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

1.1 Product Identifiers

Product Number: GRM3837
Product Name: Zirconium (IV) oxychloride octahydrate, Hi-AR™/ACS
CAS No.: 13520-92-8
EC No.: 231-717-9

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, Vadhaní 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]
Skin corrosion or irritation, (Category 1B), H314

2.2 Label elements

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

Pictogram
Signal word: Danger

Hazard Statement(s)

H314 Causes severe skin burns and eye damage

Precautionary Statement(s)

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.

P310 Immediately call a POISON CENTER or doctor/physician.

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: ZrOCl₂·8H₂O
Molecular Weight: 322.25
CAS No.: 13520-92-8
EC No.: 231-717-9

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zirconium (IV) oxychloride octahydrate, Hi-AR™/ACS</td>
<td>As Per EC Regulation 1272/2008</td>
<td>100%</td>
</tr>
<tr>
<td>CAS No.: 13520-92-8</td>
<td>Skin Corr. 1B H314</td>
<td></td>
</tr>
<tr>
<td>EC No.: 231-717-9</td>
<td></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
Wash with plenty of soap and water. 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
Hydrogen chloride gas, Zirconium 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. 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White to light yellow hygroscopic crystals or powder</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (Solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
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</tr>
<tr>
<td>Water Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Thermal decomposition</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2 Other safety information

No data available

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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
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 : ZH7250000

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
ADNR : 3260  ADR : 3260  IATA_C : 3260  IATA_P : 3260  IMDG : 3260  RID : 3260

14.2  UN proper shipping name
ADNR  : Corrosive solid, acidic, inorganic, n.o.s.
ADR   : Corrosive solid, acidic, inorganic, n.o.s.
IATA_C: Corrosive solid, acidic, inorganic, n.o.s.
IATA_P: Corrosive solid, acidic, inorganic, n.o.s.
IMDG  : Corrosive solid, acidic, inorganic, n.o.s.
RID   : Corrosive solid, acidic, inorganic, n.o.s.

14.3  Transport hazard class(es)
ADNR : 8  ADR : 8  IATA_C : 8  IATA_P : 8  IMDG : 8  RID : 8

14.4  Packaging group
ADNR : II  ADR : II  IATA_C : II  IATA_P : II  IMDG : II  RID : II

14.5  Environmental hazards
ADNR : No  ADR : No  IMDG : Marine Pollutant : No  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
H314 Causes severe skin burns and eye damage
Skin Corr. 1B  Skin corrosion or irritation, Category 1B

Further Information

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