MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC no</td>
<td>205-623-3</td>
</tr>
<tr>
<td>CAS No</td>
<td>144-33-2</td>
</tr>
<tr>
<td>Product code</td>
<td>05896</td>
</tr>
<tr>
<td>Chemical structure</td>
<td></td>
</tr>
</tbody>
</table>

Synonyms: Sodium citrate dibasic sesquihydrate / Citric acid disodium salt

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

1.2.1. Relevant identified uses

Use of the substance/mixture: Laboratory chemicals, Manufacture of substances

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

LOBA CHEMIE PVT.LTD.
107 Wode House Road, Jehangir Villa, Colaba
400005 Mumbai - INDIA
T +91 22 6663 6663 - F +91 22 6663 6699
info@lobachemie.com - www.lobachemie.com

1.4. Emergency telephone number

Emergency number: +91 22 6663 6663 (9:00am - 6:00 pm)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Not classified

Classification according to Directive 67/548/EEC or 1999/45/EC
Not classified
Adverse physicochemical, human health and environmental effects
No additional information available

2.2. Label elements
Labelling according to Regulation (EC) No. 1272/2008 [CLP]
No labelling applicable

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance
Name: di-SODIUM HYDROGEN CITRATE SESQUIHYDRATE Extra Pure
CAS No: 144-33-2
EC no: 205-623-3

Full text of R- and H-phrases: see section 16

3.2. Mixture
Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures
First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. If you feel unwell, seek medical advice.
First-aid measures after skin contact: Gently wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion: Rinse mouth out with water. If you feel unwell, seek medical advice.

4.2. Most important symptoms and effects, both acute and delayed
No additional information available

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

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media: dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2).
Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture
No additional information available
5.3. Advice for firefighters
Protection during firefighting: Do not attempt to take action without suitable protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
6.1.1. For non-emergency personnel
Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders
Protective equipment: Use personal protective equipment as required.
Emergency procedures: Stop release.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up: Clear up rapidly by scoop or vacuum.

6.4. Reference to other sections
No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Do not get in eyes, on skin, or on clothing.
Hygiene measures: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Store in original container. Store in a dry place. Protect from moisture.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No additional information available

8.2. Exposure controls
Hand protection: protective gloves
Eye protection: Chemical goggles or safety glasses
Skin and body protection: Wear suitable protective clothing
Respiratory protection: Wear respiratory protection

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state: Solid
Molecular mass: 263.11 g/mol
### Colour
White crystalline.

### Odour
odourless.

### Odour threshold
No data available

### pH
4.5 - 5.5 at 263.1 g/l at 25 °C

### Relative evaporation rate (butylacetate=1)
No data available

### Melting point
149 °C

### Freezing point
No data available

### Boiling point
No data available

### Flash point
No data available

### Auto-ignition temperature
No data available

### Decomposition temperature
No data available

### Flammability (solid, gas)
No data available

### Vapour pressure
No data available

### Relative vapour density at 20 °C
No data available

### Relative density
No data available

### Solubility
Water: 263.1 g/l at 20 °C

### Log Pow
No data available

### Viscosity, kinematic
No data available

### Viscosity, dynamic
No data available

### Explosive properties
No data available

### Oxidising properties
No data available

### Explosive limits
No data available

### Other information
No additional information available

### Stability and reactivity

#### Reactivity
No additional information available

#### Chemical stability
Stable under normal conditions.

#### Possibility of hazardous reactions
No additional information available

#### Conditions to avoid
Direct sunlight. Air contact. Moisture.

#### Incompatible materials
No additional information available
### 10.6. Hazardous decomposition products
No additional information available

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Type of Effect</th>
<th>Classification</th>
<th>pH: 4.5 - 5.5 at 263.1 g/l at 25 °C</th>
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</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
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<td></td>
</tr>
<tr>
<td>Carcinogenicity</td>
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<td></td>
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<tr>
<td>Reproductive toxicity</td>
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<td></td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
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<td></td>
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<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
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<tr>
<td>Aspiration hazard</td>
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</tbody>
</table>

### SECTION 12: Ecological information

#### 12.1. Toxicity
No additional information available

#### 12.2. Persistence and degradability
No additional information available

#### 12.3. Bioaccumulative potential
No additional information available

#### 12.4. Mobility in soil
No additional information available

#### 12.5. Results of PBT and vPvB assessment
No additional information available
12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
No additional information available

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

<table>
<thead>
<tr>
<th>14.1. UN number</th>
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</thead>
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<td>UN-No. (ADR)</td>
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<tr>
<td>UN-No. (IMDG)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>UN-No. (IATA)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>UN-No. (ADN)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>UN-No. (RID)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.2. UN proper shipping name</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name (ADR)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Proper Shipping Name (IMDG)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Proper Shipping Name (IATA)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Proper Shipping Name (ADN)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Proper Shipping Name (RID)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.3. Transport hazard class(es)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.4. Packing group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing group (ADR)</td>
</tr>
<tr>
<td>Packing group (IMDG)</td>
</tr>
<tr>
<td>Packing group (IATA)</td>
</tr>
<tr>
<td>Packing group (ADN)</td>
</tr>
<tr>
<td>Packing group (RID)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.5. Environmental hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dangerous for the environment</td>
</tr>
<tr>
<td>Marine pollutant</td>
</tr>
<tr>
<td>Other information</td>
</tr>
</tbody>
</table>
14.6. Special precautions for user

- Overland transport
  No data available
- Transport by sea
  No data available
- Air transport
  No data available
- Inland waterway transport
  No data available
- Rail transport
  No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions
di-SODIUM HYDROGEN CITRATE SESQUIHYDRATE Extra Pure is not on the REACH Candidate List
di-SODIUM HYDROGEN CITRATE SESQUIHYDRATE Extra Pure is not on the REACH Annex XIV List

15.1.2. National regulations

Germany
12th Ordinance Implementing the Federal Immission Control Act - 12.BlmSchV
Is not subject of the 12. BlmSchV (Hazardous Incident Ordinance)

15.2. Chemical safety assessment
No additional information available

SECTION 16: Other information
This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.