



Catalog #	Aliquot Size
T860-905-50	50 mg
T860-905-250	250 mg

Hydroxychloroquine

Lysosomotropic agent

Catalog # T860-905

Lot # N3365-8

CAS# 747-36-4

Product Description

Molecular Formula: $C_{18}H_{26}ClN_3O \cdot H_2SO_4$

Appearance: White powder

Molecular Weight: 434.0

Purity: >98% (TLC); NMR (conforms)

Solubility: May be dissolved in water (40 mg/ml); DMSO (nil)

Alternative name(s)

7-Chloro-4-[4-(N-ethyl-N-b-hydroxyethylamino)-1-methylbutylamino]quinoline, sulfate.

Storage and Stability

Store desiccated as supplied at ambient temperature for up to 2 years. Store solutions at $-20^{\circ}C$ for up to 3 months.

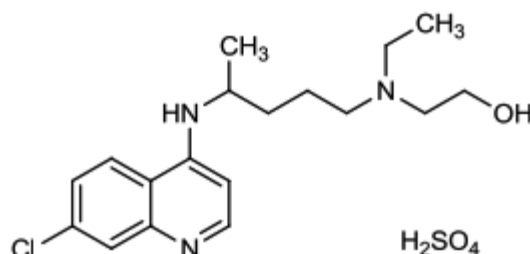
Scientific Background

A lysosomotropic agent which inhibits autophagy and triggers apoptosis in a variety of cell types (1,2). Augments the anticancer activity of DNA-damaging chemotherapy (3). Anti-inflammatory activity. Decreases cell surface expression of TNF α receptors in U937 cells (4). Has been used to treat alopecia successfully (5). Clinically useful antimalaria agent. Cell permeable and active *in vivo*.

References

1. P Boya et al. Mol. Cell Biol. 2005 25:1025
2. X Xie et al. PLoS One 2013 8:e55096
3. Y Pan et al. Clin. Cancer Res. 2011 150:3248
4. JY Jeong et al. Immunology 2002 105:83
5. F Stephan et al. J. Am. Acad. Dermatol. 2013 68:1048

Molecular Structure



Hydroxychloroquine

Lysosomotropic agent

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CAS #	747-36-4
Lot #	N3365-8
Purity	>98% (TLC); NMR (Conforms)
Format	White powder
Solubility	May be dissolved in water (40mg/ml); DMSO (nil)
Storage & Shipping	Store desiccated as supplied at ambient temperature for up to 2 years. Store solutions at $-20^{\circ}C$ for up to 3 months. Shipped at ambient temperature.

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FOR IN VITRO RESEARCH PURPOSES ONLY. NOT INTENDED FOR USE IN HUMAN OR ANIMALS.

SAFETY DATA SHEET

Article 1 - Product Identification

Product Name: Hydroxychloroquine**Catalog # T860-905**

This product is sold only for research use by qualified laboratory personnel, and is not to be used as a drug, medical device, food additive, cosmetic, nor household chemical. It is not to be used in diagnostic, therapeutic, consumer, agricultural, nor pesticidal applications.

Manufacturer's Name: SignalChem Biotech Inc.
Street Address: 110-13120 Vanier Place
City, Prov. Postal Code: Richmond, BC, V6V 2J2
Fax: 604-232-4601
EMERGENCY PHONE: 604-232-4600

Article 2 - Hazardous Identification

2.1 Classification of Substance (GHS)

Acute Toxicity: Oral, Category 4

Serious Eye Damage/Eye Irritation, Category 2

2.2 Label Elements

Classification according to Regulation (EC) No 1272/2008

**GHS Signal Word: DANGER****GHS Hazard Phrases:**

H302	Harmful if swallowed
H319	Causes serious eye irritation.

GHS Precaution Phrases:

P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

GHS Response Phrases:

P301+312+330	IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. Rinse Mouth
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists, get medical advice/attention.

