

## Lanthanum(III) sulphide

### Apollo Scientific

Chemwatch Hazard Alert Code: 2

Part Number: IN2176

Version No: 1.1

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

Issue Date: 16/09/2022

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S.REACH.GBR.EN

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

### 1.1. Product Identifier

|                               |                                     |
|-------------------------------|-------------------------------------|
| Product name                  | Lanthanum(III) sulphide             |
| Chemical Name                 | lanthanum(III) sulfide              |
| Synonyms                      | Not Available                       |
| Proper shipping name          | WATER-REACTIVE SOLID, TOXIC, N.O.S. |
| Chemical formula              | La <sub>2</sub> S <sub>3</sub>      |
| Other means of identification | Not Available                       |
| CAS number                    | 12031-49-1                          |
| EC number                     | 234-752-8                           |

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

|                          |  |
|--------------------------|--|
| Relevant identified uses | Not Available                                    |
| Uses advised against     | No specific uses advised against are identified. |

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

|                         |   |
|-------------------------|---|
| Registered company name | Apollo Scientific   |
| Address                 | Whitefield Road, Bredbury SK62QR United Kingdom                                     |
| Telephone               | 01614060505   |
| Fax                     | 0161 406 0506   |
| Website                 | <a href="http://www.apolloscientific.co.uk/">http://www.apolloscientific.co.uk/</a> |
| Email                   | sales@apolloscientific.co.uk  |

### 1.4. Emergency telephone number

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

## SECTION 2 Hazards identification

### 2.1. Classification of the substance or mixture

|  |   |
|--|---|
| Classification according to regulation (EC) No | H400 - Hazardous to the Aquatic Environment Acute Hazard Category 1, H335 - Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, H315 - Skin Corrosion/Irritation Category 2, H319 - Serious Eye Damage/Eye Irritation |
|--|---|

|   |  |
|---|--|
| 1272/2008 [CLP] and amendments <sup>[1]</sup> | Category 2, H228 - Flammable Solids Category 2, H261 - Substances and Mixtures which in Contact with Water Emit Flammable Gases Category 2 |
| <b>Legend:</b>                                | 1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI   |

## 2.2. Label elements

|                     |   |
|---------------------|---|
| Hazard pictogram(s) |  |
|---------------------|---|

|             |               |
|-------------|---------------|
| Signal word | <b>Danger</b> |
|-------------|---------------|

## Hazard statement(s)

|      |   |
|------|---|
| H400 | Very toxic to aquatic life.                     |
| H335 | May cause respiratory irritation.               |
| H315 | Causes skin irritation.                         |
| H319 | Causes serious eye irritation.                  |
| H228 | Flammable solid.                                |
| H261 | In contact with water releases flammable gases. |

## Supplementary statement(s)

Not Applicable

## Precautionary statement(s) Prevention

|           |  |
|-----------|--|
| P210      | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P231+P232 | Handle and store contents under inert gas. Protect from moisture.                              |
| P271      | Use only outdoors or in a well-ventilated area.  |
| P240      | Ground and bond container and receiving equipment.   |
| P241      | Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.              |
| P261      | Avoid breathing dust/fumes.  |
| P273      | Avoid release to the environment.  |
| P280      | Wear protective gloves, protective clothing, eye protection and face protection.               |
| P223      | Do not allow contact with water.   |
| P264      | Wash all exposed external body areas thoroughly after handling.                                |

## Precautionary statement(s) Response

|                |  |
|----------------|--|
| P302+P335+P334 | IF ON SKIN: Brush off loose particles from skin. Immerse in cool water [or wrap in wet bandages].                                |
| P370+P378      | In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.  |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P312           | Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.  |
| P337+P313      | If eye irritation persists: Get medical advice/attention.  |
| P391           | Collect spillage.  |
| P302+P352      | IF ON SKIN: Wash with plenty of water.   |
| P304+P340      | IF INHALED: Remove person to fresh air and keep comfortable for breathing.   |
| P332+P313      | If skin irritation occurs: Get medical advice/attention.   |
| P362+P364      | Take off contaminated clothing and wash it before reuse.   |

