



SAFETY DATA SHEET (SDS): According to the OSHA Hazard Communication Standard 29 CFR 1910.1200
Issuing Date: 2015-01-02 **Revision Date:** 2015-01-02

Version: 2

SECTION 1. Identification

Product identifier

Product number 9902
Product name Calyculin A
UN number UN3462

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
Company phone number 978-867-2300
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)

Acute oral toxicity	Category 3
Acute dermal toxicity	Category 3
Acute inhalation toxicity	Category 3
Skin corrosion/irritation	Category 2

GHS Label elements, including precautionary statements



Signal Word
Danger

Hazard statement(s)

Toxic if swallowed
 Toxic in contact with skin
 Toxic if inhaled
 Causes skin irritation

Precautionary Statement(s)

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

Supplementary Hazard Information

Hazards not otherwise classified (HNOC) None

SECTION 3. Composition/information on ingredients

Formula C₅₀H₈₁N₄O₁₅P
Molecular Weight 1009.17 g/mol
Synonyms Calyculin A from Discodermia calyx; Hemicalyculin A

Chemical Name	CAS No	Weight %
[(2R,3R,5R,7R,8S,9S)-2-[(1S,3S,4S,5R,6R,7E,9E,11E,13Z)-14-cyano-3,5-dihydroxy-1-methoxy-4,6,8,9,13-pentamethyltetradeca-7,9,11,13-tetraenyl]-9-[(E)-3-[2-[(2S)-4-[[[(2S,3S,4S)-4-(dimethylamino)-2,3-dihydroxy-5-methoxypentanoyl]amino]butan-2-yl]-1,3-oxazol-4-yl]prop-2-enyl]-7-hydroxy-4,4,8-trimethyl-1,10-dioxaspiro[4.5]decan-3-yl] dihydrogen phosphate	101932-71-2	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. Remove and wash contaminated clothing before re-use. Wash off immediately with plenty of water. Immediate medical attention is not required.

Inhalation Immediate medical attention is required. Move to fresh air. If not breathing, give artificial respiration. Immediate medical attention is not required. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

Ingestion Do NOT induce vomiting. Immediate medical attention is required. Never give anything by mouth to an unconscious person. Drink plenty of water. Clean mouth with water. Do not induce vomiting without medical advice. 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

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|-----------------------------------|--|
| General advice | Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. If symptoms persist, call a physician. |
| Protection of first-aiders | Use personal protective equipment. Avoid contact with skin, eyes and clothing. |

SECTION 5. Fire-fighting measures**Extinguishing media**

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|---------------------------------------|---|
| 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

No information available.

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**

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|------------------------------------|--|
| For non-emergency personnel | Use personal protective equipment. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. |
| Other information | No information available. |

Environmental precautions

Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

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|--------------------------------|--|
| Methods for containment | Prevent further leakage or spillage if safe to do so. |
| Methods for cleaning up | Use personal protective equipment. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically and collect in suitable container for disposal. Avoid dust formation. Clean contaminated surface thoroughly. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water. Take precautionary measures against static discharges. |

SECTION 7. Handling and storage**Precautions for safe handling**

Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions	Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.
Packaging material	No information available.
Incompatible products	Incompatible with strong acids and bases.

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.

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. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs.

SECTION 9. Physical and chemical properties**Information on basic physical and chemical properties**

Physical state	Solid
Appearance	Crystalline powder
Odor	No information available
Color	White
Odor Threshold	No information available
pH	No information available
Melting point/freezing point	No information available
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	Partially 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.
Explosive properties	No information available
Oxidizing properties	No information available
Molecular Weight	1009.17 g/mol
VOC content	No information available
Viscosity	No information available.
Density	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

Incompatible with strong acids and bases.

Hazardous Decomposition Products

None under normal use. Thermal decomposition can lead to release of irritating gases and vapors. Carbon oxides (COx). Carbon dioxide (CO₂).

SECTION 11. Toxicological information

Information on likely routes of exposure

Inhalation	Toxic by inhalation.
Eye contact	There is no data available for this product.
Skin contact	Toxic in contact with skin. Contact with skin may cause irritation.
Ingestion	Toxic 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.

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.
Chronic Toxicity	Avoid repeated exposure.
Target Organ Effects	Heart, Gastrointestinal tract (GI), Smooth muscle.
Neurological effects	No information available.
Aspiration Hazard	No information available.

SECTION 12. Ecological information

Ecotoxicity

Product does not present an aquatic toxicity hazard based on known or supplied information.

100% of the mixture consists of component(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

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

DOT

UN number	UN3462
UN proper shipping name	Toxins, extracted from living sources, solid, n.o.s. (Calyculin A)
Transport hazard class(es)	6.1
Packing group	III
Special provisions	141, IB8, IP3, T1, TP33
Emergency response guide number	153

IATA

UN number	UN3462
UN proper shipping name	Toxins, extracted from living sources, solid, n.o.s. (Calyculin A)
Transport hazard class(es)	6.1
Packing group	III
ERG code	6L

SECTION 15. Regulatory information

North American Inventory Listing

Chemical Name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
[(2R,3R,5R,7R,8S,9S)-2-[(1S,3S,4S,5R,6R,7E,9E,11E,13Z)-14-cyano-3,5-dihydroxy-1-methoxy-4,6,8,9,13-pentamethyltetradeca-7,9,11,13-tetraenyl]-9-[(E)-3-[2-[(2S)-4-[(2S,3S,4S)-4-(dimethylamino)-2,3-dihydroxy-5-methoxy-pentanoyl]amino]butan-2-yl]-1,3-oxazol-4-yl]prop-2-enyl]-7-hydroxy-4,4,8-trimethyl-1,10-dioxaspiro[4.5]decan-3-yl] dihydrogen phosphate	Not Listed	Not Listed	Not Listed	Not Listed

Canadian Workplace Hazardous Materials Information System (WHMIS) Classification

	Class D1A - Very Toxic Materials at >= 1% Class D2B - Toxic Material at >= 1%
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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	No
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 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

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