

# SAFETY DATA SHEET

## (+)-Catechin (hydrate)

Page: 1

Cayman Chemical Company  
1180 E. Ellsworth Rd.  
Ann Arbor, MI 48108

Revision: 02/10/2011  
Supersedes Revision: 05/27/2009

### 1. Identification of the Substance/Mixture and of the Company/Undertaking

**Product Code:** 70940

**Product Name:** (+)-Catechin (hydrate)

**Manufacturer Information**

**Company Name:** Cayman Chemical Company

**Emergency Contact:** CHEMTREC Within USA and Canada: +1 (800)424-9300

**Alternate Emergency Contact:** CHEMTREC Outside USA and Canada: +1 (703)527-3887

**Information:** Cayman Chemical Company +1 (734)971-3335

**Web site address:** www.caymanchem.com

**Synonyms:** 2R-(3,4-dihydroxyphenyl)-3,4-dihydro-2H-1-benzopyran-3S,5,7-triol, hydrate; Catechuic Acid (hydrate); Cyanidol (hydrate); D-(+)-Catechin (hydrate);

### 2. Hazards Identification

**Emergency Overview:** Irritant.  
Avoid contact and inhalation.

**Route(s) of Entry:** Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection

**Potential Health Effects (Acute and Chronic):** Causes eye, skin, or respiratory system irritation.  
Material is irritating to the mucous membranes and upper respiratory tract.  
May be harmful by inhalation, ingestion, or skin absorption.

**Signs and Symptoms Of Exposure:** To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

**Medical Conditions Generally Aggravated By Exposure:** No data available.

### 3. Composition/Information on Ingredients

| Hazardous Components (Chemical Name) | CAS #       | Concentration | EC# | Risk Phrases |
|--------------------------------------|-------------|---------------|-----|--------------|
| 1. (+)-Catechin (hydrate)            | 225937-10-0 | 100.0 %       | NA  | R36/37/38    |

### 4. First Aid Measures

**Emergency and First Aid Procedures:**

If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.

In case of skin contact, immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

### 5. Fire Fighting Measures

**Flash Pt:** No data.

**Explosive Limits:** LEL: No data. UEL: No data.

**Autoignition Pt:** No data available.

# SAFETY DATA SHEET

## (+)-Catechin (hydrate)

Page: 2

Revision: 02/10/2011

Supersedes Revision: 05/27/2009

|  |   |
|--|---|
| <b>Fire Fighting Instructions:</b>       | As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes. |
| <b>Flammable Properties and Hazards:</b> | No data available.  |
| <b>Hazardous Combustion Products:</b>    | No data available.  |
| <b>Suitable Extinguishing Media:</b>     | Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.<br>Use water spray to cool fire-exposed containers.   |
| <b>Unsuitable Extinguishing Media:</b>   | A solid water stream may be inefficient.  |

### 6. Accidental Release Measures

|   |  |
|---|--|
| <b>Steps To Be Taken In Case Material Is Released Or Spilled:</b> | Avoid release into the environment.<br>Avoid raising and breathing dust, and provide adequate ventilation.<br>As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).<br>Transfer to a chemical waste container for disposal. |
|---|--|

### 7. Handling and Storage

|   |   |
|---|---|
| <b>Hazard Label Information:</b>            | Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation.<br>Wash thoroughly after handling |
| <b>Precautions To Be Taken in Handling:</b> | Avoid breathing (dust, vapor, mist, gas).<br>Avoid prolonged or repeated exposure.  |
| <b>Precautions To Be Taken in Storing:</b>  | Keep tightly closed.<br>Store at correct temperature.   |

### 8. Exposure Controls/Personal Protection

| Hazardous Components (Chemical Name) | CAS #       | OSHA PEL | ACGIH TLV | Other Limits |
|--------------------------------------|-------------|----------|-----------|--------------|
| 1. (+)-Catechin (hydrate)            | 225937-10-0 | No data. | No data.  | No data.     |

|   |  |   |
|---|--|---|
| <b>Protective Equipment Summary - Hazard Label Information:</b> | Compatible chemical-resistant gloves<br>glasses<br>Safety shower in work area<br>Vent Hood   | Eye wash station in work area<br>Lab coat<br>Safety |
| <b>Respiratory Equipment (Specify Type):</b>                    | NIOSH approved respirator, as conditions warrant.  |   |
| <b>Eye Protection:</b>  | Safety glasses   |   |
| <b>Protective Gloves:</b>                                       | Compatible chemical-resistant gloves   |   |
| <b>Other Protective Clothing:</b>                               | Lab coat   |   |
| <b>Engineering Controls (Ventilation etc.):</b>                 | Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.                               |   |
| <b>Work/Hygienic/Maintenance Practices:</b>                     | Do not take internally.<br>Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.<br>Wash thoroughly after handling. |   |