## Precautionary statement(s) Storage

|           |  |
|-----------|--|
| P405      | Store locked up.   |
| P402+P404 | Store in a dry place. Store in a closed container.               |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |

## Precautionary statement(s) Disposal

|             |  |
|-------------|--|
| <b>P501</b> | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |
|-------------|--|

### 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

| 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 |
|---|-----------|-------------------------|---|----------------|-----------------------------------|
| Not Available                                       | 100       | Lanthanum(III) sulphide | Not Applicable  | Not Applicable | 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 properties

### 3.2. Mixtures

See 'Information on ingredients' in section 3.1

## 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:</p> <ul style="list-style-type: none"> <li>▸ Wash out immediately with fresh running water.</li> <li>▸ 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.</li> <li>▸ Seek medical attention without delay; if pain persists or recurs seek medical attention.</li> <li>▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>  |
| <b>Skin Contact</b> | <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▸ Flush skin and hair with running water (and soap if available).</li> <li>▸ Seek medical attention in event of irritation.</li> </ul>   |
| <b>Inhalation</b>   | <ul style="list-style-type: none"> <li>▸ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▸ Lay patient down. Keep warm and rested.</li> <li>▸ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▸ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▸ Transport to hospital, or doctor.</li> </ul>                      |
| <b>Ingestion</b>    | <ul style="list-style-type: none"> <li>▸ <b>If swallowed do NOT induce vomiting.</b></li> <li>▸ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▸ Observe the patient carefully.</li> <li>▸ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▸ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▸ Seek medical advice.</li> </ul> |

### 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

As in all cases of suspected poisoning, follow the ABCDEs of emergency medicine (airway, breathing, circulation, disability, exposure), then the ABCDEs of toxicology (antidotes, basics, change absorption, change distribution, change elimination).

For poisons (where specific treatment regime is absent):

#### BASIC TREATMENT

- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 L/min.
- Monitor and treat, where necessary, for pulmonary oedema.
- Monitor and treat, where necessary, for shock.
- Anticipate seizures.

Continued...

- ▶ **DO NOT** use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.

#### ADVANCED TREATMENT

- ▶ Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- ▶ Positive-pressure ventilation using a bag-valve mask might be of use.
- ▶ Monitor and treat, where necessary, for arrhythmias.
- ▶ Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- ▶ Drug therapy should be considered for pulmonary oedema.
- ▶ Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- ▶ Treat seizures with diazepam.
- ▶ Proparacaine hydrochloride should be used to assist eye irrigation.

BRONSTEIN, A.C. and CURRANCE, P.L.

EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

## SECTION 5 Firefighting measures

### 5.1. Extinguishing media

**DO NOT USE WATER, CO2 OR FOAM ON SUBSTANCE ITSELF**

For **SMALL FIRES**:

- ▶ Dry chemical, soda ash or lime.

For **LARGE FIRES**:

- ▶ DRY sand, dry chemical, soda ash;
- ▶ OR withdraw and allow fire to burn itself out.

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

#### Fire Incompatibility

- ▶ Segregate from alcohol, water.

### 5.3. Advice for firefighters

|                              |  |
|------------------------------|--|
| <b>Fire Fighting</b>         | <ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> <li>▶ Wear full protective clothing plus breathing apparatus.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ Consider evacuation (or protect in place)</li> <li>▶ <b>DO NOT</b> use water on fires.</li> </ul> <p><b>CAUTION:</b> If only water available, use flooding quantities of water or withdraw personnel.</p> <ul style="list-style-type: none"> <li>▶ <b>DO NOT</b> allow water to enter containers.</li> <li>▶ <b>DO NOT</b> approach containers suspected to be hot.</li> <li>▶ Cool fire exposed containers with flooding quantities of water from a protected location until well after fire is out.</li> <li>▶ If safe to do so, remove undamaged containers from path of fire.</li> <li>▶ If fire gets out of control withdraw personnel and warn against entry.</li> <li>▶ Equipment should be thoroughly decontaminated after use.</li> <li>▶ Fight fire from a protected position or use unmanned hose holders or monitor nozzles.</li> <li>▶ Withdraw immediately in case of rising sound from venting safety devices or discolouration of tanks.</li> <li>▶ ALWAYS stay away from tank ends.</li> </ul> |
| <b>Fire/Explosion Hazard</b> | <ul style="list-style-type: none"> <li>▶ Produces flammable substances on contact with water.</li> <li>▶ May ignite on contact with water or moist air.</li> <li>▶ May react vigorously or explosively on contact with water.</li> <li>▶ May be ignited by heat, sparks or flame.</li> <li>▶ May <b>REIGNITE</b> after fire is extinguished.</li> <li>▶ Decomposition products may be irritating to the respiratory system, eyes and skin.</li> <li>▶ Decomposition products may be toxic.</li> <li>▶ Containers may explode on heating.</li> <li>▶ Runoff may create multiple fire or explosion hazard.</li> </ul>  |

