



# Cell Signaling

TECHNOLOGY®

**SAFETY DATA SHEET (SDS):** According to the OSHA Hazard Communication Standard 29 CFR 1910.1200

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

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**Version:** 2

## SECTION 1. Identification

### Product identifier

**Product No.** 4082  
**Product name** Hoechst 33342  
**Other means of identification** 4082M, 4082S

### Recommended use of the chemical and restrictions on use

**Identified uses** This product is intended for research purposes only.  
**Uses advised against** This product is not intended for use in diagnostic procedures or therapeutics.  
This product is not intended for use in humans or animals.

### Manufacturer, importer, supplier

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

**Website** www.cellsignal.com  
**Email address** support@cellsignal.com  
**Company phone number** 978-867-2300  
**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 chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<b>Acute toxicity - Oral</b>	Category 4
<b>Skin corrosion/irritation</b>	Category 2
<b>Serious eye damage/eye irritation</b>	Category 1
<b>Specific target organ toxicity - single exposure (STOT-SE)</b>	Category 3

### 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)**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 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  
 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

**Supplementary Hazard Information**

Hazards not otherwise classified (HNOC) None

**SECTION 3. Composition/information on ingredients**

**Formula** C<sub>27</sub>H<sub>28</sub>N<sub>6</sub>O<sub>3</sub>.3HCl .xH<sub>2</sub>O  
**Molecular Weight** 561.93  
**Chemical nature** Monoconstituent substance.  
**Synonyms** HOE 33342; bisBenzimide; 2,5'-Bi-1H-benzimidazole, 2'-(4-ethoxyphenyl)-5-(4-methyl-1-piperazinyl)- (9Cl)

Chemical Name	CAS No.	Weight %
acetonitrile	75-05-8	1 - 5
2'-(4'-ethoxyphenyl)-5-(4-methylpiperazin-1-yl)-2,5'-bis-1H-benzimidazole trihydrochloride trihydrate	23491-52-3	60 - 100

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

**Inhalation** Move to fresh air. Immediate medical attention is required. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**Ingestion** Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Remove from exposure, lie down this is a test. Clean mouth with water. Rinse mouth.

**Most important symptoms and effects, both acute and delayed**

No information or data specific to the product on this toxicological (health) effect is available.

**Indication of any immediate medical attention and special treatment needed**

**Notes to physician** Treat symptomatically.

**Advice for emergency responders**

<b>General advice</b>	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
<b>Protection of First-aiders</b>	Use personal protective equipment. Avoid contact with skin, eyes and clothing.

## SECTION 5. Fire-fighting measures

### Extinguishing media

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable Extinguishing Media</b>	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

<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	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

<b>For non-emergency personnel</b>	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.
<b>Other information</b>	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

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly. Use personal protective equipment. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Avoid dust formation. Dam up. 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

<b>Technical measures/Storage conditions</b>	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.
<b>Packaging material</b>	No information available.
<b>Incompatible products</b>	Incompatible with strong acids and bases. Incompatible with oxidizing agents.

## SECTION 8. Exposure controls/personal protection

### Control parameters

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH REL
acetonitrile 75-05-8	S* TWA: 20 ppm	TWA: 40 ppm TWA: 70 mg/m <sup>3</sup>	IDLH: 500 ppm TWA: 20 ppm TWA: 34 mg/m <sup>3</sup>

### 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.

<b>Eye/face protection</b>	Tightly fitting safety goggles. Face-shield.
<b>Skin and body protection</b>	Wear protective gloves/clothing.
<b>Respiratory protection</b>	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.
<b>Hygiene measures</b>	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

<b>Physical state</b>	Solid
<b>Appearance</b>	Lyophilized
<b>Odor</b>	No information available
<b>Color</b>	Dark yellow
<b>Odor Threshold</b>	No information available
<b>pH</b>	1.7 @ 20 °C
<b>Melting point/freezing point</b>	No information available
<b>Initial boiling point and boiling range</b>	No information available
<b>Flash point</b>	No information available
<b>Evaporation rate</b>	No information available
<b>Flammability (solid, gas)</b>	No information available
<b>Upper flammability limit</b>	No information available
<b>Lower flammability limit</b>	No information available
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available

