SECTION 1: IDENTIFICATION

Product Name: TERT-BUTYLCATECHOL

CAS Number: 98-29-3

Chemical Formula: C10H14O2

Synonyms: 4-Tert-Butylcatechol; 1,2-Benzenediolic, 4-(1,1-dimethylethyl)-;
4-t-Butyl-1,2-benzenediolic; 4-t-Butylcatechol; p-t-Butylpyrocatechol; 4-t-Butylpyrocatechol;
4-t-Butylpyrokatexchin (Czech); Synox TBC; 4-TBC

Company
Silver Fern Chemical, Inc.
2226 Queen Anne Avenue North
Suite #C
Seattle WA 98109, USA

Business Contact
Customer Service: 206-282-3376
info@silverfernchemical.com

SECTION 2: HAZARD IDENTIFICATION

EMERGENCY OVERVIEW
Corrosive. Dangerous for the environment. Harmful in contact with skin and if swallowed. Causes burns. May cause sensitization by skin contact. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Readily absorbed through skin.

HMIS RATING
HEALTH: 3*
FLAMMABILITY: 1
REACTION: 1

NFPA RATING
HEALTH: 3
FLAMMABILITY: 1
REACTION: 1

*additional chronic hazards present.
SILVER FERN CHEMICAL

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For additional information on toxicity, please refer to Section 11.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS #</th>
<th>SARA 313</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-TERT-BUTYLCATECHOL</td>
<td>98-29-3</td>
<td>No</td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

ORAL EXPOSURE
If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

INHALATION EXPOSURE
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

SECTION 5: FIRE FIGHTING MEASURES

FLASH POINT
235 °F 113 °C Method: closed cup

AUTOIGNITION TEMP
N/A

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING
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Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area.
PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP
Sweep up, place in a bag and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

SECTION 7: HANDLING AND STORAGE

HANDLING
User Exposure: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE
Suitable: Keep tightly closed.

SPECIAL REQUIREMENTS
Hygroscopic.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

ENGINEERING CONTROLS
Safety shower and eye bath. Use only in a chemical fume hood.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand: Compatible chemical-resistant gloves.
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Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES
Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
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</thead>
<tbody>
<tr>
<td>Appearance Physical State</td>
<td>Solid</td>
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</tr>
<tr>
<td>Color</td>
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<tr>
<td>Molecular Weight</td>
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<tr>
<td>pH</td>
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<tr>
<td>BP/BP Range</td>
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<td>MP/MP Range</td>
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<td>Freezing Point</td>
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<td>Vapor Pressure</td>
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<tr>
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<td>Saturated Vapor Conc.</td>
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<td>SG/Density</td>
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<tr>
<td>Odor Threshold</td>
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<tr>
<td>Volatile%</td>
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<tr>
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<td></td>
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<tr>
<td>Water Content</td>
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<tr>
<td>Solvent Content</td>
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<td>Evaporation Rate</td>
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<td>Decomposition Temp.</td>
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<td>Explosion Limits</td>
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<tr>
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<td>Autoignition Temp</td>
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<td>Miscellaneous Data</td>
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<tr>
<td>Solubility</td>
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</tbody>
</table>

N/A = not available
SECTION 10: STABILITY AND REACTIVITY

STABILITY
Stable: Stable.
Conditions to Avoid: Moisture.
Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

ROUTE OF EXPOSURE
Skin Contact: Causes burns.
Skin Absorption: Harmful if absorbed through skin.
Eye Contact: Causes burns.
Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Ingestion: Harmful if swallowed.

SENSITIZATION
Skin: May cause allergic skin reaction.

SIGNS AND SYMPTOMS OF EXPOSURE
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.
Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.

TOXICITY DATA
Oral
Rat
815 mg/kg
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LD50

Oral
Rat
2820 mg/kg
LD50

Intravenous
Mouse
32 MG/KG
LD50

Skin
Rabbit
630 UL/KG
LD50

IRRITATION DATA
Skin
Rabbit
0.75 mg
24H
Remarks: Severe irritation effect

CHRONIC EXPOSURE - MUTAGEN
Species: Mouse
Dose: 80 UG/L
Cell Type: lymphocyte
Mutation test: Mutation in mammalian somatic cells.

SECTION 12: ECOLOGICAL INFORMATION

ACUTE ECOTOXICITY TESTS
Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 48 h
Value: 1.4 mg/l

ELIMINATION
Elimination: 24.7 %
Classification: Not significantly biodegradable.
SECTION 13: DISPOSAL CONSIDERATIONS

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

SECTION 14: TRANSPORT INFORMATION

DOT
Proper Shipping Name: Corrosive solids, toxic, n.o.s.
UN#: 2923
Class: 8
Packing Group: Packing Group III
Hazard Label: Corrosive
Hazard Label: Toxic substances.
PIH: Not PIH

IATA
Proper Shipping Name: Corrosive solid, toxic, n.o.s.
IATA UN Number: 2923
Hazard Class: 8
Packing Group: III

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15: REGULATORY INFORMATION

EU ADDITIONAL CLASSIFICATION
Symbol of Danger: C-N
Indication of Danger: Corrosive. Dangerous for the environment.
R: 21/22-34-43-51/53
Risk Statements: Harmful in contact with skin and if swallowed. Causes burns. May cause sensitization by skin contact. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S: 26-36/37/39-45-61
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear
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suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid release to the environment. Refer to special instructions/safety data sheets.

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Corrosive. Dangerous for the environment.
Risk Statements: Harmful in contact with skin and if swallowed. Causes burns. May cause sensitization by skin contact. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid release to the environment. Refer to special instructions/safety data sheets.

US Statements: Readily absorbed through skin.
UNITED STATES REGULATORY INFORMATION
SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION
WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

SECTION 16: OTHER INFORMATION

DISCLAIMER OF RESPONSIBILITY

The information on this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this MSDS information may not be applicable.

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