## 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

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|              |  |
|--------------|--|
| Minor Spills | <ul style="list-style-type: none"> <li>▶ Material from spill may be contaminated with water resulting in generation of gas which subsequently may pressure closed containers.</li> <li>▶ Hold spill material in vented containers only and plan for prompt disposal</li> <li>▶ Eliminate all ignition sources.</li> <li>▶ Cover with <b>DRY</b> earth, sand or other non-combustible material.</li> <li>▶ Then cover with plastic sheet to minimise spreading and to prevent exposure to rain or other sources of water.</li> <li>▶ Use clean, non-sparking tools to collect absorbed material and place into loosely-covered metal or plastic containers ready for disposal.</li> <li>▶ Wear gloves and safety glasses as appropriate.</li> </ul>   |
| Major Spills | <ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Eliminate all ignition sources (no smoking, flares, sparks or flames)</li> <li>▶ Stop leak if safe to do so; prevent entry into waterways, drains or confined spaces.</li> <li>▶ May be violently or explosively reactive.</li> <li>▶ <b>DO NOT walk through spilled material.</b></li> <li>▶ Wear full protective clothing plus breathing apparatus.</li> <li>▶ <b>DO NOT touch damaged containers or spilled material unless wearing appropriate protective clothing.</b></li> <li>▶ Water spray may be used to knock down vapours or divert vapour clouds; <b>DO NOT allow water to enter container or come into contact with the material.</b></li> <li>▶ Cover with <b>DRY</b> earth, sand, vermiculite or other non-combustible material.</li> <li>▶ Then cover with plastic sheet to minimise spreading and to prevent exposure to rain or other sources of water.</li> <li>▶ Use clean, non-sparking tools to collect absorbed material and place into loosely-covered metal or plastic containers ready for disposal.</li> <li>▶ Alternately, the spill may be contained using <b>DRY</b> earth, sand, or vermiculite and then covered with a high boiling point mineral oil.</li> <li>▶ Recover the liquid using non-sparking appliances and place in labelled, sealable container.</li> <li>▶ Wash spill area with detergent and water and dike for later disposal.</li> <li>▶ After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.</li> <li>▶ If contamination of drains or waterways occurs, advise emergency services.</li> </ul> |

