u>bentonite</u> ,<br><u>lanthanum</u><br><u>modified</u> | Not Applicable                                                                | Not Available  | Not Available                     |

**Legend:** 1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 3. Classification drawn from C&L; \* EU IOELVs available; [e] Substance identified as having endocrine disrupting

## SECTION 4 First aid measures

### 4.1. Description of first aid measures

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye Contact</b>  | <p>If this product comes in contact with the eyes:<br/>                     Wash out immediately with fresh running water.<br/>                     Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.<br/>                     Seek medical attention without delay; if pain persists or recurs seek medical attention.<br/>                     Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</p>                                                      |
| <b>Skin Contact</b> | <p>If skin or hair contact occurs:<br/>                     Flush skin and hair with running water (and soap if available).<br/>                     Seek medical attention in event of irritation.</p>                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Inhalation</b>   | <p>If fumes, aerosols or combustion products are inhaled remove from contaminated area.<br/>                     Other measures are usually unnecessary.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Ingestion</b>    | <p><b>If swallowed do NOT induce vomiting.</b><br/>                     If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.<br/>                     Observe the patient carefully.<br/>                     Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.<br/>                     Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.<br/>                     Seek medical advice.</p> |

### 4.2 Most important symptoms and effects, both acute and delayed

See Section 11

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5 Firefighting measures

### 5.1. Extinguishing media

There is no restriction on the type of extinguisher which may be used.  
 Use extinguishing media suitable for surrounding area.

### 5.2. Special hazards arising from the substrate or mixture

|                             |             |
|-----------------------------|-------------|
| <b>Fire Incompatibility</b> | None known. |
|-----------------------------|-------------|

### 5.3. Advice for firefighters

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Fire Fighting</b>         | <p>Alert Fire Brigade and tell them location and nature of hazard.<br/>                     Wear breathing apparatus plus protective gloves in the event of a fire.<br/>                     Prevent, by any means available, spillage from entering drains or water courses.<br/>                     Use fire fighting procedures suitable for surrounding area.<br/> <b>DO NOT</b> approach containers suspected to be hot.<br/>                     Cool fire exposed containers with water spray from a protected location.</p> |
| <b>Fire/Explosion Hazard</b> | <p>Non combustible.<br/>                     Not considered a significant fire risk, however containers may burn.<br/>                     Decomposition may produce toxic fumes of:<br/>                     silicon dioxide (SiO<sub>2</sub>)</p>                                                                                                                                                                                                                                                                                  |

metal oxides  
May emit poisonous fumes.  
May emit corrosive fumes.

## SECTION 6 Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

See section 8

### 6.2. Environmental precautions

See section 12

### 6.3. Methods and material for containment and cleaning up

|                     |                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Minor Spills</b> | <p>Clean up all spills immediately.<br/>Avoid contact with skin and eyes.<br/>Wear impervious gloves and safety glasses.<br/>Use dry clean up procedures and avoid generating dust.<br/>Vacuum up (consider explosion-proof machines designed to be grounded during storage and use).<br/>Do NOT use air hoses for cleaning<br/>Place spilled material in clean, dry, sealable, labelled container.</p> |
| <b>Major Spills</b> | <p>Moderate hazard.<br/><b>CAUTION:</b> Advise personnel in area.<br/>Alert Emergency Services and tell them location and nature of hazard.<br/>Control personal contact by wearing protective clothing.<br/>Prevent, by any means available, spillage from entering drains or water courses.<br/>Recover product wherever possible.</p>                                                                |

### 6.4. Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 Handling and storage

### 7.1. Precautions for safe handling

|                                      |                                                                                                                                                                                                                                                                                                      |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Safe handling</b>                 | <p>Limit all unnecessary personal contact.<br/>Wear protective clothing when risk of exposure occurs.<br/>Use in a well-ventilated area.<br/><b>When handling DO NOT eat, drink or smoke.</b><br/>Always wash hands with soap and water after handling.<br/>Avoid physical damage to containers.</p> |
| <b>Fire and explosion protection</b> | <p>See section 5</p>                                                                                                                                                                                                                                                                                 |
| <b>Other information</b>             | <p>Keep dry.<br/>Store under cover.<br/>Protect containers against physical damage.<br/>Observe manufacturer's storage and handling recommendations contained within this SDS.</p>                                                                                                                   |

