

Material Safety Data Sheet

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Version 1.2

According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

1 - Product and Company Information

Product Name	QUININE, 90%
Product Number	145904
Company	Sigma-Aldrich Pty. Ltd. 12 Anella Avenue Castle Hill NSW 2154 Australia
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2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
QUININE	130-95-0	205-003-2	None
Formula	C ₂₀ H ₂₄ N ₂ O ₂		
Molecular Weight	324.44 AMU		
Synonyms	Chinin (German) * Cinchonan-9-ol, 6'-methoxy-, (8- α ,9R)- (9CI) * (8- α ,9R)-6'-Methoxycinchonan-9-ol * 6-Methoxycinchonine * (-)-Quinine * (8S,9R)-Quinine		

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
Irritating to eyes, respiratory system and skin. May cause sensitization by inhalation and skin contact.

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

AFTER SKIN CONTACT

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

AFTER EYE CONTACT

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.

AFTER INGESTION

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

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

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

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

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

6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, 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.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed.

SPECIAL REQUIREMENTS: Light sensitive.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Mechanical exhaust required.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT

Special Protective Measures: Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.

9 - Physical and Chemical Properties

Appearance	Physical State: Solid	
Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	N/A	

MP/MP Range	175 °C
Flash Point	N/A
Flammability	N/A
Autoignition Temp	N/A
Oxidizing Properties	N/A
Explosive Properties	N/A
Explosion Limits	N/A
Vapor Pressure	N/A
SG/Density	N/A
Partition Coefficient	N/A
Viscosity	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
Evaporation Rate	N/A
Bulk Density	N/A
Decomposition Temp.	N/A
Solvent Content	N/A
Water Content	N/A
Surface Tension	N/A
Conductivity	N/A
Miscellaneous Data	N/A
Solubility	N/A

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Conditions of Instability: May decompose on exposure to light.

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, and nitrogen oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: VA6020000

ACUTE TOXICITY

LD50
Intraperitoneal
Mouse
115 MG/KG

LD50
Intravenous
Mouse
68 MG/KG

LD50
Oral
Guinea pig
1800 mg/kg

SENSITIZATION

Respiratory: May cause allergic respiratory reaction.

Skin: May cause allergic skin reaction.

SIGNS AND SYMPTOMS OF EXPOSURE

Repeated exposure can cause: Blood effects. Stomach pains, vomiting, diarrhea. Asthma.

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

TARGET ORGAN INFORMATION

Nerves. Ears. Eyes. Cardiovascular system. Skeletal muscle.

Pancreas. G.I. System.

CHRONIC EXPOSURE - MUTAGEN

Mammal

100 UMOL/L

Cell Type: lymphocyte

DNA

CHRONIC EXPOSURE - TERATOGEN

Species: Woman

Dose: 20 MG/KG

Route of Application: Oral

Exposure Time: (4-5W PREG)

Result: Specific Developmental Abnormalities: Musculoskeletal system. Specific Developmental Abnormalities: Body wall.

Species: Woman

Dose: 27 UG/KG

Route of Application: Oral

Exposure Time: (46-48D PREG)

Result: Specific Developmental Abnormalities: Cardiovascular (circulatory) system. Specific Developmental Abnormalities: Body wall.

Species: Woman

Dose: 60 MG/KG

Route of Application: Oral

Exposure Time: (7W PREG)

Result: Specific Developmental Abnormalities: Hepatobiliary system. Specific Developmental Abnormalities: Musculoskeletal system. Specific Developmental Abnormalities: Central nervous system.

Species: Rabbit

Dose: 280 MG/KG

Route of Application: Subcutaneous

Exposure Time: (7-8D PREG)

Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Central nervous system.

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat

Dose: 10 MG/KG

Route of Application: Intramuscular

Exposure Time: (5D PREG)
Result: Effects on Fertility: Abortion. Effects on Fertility:
Pre-implantation mortality (e.g., reduction in number of
implants per female; total number of implants per corpora
lutea). Effects on Newborn: Stillbirth.

Species: Rabbit
Dose: 650 MG/KG
Route of Application: Subcutaneous
Exposure Time: (4-8D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g.,
dead and/or resorbed implants per total number of implants).
Effects on Embryo or Fetus: Fetal death.

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

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.

14 - Transport Information

RID/ADR

Non-hazardous for road transport.

IMDG

Non-hazardous for sea transport.

IATA

Non-hazardous for air transport.

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: Xn

Harmful.

R-PHRASES: 36/37/38-42/43

Irritating to eyes, respiratory system and skin. May cause
sensitization by inhalation and skin contact.

S-PHRASES: 22-26-36/37-45

Do not breathe dust. In case of contact with eyes, rinse
immediately with plenty of water and seek medical advice. Wear
suitable protective clothing and gloves. In case of accident or
if you feel unwell, seek medical advice immediately (show the
label where possible).

SWITZERLAND

SWISS POISON CLASS: 3

16 - Other Information

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

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