MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier

Product form : Substance

CAS-No. : 98-29-3

Product code : 02383

Chemical structure:

```
H3C       OH
H3C       H
       CH3
```

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]

Acute toxicity (oral), Category 4 : H302
Acute toxicity (dermal), Category 3 : H311
Skin corrosion/irritation, Category 1B : H314
Skin sensitisation, Category 1 : H317
Hazardous to the aquatic environment — Chronic Hazard, Category 2 : H411

Full text of H statements : see section 16
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Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]
Xn; R21
Xn; R22
C; R34
R43
N; R51/53
Full text of R-phrases: 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 | GHS06 | GHS09 |

Signal word (CLP): Danger

Hazard statements (CLP):
- H302 - Harmful if swallowed.
- H311 - Toxic in contact with skin.
- H314 - Causes severe skin burns and eye damage.
- H317 - May cause an allergic skin reaction.
- H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements (CLP):
- 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.
- P310 - Immediately call a POISON CENTER or doctor.

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Name</th>
<th>4-tert-BUTYL CATECHOL Extra pure</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No.</td>
<td>98-29-3</td>
</tr>
</tbody>
</table>

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

3.2. Mixtures

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. Immediately call a POISON CENTER/doctor.
- First-aid measures after skin contact: Wash with plenty of water/…. Wash contaminated clothing before reuse. Get medical advice/attention.
- 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 after inhalation: May cause an allergic skin reaction.
- Symptoms/effects after skin contact: Harmful in contact with skin.
- 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

- 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 enter fire area without proper protective equipment, including respiratory protection.

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: Ventilate area.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

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

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 vapours. Avoid contact with skin and eyes.
Hygiene measures: Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

**SECTION 7: Hygiene measures**

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 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: Solid  
Molecular mass: 166.22 g/mol  
Colour: Creamish yellow.  
Odour: No data available  
Odour threshold: No data available  
pH: No data available  
Relative evaporation rate (butylacetate=1): No data available  
Melting point: 52 - 55 °C  
Freezing point: No data available  
Boiling point: 285 °C  
Flash point: 113 °C  
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
: 2.38

### 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
Thermal decomposition generates: Corrosive vapours.

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

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

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

##### 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>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Oral: Harmful if swallowed. Dermal: Toxic in contact with skin.</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Serious eye damage, category 1, implicit</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

Reproductive toxicity: Not classified

STOT-single exposure: Not classified

STOT-repeated exposure: Not classified
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Aspiration hazard: Not classified

Potential adverse human health effects and symptoms: Harmful if swallowed. Harmful in contact with skin.

SECTION 12: Ecological information

12.1. Toxicity
Ecology - water: May cause long lasting harmful effects to aquatic life.

12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>4-tert-BUTYL CATECHOL Extra pure (98-29-3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Persistence and degradability</strong></td>
</tr>
<tr>
<td>May cause long-term adverse effects in the environment.</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>4-tert-BUTYL CATECHOL Extra pure (98-29-3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Log Pow</strong></td>
</tr>
<tr>
<td>2.38</td>
</tr>
</tbody>
</table>

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): 2923
UN-No. (IMDG): 2923
UN-No. (IATA): 2923
UN-No. (ADN): 2923
UN-No. (RID): 2923

14.2. UN proper shipping name

<table>
<thead>
<tr>
<th>Proper Shipping Name (ADR)</th>
<th>CORROSIVE SOLID, TOXIC, N.O.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name (IMDG)</td>
<td>CORROSIVE SOLID, TOXIC, N.O.S.</td>
</tr>
<tr>
<td>Proper Shipping Name (IATA)</td>
<td>Corrosive solid, toxic, n.o.s.</td>
</tr>
</tbody>
</table>
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Proper Shipping Name (ADN) : CORROSIVE SOLID, TOXIC, N.O.S.
Proper Shipping Name (RID) : CORROSIVE SOLID, TOXIC, N.O.S.
Transport document description (ADR) : UN 2923 CORROSIVE SOLID, TOXIC, N.O.S., 8 (6.1), III, (E), ENVIRONMENTALLY HAZARDOUS
Transport document description (IMDG) : UN 2923 CORROSIVE SOLID, TOXIC, N.O.S., 8 (6.1), III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Transport document description (IATA) : UN 2923 Corrosive solid, toxic, n.o.s., 8 (6.1), III, ENVIRONMENTALLY HAZARDOUS
Transport document description (ADN) : UN 2923 CORROSIVE SOLID, TOXIC, N.O.S., 8 (6.1), III, ENVIRONMENTALLY HAZARDOUS
Transport document description (RID) : UN 2923 CORROSIVE SOLID, TOXIC, N.O.S., 8 (6.1), III, ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)