#### 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

|                               |  |
|-------------------------------|--|
| Safe handling                 | <ul style="list-style-type: none"> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of overexposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Avoid contact with moisture.</li> <li>▶ Avoid smoking, naked lights or ignition sources.</li> <li>▶ Avoid contact with incompatible materials.</li> <li>▶ <b>When handling, DO NOT eat, drink or smoke.</b></li> <li>▶ Keep containers securely sealed when not in use.</li> <li>▶ Avoid physical damage to containers.</li> <li>▶ Always wash hands with soap and water after handling.</li> <li>▶ Work clothes should be laundered separately and before re-use</li> <li>▶ Use good occupational work practice.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.</li> </ul>  |
| Fire and explosion protection | See section 5  |
| Other information             | <p><b>KEEP DRY!</b> Packages must be protected from water ingress.</p> <p><b>FOR MINOR QUANTITIES:</b></p> <ul style="list-style-type: none"> <li>▶ Store in an indoor fireproof cabinet or in a room of noncombustible construction and</li> <li>▶ provide adequate portable fire-extinguishers in or near the storage area.</li> </ul> <p><b>FOR PACKAGE STORAGE:</b></p> <ul style="list-style-type: none"> <li>▶ Store in original containers in approved flame-proof area.</li> <li>▶ No smoking, naked lights, heat or ignition sources.</li> <li>▶ <b>DO NOT store in pits, depressions, basements or areas where vapours may be trapped.</b></li> <li>▶ Keep containers securely sealed.</li> <li>▶ Store away from incompatible materials in a cool, dry well ventilated area.</li> <li>▶ Protect containers against physical damage and check regularly for leaks.</li> <li>▶ Protect containers from exposure to weather and from direct sunlight unless: (a) the packages are of metal or plastic construction; (b) the packages are securely closed are not opened for any purpose while in the area where they are stored; (c) adequate precautions are taken to ensure that rain water, which might become contaminated by the dangerous goods, is collected and disposed of safely.</li> </ul> |

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- ▶ Ensure proper stock-control measures are maintained to prevent prolonged storage of dangerous goods.
- ▶ Automatic fire-sprinklers **MUST NOT** be installed in room or space.
- ▶ The room or space must be located at least five metres from the boundaries of the premises and from other buildings unless separated by a wall with a fire resistance of at least four hours.
- ▶ Observe manufacturer's storage and handling recommendations contained within this SDS.

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

|  |   |
|--|---|
| <b>Suitable container</b>  | <p>For low viscosity materials and solids:<br/>Drums and jerricans must be of the non-removable head type.<br/>Where a can is to be used as an inner package, the can must have a screwed enclosure.<br/>For materials with a viscosity of at least 2680 cSt. (23 deg. C):</p> <ul style="list-style-type: none"> <li>▶ Removable head packaging and</li> <li>▶ cans with friction closures may be used.</li> </ul> <p>-</p> <p>Where combination packages are used, there must be sufficient inert absorbent material to absorb completely any leakage that may occur, unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.<br/>All combination packages for Packing group I and II must contain cushioning material.</p> |
| <b>Storage incompatibility</b>   | <ul style="list-style-type: none"> <li>▶ Segregate from alcohol, water.</li> <li>▶ Moisture sensitive</li> <li>▶ Store under argon</li> </ul>   |
| <b>Hazard categories in accordance with Regulation (EC) No 1272/2008</b>   | E1: Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1   |
| <b>Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of</b> | E1 Lower- / Upper-tier requirements: 100 / 200  |

**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        |
|-------------------------|---------------|---------------|---------------|
| Lanthanum(III) sulphide | Not Available | Not Available | Not Available |

| Ingredient              | Original IDLH | Revised IDLH  |
|-------------------------|---------------|---------------|
| Lanthanum(III) sulphide | Not Available | Not Available |

**8.2. Exposure controls**

|  |  |
|--|--|
| <b>8.2.1. Appropriate engineering controls</b> | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.<br/>The basic types of engineering controls are:</p> |
|--|--|

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Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure.

Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection.

An approved self contained breathing apparatus (SCBA) may be required in some situations.

Provide adequate ventilation in warehouse or closed storage area. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

| Type of Contaminant:  | Air Speed:                      |
|---|---------------------------------|
| solvent, vapours, degreasing etc., evaporating from tank (in still air).  | 0.25-0.5 m/s<br>(50-100 f/min.) |
| aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation) | 0.5-1 m/s<br>(100-200 f/min.)   |
| direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)  | 1-2.5 m/s<br>(200-500 f/min.)   |
| grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).  | 2.5-10 m/s<br>(500-2000 f/min.) |

Within each range the appropriate value depends on:

| Lower end of the range                                     | Upper end of the range           |
|--|----------------------------------|
| 1: Room air currents minimal or favourable to capture      | 1: Disturbing room air currents  |
| 2: Contaminants of low toxicity or of nuisance value only. | 2: Contaminants of high toxicity |
| 3: Intermittent, low production.                           | 3: High production, heavy use    |
| 4: Large hood or large air mass in motion                  | 4: Small hood-local control only |

