AMMONIA SOLUTION 25% AR MSDS

MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier
Product form: Mixture
EC Index-No.: 007-001-01-2
EC-No.: 215-647-6
CAS-No.: 1336-21-6
Product code: 00027

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

1.2.1. Relevant identified uses
Industrial/Professional use spec: Industrial
For professional use only

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]

Acute toxicity (oral), Category 4: H302
Skin corrosion/irritation, Category 1B: H314
Specific target organ toxicity — Single exposure, Category 3: H335
Respiratory tract irritation: Hazardous to the aquatic environment — Acute Hazard, Category 1: H400

Full text of H statements: see section 16
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Adverse physicochemical, human health and environmental effects
No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]
Hazard pictograms (CLP): GHS05 GHS07 GHS09

Signal word (CLP): Danger
Hazardous ingredients: WATER AR
Hazard statements (CLP):
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H335 - May cause respiratory irritation.
H400 - Very toxic to aquatic life.

Precautionary statements (CLP):
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATER AR</td>
<td>(CAS-No.) 7732-18-5 (EC-No.) 231-791-2</td>
<td>75</td>
<td>Not classified</td>
</tr>
<tr>
<td>Ammonia</td>
<td></td>
<td>25</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
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. Immediately call a POISON CENTER/doctor.

First-aid measures after skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER/doctor.

First-aid measures after eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

First-aid measures after ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.

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

Symptoms/effects: Causes severe skin burns and eye damage.

Symptoms/effects after inhalation: May cause respiratory irritation.

Symptoms/effects after ingestion: Harmful if swallowed.

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: Collect spillage. On land, sweep or shovel into suitable containers. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

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 breathe dust/fume/gas/mist/vapours/spray.

Hygiene measures: Wash hands, forearms and face thoroughly after handling. Wash contaminated clothing before reuse.
7.2. Conditions for safe storage, including any incompatibilities
Technical measures: Comply with applicable regulations.
Storage conditions: Store in original container. Keep container tightly closed. Store in a dry place. Store in a well-ventilated place.

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 face shield
Skin and body protection: Wear suitable protective clothing
Respiratory protection: [In case of inadequate ventilation] wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state: Liquid
Molecular mass: 35.05 g/mol
Colour: Clear Colorless.
Odour: ammonia odour.
Odour threshold: No data available
pH: 11.7
Relative evaporation rate (butylacetate=1): No data available
Melting point: -60 °C
Freezing point: No data available
Boiling point: 38 - 100
Flash point: No data available
Auto-ignition temperature: 6510 °C
Decomposition temperature: No data available
Flammability (solid, gas): No data available
Vapour pressure: 153 hPa at 20 °C
Relative vapour density at 20 °C: 1.21
Relative density: No data available
**AMMONIA SOLUTION 25% AR**  
Safety Data Sheet

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>0.9 g/cm³</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water: Infinitely soluble</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>0.16 - 0.27 vol %</td>
</tr>
</tbody>
</table>

**9.2. Other information**  
No additional information available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**  
No additional information available

**10.2. Chemical stability**  
Stable under normal conditions.

**10.3. Possibility of hazardous reactions**  
No additional information available

**10.4. Conditions to avoid**  
Direct sunlight. Overheating.

**10.5. Incompatible materials**  
No additional information available

**10.6. Hazardous decomposition products**  
Thermal decomposition generates: Corrosive vapours.

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

<table>
<thead>
<tr>
<th>Acute toxicity</th>
<th>Oral: Harmful if swallowed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE CLP (oral)</td>
<td>500 mg/kg bodyweight</td>
</tr>
</tbody>
</table>

| Skin corrosion/irritation       | Causes severe skin burns and eye damage.   |
|                                 | pH: 11.7                                   |
| Serious eye damage/irritation   | Serious eye damage, category 1, implicit   |
|                                 | pH: 11.7                                   |
| Respiratory or skin sensitisation | Not classified                          |
| Germ cell mutagenicity          | Not classified                            |
| Carcinogenicity                 | Not classified                            |

| Reproductive toxicity          | Not classified                            |
| STOT-single exposure           | May cause respiratory irritation.          |

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity
Ecology - water : Very toxic to aquatic life.

