MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier

Product form : Mixture
CAS-No. : 123-41-1
Product code : 02805

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]

Skin corrosion/irritation, Category 1
H314

Full text of H statements : see section 16

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

Signal word (CLP) : Danger
Hazard statements (CLP) : H314 - Causes severe skin burns and eye damage.
Precautionary statements (CLP) : 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/doctor

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

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<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
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<tr>
<td>WATER AR</td>
<td>(CAS-No.) 7732-18-5 (EC-No.) 231-791-2</td>
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<tr>
<td>Choline Hydroxide</td>
<td></td>
<td>45</td>
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</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. If experiencing respiratory symptoms: Call a poison center or a doctor.
First-aid measures after skin contact : Wash skin with plenty of 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. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : Rinse mouth out with water.
### 4.2. Most important symptoms and effects, both acute and delayed

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

### 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, CO2, dry sand, or alcohol-resistant foam.

**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**: Avoid contact with skin, eyes and clothing.

**6.1.2. For emergency responders**

**Protective equipment**: Use personal protective equipment as required.

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

**Methods for cleaning up**: Clean contaminated surfaces with an excess of water.

#### 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**: Avoid contact with skin and eyes.

**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 a well-ventilated place. Keep container tightly closed.

#### 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: Liquid
Molecular mass: 121.18 g/mol
Colour: Colorless viscous.
Odour: No data available
Odour threshold: No data available
pH: No data available
Relative evaporation rate (butylacetate=1): No data available
Melting point: No data available
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: No data available
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

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.

10.5. 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
Acute toxicity : Not classified

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

Reproductive toxicity : Not classified
STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

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

14.1. UN number
UN-No. (ADR)  : 3267
UN-No. (IMDG)  : 3267
UN-No. (IATA)  : 3267
UN-No. (ADN)  : 3267
UN-No. (RID)  : 3267

14.2. UN proper shipping name
Proper Shipping Name (ADR)  : CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.
Proper Shipping Name (IMDG)  : CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.
Proper Shipping Name (IATA)  : Corrosive liquid, basic, organic, n.o.s.
Proper Shipping Name (ADN)  : CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.
Proper Shipping Name (RID)  : CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.
Transport document description (ADR)  : UN 3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S., 8, II, (E)
Transport document description (IMDG)  : UN 3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S., 8, II
Transport document description (IATA)  : UN 3267 Corrosive liquid, basic, organic, n.o.s., 8, II
Transport document description (ADN)  : UN 3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S., 8, II
Transport document description (RID)  : UN 3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S., 8, II

14.3. Transport hazard class(es)

ADR
Transport hazard class(es) (ADR)  : 8
Danger labels (ADR)  : 8
# CHOLINE HYDROXIDE, 45 WT.% AQUEOUS SOLUTION, PURE, STABILIZED
Safety Data Sheet

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## 14.4. Packing group

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<td>: II</td>
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<tr>
<td>Packing group (RID)</td>
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</tbody>
</table>

## 14.5. Environmental hazards

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

## 14.6. Special precautions for user

- **Overland transport**
  - Classification code (ADR) : C7
CHOLINE HYDROXIDE, 45 WT.% AQUEOUS SOLUTION, PURE, STABILIZED
Safety Data Sheet

Special provisions (ADR) : 274
Limited quantities (ADR) : 1l
Excepted quantities (ADR) : E2
Packing instructions (ADR) : P001, IBC02
Mixed packing provisions (ADR) : MP15
Portable tank and bulk container instructions (ADR) : T11
Portable tank and bulk container special provisions (ADR) : TP2, TP27
Tank code (ADR) : L4BN
Vehicle for tank carriage : AT
Transport category (ADR) : 2
Hazard identification number (Kemler No.) : 80
Orange plates : 80

Tunnel restriction code (ADR) : E
EAC code : 2X
APP code : B

- Transport by sea
Special provisions (IMDG) : 274
Packing instructions (IMDG) : P001
IBC packing instructions (IMDG) : IBC02
Tank instructions (IMDG) : T11
Tank special provisions (IMDG) : TP2, TP27
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-B
Stowage category (IMDG) : B
Stowage and handling (IMDG) : SW2
Segregation (IMDG) : SG35
Properties and observations (IMDG) : Reacts violently with acids. Causes burns to skin, eyes and mucous membranes.

- Air transport
PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Y840
PCA limited quantity max net quantity (IATA) : 0.5L
PCA packing instructions (IATA) : 851
PCA max net quantity (IATA) : 1L
CAO packing instructions (IATA) : 855
CAO max net quantity (IATA) : 30L
Special provisions (IATA) : A3, A803
ERG code (IATA) : 8L

- Inland waterway transport
Classification code (ADN) : C7
Special provisions (ADN) : 274
Limited quantities (ADN) : 1 L
Excepted quantities (ADN) : E2
Carriage permitted (ADN) : T
Equipment required (ADN) : PP, EP
Number of blue cones/lights (ADN) : 0
CHOLINE HYDROXIDE, 45 WT.% AQUEOUS SOLUTION, PURE, STABILIZED
Safety Data Sheet

- Rail transport
Classification code (RID) : C7
Special provisions (RID) : 274
Limited quantities (RID) : 1L
Excepted quantities (RID) : E2
Packing instructions (RID) : P001, IBC02
Mixed packing provisions (RID) : MP15
Portable tank and bulk container instructions (RID) : T11
Portable tank and bulk container special provisions (RID) : TP2, TP27
Tank codes for RID tanks (RID) : L4BN
Transport category (RID) : 2
Colis express (express parcels) (RID) : CE6
Hazard identification number (RID) : 80

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

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:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Skin Corr. 1</td>
<td>Skin corrosion/irritation, Category 1</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</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.