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

### 8.2.2. Individual protection measures, such as personal protective equipment



#### Eye and face protection

- ▶ Safety glasses with side shields
- ▶ Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent]
- ▶ 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. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

#### Skin protection

See Hand protection below

#### Hands/feet protection

- ▶ Wear chemical protective gloves, e.g. PVC.
- ▶ Wear safety footwear or safety gumboots, e.g. Rubber

#### Body protection

See Other protection below

#### Other protection

- ▶ Overalls.
- ▶ Eyewash unit.
- ▶ Barrier cream.
- ▶ Skin cleansing cream.
- ▶ Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.
- ▶ For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).
- ▶ Non sparking safety or conductive footwear should be considered. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot an shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds. Electrical resistance must range between 0 to 500,000 ohms. Conductive shoes should be stored in lockers close to the room in which

they are worn. Personnel who have been issued conductive footwear should not wear them from their place of work to their homes and return.

## Respiratory protection

Type -P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator |
|------------------------------------|----------------------|----------------------|------------------------|
| up to 10 x ES                      | P1<br>Air-line*      | -<br>-               | PAPR-P1<br>-           |
| up to 50 x ES                      | Air-line**           | P2                   | PAPR-P2                |
| up to 100 x ES                     | -                    | P3                   | -                      |
|                                    |                      | Air-line*            | -                      |
| 100+ x ES                          | -                    | Air-line**           | PAPR-P3                |

\* - Negative pressure demand \*\* - Continuous flow

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

### 8.2.3. Environmental exposure controls

See section 12

## SECTION 9 Physical and chemical properties

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

| Appearance                                   | Orange        |   |                |
|--|---------------|---|----------------|
| Physical state                               | Divided Solid | Relative density (Water = 1)            | Not Available  |
| Odour  | Not Available | Partition coefficient n-octanol / water | Not Available  |
| Odour threshold                              | Not Available | Auto-ignition temperature (°C)          | Not Available  |
| pH (as supplied)                             | Not Available | Decomposition temperature (°C)          | Not Available  |
| Melting point / freezing point (°C)          | 2100          | Viscosity (cSt)                         | Not Available  |
| Initial boiling point and boiling range (°C) | Not Available | Molecular weight (g/mol)                | Not Available  |
| Flash point (°C)                             | Not Available | Taste                                   | Not Available  |
| Evaporation rate                             | Not Available | Explosive properties                    | Not Available  |
| Flammability                                 | Not Available | Oxidising properties                    | Not Available  |
| Upper Explosive Limit (%)                    | Not Available | Surface Tension (dyn/cm or mN/m)        | Not Applicable |
| Lower Explosive Limit (%)                    | Not Available | Volatile Component (%vol)               | Not Available  |
| Vapour pressure (kPa)                        | Not Available | Gas group                               | Not Available  |
| Solubility in water                          | Not Available | pH as a solution (1%)                   | Not Available  |
| Vapour density (Air = 1)                     | 4.911         | VOC g/L                                 | Not Available  |
| Nanoform Solubility                          | Not Available | Nanoform Particle Characteristics       | Not Available  |
| Particle Size                                | 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>                 | <ul style="list-style-type: none"> <li>▸ May heat spontaneously</li> <li>▸ Identify and remove sources of ignition and heating.</li> <li>▸ Incompatible material, especially oxidisers, and/or other sources of oxygen may produce unstable product(s).</li> <li>▸ Avoid sources of water contamination (e.g. rain water, moisture, high humidity).</li> <li>▸ Avoid contact with oxygenated solvents/ reagents such as alcohols.</li> </ul> |
| <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 hazard classes as defined in Regulation (EC) No 1272/2008 Information on toxicological effects

|                     |   |
|---------------------|---|
| <b>Inhaled</b>      | The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of dusts, or fumes, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress. Inhalation of dusts, generated by the material during the course of normal handling, may be damaging to the health of the individual.  |
| <b>Ingestion</b>    | Accidental ingestion of the material may be damaging to the health of the individual.   |
| <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 a minimum and that suitable gloves be used in an occupational setting.<br>Open cuts, abraded or irritated skin should not be exposed to this material<br>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. |
| <b>Eye</b>          | 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.  |
| <b>Chronic</b>      | Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.  |

|                                |                 |                   |
|--------------------------------|-----------------|-------------------|
| <b>Lanthanum(III) sulphide</b> | <b>TOXICITY</b> | <b>IRRITATION</b> |
|                                | Not Available   | Not Available     |