### 7.2. Conditions for safe storage, including any incompatibilities

|                                |                                                                                                                    |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <b>Suitable container</b>      | <p>Polyethylene or polypropylene container.<br/>Check all containers are clearly labelled and free from leaks.</p> |
| <b>Storage incompatibility</b> | <p>Avoid reaction with oxidising agents<br/>Protect from light.</p>                                                |

### 7.3. Specific end use(s)

See section 1.2

## SECTION 8 Exposure controls / personal protection

### 8.1. Control parameters

| Ingredient    | DNELs<br>Exposure Pattern Worker | PNECs<br>Compartment |
|---------------|----------------------------------|----------------------|
| Not Available | Not Available                    | Not Available        |

\* Values for General Population

### Occupational Exposure Limits (OEL)

#### INGREDIENT DATA

| Source        | Ingredient    | Material name | TWA           | STEL          | Peak          | Notes         |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Not Available | Not Available | Not Available | Not Available | Not Available | Not Available | Not Available |


Not Applicable

### Emergency Limits

| Ingredient                 | TEEL-1        | TEEL-2        | TEEL-3        |
|----------------------------|---------------|---------------|---------------|
| Phoslock Granules / Powder | Not Available | Not Available | Not Available |

| Ingredient                    | Original IDLH | Revised IDLH  |
|-------------------------------|---------------|---------------|
| bentonite, lanthanum modified | Not Available | Not Available |

### 8.2. Exposure controls

|                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>8.2.1. Appropriate engineering controls</b> | General exhaust is adequate under normal operating conditions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>8.2.2. Personal protection</b>              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Eye and face protection</b>                 | <p>Safety glasses with side shields; or as required, Chemical goggles.</p> <p>Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable.</p> |
| <b>Skin protection</b>                         | See Hand protection below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Hands/feet protection</b>                   | <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After</p>                                                      |

|                         |                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | <p>using gloves, hands should be washed and dried thoroughly.<br/>Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.</p> <p>polychloroprene.<br/>nitrile rubber.<br/>butyl rubber.<br/>fluorocautchouc.<br/>polyvinyl chloride.</p> |
| <b>Body protection</b>  | See Other protection below                                                                                                                                                                                                                                                                                                                                  |
| <b>Other protection</b> | <p>Overalls.<br/>P.V.C apron.<br/>Barrier cream.<br/>Skin cleansing cream.<br/>Eye wash unit.</p>                                                                                                                                                                                                                                                           |

## Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, ANSI Z88 or national equivalent)

- Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)
- Use approved positive flow mask if significant quantities of dust becomes airborne.
- Try to avoid creating dust conditions.

### 8.2.3. Environmental exposure controls

See section 12

## SECTION 9 Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|                                                     |                                           |                                                |                |
|-----------------------------------------------------|-------------------------------------------|------------------------------------------------|----------------|
| <b>Appearance</b>                                   | Light brown granules; insoluble in water. |                                                |                |
| <b>Physical state</b>                               | Divided Solid                             | <b>Relative density (Water = 1)</b>            | 1.1            |
| <b>Odour</b>                                        | Not Available                             | <b>Partition coefficient n-octanol / water</b> | Not Available  |
| <b>Odour threshold</b>                              | Not Available                             | <b>Auto-ignition temperature (°C)</b>          | Not Applicable |
| <b>pH (as supplied)</b>                             | Not Applicable                            | <b>Decomposition temperature</b>               | Not Available  |
| <b>Melting point / freezing point (°C)</b>          | >1000                                     | <b>Viscosity (cSt)</b>                         | Not Applicable |
| <b>Initial boiling point and boiling range (°C)</b> | Not Applicable                            | <b>Molecular weight (g/mol)</b>                | Not Applicable |
| <b>Flash point (°C)</b>                             | Not Applicable                            | <b>Taste</b>                                   | Not Available  |

