



Safety Data Sheet (SDS) According to the OSHA Hazard Communication Standard 29 CFR 1910.1200
Issuing Date: 2014-02-19 **Revision Date:** 2015-06-10

Version: 1

SECTION 1. Identification

Product identifier

Product number 13550
Product name CCCP
Other means of identification 13550M, 13550S

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
United States
TEL: +1 978 867 2300
FAX: +1 978 867 2400

Website www.cellsignal.com
Email address support@cellsignal.com
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)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Flammable liquids	

GHS Label elements, including precautionary statements



Signal Word
Warning

Hazard statement(s)
Combustible liquid.
Causes skin irritation. Causes serious eye irritation.

Precautionary Statement(s)

Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplementary Hazard Information

No information available.

SECTION 3. Composition/information on ingredients

Chemical nature Liquid solution containing an inorganic compound

Chemical Name	CAS No	Weight %
[(3-chlorophenyl)hydrazono]malononitrile	555-60-2	0.5-1.5
dimethyl sulfoxide	67-68-5	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	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Immediate medical attention is not required. If symptoms persist, call a physician.
Inhalation	Move to fresh air. Consult a physician. If not breathing, give artificial respiration. Move to fresh air in case of accidental inhalation of vapors. Immediate medical attention is not required. If symptoms persist, call a physician. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
Ingestion	Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Do NOT induce vomiting. Clean mouth with water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician. If swallowed, do not induce vomiting - seek medical advice.

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	If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance. Do not breathe dust/fume/gas/mist/vapors/spray.
Protection of first-aiders	Use personal protective equipment.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable Extinguishing Media	Cool containers / tanks with water spray. Use: Dry chemical. Carbon dioxide (CO ₂). Water spray. Alcohol-resistant foam.
Unsuitable Extinguishing Media	CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

Keep product and empty container away from heat and sources of ignition. Risk of ignition.

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 Remove all sources of ignition. Use personal protective equipment. Take precautionary measures against static discharges. Heat, flames and sparks. Ensure adequate ventilation.
Other information No information available.

Environmental precautions

Do not flush into surface water or sanitary sewer system. Prevention of fire and explosion. A vapor suppressing foam may be used to reduce vapors. Try to prevent the material from entering drains or water courses. Do not allow material to contaminate ground water system. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

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 Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled containers. Soak up with inert absorbent material. Dam up. Take precautionary measures against static discharges.

SECTION 7. Handling and storage

Precautions for safe handling

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Prevent the formation of vapors, mists and aerosols. Do not eat, drink or smoke when using this product. There is a hazard associated with rags, paper or any other material used to remove spills which become soaked with product. Avoid accumulation of these: they are to be disposed off safely after use. Avoid static electricity build up with connection to earth. Use only in area provided with appropriate exhaust ventilation. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from open flames, hot surfaces and sources of ignition.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep away from direct sunlight.
Packaging material No information available.
Incompatible products Strong oxidizing agents. Acyl, aryl, and nonmetal halides. Boron compounds. Metal salts of oxoacids.

SECTION 8. Exposure controls/personal protection

Control parameters

Occupational exposure limit values			
Chemical Name	ACGIH TLV	OSHA PEL	NIOSH REL
[(3-chlorophenyl)hydrazono]malononitrile	-	TWA : 5 mg/m ³ S*	IDLH : 25 mg/m ³

(vacated) = Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

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.
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	When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

SECTION 9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	No information available
Color	Yellow
Odor	Sulphurous
Odor Threshold	No information available
pH	No information available
Melting point/freezing point	16 - 19 °C / 60.8 - 66.2 °F
Initial boiling point and boiling range	189 °C / 372.2 °F
Flash point	87 °C / 188.6 °F Closed cup
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Upper flammability limit	42%
Lower flammability limit	3.5%
Vapor pressure	0.55 hPa @ 20 °C
Vapor density	2.7
Relative density	1.1 g/ml
Solubility	Completely soluble
Solubility in other solvents	No information available
Partition coefficient: n-octanol/water	log Pow: -2.03
Autoignition temperature	No information available
Decomposition temperature	No information available.
Explosive properties	No information available
Oxidizing properties	No information available
VOC content	No information available
Viscosity	No information available.
Density	No information available.
Solubility in other solvents	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. Vapors may form explosive mixtures with air. 10.5. Incompatible materials.
Hazardous polymerization	None under normal processing.

Conditions to Avoid

Heating in air.

Incompatible Materials

Strong oxidizing agents. Acyl, aryl, and nonmetal halides. Boron compounds. Metal salts of oxoacids.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors: Sulfur oxides.

SECTION 11. Toxicological information

Information on likely routes of exposure

Inhalation	There is no data available for this product.
Eye contact	Irritating to eyes.
Skin contact	Irritating to skin. Components of this product may be absorbed into the body through the skin.
Ingestion	There is no data available for this product.

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
[(3-chlorophenyl)hydrazono]malono nitrile	= 100 mg/kg (Rat)	= 300 mg/kg (Rat)	= 0.5 mg/l (Rat) Dust/mist
dimethyl sulfoxide	14500 mg/kg (Rat)	40000 mg/kg (Rat)	-

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

Symptoms	No information available.
Sensitization	No information available.
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	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Neurological effects	No information available.
Aspiration Hazard	No information available.

SECTION 12. Ecological information

Ecotoxicity

1% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates

dimethyl sulfoxide	EC50 12350 - 25500 mg/L (Skeletonema costatum) 96 h	LC50 40 g/L (Lepomis macrochirus) 96 h LC50 33 - 37 g/L (Oncorhynchus mykiss) 96 h LC50 34000 mg/L (Pimephales promelas) 96 h LC50 41.7 g/L (Cyprinus carpio) 96 h	EC50 7000 mg/L (Daphnia species) 24 h
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Persistence and degradability No information available.
Bioaccumulation No information available.
Mobility No information available

Chemical Name	Octanol-Water Partition Coefficient
dimethyl sulfoxide	-2.03

Other adverse effects

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SECTION 13. Disposal considerations

Waste Disposal Methods

Dispose of in accordance with all applicable national environmental laws and regulations.

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

Chemical Name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
[(3-chlorophenyl)hydrazono]malononitrile	Listed	Not Listed	Not Listed	Listed
dimethyl sulfoxide	Listed	Not Listed	Listed	Not Listed

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:

Chemical Name	CAS No	SARA 313 - Threshold Values %
[(3-chlorophenyl)hydrazono]malononitrile	555-60-2	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard Yes
Chronic Health Hazard No
Fire Hazard Yes
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):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances	CWA - Bioaccumulative Chemicals of Concern (BCCs)
[(3-chlorophenyl)hydrazono]malononitrile	Not Listed	Listed	Listed	Not Listed	Not Listed

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

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

Chemical Name	New Jersey	Massachusetts	Pennsylvania
[(3-chlorophenyl)hydrazono]malononitrile	Listed	Not Listed	Listed
dimethyl sulfoxide	Listed	Not Listed	Not Listed

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

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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