



# SIGMA-ALDRICH

## Material Safety Data Sheet

Date Printed: 05/06/2005  
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Version 1.0

### Section 1 - Product and Company Information

<b>Product Name</b>	QUININE DIHYDROCHLORIDE MONOHY - 250 MG DRATE
<b>Product Number</b>	S458104
<b>Brand</b>	Aldrich Chemical
<b>Company</b>	Sigma-Aldrich
<b>Street Address</b>	3050 Spruce Street
<b>City, State, Zip, Country</b>	SAINT LOUIS, MO 63103 US
<b>Technical Phone:</b>	314 771 5765
<b>Fax:</b>	800 325 5052
<b>Emergency Phone:</b>	414 273 3850 Ext. 5996

### Section 2 - Composition/Information on Ingredient

<u>Substance Name</u>	<u>CAS #</u>	<u>EC no</u>	<u>Annex I Index Number</u>
QUININE DIHYDROCHLORIDE MONOHYDRATE	60-93-5	200-493-4	
<b>Formula</b>	C <sub>20</sub> H <sub>24</sub> N <sub>2</sub> O <sub>2</sub>		
<b>Synonyms</b>	Acid quinine hydrochloride, Chinindihydrochlorid (German), Cinchonan-9-ol, 6'-methoxy-, dihydrochloride, (8- $\alpha$ ,9R) (9CI), Quinine bimuriate, (-)-Quinine dihydrochloride		

### Section 3 - Hazards Identification

#### Emergency Overview

Harmful.  
Harmful if swallowed.

#### HMIS Rating

Health: 1      Flammability: 0      Reactivity: 0

#### NFPA Rating

Health: 1      Flammability: 0      Reactivity: 0

For additional information on toxicity, please refer to Section 11.

### Section 4 - First Aid Measures

#### Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

#### Inhalation Exposure

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

#### Dermal Exposure

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

**Eye Exposure**

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

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**Section 5 - Fire Fighting Measures**

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**Autoignition Temp:** N/A

**Extinguishing Media****Suitable**

Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

**Firefighting****Protective Equipment**

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

**Specific Hazard(s)**

Emits toxic fumes under fire conditions.

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**Section 6 - Accidental Release Measures**

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**Procedure to be Followed in Case of Leak or Spill**

Evacuate area.

**Procedure(s) of Personal Precaution(s)**

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

**Methods for Cleaning Up**

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

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**Section 7 - Handling and Storage**

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**Handling****User Exposure**

Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

**Storage****Suitable**

Keep tightly closed.

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**Section 8 - Exposure Controls / PPE**

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**Engineering Controls**

Safety shower and eye bath. Mechanical exhaust required.

**Personal Protective Equipment****Respiratory**

Government approved respirator.

**Hand**

Compatible chemical-resistant gloves.

**Eye**

Chemical safety goggles.

**General Hygiene Measures**  
Wash thoroughly after handling.

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## Section 9 - Physical/Chemical Properties

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### Appearance

#### Physical State

Solid

**Molecular Weight:** 415.36 AMU

<b>pH</b>	N/A
<b>BP/BP Range</b>	N/A
<b>MP/MP Range</b>	238 - 240 °C
<b>Freezing Point</b>	N/A
<b>Vapor Pressure</b>	N/A
<b>Vapor Density</b>	N/A
<b>Saturated Vapor Conc.</b>	N/A
<b>SG/Density</b>	N/A
<b>Bulk Density</b>	N/A
<b>Odor Threshold</b>	N/A
<b>Volatile%</b>	N/A
<b>VOC Content</b>	N/A
<b>Water Content</b>	N/A
<b>Solvent Content</b>	N/A
<b>Evaporation Rate</b>	N/A
<b>Viscosity</b>	N/A
<b>Partition Coefficient</b>	N/A
<b>Decomposition Temp.</b>	N/A
<b>Flash Point °F</b>	N/A
<b>Flash Point °C</b>	N/A
<b>Explosion Limits</b>	N/A
<b>Flammability</b>	N/A
<b>Autoignition Temp</b>	N/A
<b>Solubility</b>	N/A

N/A = not available

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## Section 10 - Stability and Reactivity

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### Stability

#### Stable

Stable.

#### Materials to Avoid

Strong oxidizing agents.

### Hazardous Decomposition Products

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Carbon monoxide, Carbon dioxide, Nitrogen oxides, Hydrogen chloride gas.

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## Section 11 - Toxicological Information

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### Route of Exposure

#### Skin Contact

May cause skin irritation.

#### Skin Absorption

May be harmful if absorbed through the skin.

#### Eye Contact

May cause eye irritation.

#### Inhalation

Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

#### Ingestion

Harmful if swallowed.

### Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**RTECS Number:** VA6478000

### Toxicity Data

Oral - Rat: 1392 mg/kg (LD50)

Oral - Rat: 1392 mg/kg (LD50)

Intravenous - Rat: 78 MG/KG (LD50)

Remarks : Behavioral:Altered sleep time (including change in righting reflex).

Behavioral:Convulsions or effect on seizure threshold.

Intravenous - Rat: 78 MG/KG (LD50)

Remarks : Behavioral:Altered sleep time (including change in righting reflex).

Behavioral:Convulsions or effect on seizure threshold.

Oral - Mouse: 660 mg/kg (LD50)

Oral - Mouse: 660 mg/kg (LD50)

Intravenous - Mouse: 86 MG/KG (LD50)

Intravenous - Mouse: 86 MG/KG (LD50)

Oral - Rabbit: 641 mg/kg (LD50)

Oral - Rabbit: 641 mg/kg (LD50)

Intravenous - Rabbit: 35 MG/KG (LD50)

Remarks : Behavioral:Altered sleep time (including change in righting reflex).

Intravenous - Rabbit: 35 MG/KG (LD50)

Remarks : Behavioral:Altered sleep time (including change in righting reflex).

Intravenous - Guinea pig: 57 MG/KG (LD50)

Remarks : Behavioral:Altered sleep time (including change in righting reflex).

Behavioral:Convulsions or effect on seizure threshold.

Intravenous - Guinea pig: 57 MG/KG (LD50)

Remarks : Behavioral:Altered sleep time (including change in righting reflex).

Behavioral:Convulsions or effect on seizure threshold.

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## Section 12 - Ecological Information

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No data available.

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## Section 13 - Disposal Considerations

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### Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Observe all federal, state, and local environmental regulations.

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## Section 14 - Transport Information

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### DOT

**Proper Shipping Name:** None

**Non-Hazardous for Transport:** This substance is considered to be non-hazardous for transport.

### IATA

**Non-Hazardous for Air Transport:** Non-hazardous for air transport.

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## Section 15 - Regulatory Information

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### EU Additional Classification

**Symbol of Danger:** Xn

**Indication of Danger**

Harmful.

**Risk Statements**

**R:** 22

Harmful if swallowed.

### US Classification and Label Text

**Indication of Danger**

Harmful.

**Risk Statements**

Harmful if swallowed.

**TSCA Inventory Item:** Yes Yes

### Canada Regulatory Information

#### WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

**DSL:** Yes

**NDSL:** No

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## Section 16 - Other Information

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### Disclaimer

For R&D use only. Not for drug, household or other uses.

### Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.