ADR
Transport hazard class(es) (ADR) : 8 (6.1)
Danger labels (ADR) : 8, 6.1

IMDG
Transport hazard class(es) (IMDG) : 8 (6.1)
Danger labels (IMDG) : 8, 6.1

IATA
Transport hazard class(es) (IATA) : 8 (6.1)
Hazard labels (IATA) : 8, 6.1

ADN
Transport hazard class(es) (ADN) : 8 (6.1)
Danger labels (ADN) : 8, 6.1

RID
Transport hazard class(es) (RID) : 8 (6.1)
Danger labels (RID) : 8, 6.1
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): CT2
  - Special provisions (ADR): 274
  - Limited quantities (ADR): 5kg
  - Excepted quantities (ADR): E1
  - Packing instructions (ADR): P002, IBC08, R001
  - Special packing provisions (ADR): B3
  - Mixed packing provisions (ADR): MP10
  - Portable tank and bulk container instructions (ADR): T1
  - Portable tank and bulk container special provisions (ADR): TP33
  - Tank code (ADR): SGAV, L4BN
  - Vehicle for tank carriage: AT
  - Transport category (ADR): 3
  - Special provisions for carriage - Bulk (ADR): VC1, VC2, AP7
  - Special provisions for carriage - Loading, unloading and handling (ADR): CV13, CV28
  - Hazard identification number (Kemler No.): 86
  - Orange plates: 86
    - 2923
  - Tunnel restriction code (ADR): E
  - EAC code: 2X

- Transport by sea
  - Special provisions (IMDG): 223, 274
  - Packing instructions (IMDG): P002
  - IBC packing instructions (IMDG): IBC08
  - IBC special provisions (IMDG): B3
  - Tank instructions (IMDG): T1
  - Tank special provisions (IMDG): TP33
  - EmS-No. (Fire): F-A
  - EmS-No. (Spillage): S-B
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Stowage category (IMDG) : B
Stowage and handling (IMDG) : SW2
Properties and observations (IMDG) : Causes burns to skin, eyes and mucous membranes. Toxic if swallowed, by skin contact or by inhalation.

MFAG-No : 154

- Air transport
PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y845
PCA limited quantity max net quantity (IATA) : 5kg
PCA packing instructions (IATA) : 860
PCA max net quantity (IATA) : 25kg
CAO packing instructions (IATA) : 864
CAO max net quantity (IATA) : 100kg
Special provisions (IATA) : A3, A803
ERG code (IATA) : 8P

- Inland waterway transport
Classification code (ADN) : CT2
Special provisions (ADN) : 274, 802
Limited quantities (ADN) : 5 kg
Excepted quantities (ADN) : E1
Equipment required (ADN) : PP, EP
Number of blue cones/lights (ADN) : 0

- Rail transport
Classification code (RID) : CT2
Special provisions (RID) : 274
Excepted quantities (RID) : E1
Packing instructions (RID) : P002, IBC08, R001
Special packing provisions (RID) : B3
Mixed packing provisions (RID) : MP10
Portable tank and bulk container instructions (RID) : T1
Portable tank and bulk container special provisions (RID) : TP33
Tank codes for RID tanks (RID) : SGAV, L4BN
Transport category (RID) : 3
Special provisions for carriage – Bulk (RID) : VC1, VC2, AP7
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW28
Colis express (express parcels) (RID) : CE11
Hazard identification number (RID) : 86

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
4-tert-BUTYL CATECHOL Extra pure is not on the REACH Candidate List
4-tert-BUTYL CATECHOL Extra pure is not on the REACH Annex XIV List
15.1.2. National regulations

Germany
Reference to AwSV : Water hazard class (WGK) 3, severe hazard to water (Classification according to AwSV; ID No. 6463)
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 : The substance is not listed
SZW-lijst van mutagene stoffen : The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark
Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

15.2. Chemical safety assessment
No additional information available

SECTION 16: Other information

Full text of R-, H- and EUH-statements:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 3 (Dermal)</td>
<td>Acute toxicity (dermal), Category 3</td>
</tr>
<tr>
<td>Acute Tox. 4 (Oral)</td>
<td>Acute toxicity (oral), Category 4</td>
</tr>
<tr>
<td>Aquatic Chronic 2</td>
<td>Hazardous to the aquatic environment — Chronic Hazard, Category 2</td>
</tr>
<tr>
<td>Skin Corr. 1B</td>
<td>Skin corrosion/irritation, Category 1B</td>
</tr>
<tr>
<td>Skin Sens. 1</td>
<td>Skin sensitisation, Category 1</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H311</td>
<td>Toxic in contact with skin.</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H411</td>
<td>Toxic to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>R21</td>
<td>Harmful in contact with skin</td>
</tr>
<tr>
<td>R22</td>
<td>Harmful if swallowed</td>
</tr>
</tbody>
</table>
### 4-tert-BUTYL CATECHOL Extra pure
#### Safety Data Sheet

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R34</td>
<td>Causes burns</td>
</tr>
<tr>
<td>R43</td>
<td>May cause sensitisation by skin contact</td>
</tr>
<tr>
<td>R51/53</td>
<td>Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment</td>
</tr>
<tr>
<td>C</td>
<td>Corrosive</td>
</tr>
<tr>
<td>N</td>
<td>Dangerous for the environment</td>
</tr>
<tr>
<td>Xn</td>
<td>Harmful</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.*