



Material Safety Data Sheet

Version 1.0

Revision Date 11/20/2017

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Artemisinin

Product Number : CN000476

Brand : PUSH

Company : Chengdu Push Bio-technology Co., Ltd.

No.8 West Wuke second road, Wuhou District, Chengdu City, Sichuan
Province, China

Telephone : 86-28-85370565-215

Fax : 86-28-85370565-777

Emergency Phone # : 86-28-85370565-215

2. HAZARDS IDENTIFICATION

OSHA Hazards

No known OSHA hazards.

Not a dangerous substance according to GHS.

HMIS Classification

Health hazard: 0

Flammability: 0

Physical hazards: 0

NFPA Rating

Health hazard: 0

Fire: 0

Reactivity Hazard: 0

Potential Health Effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

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Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Ingestion May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name: Artemisinin

CAS#: 63968-64-9

Formula: $C_{15}H_{22}O_5$

Molecular Weight: 282.336

4. FIRST AID MEASURES

General advice

Consult a doctor.

Show this safety data sheet to the doctor in attendance.

Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a doctor.

In case of skin contact

Wash off with soap and plenty of water. Consult a doctor.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a doctor.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a doctor.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Conditions for safe storage

Keep container tightly closed.

Recommended storage temperature: 2 - 8°C

Keep in a dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99(US) or type P2 (EN 143) respirator cartridges as a backup to engineering

controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves.

Eye protection

Tightly sealed goggles.

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

White solid

Safe data

pH	no data available
Melting point	156-157°C
Boiling point	no data available
Flash point	no data available
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Water solubility	no data available
Solubility	Ethanol

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid

no data available

Materials to avoid

Strong oxidizing agents.

Hazardous decomposition products

Other decomposition products - no data available.

Hazardous decomposition products formed under fire conditions. - Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity data

Type of test	Route	Species	Dose
LD ₅₀	Oral	Rodent - rat	5576 mg/kg
LD ₅₀	Intramuscular	Rodent - rat	2571 mg/kg
LD ₅₀	Oral	Rodent - mouse	4228 mg/kg
LD ₅₀	Intraperitoneal	Rodent - mouse	1558 mg/kg
LD ₅₀	Intramuscular	Rodent - mouse	2800 mg/kg
LD	Unreported	Rodent - mouse	>2 gm/kg
LD	Intramuscular	Mammal - dog	>800 mg/kg

Other multiple dose toxicity data

Type of test	Route	Species	Dose
TD _{Lo}	Oral	Rodent - mouse	3200 mg/kg/4D-I
TD _{Lo}	Intramuscular	Primate - monkey	1344 mg/kg/14D-I

Tumorigenic data

no data available

Mutation data

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure (GHS)

no data available

Specific target organ toxicity - repeated exposure (GHS)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion	May be harmful if swallowed.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.

Signs and Symptoms of Exposure

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

12. ECOLOGICAL INFORMATION

Toxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Product

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a

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combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards

No known OSHA hazards.

DSL Status

This product contains the following components that are not on the Canadian DSL nor NDSL lists.

3,12-Epoxy-12H-pyrano[4,3-j]-1,2-benzodioxepin-10(3H)-one, octahydro-3,6,9-trimethyl-, (3R,5aS,6R,8aS,9R,12S,12aR)-

CAS-No. 63968-64-9

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the thresh

(De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

3,12-Epoxy-12H-pyrano[4,3-j]-1,2-benzodioxepin-10(3H)-one, octahydro-3,6,9-trimethyl-,
(3R,5aS,6R,8aS,9R,12S,12aR)-

CAS-No. 63968-64-9

New Jersey Right To Know Components

3,12-Epoxy-12H-pyrano[4,3-j]-1,2-benzodioxepin-10(3H)-one, octahydro-3,6,9-trimethyl-,
(3R,5aS,6R,8aS,9R,12S,12aR)-

CAS-No. 63968-64-9

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

This MSDS above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.