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
Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

SECTION 14: Transport information
In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number
UN-No. (ADR) : 2672
UN-No. (IMDG) : 2672
UN-No. (IATA) : 2672
UN-No. (ADN) : 2672
UN-No. (RID) : 2672

14.2. UN proper shipping name
Proper Shipping Name (ADR) : AMMONIA SOLUTION
Proper Shipping Name (IMDG) : AMMONIA SOLUTION
Proper Shipping Name (IATA) : Ammonia solution
Proper Shipping Name (ADN) : AMMONIA SOLUTION
<table>
<thead>
<tr>
<th>Proper Shipping Name (RID)</th>
<th>AMMONIA SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport document description (ADR)</td>
<td>UN 2672 AMMONIA SOLUTION, 8, III, (E), ENVIRONMENTALLY HAZARDOUS</td>
</tr>
<tr>
<td>Transport document description (IMDG)</td>
<td>UN 2672 AMMONIA SOLUTION, 8, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS</td>
</tr>
<tr>
<td>Transport document description (IATA)</td>
<td>UN 2672 Ammonia solution, 8, III, ENVIRONMENTALLY HAZARDOUS</td>
</tr>
<tr>
<td>Transport document description (ADN)</td>
<td>UN 2672 AMMONIA SOLUTION, 8, III, ENVIRONMENTALLY HAZARDOUS</td>
</tr>
<tr>
<td>Transport document description (RID)</td>
<td>UN 2672 AMMONIA SOLUTION, 8, III, ENVIRONMENTALLY HAZARDOUS</td>
</tr>
</tbody>
</table>

### 14.3. Transport hazard class(es)

#### ADR
- Transport hazard class(es) (ADR): 8
- Danger labels (ADR): ![Danger Label](image)

#### IMDG
- Transport hazard class(es) (IMDG): 8
- Danger labels (IMDG): ![Danger Label](image)

#### IATA
- Transport hazard class(es) (IATA): 8
- Hazard labels (IATA): ![Hazard Label](image)

#### ADN
- Transport hazard class(es) (ADN): 8
- Danger labels (ADN): ![Danger Label](image)

#### RID
- Transport hazard class(es) (RID): 8
- Danger labels (RID): ![Danger Label](image)
14.4. Packing group

- Packing group (ADR): III
- Packing group (IMDG): III
- Packing group (IATA): III
- Packing group (ADN): III
- Packing group (RID): III

14.5. Environmental hazards

- Dangerous for the environment: Yes
- Marine pollutant: Yes
- Other information: No supplementary information available

14.6. Special precautions for user

- **Overland transport**
  - Classification code (ADR): C5
  - Special provisions (ADR): 543
  - Limited quantities (ADR): 5 l
  - Excepted quantities (ADR): E1
  - Packing instructions (ADR): P001, IBC03, LP01, R001
  - Portable tank and bulk container instructions (ADR): T7
  - Portable tank and bulk container special provisions (ADR): TP1
  - Tank code (ADR): L4BN
  - Vehicle for tank carriage: AT
  - Transport category (ADR): 3
  - Special provisions for carriage - Packages (ADR): V12
  - Hazard identification number (Kemler No.): 80
  - Orange plates: 80 2672
- Tunnel restriction code (ADR): E
- EAC code: 2R

- **Transport by sea**
  - Limited quantities (IMDG): 5 L
  - Excepted quantities (IMDG): E1
  - Packing instructions (IMDG): P001, LP01
  - IBC packing instructions (IMDG): IBC03
  - IBC special provisions (IMDG): B11
  - Tank instructions (IMDG): T7
  - Tank special provisions (IMDG): TP1
  - EmS-No. (Fire): F-A
  - EmS-No. (Spillage): S-B
  - Stowage category (IMDG): A
  - Stowage and handling (IMDG): SW2, SW5
  - Segregation (IMDG): SG35
  - MFAG-No: 154
### AMMONIA SOLUTION 25% AR