**Legend:** 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

|  |   |                                 |   |
|--|---|---------------------------------|---|
| <b>Acute Toxicity</b>                    | ✗ | <b>Carcinogenicity</b>          | ✗ |
| <b>Skin Irritation/Corrosion</b>         | ✓ | <b>Reproductivity</b>           | ✗ |
| <b>Serious Eye Damage/Irritation</b>     | ✓ | <b>STOT - Single Exposure</b>   | ✓ |
| <b>Respiratory or Skin sensitisation</b> | ✗ | <b>STOT - Repeated Exposure</b> | ✗ |
| <b>Mutagenicity</b>                      | ✗ | <b>Aspiration Hazard</b>        | ✗ |

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

### 11.2 Information on other hazards

#### 11.2.1. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

#### 11.2.2. Other information

See Section 11.1

## SECTION 12 Ecological information

### 12.1. Toxicity

| Lanthanum(III) sulphide | Endpoint   | Test Duration (hr) | Species       | Value         | Source        |
|-------------------------|--|--------------------|---------------|---------------|---------------|
|                         | Not Available  | Not Available      | Not Available | Not Available | Not Available |
| <b>Legend:</b>          | 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.

## 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 disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

## 12.7. Other adverse effects

No evidence of ozone depleting properties were found in the current literature.



## SECTION 13 Disposal considerations

### 13.1. Waste treatment methods

|                                     |   |
|-------------------------------------|---|
| <b>Product / Packaging disposal</b> | <ul style="list-style-type: none"> <li>▸ Recycle where possible.</li> <li>▸ Consult State Land Waste Management Authority for disposal.</li> <li>▸ Bury residue and dispose of containers/ packaging in authorised landfill.</li> </ul> |
| <b>Waste treatment options</b>      | Not Available   |
| <b>Sewage disposal options</b>      | Not Available   |

## SECTION 14 Transport information

### Labels Required

|  |   |
|--|---|
|  |   |
|--|---|

|                         |   |
|-------------------------|---|
| <b>Marine Pollutant</b> |  |
| <b>HAZCHEM</b>          | 4W  |

**Land transport (ADR-RID)**

|                                    |                                     |          |
|------------------------------------|-------------------------------------|----------|
| 14.1. UN number or ID number       | 3134                                |          |
| 14.2. UN proper shipping name      | WATER-REACTIVE SOLID, TOXIC, N.O.S. |          |
| 14.3. Transport hazard class(es)   | Class                               | 4.3      |
|                                    | Subsidiary risk                     | 6.1      |
| 14.4. Packing group                | III                                 |          |
| 14.5. Environmental hazard         | Environmentally hazardous           |          |
| 14.6. Special precautions for user | Hazard identification (Kemler)      | 462      |
|                                    | Classification code                 | WT2      |
|                                    | Hazard Label                        | 4.3 +6.1 |
|                                    | Special provisions                  | 274      |
|                                    | Limited quantity                    | 1 kg     |
|                                    | Tunnel Restriction Code             | 0 (E)    |

**Air transport (ICAO-IATA / DGR)**

|                                    |   |         |
|------------------------------------|---|---------|
| 14.1. UN number                    | 3134  |         |
| 14.2. UN proper shipping name      | Water-reactive solid, toxic, n.o.s. *                     |         |
| 14.3. Transport hazard class(es)   | ICAO/IATA Class   | 4.3     |
|                                    | ICAO / IATA Subrisk                                       | 6.1     |
|                                    | ERG Code  | 4PW     |
| 14.4. Packing group                | III   |         |
| 14.5. Environmental hazard         | Environmentally hazardous                                 |         |
| 14.6. Special precautions for user | Special provisions  | A3 A803 |
|                                    | Cargo Only Packing Instructions                           | 491     |
|                                    | Cargo Only Maximum Qty / Pack                             | 100 kg  |
|                                    | Passenger and Cargo Packing Instructions                  | 486     |
|                                    | Passenger and Cargo Maximum Qty / Pack                    | 25 kg   |
|                                    | Passenger and Cargo Limited Quantity Packing Instructions | Y477    |
|                                    | Passenger and Cargo Limited Maximum Qty / Pack            | 10 kg   |

