1 Identification of the substances/ mixture and of the company/ undertaking

1.1 Product Identifiers

Product Number: GRM1410
Product Name: Silver (I) oxide, Hi-LR™
CAS No.: 20667-12-3
EC No.: 243-957-1

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

1.2.1 Relevant identified uses
Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Produced by: HiMedia Laboratories Private Limited
Address: 23, Vadhani Industrial Estate, LBS Marg, Ghatkopar (W), Mumbai - 400 086 India
Tel. No.: +91-22-2500 0970, +91-22-2500 1607
Fax No.: +91-22-25002468
Mail Id: info@himedialabs.com
Website: www.himedialabs.com

1.4 Emergency Tel. No.
Emergency Tel. No.: Please contact the regional HiMedia representation in your country

2 Hazards Identification

2.1 Classification of the substance or mixture

CLP Classification-Regulation (EC) No. 1272/2008 [EU-GHS/CLP]

Oxidising solids, (Category 1), H271
Serious eye damage or eye irritation, (Category 1), H318
Hazardous to the aquatic environment, long term hazard, (Category 1), H410

2.2 Label elements

Labeling according to Regulation (EC) No.1272/2008

Pictogram
Signal word: Danger
Hazard Statement(s)
H271 May cause fire or explosion; strong oxidiser
H318 Causes serious eye damage
H410 Very toxic to aquatic life with long lasting effects
Precautionary Statement(s)
P220 Keep/Store away from clothing/combustible materials.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 Dispose of contents/container to an approved waste disposal plant.

2.3 Other Hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

3 Composition/Information On Ingredients

3.1 Substances
Molecular Formula :  Ag₂O  
Molecular Weight :   231.74  
CAS No. :    20667-12-3   
EC No. :    243-957-1   

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver (I) oxide, Hi-LR™</td>
<td>As Per EC Regulation 1272/2008</td>
<td>100%</td>
</tr>
<tr>
<td>CAS No. : 20667-12-3</td>
<td>Ox. Liq. 1; Eye Dam. 1; Aquatic Chronic 1</td>
<td></td>
</tr>
<tr>
<td>EC No. : 243-957-1</td>
<td>H271; H318; H410</td>
<td></td>
</tr>
</tbody>
</table>

For the full text of the H-Statements and classification mentioned in this Section, see Section 16.

4 First Aid Measures
4.1 Description of first aid measures
General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Take off contaminated clothing and shoes immediately. Wash with plenty of soap and water. Take victim immediately to hospital. Consult a physician.

In case of eye contact
Rinse immediately with plenty of water for at least 15 minutes. Consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

4.3 Indication of immediate medical attention and special treatment needed
No data available
5 Fire Fighting Measures
5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media
No data available.

5.2 Special hazards arising from the substance or mixture
Silver/silver oxides

5.3 Precautions for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary

5.4 Further information
No data available

6 Accidental Release Measures
6.1 Personal precautions, protective equipment and emergency procedures
Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see Section 13.

7 Handling and Storage
7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of heat and ignition - No smoking. For precautions see section 2.2

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
Recommended Storage Temperature : Below 30°C

7.3 Specific end uses
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8 Exposure Controls/Personal Protection
8.1 Control parameters
Components with workplace control parameters

8.2 Exposure controls

**Appropriate engineering controls**
Handle in accordance to general industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**Personal protective equipment**

**Hygiene measure**
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with the product.

**Eye/face protection**
Faceshield and safety goggles.

**Skin protection**
Handle with gloves.

**Body protection**
Complete suit protecting against chemicals.

**Respiratory protection**
Air-purifying respirators.

**Environment exposure controls**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

**Appearance**
Brownish black or grey or black powder or chunks

Odour
No data available

Odour Threshold
No data available

pH
No data available

Melting/freezing point
No data available

Initial boiling point and boiling range
No data available

Flash point
No data available

Upper/lower flammability or explosive limits
No data available

Evaporation rate
No data available

Flammability (Solid, gas)
No data available

Vapour pressure
No data available

Relative density
No data available

Water Solubility
No data available

Partition coefficient: n-octanol/water
No data available

Autoignition Temperature
No data available

Decomposition Temperature
No data available

Viscosity
No data available

Explosive properties
No data available

Oxidizing properties
No data available

Vapour density
No data available

Thermal decomposition
No data available

9.2 Other safety information
No data available
10 Stability and Reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
Incompatible material

10.5 Incompatible materials
Strong oxidizing agents, Strong acids

10.6 Hazardous decomposition products
Other decomposition products - refer section 5.2.
In the event of fire - refer section 5.

11 Toxicological Information

11.1 Information on toxicological effects

Acute toxicity
No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitisation
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
No data available

Specific target organ toxicity- single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
RTECS : VW4900000

12 Ecological Information
12.1 Toxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 PBT and vPvB assessment
PBT and vPvB assessment not available Chemical safety assessment is not required

12.6 Other adverse effects
Discharge into the environment must be avoided.

13 Disposal Considerations
13.1 Waste treatments methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustive solvent and burn in chemical incinerator equipped with an afterburner and scrubber.

13.2 Contaminated packaging
Dispose of as unused product.

14 Transport Information
14.1 UN-No

14.2 UN proper shipping name
ADNR : Oxidizing solid, n.o.s. (Silver (I) oxide)
ADR : Oxidizing solid, n.o.s. (Silver (I) oxide)
IATA_C : Oxidizing solid, n.o.s. (Silver (I) oxide)
IATA_P : Oxidizing solid, n.o.s. (Silver (I) oxide)
IMDG : Oxidizing solid, n.o.s. (Silver (I) oxide)
RID : Oxidizing solid, n.o.s. (Silver (I) oxide)

14.3 Transport hazard class(es)
ADNR : 5.1 ADR : 5.1 IATA_C : 5.1 IATA_P : 5.1 IMDG : 5.1 RID : 5.1

14.4 Packaging group

14.5 Environmental hazards
ADNR : No ADR : No IMDG : Marine Pollutant : Yes IATA_C : No IATA_P : No RID : No

14.6 Special precautions for use
No data available
15 Regulatory Information
This safety datasheet complies with the requirements of Regulation(EC) No. 1907/2006.

15.1 Safety health and environment regulations/legislation specific for the substance or mixture
No data available

15.2 Chemical Safety Assessment
No data available

16 Other information
Text of H-Statements and EUH-Phrases mentioned in section 3
H271      May cause fire or explosion; strong oxidiser
H318      Causes serious eye damage
H410      Very toxic to aquatic life with long lasting effects
Ox. Liq. 1 Oxidising liquids, Category 1
Eye Dam. 1 Serious eye damage or eye irritation, Category 1
Aquatic Chronic 1 Hazardous to the aquatic environment, long term hazard, Category 1

Further Information

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The information given in this safety data sheet is believed to be correct yet does not claim to be all inclusive. This document is intended only as a guide for appropriate precautionary handling of the material by properly trained individuals, information here being commensurate with the present state of our knowledge regarding the manner and conditions of use, handling, storage or disposal. The information provided herein shall not be considered as guarantee of the properties of the product. HiMedia Laboratories, shall not be held liable for any damage resulting from improper handling or contact with the above product. Unless explicitly stated on the product or in any of the documentation accompanying the product, it is intended for research or testing purpose only and is not to be used for any other purpose.