|                                  |                |                                          |                |
|----------------------------------|----------------|------------------------------------------|----------------|
| <b>Evaporation rate</b>          | Not Applicable | <b>Explosive properties</b>              | Not Available  |
| <b>Flammability</b>              | Not Applicable | <b>Oxidising properties</b>              | Not Available  |
| <b>Upper Explosive Limit (%)</b> | Not Applicable | <b>Surface Tension (dyn/cm or mN/m)</b>  | Not Applicable |
| <b>Lower Explosive Limit (%)</b> | Not Applicable | <b>Volatile Component (%vol)</b>         | Not Applicable |
| <b>Vapour pressure (kPa)</b>     | Not Applicable | <b>Gas group</b>                         | Not Available  |
| <b>Solubility in water</b>       | Immiscible     | <b>pH as a solution (Not Available%)</b> | 7-7.5 (2%)     |
| <b>Vapour density (Air = 1)</b>  | Not Available  | <b>VOC g/L</b>                           | Not Applicable |
| <b>Nanoform Solubility</b>       | Not Available  | <b>Nanoform Particle Characteristics</b> | Not Available  |
| <b>Particle Size</b>             | Not Available  |                                          |                |

## 9.2. Other information

Not Available

## SECTION 10 Stability and reactivity

|                                                 |                                                                                                                                  |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>10.1.Reactivity</b>                          | See section 7.2                                                                                                                  |
| <b>10.2. Chemical stability</b>                 | Unstable in the presence of incompatible materials.<br>Product is considered stable.<br>Hazardous polymerisation will not occur. |
| <b>10.3. Possibility of hazardous reactions</b> | See section 7.2                                                                                                                  |
| <b>10.4. Conditions to avoid</b>                | See section 7.2                                                                                                                  |
| <b>10.5. Incompatible materials</b>             | See section 7.2                                                                                                                  |
| <b>10.6. Hazardous decomposition products</b>   | See section 5.3                                                                                                                  |

## SECTION 11 Toxicological information

### 11.1. Information on toxicological effects

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inhaled</b>      | Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.<br>If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures. |
| <b>Ingestion</b>    | Considered an unlikely route of entry in commercial/industrial environments<br>Accidental ingestion of the material may be damaging to the health of the individual.<br>Ingestion may result in nausea, abdominal irritation, pain and vomiting<br>Lanthanide poisoning causes immediate defaecation, writhing, inco-ordination, laboured breathing, and inactivity. Respiratory and heart failure may follow causing death.                                                      |
| <b>Skin Contact</b> | The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to                                                                                                                                                                                                                                                    |

|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | <p>a minimum and that suitable gloves be used in an occupational setting.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p>                                                                                                                              |
| <b>Eye</b>     | <p>Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result.</p>                                                                                                                                                                                                                                                                            |
| <b>Chronic</b> | <p>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p> <p>Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis, caused by particles less than 0.5 micron penetrating and remaining in the lung.</p> <p>Lanthanum is one of the rare earth metals - light type (cerium family). Rare earth metals have not been shown to have toxic effects, but dust inhalation can still cause scarring of the lungs.</p> |

|                                      |                                                                                                                                                                                                                                     |                   |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| <b>Phoslock Granules / Powder</b>    | <b>TOXICITY</b>                                                                                                                                                                                                                     | <b>IRRITATION</b> |
|                                      | Dermal (Rabbit) LD50: None PDII/4hr <sup>[2]</sup>                                                                                                                                                                                  | Not Available     |
|                                      | Inhalation (Rat) LC50: >5000 mg/L/4h <sup>[2]</sup>                                                                                                                                                                                 |                   |
| <b>bentonite, lanthanum modified</b> | <b>TOXICITY</b>                                                                                                                                                                                                                     | <b>IRRITATION</b> |
|                                      | Not Available                                                                                                                                                                                                                       | Not Available     |
| <b>Legend:</b>                       | <p>1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances</p> |                   |