### 9. Physical and Chemical Properties

|   |  |
|---|--|
| <b>Physical States:</b>                   | <input type="checkbox"/> Gas <input type="checkbox"/> Liquid <input checked="" type="checkbox"/> Solid |
| <b>Melting Point:</b>                     | No data.   |
| <b>Boiling Point:</b>                     | No data.   |
| <b>Autoignition Pt:</b>                   | No data.   |
| <b>Flash Pt:</b>                          | No data.   |
| <b>Specific Gravity (Water = 1):</b>      | No data.   |
| <b>Vapor Pressure (vs. Air or mm Hg):</b> | No data.   |

# SAFETY DATA SHEET

## (+)-Catechin (hydrate)

Page: 3

Revision: 02/10/2011  
Supercedes Revision: 05/27/2009

|   |  |
|---|--|
| <b>Vapor Density (vs. Air = 1):</b>           | No data.   |
| <b>Evaporation Rate (vs Butyl Acetate=1):</b> | No data.   |
| <b>Solubility in Water:</b>                   | No data.   |
| <b>Solubility Notes:</b>                      | ~1.6 mg/ml in PBS (pH 7.2); ~50 mg/ml in DMSO; ~100 mg/ml in EtOH & DMF; |
| <b>Percent Volatile:</b>                      | No data.   |
| <b>Formula:</b>                               | C <sub>15</sub> H <sub>14</sub> O <sub>6</sub> · XH <sub>2</sub> O       |
| <b>Molecular Weight:</b>                      | 290.30   |
| <b>Appearance and Odor:</b>                   | A crystalline solid  |

### 10. Stability and Reactivity

|   |                                     |
|---|-------------------------------------|
| <b>Stability:</b>                                 | Unstable [ ] Stable [ X ]           |
| <b>Conditions To Avoid - Instability:</b>         | No data available.                  |
| <b>Incompatibility - Materials To Avoid:</b>      | No data available.                  |
| <b>Hazardous Decomposition Or Byproducts:</b>     | carbon dioxide<br>carbon monoxide   |
| <b>Possibility of Hazardous Reactions:</b>        | Will occur [ ] Will not occur [ X ] |
| <b>Conditions To Avoid - Hazardous Reactions:</b> | No data available.                  |

### 11. Toxicological Information

The toxicological effects of this product have not been thoroughly studied.

|                                       |                    |
|---------------------------------------|--------------------|
| <b>Chronic Toxicological Effects:</b> | No data available. |
|---------------------------------------|--------------------|

| Hazardous Components (Chemical Name) | CAS #       | NTP  | IARC | ACGIH | OSHA |
|--------------------------------------|-------------|------|------|-------|------|
| 1. (+)-Catechin (hydrate)            | 225937-10-0 | n.a. | n.a. | n.a.  | n.a. |

### 12. Ecological Information

Avoid release into the environment.  
Runoff from fire control or dilution water may cause pollution.

### 13. Disposal Considerations

|                               |   |
|-------------------------------|---|
| <b>Waste Disposal Method:</b> | Dispose in accordance with local, state, and federal regulations. |
|-------------------------------|---|

### 14. Transport Information

#### LAND TRANSPORT (US DOT)

**DOT Proper Shipping Name** Not dangerous goods.

#### LAND TRANSPORT (European ADR/RID)

**ADR/RID Shipping Name** Not dangerous goods.

#### AIR TRANSPORT (ICAO/IATA)

**ICAO/IATA Shipping Name** Not dangerous goods.

**Additional Transport Information:** Transport in accordance with local, state, and federal regulations.

### 15. Regulatory Information

**European Community Hazard Symbol codes** Xi: Irritant

#### European Community Risk and Safety Phrases

R36/37/38 - Irritating to eyes, respiratory system and skin.

S24/25 - Avoid contact with skin and eyes.

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

# SAFETY DATA SHEET

## (+)-Catechin (hydrate)

Page: 4

Revision: 02/10/2011  
Supercedes Revision: 05/27/2009**US EPA SARA Title III**

| Hazardous Components (Chemical Name) | CAS #       | Sec.302 (EHS) | Sec.304 RQ | Sec.313 (TRI) | Sec.110 |
|--------------------------------------|-------------|---------------|------------|---------------|---------|
| 1. (+)-Catechin (hydrate)            | 225937-10-0 | No            | No         | No            | No      |

**Other US EPA or State Lists**

| Hazardous Components (Chemical Name) | CAS #       | CAA HAP,ODC | CWA NPDES | TSCA | CA PROP.65 |
|--------------------------------------|-------------|-------------|-----------|------|------------|
| 1. (+)-Catechin (hydrate)            | 225937-10-0 | No          | No        | No   | No         |

**Regulatory Information Statement:** according to Regulation (EC) No.1907/2006

### 16. Other Information

**Company Policy or Disclaimer**

For research use only, not for human or veterinary use.

DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

**N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established, N.R.=Not required**