
Issuing Date: 2014-02-21  Revision Date: 2018-04-10  Version: 3

SECTION 1. Identification

Product identifier

Product No 4082
Product name Hoechst 33342

Recommended use of the chemical and restrictions on use

Identified uses
This product is intended for research purposes only.

Manufacturer, importer, supplier

Manufacturer address Cell Signaling Technology, Inc.
3 Trask Lane
Danvers, MA 01923
United States
TEL: +1 978 867 2300
FAX: +1 978 867 2400

Website www.cellsignal.com
Email address support@cellsignal.com
Company Emergency Phone Number 978-578-6737
Emergency telephone number In case of emergency call CHEMTREC 1-800-424-9300

SECTION 2. Hazard(s) identification

Classification
This substance/mixture is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>Category 4</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Specific target organ toxicity - SE</td>
<td>Category 3</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

Signal Word
Danger

Hazard statement(s)
Harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause respiratory irritation.

Precautionary Statement(s)
Avoid breathing dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/eye protection/face protection. Use only outdoors or in a well-ventilated area.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: 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 INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Dispose of contents/container to an approved waste disposal plant.

Supplementary Hazard Information
No information available.
Hazards not otherwise classified (HNOC)
Not applicable.

SECTION 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Formula</th>
<th>C27H28N6O.3HCl .xH2O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular Weight</td>
<td>561.93</td>
</tr>
<tr>
<td>Chemical nature</td>
<td>Monoconstituent substance</td>
</tr>
<tr>
<td>Synonyms</td>
<td>HOE 33342; bisBenzimide; 2,5'-Bi-1H-benzimidazole, 2'- (4-ethoxyphenyl)-5-(4-methyl-1-piperazinyl)- (9Cl)</td>
</tr>
<tr>
<td>Chemical Name</td>
<td>CAS No</td>
</tr>
<tr>
<td>2'- (4'-ethoxyphenyl)-5- (4-methylpiperazin-1-yl)-2,5'- bis-1H-benzimidazole trihydrochloride trihydrate</td>
<td>23491-52-3</td>
</tr>
<tr>
<td>acetonitrile</td>
<td>75-05-8</td>
</tr>
</tbody>
</table>

SECTION 4. First-aid measures

Eye contact
Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing.

Skin contact
Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Consult a physician.

Inhalation
Move to fresh air. If not breathing, give artificial respiration. Consult a physician.

Ingestion
Do NOT induce vomiting. Clean mouth with water. Drink plenty of water. Never give anything by mouth to an unconscious person. Consult a physician.

Most important symptoms and effects, both acute and delayed
No information available.

Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

Advice for emergency responders

General advice
Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Protection of first-aiders
Use personal protective equipment. Avoid contact with skin, eyes and clothing.
SECTION 5. Fire-fighting measures

Extinguishing media

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

Unsuitable Extinguishing Media
CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

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

Explosion Data

Sensitivity to Mechanical Impact
None.

Sensitivity to Static Discharge
None.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
Evacuate personnel to safe areas. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak.

Other information
Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Clean contaminated surface thoroughly. Take up mechanically, placing in appropriate containers for disposal. Use personal protective equipment. Avoid dust formation. After cleaning, flush away traces with water.

SECTION 7. Handling and storage

Precautions for safe handling

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation at machinery.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions
Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Recommended storage temperature -20 °C.

Packaging material
No information available.

Incompatible products
Incompatible with oxidizing agents.

SECTION 8. Exposure controls/personal protection

Control parameters
### Occupational exposure limit values

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH REL</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetonitrile</td>
<td>S*</td>
<td>TWA : 40 ppm TWA : 70 mg/m$^3$ TWA : 5 mg/m$^3$ S*</td>
<td>IDLH : 500 ppm IDLH : 25 mg/m$^3$ TWA : 20 ppm TWA : 34 mg/m$^3$</td>
</tr>
</tbody>
</table>

### Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

### Individual protection measures, such as personal protective equipment

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

**Eye/face protection**

Tightly fitting safety goggles Face-shield

**Skin and body protection**

Wear protective gloves/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.

