

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

**Issuing Date:** 2014-12-03

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**Version:** 3

## SECTION 1. Identification

### Product identifier

**Product No** 14774  
**Product name** Chloroquine

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

**Identified uses** For Research Use Only. Not for Use in Diagnostic Procedures.

### 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)

<b>Acute oral toxicity</b>	Category 4
<b>Reproductive toxicity</b>	Category 1A
<b>Specific target organ toxicity - repeated exposure (STOT RE)</b>	Category 2

### GHS Label elements, including precautionary statements



**Signal Word**  
 Danger

**Hazard statement(s)**

Harmful if swallowed.  
May damage fertility or the unborn child.  
May cause damage to organs through prolonged or repeated exposure.

**Precautionary Statement(s)**

Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Use personal protective equipment as required.  
Wash face, hands and any exposed skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Do not breathe dust/fume/gas/mist/vapors/spray.  
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****Hazards not otherwise classified (HNOC)**

Not applicable.

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

**Formula**  $C_{18}H_{26}ClN_3O_4P$   
**Molecular Weight** 515.92 g/mol  
**Synonyms** Chloroquine diphosphate;  
1,4-pentanediamine, N(4)-(7-chloro-4-quinoliny)-N(1),N(1)-diethyl-, phosphate (1:2);  
7-Chloro-4-(4-diethylamino-1-methylbutyl-amino)-quinoline, diphosphate;  
chloroquine bis(dihydrogenphosphate) dihydrate.

Chemical name	CAS No	Weight-%
chloroquine bis(phosphate)	50-63-5	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** Consult a physician if necessary. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.  
**Inhalation** Move to fresh air. Consult a physician. If not breathing, give artificial respiration.  
**Ingestion** Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

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

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

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

Treat symptomatically. Early treatment with diazepam (2 mg/kg over 30 min), intubation with artificial ventilation and adrenaline (0.25 ug/kg/min with 0.25 ug/kg/min increments as needed) may improve the prognosis of patients of severe chloroquine poisoning.

**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** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

### 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

**For non-emergency personnel** Ensure adequate ventilation.  
**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

**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, placing in appropriate containers for disposal. Avoid dust formation. Clean contaminated surface thoroughly.

## 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.

### 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.  
**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.

<b>Eye/face protection</b>	Tightly fitting safety goggles
<b>Skin and body protection</b>	Wear protective gloves/clothing.
<b>Respiratory protection</b>	In case of inadequate ventilation wear respiratory protection.
<b>Hygiene measures</b>	Handle in accordance with good industrial hygiene and safety practice.

<b>SECTION 9. Physical and chemical properties</b>
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**Information on basic physical and chemical properties**

<b>Physical state</b>	Solid
<b>Appearance</b>	Crystalline Powder
<b>Color</b>	White to off-white
<b>Odor</b>	No information available
<b>Odor Threshold</b>	No information available

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks</u></b>	<b><u>Method</u></b>
<b>pH</b>	No information available		
<b>Melting point/freezing point</b>	No information available		
<b>Boiling point or 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</b>	No information available		
<b>Lower explosion limit</b>	No information available		
<b>Upper explosion limit</b>	No information available		
<b>Vapor pressure</b>	No information available		
<b>Relative vapor density</b>	No information available		
<b>Density and/or relative density</b>	No information available		
<b>Solubility</b>	No information available.		
<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>Viscosity</b>	No information available		
<b>Viscosity, dynamic</b>	No information available		

**Other information**

<b>Softening point</b>	No information available
<b>Molecular Weight</b>	515.92 g/mol
<b>VOC content</b>	No information available
<b>Liquid Density</b>	No information available
<b>Bulk 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

Extremes of temperature and direct sunlight

### Incompatible Materials

None known based on information supplied

### Hazardous Decomposition Products

None known based on information supplied

## SECTION 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	There is no data available for this product.
<b>Eye contact</b>	There is no data available for this product.
<b>Skin contact</b>	There is no data available for this product.
<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
chloroquine bis(phosphate)	= 623 mg/kg (Rat)	-	-

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

<b>Symptoms</b>	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
<b>Sensitization</b>	No information available.
<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>	Product is or contains a chemical which is a known or suspected reproductive hazard.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	May cause disorder and damage to the: Cardiovascular system, Central nervous system, Eyes, Ears.

**Neurological effects**  
**Aspiration Hazard**No information available.  
No information available.**SECTION 12. Ecological information****Ecotoxicity**

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

**Persistence and degradability**  
**Mobility**  
**Bioaccumulation**No information available  
No information available  
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. Dispose of wastes in an approved waste disposal facility.

**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
chloroquine bis(phosphate)	Not Listed	Not Listed	Listed	Not Listed

**Canadian Workplace Hazardous Materials Information System (WHMIS) Classification**

	Class D2A - Very Toxic Material at $\geq 0.1\%$
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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	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 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.

<b>SECTION 16. Other information</b>
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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.

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End of Safety Data Sheet