**Sea transport (IMDG-Code / GGVSee)**

|                                  |                                     |     |
|----------------------------------|-------------------------------------|-----|
| 14.1. UN number                  | 3134                                |     |
| 14.2. UN proper shipping name    | WATER-REACTIVE SOLID, TOXIC, N.O.S. |     |
| 14.3. Transport hazard class(es) | IMDG Class                          | 4.3 |
|                                  | IMDG Subrisk                        | 6.1 |
| 14.4. Packing group              | III                                 |     |
| 14.5. Environmental hazard       | Marine Pollutant                    |     |

|                                    |                    |          |
|------------------------------------|--------------------|----------|
| 14.6. Special precautions for user | EMS Number         | F-G, S-N |
|                                    | Special provisions | 223 274  |
|                                    | Limited Quantities | 1 kg     |

### Inland waterways transport (ADN)

|                                    |                                     |                    |
|------------------------------------|-------------------------------------|--------------------|
| 14.1. UN number                    | 3134                                |                    |
| 14.2. UN proper shipping name      | WATER-REACTIVE SOLID, TOXIC, N.O.S. |                    |
| 14.3. Transport hazard class(es)   | 4.3   6.1                           |                    |
| 14.4. Packing group                | III                                 |                    |
| 14.5. Environmental hazard         | Environmentally hazardous           |                    |
| 14.6. Special precautions for user | Classification code                 | WT2                |
|                                    | Special provisions                  | 274; 802           |
|                                    | Limited quantity                    | 1 kg               |
|                                    | Equipment required                  | PP, EP, EX, TOX, A |
|                                    | Fire cones number                   | 0                  |

### 14.7. Maritime transport in bulk according to IMO instruments

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

Not Applicable

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

| Product name | Group |
|--------------|-------|
|--------------|-------|

#### 14.7.3. Transport in bulk in accordance with the IGC Code

| Product name | Ship Type |
|--------------|-----------|
|--------------|-----------|

## SECTION 15 Regulatory information

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

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.

#### Information according to 2012/18/EU (Seveso III):

|                 |    |
|-----------------|----|
| Seveso Category | E1 |
|-----------------|----|

### 15.2. Chemical safety assessment

For further information please look at the Chemical Safety Assessment and Exposure Scenarios prepared by your Supply Chain if available.

## ECHA SUMMARY

Not Applicable

### National Inventory Status

| National Inventory                              | Status        |
|---|---------------|
| Australia - AIIC / Australia Non-Industrial Use | Not Available |
| Canada - DSL                                    | Not Available |
| Canada - NDSL                                   | Not Available |
| China - IECSC                                   | Not Available |
| Europe - EINEC / ELINCS / NLP                   | Not Available |
| Japan - ENCS                                    | Not Available |

| National Inventory  | Status  |
|---------------------|---|
| Korea - KECI        | Not Available   |
| New Zealand - NZIoC | Not Available   |
| Philippines - PICCS | Not Available   |
| USA - TSCA          | Not Available   |
| Taiwan - TCSI       | Not Available   |
| Mexico - INSQ       | Not Available   |
| Vietnam - NCI       | Not Available   |
| Russia - FBEPH      | Not Available   |
| <b>Legend:</b>      | <i>Yes = All CAS declared ingredients are on the inventory<br/>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</i> |

## SECTION 16 Other information

|                      |            |
|----------------------|------------|
| <b>Revision Date</b> | 16/09/2022 |
| <b>Initial Date</b>  | 16/09/2022 |

## 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
- AIIC: 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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