**Hygiene measures**

Remove and wash contaminated clothing before re-use. When using, do not eat, drink or smoke. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. For environmental protection, remove and wash all contaminated protective equipment before re-use. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

### SECTION 9. Physical and chemical properties

**Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
<td>Color</td>
<td>Dark yellow</td>
</tr>
<tr>
<td>Appearance</td>
<td>Powder</td>
<td>Odor threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
<td>Odor threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>1.7</td>
<td>@ 20 °C</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaporation rate (solid, gas)</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relative density</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relative density</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water</td>
<td></td>
<td>25 mg/ml</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viscosity</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Other information
Softening point: No information available
Molecular Weight: 561.93
VOC content: No information available
Density: No information available.
Bulk Density VALUE: No information available.

SECTION 10. Stability and reactivity

Reactivity
No information available.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions

- **Hazardous reactions**: None under normal processing.
- **Hazardous polymerization**: None under normal processing.

Conditions to Avoid
Exposure to air or moisture over prolonged periods.

Incompatible Materials
Incompatible with oxidizing agents.

Hazardous Decomposition Products
Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 11. Toxicological information

Information on likely routes of exposure

- **Inhalation**: Inhalation of dust in high concentration may cause irritation of respiratory system.
- **Eye contact**: May cause irreversible damage to eyes.
- **Skin contact**: Irritating to skin.
- **Ingestion**: Harmful if swallowed.

Information on toxicological effects
This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral (Rat)</th>
<th>LD50 Dermal (Rabbit)</th>
<th>LC50 Inhalation (Rat) 4 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetonitrile</td>
<td>1327 mg/kg</td>
<td>1250 mg/kg</td>
<td>7500 ppm</td>
</tr>
</tbody>
</table>

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

- **Symptoms**: No information available.
- **Skin corrosion/irritation**: Irritating to skin.
- **Serious eye damage/eye irritation**: Risk of serious damage to eyes.
- **Sensitization**: May cause sensitization of susceptible persons.
- **Mutagenic effects**: No information available.
- **Carcinogenicity**: No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible or confirmed carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity
STOT - single exposure
STOT - repeated exposure
Chronic Toxicity
Target Organ Effects
Neurological effects
Aspiration Hazard

SECTION 12. Ecological information

Ecotoxicity
100% of the mixture consists of components of unknown hazards to the aquatic environment.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to algae</th>
<th>Toxicity to fish</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetonitrile</td>
<td>-</td>
<td>LC50 1640 mg/L (Pimephales promelas) 96 h</td>
<td>EC50 5838 mg/L (Daphnia pulex) 18 h</td>
</tr>
</tbody>
</table>

Persistence and degradability
Bioaccumulation
Mobility

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Octanol-Water Partition Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetonitrile</td>
<td>-0.34</td>
</tr>
</tbody>
</table>

Other adverse effects
No information available.

SECTION 13. Disposal considerations

Waste Disposal Methods
Should not be released into the environment.

Disposal considerations
Do not empty into drains; dispose of this material and its container in a safe way.

SECTION 14. Transport information

This material is not subject to regulation as a hazardous material for shipping.

SECTION 15. Regulatory information

North American Inventory Listing

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>TSCA 8(b)</th>
<th>TSCA 12(b)</th>
<th>DSL</th>
<th>NDSL</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetonitrile</td>
<td>Listed</td>
<td>Section 4: 1 %</td>
<td>Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

Canadian Workplace Hazardous Materials Information System (WHMIS) Classification
This product does not meet the criteria for classification under the Hazardous Products Act.

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetonitrile</td>
<td>75-05-8</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazard Categories**

- **Acute Health Hazard**: Yes
- **Chronic Health Hazard**: No
- **Fire Hazard**: No
- **Sudden Release of Pressure Hazard**: No
- **Reactive Hazard**: No

**Clean Water Act**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
<th>CWA - Bioaccumulative Chemicals of Concern (BCCs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetonitrile</td>
<td>Not Listed</td>
<td>Listed</td>
<td>Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetonitrile</td>
<td>5000 lb</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

This product does not contain any substances regulated under applicable state right-to-know regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetonitrile</td>
<td>Listed</td>
<td>Listed</td>
<td>Listed</td>
</tr>
</tbody>
</table>

**U.S. FIFRA Label Information**

This product does not contain any substances regulated as pesticides.

**US Commerce Department - Export Administration Regulations Information**

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

**U.S. Drug Enforcement Administration Information**

This product does not contain any substances regulated under the DEA.

**SECTION 16. Other information**

**Issuing Date**: 2014-02-21

**Revision Date**: 2018-04-10
Disclaimer

The information provided in this 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