|                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>BENTONITE, LANTHANUM MODIFIED</b> | <p>Lanthanide poisoning causes immediate defaecation, writhing, inco-ordination, laboured breathing, and inactivity. Respiratory and heart failure may follow causing death.</p> <p>For typical lanthanides:</p> <p>Symptoms of toxicity from rare earth elements include writhing, inco-ordination, laboured breathing, and sedation. They show low toxicity via swallowing. However, if given through the peritoneal cavity, they may be severely toxic, and injected through the skin, they are moderately toxic. They cause granulomas after exposure.</p> <p>Chronic inhalation toxicity: Chronically exposed humans have been shown to have lanthanide particles accumulate in the airway, with enlargement of lymph nodes of the bronchi being observed.</p> <p>Developmental/reproductive toxicity: One animal study did not show lanthanum carbonate to affect fertility or harm the foetus.</p> <p>Mutation-causing potential: Animal studies showed cerium oxide to be negative with respect to mutation-causing potential.</p> <p>Cancer-causing potential: An long-term animal (rat) study showed that lanthanum carbonate is not carcinogenic.</p> <p>For bentonite clays:</p> <p>Bentonite (CAS No. 1302-78-9) consists of a group of clays formed by crystallization of vitreous volcanic ashes that were deposited in water. The expected acute oral toxicity of bentonite in humans is very low. However, when bentonite had been used as a prophylactic paste, larger amounts caused severe eye injury, including abscesses behind the cornea. In animals, large amounts caused decreased growth, muscle weakness and death with marked changes in both calcium and phosphorus metabolism.</p> <p>Bentonite, in animals, caused lung scarring if instilled into the windpipe. Bentonite clay dust is believed to be responsible for asthma in workers in an American processing plant.</p> <p>Swallowing bentonite without adequate liquids may result in intestinal obstruction in humans.</p> <p>Chronically swallowing bentonite has been reported to cause muscle inflammation.</p> |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                       |                        |
|-----------------------|------------------------|
| <b>Acute Toxicity</b> | <b>Carcinogenicity</b> |
|-----------------------|------------------------|



|                                   |                          |
|-----------------------------------|--------------------------|
| Skin Irritation/Corrosion         | Reproductivity           |
| Serious Eye Damage/Irritation     | STOT - Single Exposure   |
| Respiratory or Skin sensitisation | STOT - Repeated Exposure |
| Mutagenicity                      | Aspiration Hazard        |

**Legend:** – Data either not available or does not fill the criteria for classification  
– Data available to make classification

### 11.2.1. Endocrine Disruption Properties

Not Available

## SECTION 12 Ecological information

### 12.1. Toxicity

| Phoslock Granules / Powder | Endpoint      | Test Duration (hr) | Species       | Value         | Source        |
|----------------------------|---------------|--------------------|---------------|---------------|---------------|
|                            | Not Available | Not Available      | Not Available | Not Available | Not Available |

| bentonite, lanthanum modified | Endpoint      | Test Duration (hr) | Species       | Value         | Source        |
|-------------------------------|---------------|--------------------|---------------|---------------|---------------|
|                               | Not Available | Not Available      | Not Available | Not Available | Not Available |

**Legend:** *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

**DO NOT discharge into sewer or waterways.**

For Lanthanoids (Formerly Lanthanides: Synonym Rare Earth Metals and their Salts):

Environmental Fate: Rare earths, such as the lanthanoids, are relatively abundant in the crust of the Earth. These elements are not rare -scientists once thought these substances were only found in very small amounts on the Earth Most of the lanthanides occur together in nature, and they are very difficult to separate from each other. The lanthanides form alloys, (mixtures), with many other metals, and these alloys exhibit a wide range of physical properties. Lanthanoid emissions to the environment have increased as a result of the growing industrial applications of these elements; however, robust data to evaluate the environmental fate of lanthanoids are scarce.

Atmospheric Fate: These substances react with oxygen in the atmosphere to form an oxide residue which tarnishes surfaces exposed to these elements. They burn readily in air to form oxides.

### 12.2. Persistence and degradability

| Ingredient | Persistence: Water/Soil               | Persistence: Air                      |
|------------|---------------------------------------|---------------------------------------|
|            | No Data available for all ingredients | No Data available for all ingredients |

### 12.3. Bioaccumulative potential

| Ingredient | Bioaccumulation                       |
|------------|---------------------------------------|
|            | No Data available for all ingredients |

### 12.4. Mobility in soil

| Ingredient | Mobility                              |
|------------|---------------------------------------|
|            | No Data available for all ingredients |

## 12.5. Results of PBT and vPvB assessment

|                         | P             | B             | T             |
|-------------------------|---------------|---------------|---------------|
| Relevant available data | Not Available | Not Available | Not Available |
| PBT                     |               |               |               |
| vPvB                    |               |               |               |
| PBT Criteria fulfilled? |               |               |               |
|                         |               |               | No            |
| vPvB                    |               |               |               |
|                         |               |               | No            |

