1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product Name: 4-tert-Butylcatechol
Product Code: SC-254726

Recommended use of the chemical and restrictions on use
For research use only. Not intended for diagnostic or therapeutic use.

2. HAZARDS IDENTIFICATION

Classification
- Acute toxicity - Dermal: Category 3
- Serious eye damage/eye irritation: Category 1
- Skin sensitization: Category 1

Label elements
Signal word: Danger
Hazard statements:
- Toxic in contact with skin
- Causes serious eye damage
- May cause an allergic skin reaction

Precautionary Statements - Prevention
- Wear protective gloves/protective clothing/eye protection/face protection
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Contaminated work clothing should not be allowed out of the workplace

Precautionary Statements - Response
- IF exposed or concerned: Get medical advice/attention
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- Immediately call a POISON CENTER or doctor/physician
- IF ON SKIN: Wash with plenty of soap and water
- Call a POISON CENTER or doctor/physician if you feel unwell
- Remove/Take off immediately all contaminated clothing
- Wash contaminated clothing before reuse
- If skin irritation or rash occurs: Get medical advice/attention

Precautionary Statements - Storage
- Store locked up

Precautionary Statements - Disposal
- Dispose of contents/container to an approved waste disposal plant

Emergency telephone number
Chemtrec
1.800.424.9300 (Within USA)
+1.703.527.3887 (Outside USA)
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight %</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-tert-Butylcatechol</td>
<td>98-29-3</td>
<td>&gt;98</td>
<td>= 2820 mg/kg (Rat)</td>
<td>= 630 μL/kg (Rabbit)</td>
<td>-</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

First Aid Measures

General advice
Immediate medical attention is required.

Eye contact
Keep eye wide open while rinsing. Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Do not rub affected area.

Skin Contact
Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash off immediately with soap and plenty of water.

Inhalation
Remove to fresh air Call a physician or poison control center immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion
Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Remove from exposure, lie down. Clean mouth with water and drink afterwards plenty of water. Call a physician or poison control center immediately.

Self-protection of the first aider
Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms
No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians
Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
None.

Santa Cruz Biotechnology, Inc. www.scbt.com
Specific hazards arising from the chemical

Specific hazards arising from the chemical: The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire and/or explosion do not breathe fumes.

Hazardous combustion products: Carbon oxides.

Explosion data

Sensitivity to Mechanical Impact: No information available.

Sensitivity to Static Discharge: No information available.

Protective equipment and precautions for firefighters

Protective equipment and precautions for firefighters: Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions: Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.

Environmental precautions: Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up: Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Use personal protective equipment as required. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Avoid creating dust. Soak up with inert absorbent material. Dam up. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling: Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems.

Conditions for safe storage, including any incompatibilities


Incompatible materials: Incompatible with strong acids and bases. Incompatible with oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Control parameters
Exposure Guidelines
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls
Engineering Controls
Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment
Eye/face protection
Tight sealing safety goggles. Face protection shield.

Skin and Body Protection
Wear protective gloves and protective clothing.

Respiratory protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations
When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Take off all contaminated clothing and wash it before reuse. Wear suitable gloves and eye/face protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
</tr>
</thead>
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<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>52 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>285 °C</td>
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<tr>
<td>Flash point</td>
<td>113 °C CC (closed cup)</td>
</tr>
<tr>
<td>Density</td>
<td>1.05 g/cm³</td>
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<tr>
<td>Evaporation rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Upper flammability limits</td>
<td>No information available</td>
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<tr>
<td>Lower flammability limit</td>
<td>No information available</td>
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<tr>
<td>Vapor pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
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</tr>
<tr>
<td>Specific gravity</td>
<td>No information available</td>
</tr>
<tr>
<td>Water solubility</td>
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</tr>
<tr>
<td>Solubility in other solvents</td>
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</tr>
<tr>
<td>Partition coefficient</td>
<td>1.98</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>435 °C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

| Reactivity                    | Not applicable                |
| Chemical stability            | Stable under recommended storage conditions. |
| Possibility of Hazardous Reactions | None under normal processing. |
| Hazardous polymerization      | No information available.     |
| Conditions to avoid           | Exposure to air or moisture over prolonged periods. |
| Incompatible materials        | Incompatible with strong acids and bases. Incompatible with oxidizing agents. |
Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation: No data available.
Eye contact: No data available.
Skin Contact: No data available.
Ingestion: No data available.

Information on toxicological effects

Symptoms: No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity: Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Avoid repeated exposure. Possible risk of irreversible effects.

Numerical measures of toxicity - Product Information

Unknown acute toxicity: No information available
The following values are calculated based on chapter 3.1 of the GHS document

<table>
<thead>
<tr>
<th>Mode of Exposure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEmix (oral)</td>
<td>2820 mg/kg</td>
</tr>
<tr>
<td>ATEmix (dermal)</td>
<td>628 mg/kg</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

Ecotoxicity: May cause long lasting harmful effects to aquatic life

100% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Persistence and degradability: No information available.
Bioaccumulation: No information available.
Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal of wastes: Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging: Do not reuse container.
Other Information: Waste codes should be assigned by the user based on the application for which the product was used.
US EPA Waste Number: D002

14. TRANSPORT INFORMATION

DOT
UN/ID no: UN3261
### Hazard Class
8

### Packing Group
II

### Proper shipping name
Corrosive solid, acidic, organic, n.o.s.

### Description
UN3261, Corrosive solid, acidic, organic, n.o.s. (4-tert-Butylcatechol), 8, II

### Emergency Response Guide Number
154

### IMDG

<table>
<thead>
<tr>
<th>UN/ID no</th>
<th>UN3261</th>
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<tr>
<td>Hazard Class</td>
<td>8</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
</tr>
<tr>
<td>Proper shipping name</td>
<td>Corrosive solid, acidic, organic, n.o.s.</td>
</tr>
<tr>
<td>Description</td>
<td>UN3261, Corrosive solid, acidic, organic, n.o.s. (4-tert-Butylcatechol), 8, II</td>
</tr>
<tr>
<td>Special Provisions</td>
<td>274</td>
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<tr>
<td>EmS-No</td>
<td>F-A, S-B</td>
</tr>
</tbody>
</table>

### IATA

<table>
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<tr>
<th>UN/ID no</th>
<th>UN3261</th>
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<tbody>
<tr>
<td>Hazard Class</td>
<td>8</td>
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<td>Packing Group</td>
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</tr>
</tbody>
</table>

### 15. REGULATORY INFORMATION

#### International Inventories

All of the components in the product are on the following Inventory lists:

- TSCA (United States): Canada (DSL/NDSL)
- Europe (EINECS/ELINCS/NLP)
- Australia (AICS)
- South Korea (KECL)
- China (IECSC)
- ENCS (Japan)
- PICCS (Philippines)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDLS</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
<th>PICCS</th>
<th>AICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-tert-Butylcatechol</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>EINECS</td>
<td>ELINCS</td>
<td>ENCS</td>
<td>IECSC</td>
<td>KECL</td>
<td>PICCS</td>
<td>AICS</td>
</tr>
</tbody>
</table>

X - Listed

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

#### US Federal Regulations

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute health hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reactive hazard</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

#### US State Regulations
California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

16. OTHER INFORMATION

| Revision note | No information available |

Disclaimer
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet