



Safety Data Sheet (SDS) According to the OSHA Hazard Communication Standard 29 CFR 1910.1200

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SECTION 1. Identification

Product identifier

Product number 9973
Product name Cyclosporin A

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)

Table with 2 columns: Hazard type and Category. Rows include Acute oral toxicity (Category 4), Carcinogenicity (Category 1A), Reproductive toxicity (Category 1B), and Effects on or via lactation (Effects on or via lactation).

GHS Label elements, including precautionary statements



Signal Word Danger

Hazard statement(s) Harmful if swallowed. May cause cancer. May damage fertility or the unborn child. May cause harm to breast-fed children.

Precautionary Statement(s)

Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact during pregnancy/while nursing.
IF EXPOSED OR CONCERNED: Get medical advice/attention.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
Store locked up.
Dispose of contents/container to an approved waste disposal plant.

Supplementary Hazard information

May be harmful by inhalation. May be harmful in contact with skin. May be irritating to eyes, respiratory system and skin.
Hazards not otherwise classified (HNOC)
Not applicable.

SECTION 3. Composition/information on ingredients

Table with 3 columns: Chemical Name, CAS No, and Weight %. Row 1: Cyclo(L-alanyl-D-alanyl-N-methyl-L-leucyl-N-methyl-L-leucyl-N-methyl-L-valyl-((3R,4R,6E)-6,7-didehydro-3-hydroxy-N,4-dimethyl-L-2-aminooctanoyl-L-2-aminobutanoyl-N-methylglycyl-N-methyl-L-leucyl-L-valyl-N-methylleucyl))

SECTION 4. First-aid measures

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if irritation persists.
Skin contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation or rash occurs: Get medical advice/attention.
Inhalation IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention immediately if symptoms occur. If breathing is difficult, give oxygen. If breathing has stopped, contact emergency medical services immediately.
Ingestion Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.

Most important symptoms and effects, both acute and delayed

Adverse effects from overexposure or overdose may include headache, nausea, central nervous system depression, burning sensation in the mouth, altered taste, hyperesthesia of the hands, burning sensation in the feet, sore gums, flushing of the face, sensation of increased abdominal girth, foot swelling, mild stomach upset, abdominal pain with mild hepatotoxicity, anxiety, diarrhea, vomiting, perspiration, sinus tachycardia, increased blood pressure and headache, vomiting and drowsiness. Principal adverse reactions to cyclosporine therapy are renal dysfunction, tremor, hirsutism, hypertension, hyperlipidemia, gum hyperplasia and nephrotoxicity.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Advice for emergency responders

General advice For further assistance, contact your local Poison Control Center.
Protection of first-aiders Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

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

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

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 Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes and clothing. Use personal protective equipment. For personal protection see section 8. Wash thoroughly after handling.
Other information No information available.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

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 For dust cleanup use protective equipment. Avoid dust formation. Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust.

SECTION 7. Handling and storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Wear personal protective equipment. Remove and wash contaminated clothing before re-use. Avoid contact with skin, eyes and clothing. Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Store at -20 Celsius.
Packaging material No information available.
Incompatible products None known based on information supplied.

SECTION 8. Exposure controls/personal protection

Control parameters

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

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.

Eyeface protection Safety glasses with side-shields.
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 Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. Physical and chemical properties

Information on basic physical and chemical properties

Table with 4 columns: Property, Values, Remarks, Method. Rows include Physical state (Solid), Appearance (Powder), Odor (No information available), Color (White to off-white), Odor Threshold (No information available), pH (No information available), Melting point/freezing point (148-151 °C), Initial boiling point and boiling range (No information available), Flash point (No information available), Evaporation rate (No information available), Flammability (solid, gas) (No information available), Upper flammability limit (No information available), Lower flammability limit (No information available), Vapor pressure (No information available), Vapor density (No information available), Relative density (No information available), Solubility (Practically insoluble), Solubility in other solvents (No information available), Partition coefficient: n-octanol/water (No information available), Autoignition temperature (No information available), Decomposition temperature (No information available), Viscosity (No information available), Viscosity, dynamic (No information available), Explosive properties (No information available), Oxidizing properties (No information available), Other information (No information available), Softening point (No information available), Molecular Weight (1202.6239), 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.

No information available.

Incompatible Materials.

None known based on information supplied.

Hazardous Decomposition Products.

Thermal decomposition can lead to release of irritating and toxic gases and vapors: Nitrogen oxides (NOx).