GHS Storage and Disposal Phrases:

Please refer to Section 7 for Storage and Section 13 for Disposal Information

2.3 Other hazards: To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Article 3 – Composition/Information on Ingredients

3.1 Substance

Product Name(s): Hydroxychloroquine
Chemical Name: Hydroxychloroquine sulphate
Molecular Formula: C₁₈H₂₆ClN₃O · H₂SO₄
CAS Number: 747-36-4
Concentration: 100%

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Article 4 – First Aid

4.1 Description of First Aid Measures

General: Move out of dangerous area and contact a doctor. Provide them with this data sheet.

If Inhaled: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

If Swallowed: Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

Article 5 – Fire Fighting Measures

5.1 Extinguishing Media

Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. A solid water stream may be inefficient.

5.2 Special Hazards

No data

5.3 Precautions for Fire Fighters

Wear suitable protection to prevent contact and respirator for fumes, and full protective gear to prevent contact with skin and eyes.

Article 6 – Accidental Release Measures

6.1 Personal Precautions

Relocate personnel to a safe area and ensure ventilation is in working order. Wear protective equipment. Avoid dust formation and inhalation of fumes. As conditions warrant, wear an approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

6.2 Environmental Precautions

Do not let product enter drains, if safe to do so.

6.3 Methods for Containment and Clean-up

Contain spill and collect, as appropriate. Sweep up material without generating dust clouds and place in a sealed container for disposal. Clean surface where spill occurred.

Article 7 – Handling and Storage

7.1 Handling Precautions

Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.

7.2 Safe Storage Measures

Keep product in a sealed contained located in dry well-ventilated area. Store in accordance with information listed on the product insert.

Article 8 – Exposure Controls/Personal Protection

8.1 Control Parameters

Contains no substances with occupational exposure limit values.

8.2 Specific Engineering Controls

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below exposure limits.

8.3 Personal Protection

Eye/Face Protection: Use safety glasses.

Skin Protection: Use chemical resistant gloves. Remove and dispose of gloves properly after use. Wash hands thoroughly after use.

Body Protection: Wear a lab coat.

Respiratory Protection: If risk is present wear a dust respirator.

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Article 9 – Physical and Chemical Properties

Appearance: White powder
Odour: data not available
Odour Threshold: data not available
pH: data not available
Melting/Freezing Pt: data not available
Boiling Pt: data not available
Flash Pt: data not available
Explosive Properties: data not available
Solubility notes: May be dissolved in water (40 mg/ml); DMSO (nil)

Article 10 – Stability and Reactivity

10.1 Stability: Stable under recommended transport or storage conditions
10.2 Conditions to Avoid: data not available
10.3 Incompatibility – Materials to Avoid: Strong oxidizing agents
10.4 Hazardous Decomposition Products: Carbon oxides (CO, CO₂), hydrogen chloride gas, nitrogen oxides, sulfur oxides.

Article 11– Toxicological Information

11.1 Toxicological Effects: The toxicological effects of this product have not been thoroughly studied.
Acute Toxicity: Oral TDLO (woman): 400 mg/kg; Oral LDLO (man): 171.4 ng/kg
Chronic Toxicity: Investigated as a drug.
For complete information, see Registry of Toxic Effects of Chemical Substances (RTECS) entry. Hydroxychloroquine (sulfate) RTECS Number: KK3372500
Skin Corrosion/Irritation: data not available
Eye Damage/Irritation: data not available
Respiratory or Skin Sensitization: data not available
Germ Cell Mutagenicity: data not available
Carcinogenicity: None according to NIOSH

Article 12 – Ecological Information

12.1 Toxicity
Avoid release into the environment. Runoff from fire control or dilution water may cause pollution
12.2 Degradability
Data not available

Article 13 – Disposal Considerations

13.1 Waste Treatment
Product and Contaminated Packaging: Dispose according to national legislation. Contact a licensed chemical disposal company.

Article 14 – Transport Information

14.1 DOT
Not dangerous goods
14.2 IMDG
Not dangerous goods
14.2 IATA
Not dangerous goods

Article 15 – Regulatory Information

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

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Article 16 – Other Information

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. SignalChem shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalog for additional terms and conditions of sale.

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