<b>Relative density</b>	No information available
<b>Solubility</b>	Soluble in water 25 mg/ml
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient: n-octanol/water</b>	No information available
<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available
<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Molecular Weight</b>	561.93
<b>VOC content</b>	No information available
<b>Viscosity</b>	No information available
<b>Density</b>	No information available

## SECTION 10. Stability and reactivity

### Reactivity

No information available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

<b>Hazardous reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	None under normal processing.

### 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 gases and vapors.

## SECTION 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Inhalation of dust in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	May cause irreversible damage to eyes.
<b>Skin contact</b>	Irritating to skin.
<b>Ingestion</b>	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.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
acetonitrile 75-05-8	= 2460 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	= 7551 ppm ( Rat ) 8 h

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

<b>Symptoms</b>	No information available.
<b>Skin corrosion/irritation</b>	Irritating to skin.
<b>Serious eye damage/eye irritation</b>	Risk of serious damage to eyes.
<b>Corrosivity</b>	No information available.
<b>Sensitization</b>	May cause sensitization of susceptible persons.
<b>Mutagenic effects</b>	No information available.
<b>Carcinogenicity</b>	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.
<b>Reproductive toxicity</b>	No information available.
<b>Developmental Toxicity</b>	No information available.
<b>Teratogenicity</b>	No information available.
<b>STOT - single exposure</b>	Respiratory system.
<b>STOT - repeated exposure</b>	No information available.
<b>Chronic Toxicity</b>	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 risks of irreversible effects.
<b>Target Organ Effects</b>	Central Vascular System (CVS), Central nervous system (CNS), Respiratory system, Kidney, Liver.
<b>Neurological effects</b>	No information available.
<b>Aspiration Hazard</b>	No information available.
<b>Endocrine Disruptor Information</b>	acetonitrile is a suspected endocrine disruptor

**SECTION 12. Ecological information****Ecotoxicity**

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

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
acetonitrile 75-05-8	-	LC50 1650 mg/L (Poecilia reticulata) 96 h LC50 1850 mg/L (Lepomis macrochirus) 96 h LC50 1000 mg/L (Pimephales promelas) 96 h LC50 1600 - 1690 mg/L (Pimephales promelas) 96 h	EC50 5838 mg/L (Daphnia pulex) 18 h

<b>Persistence and degradability</b>	No information available.
<b>Bioaccumulation</b>	Some components of this material are unlikely to bioaccumulate but most have not been tested.
<b>Mobility</b>	No information available

Chemical Name	Octanol-Water Partition Coefficient
acetonitrile 75-05-8	-0.34

**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.

## SECTOIN 14. Transport information

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

## SECTION 15. Regulatory information

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

<b>TSCA</b>	-
<b>DSL</b>	-
<b>NDSL</b>	Complies

### 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:

Chemical Name	CAS No.	SARA 313 - Threshold Values %
acetonitrile - 75-05-8	75-05-8	1.0

### SARA 311/312 Hazard Categories

<b>Acute Health Hazard</b>	Yes
<b>Chronic Health Hazard</b>	No
<b>Fire Hazard</b>	No
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	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):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
acetonitrile 75-05-8	-	Listed	Listed	-

### 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):

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
acetonitrile 75-05-8	5000 lb	-

### California Proposition 65

This product does not contain any Proposition 65 chemicals.

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

<b>Chemical Name</b>	<b>New Jersey</b>	<b>Massachusetts</b>	<b>Pennsylvania</b>
acetonitrile 75-05-8	Listed	Listed	Listed

#### **U.S. EPA Label Information**

This product does not contain any substances regulated as pesticides.

### **SECTION 16. Other information**

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#### **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**