## 12.6. Endocrine Disruption Properties

Not Available

## 12.7. Other adverse effects

Not Available

## SECTION 13 Disposal considerations

### 13.1. Waste treatment methods

|                                     |                                                                                                                                                                                                                                                                |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product / Packaging disposal</b> | Recycle wherever possible or consult manufacturer for recycling options.<br>Consult State Land Waste Management Authority for disposal.<br>Bury residue in an authorised landfill.<br>Recycle containers if possible, or dispose of in an authorised landfill. |
| <b>Waste treatment options</b>      | Not Available                                                                                                                                                                                                                                                  |
| <b>Sewage disposal options</b>      | Not Available                                                                                                                                                                                                                                                  |

## SECTION 14 Transport information

### Labels Required

|                         |                |
|-------------------------|----------------|
| <b>Marine Pollutant</b> | NO             |
| <b>HAZCHEM</b>          | Not Applicable |

### Land transport (ADR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

|                                           |                                |                |
|-------------------------------------------|--------------------------------|----------------|
| 14.1. <b>UN number</b>                    | Not Applicable                 |                |
| 14.2. <b>UN proper shipping name</b>      | Not Applicable                 |                |
| 14.3. <b>Transport hazard class(es)</b>   | Class                          | Not Applicable |
|                                           | Subrisk                        | Not Applicable |
| 14.4. <b>Packing group</b>                | Not Applicable                 |                |
| 14.5. <b>Environmental hazard</b>         | Not Applicable                 |                |
| 14.6. <b>Special precautions for user</b> | Hazard identification (Kemler) | Not Applicable |
|                                           | Classification code            | Not Applicable |
|                                           | Hazard Label                   | Not Applicable |

|                         |                |
|-------------------------|----------------|
| Special provisions      | Not Applicable |
| Limited quantity        | Not Applicable |
| Tunnel Restriction Code | Not Applicable |

#### Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

|                                    |                                                           |                |
|------------------------------------|-----------------------------------------------------------|----------------|
| 14.1. UN number                    | Not Applicable                                            |                |
| 14.2. UN proper shipping name      | Not Applicable                                            |                |
| 14.3. Transport hazard class(es)   | ICAO/IATA Class                                           | Not Applicable |
|                                    | ICAO / IATA Subrisk                                       | Not Applicable |
|                                    | ERG Code                                                  | Not Applicable |
| 14.4. Packing group                | Not Applicable                                            |                |
| 14.5. Environmental hazard         | Not Applicable                                            |                |
| 14.6. Special precautions for user | Special provisions                                        | Not Applicable |
|                                    | Cargo Only Packing Instructions                           | Not Applicable |
|                                    | Cargo Only Maximum Qty / Pack                             | Not Applicable |
|                                    | Passenger and Cargo Packing Instructions                  | Not Applicable |
|                                    | Passenger and Cargo Maximum Qty / Pack                    | Not Applicable |
|                                    | Passenger and Cargo Limited Quantity Packing Instructions | Not Applicable |
|                                    | Passenger and Cargo Limited Maximum Qty / Pack            | Not Applicable |

#### Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

|                                    |                    |                |
|------------------------------------|--------------------|----------------|
| 14.1. UN number                    | Not Applicable     |                |
| 14.2. UN proper shipping name      | Not Applicable     |                |
| 14.3. Transport hazard class(es)   | IMDG Class         | Not Applicable |
|                                    | IMDG Subrisk       | Not Applicable |
| 14.4. Packing group                | Not Applicable     |                |
| 14.5. Environmental hazard         | Not Applicable     |                |
| 14.6. Special precautions for user | EMS Number         | Not Applicable |
|                                    | Special provisions | Not Applicable |
|                                    | Limited Quantities | Not Applicable |

#### Inland waterways transport (ADN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

|                                  |                |                |
|----------------------------------|----------------|----------------|
| 14.1. UN number                  | Not Applicable |                |
| 14.2. UN proper shipping name    | Not Applicable |                |
| 14.3. Transport hazard class(es) | Not Applicable | Not Applicable |
| 14.4. Packing group              | Not Applicable |                |

|                                           |                     |                |
|-------------------------------------------|---------------------|----------------|
| <b>14.5. Environmental hazard</b>         | Not Applicable      |                |
| <b>14.6. Special precautions for user</b> | Classification code | Not Applicable |
|                                           | Special provisions  | Not Applicable |
|                                           | Limited quantity    | Not Applicable |
|                                           | Equipment required  | Not Applicable |
|                                           | Fire cones number   | Not Applicable |