SECTION 11. Toxicological information**Information on likely routes of exposure**

Inhalation May be harmful if inhaled. May cause irritation of respiratory tract.
Eye contact Avoid contact with eyes. Contact with eyes may cause mechanical irritation.
Skin contact Prolonged contact may cause redness and irritation. May be harmful in contact with 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.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Cyclo(L-alanyl-D-alanyl-N-methyl-L-leucyl-N-methyl-L-leucyl-N-methyl-L-valyl-(3R,4R,6E)-6,7-dihydro-3-hydroxy-N,4-dimethyl-L-2-aminooctanoyl-L-2-aminobutanoyl-N-methylglycyl-N-methyl-L-leucyl-N-methylleucyl)	= 1480 mg/kg (Rat)		

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

Symptoms Adverse effects from overexposure or overdose may include headache, nausea, central nervous system depression, burning sensation in the mouth, altered taste, hyperesthesia of the hands, burning sensation in the feet, sore gums, flushing of the face, sensation of increased abdominal girth, foot swelling, mild stomach upset, abdominal pain with mild hepatotoxicity, anxiety, diarrhea, vomiting, perspiration, sinus tachycardia, increased blood pressure and headache; vomiting and drowsiness. Principal adverse reactions to cyclosporine therapy are renal dysfunction, tremor, hirsutism, hypertension, hyperlipidemia, gum hyperplasia and nephrotoxicity.

Sensitization No information available.

Mutagenic effects In a single study, Cyclosporin was reported to increase the incidence of chromosomal aberrations in the lymphocytes of kidney transplant patients. It did not induce dominant lethal mutations in mice, chromosomal aberrations in the bone marrow of Chinese hamsters or micronuclei in the bone marrow of Chinese hamsters or mice in vivo. It induced sister chromatid exchange in human peripheral lymphocytes in vitro but did not induce gene mutations in Chinese hamster cells. Cyclosporin did not induce mutations in Salmonella typhimurium.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen in case reports, both lymphomas and Kaposi's sarcoma have been associated frequently with

exposure to Cyclosporin. Four cohort studies recorded a high incidence of lymphoma in organ transplant recipients; in two of these, Cyclosporin was given without azathioprine or cytotoxic drugs. In several cases, there has been well-documented regression of lymphoma following withdrawal of the drug.

Chemical Name	IARC	NTP	OSHA
Cyclo(L-alanyl-D-alanyl-N-methyl-L-leucyl-N-methyl-L-leucyl-N-methyl-L-valyl-(3R,4R,6E)-6,7-dihydro-3-hydroxy-N,4-dimethyl-L-2-aminooctanoyl-L-2-aminobutanoyl-N-methylglycyl-N-methyl-L-leucyl-N-methylleucyl)	1	Known	X

Reproductive toxicity Nephrotoxicity, a drug side-effect in adults, was identified in experimental animal offspring exposed prenatally to Cyclosporines. Cyclosporines have been reported to cross the human placenta and passes into breast milk.

STOT - single exposure No information available.
STOT - repeated exposure Based on available data, classification criteria is not met.
Target Organ Effects Kidney, Liver, Central nervous system (CNS), Immune system.
Neurological effects No information available.
Aspiration Hazard No information available.

SECTION 12. Ecological information**Ecotoxicity.**

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

Persistence and degradability No information available.
Bioaccumulation No information available.
Mobility No information available.

Other adverse effects.

No information available.

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
Cyclo(L-alanyl-D-alanyl-N-methyl-L-leucyl-N-methyl-L-leucyl-N-methylleucyl)	Not Listed	Not Listed	Listed	Not Listed

methy-L-valyl-(3R,4R,6E)-6,7-dihydro-3-hydroxy-N,4-dimethyl-L-2-aminooctanoyl-L-2-aminobutanoyl-N-methylglycyl-N-methyl-L-leucyl-N-methylleucyl)			
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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 does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories.

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

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

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 contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
Cyclo(L-alanyl-D-alanyl-N-methyl-L-leucyl-N-methyl-L-leucyl-N-methyl-L-valyl-(3R,4R,6E)-6,7-dihydro-3-hydroxy-N,4-dimethyl-L-2-aminooctanoyl-L-2-aminobutanoyl-N-methylglycyl-N-methyl-L-leucyl-N-methylleucyl)	Carcinogen

U.S. State Right-to-Know Regulations

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

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**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