**Safety Data Sheet**

- **Air transport**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCA Excepted quantities (IATA)</td>
<td>E1</td>
</tr>
<tr>
<td>PCA Limited quantities (IATA)</td>
<td>Y841</td>
</tr>
<tr>
<td>PCA limited quantity max net quantity (IATA)</td>
<td>1L</td>
</tr>
<tr>
<td>PCA packing instructions (IATA)</td>
<td>852</td>
</tr>
<tr>
<td>PCA max net quantity (IATA)</td>
<td>5L</td>
</tr>
<tr>
<td>CAO packing instructions (IATA)</td>
<td>856</td>
</tr>
<tr>
<td>CAO max net quantity (IATA)</td>
<td>60L</td>
</tr>
<tr>
<td>Special provisions (IATA)</td>
<td>A64</td>
</tr>
<tr>
<td>ERG code (IATA)</td>
<td>8L</td>
</tr>
</tbody>
</table>

- **Inland waterway transport**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification code (ADN)</td>
<td>C5</td>
</tr>
<tr>
<td>Special provisions (ADN)</td>
<td>543</td>
</tr>
<tr>
<td>Limited quantities (ADN)</td>
<td>5 L</td>
</tr>
<tr>
<td>Excepted quantities (ADN)</td>
<td>E1</td>
</tr>
<tr>
<td>Carriage permitted (ADN)</td>
<td>T</td>
</tr>
<tr>
<td>Equipment required (ADN)</td>
<td>PP, EP</td>
</tr>
<tr>
<td>Number of blue cones/lights (ADN)</td>
<td>0</td>
</tr>
</tbody>
</table>

- **Rail transport**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification code (RID)</td>
<td>C5</td>
</tr>
<tr>
<td>Special provisions (RID)</td>
<td>543</td>
</tr>
<tr>
<td>Limited quantities (RID)</td>
<td>5 L</td>
</tr>
<tr>
<td>Excepted quantities (RID)</td>
<td>E1</td>
</tr>
<tr>
<td>Packing instructions (RID)</td>
<td>P001, IBC03, LP01, R001</td>
</tr>
<tr>
<td>Mixed packing provisions (RID)</td>
<td>MP19</td>
</tr>
<tr>
<td>Portable tank and bulk container instructions (RID)</td>
<td>T7</td>
</tr>
<tr>
<td>Portable tank and bulk container special provisions (RID)</td>
<td>TP1</td>
</tr>
<tr>
<td>Tank codes for RID tanks (RID)</td>
<td>L4BN</td>
</tr>
<tr>
<td>Transport category (RID)</td>
<td>3</td>
</tr>
<tr>
<td>Special provisions for carriage – Packages (RID)</td>
<td>W12</td>
</tr>
<tr>
<td>Colis express (express parcels) (RID)</td>
<td>CE8</td>
</tr>
<tr>
<td>Hazard identification number (RID)</td>
<td>80</td>
</tr>
</tbody>
</table>

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**

Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances
**15.1.2. National regulations**

**Germany**
Reference to AwSV: Water hazard class (WGK) 2, Significantly hazardous to water (Classification according to AwSV, Annex 1)

**Netherlands**
SZW-lijst van kankerverwekkende stoffen: None of the components are listed
SZW-lijst van mutagene stoffen: None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding: None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid: None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling: None of the components are listed

**Denmark**
Recommendations Danish Regulation: Young people below the age of 18 years are not allowed to use the product

**15.2. Chemical safety assessment**
No additional information available

**SECTION 16: Other information**

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 4 (Oral)</td>
<td>Acute toxicity (oral), Category 4</td>
</tr>
<tr>
<td>Aquatic Acute 1</td>
<td>Hazardous to the aquatic environment — Acute Hazard, Category 1</td>
</tr>
<tr>
<td>Skin Corr. 1B</td>
<td>Skin corrosion/irritation, Category 1B</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life.</td>
</tr>
</tbody>
</table>

*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.*