#### 14.7. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

#### 14.8. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

| Product name                  | Group         |
|-------------------------------|---------------|
| bentonite, lanthanum modified | Not Available |

#### 14.9. Transport in bulk in accordance with the ICG Code

| Product name                  | Ship Type     |
|-------------------------------|---------------|
| bentonite, lanthanum modified | Not Available |

## SECTION 15 Regulatory information

### 15.1. Safety, health and environmental regulations / legislation specific for the substance or mixture

**bentonite, lanthanum modified is found on the following regulatory lists**

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

### 15.2. Chemical safety assessment

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

### National Inventory Status

| National Inventory                              | Status                             |
|-------------------------------------------------|------------------------------------|
| Australia - AIIC / Australia Non-Industrial Use | Yes                                |
| Canada - DSL                                    | No (bentonite, lanthanum modified) |
| Canada - NDSL                                   | No (bentonite, lanthanum modified) |
| China - IECSC                                   | No (bentonite, lanthanum modified) |
| Europe - EINEC / ELINCS / NLP                   | No (bentonite, lanthanum modified) |
| Japan - ENCS                                    | No (bentonite, lanthanum modified) |
| Korea - KECI                                    | No (bentonite, lanthanum modified) |
| New Zealand - NZIoC                             | No (bentonite, lanthanum modified) |

| National Inventory  | Status                                                                                                                                                                                                                     |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Philippines - PICCS | No (bentonite, lanthanum modified)                                                                                                                                                                                         |
| USA - TSCA          | No (bentonite, lanthanum modified)                                                                                                                                                                                         |
| Taiwan - TCSI       | No (bentonite, lanthanum modified)                                                                                                                                                                                         |
| Mexico - INSQ       | No (bentonite, lanthanum modified)                                                                                                                                                                                         |
| Vietnam - NCI       | No (bentonite, lanthanum modified)                                                                                                                                                                                         |
| Russia - FBEPH      | No (bentonite, lanthanum modified)                                                                                                                                                                                         |
| <b>Legend:</b>      | <p><i>Yes = All CAS declared ingredients are on the inventory</i></p> <p><i>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</i></p> |

## SECTION 16 Other information

|               |            |
|---------------|------------|
| Revision Date | 08/03/2022 |
| Initial Date  | 30/11/2004 |

### Full text Risk and Hazard codes

#### Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

- EN 166 Personal eye-protection
- EN 340 Protective clothing
- EN 374 Protective gloves against chemicals and micro-organisms
- EN 13832 Footwear protecting against chemicals
- EN 133 Respiratory protective devices

#### Definitions and abbreviations

- PC - TWA: Permissible Concentration-Time Weighted Average
- PC - STEL: Permissible Concentration-Short Term Exposure Limit
- IARC: International Agency for Research on Cancer
- ACGIH: American Conference of Governmental Industrial Hygienists
- STEL: Short Term Exposure Limit
- TEEL: Temporary Emergency Exposure Limit,
- IDLH: Immediately Dangerous to Life or Health Concentrations
- ES: Exposure Standard
- OSF: Odour Safety Factor
- NOAEL :No Observed Adverse Effect Level
- LOAEL: Lowest Observed Adverse Effect Level
- TLV: Threshold Limit Value
- LOD: Limit Of Detection
- OTV: Odour Threshold Value
- BCF: BioConcentration Factors
- BEI: Biological Exposure Index
- AIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List

NDSL: Non-Domestic Substances List

IECSC: Inventory of Existing Chemical Substance in China

EINECS: European INventory of Existing Commercial chemical Substances

ELINCS: European List of Notified Chemical Substances

NLP: No-Longer Polymers

ENCS: Existing and New Chemical Substances Inventory

KECI: Korea Existing Chemicals Inventory

NZIoC: New Zealand Inventory of Chemicals

PICCS: Philippine Inventory of Chemicals and Chemical Substances

TSCA: Toxic Substances Control Act

TCSI: Taiwan Chemical Substance Inventory

INSQ: Inventario Nacional de Sustancias Químicas

NCI: National Chemical Inventory

FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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