

Safety Data Sheet: Artemisinin

Section 1. Identification of the substance/mixture and of the Company

Product identifiers			
Product name	Artemisinin	EC Number #	613-408-4
Product Code	AR	Formula	C15H22O5
CAS #	63968-64-9	RTECS	KD4170000
Intended uses of the substance or mixture and uses advised against			
Intended use		Uses advised against:	
Only for Research and/or Development		Not for drug, Not to be used in humans or animals. Not food additive	
Details of the supplier of the safety data sheet		Emergency Telephone number	
FERMENTEK Ltd 4 Yatziv street, POB 47120 Jerusalem 97800, Israel		For chemical emergency spill, leak, fire, exposure, or accident calls CHEMTREC day or night: Within USA and Canada: 1-800-424-9300. Outside USA and Canada: +1 703-527-3887	
Tel: +972 2 5853953			
Fax: +972 2 5853943			
eMail: fermentek@fermentek.com			
Website: www.fermentek.com			
This company is the manufacturer of the product, and the supplier of the safety data sheet			
Reach: A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.			

Section 2. Hazards identification

Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.
 This substance is not classified as dangerous according to Directive 67/548/EEC.

GHS Label elements, including precautionary statements

The product does not need to be labelled in accordance with EC directives or respective national laws.

Section 3. Composition/information on ingredients

Substance

Substance name:	Artemisinin
	CAS Registry #:63968-64-9
	Molecular Formula: C15H22O5 Molecular Weight: 282

No components need to be disclosed according to the applicable regulations

Mixture

Not mixture.

Section 4. First Aid Measures

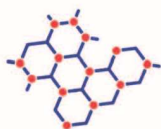
Description of First Aid Measures

General advice:

If medical attention is required, show this safety data sheet to the doctor.

Eye contact:

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.



Skin Contact:	Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. Wash off immediately with plenty of water. If skin irritation persists, call a physician.
Ingestion:	Do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Drink plenty of water. Clean mouth with water and drink afterwards plenty of water. Call a physician
Inhalation:	Immediate medical attention is required Remove to fresh air If not breathing, give artificial respiration Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Artificial respiration and/or oxygen may be necessary Call a physician Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician
Self-protection of the first aider:	Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Section 5. *Fire-fighting measures*

Extinguishing media

Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	None
Hazardous combustion products	Carbon oxides,
Advice for firefighters	Wear self-contained breathing apparatus for fire fighting if necessary. Wear protective suit.

Section 6. *Accidental release measures*

Personal precautions, protective equipment and emergency procedures

Personal precautions	Use personal protective equipment as required. Keep people away from and upwind of spill/leak.
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Environmental precautions

Environmental precautions	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.
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Methods and material for containment and cleaning up

Methods for containment:	Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.
Methods for cleaning up:	Cover liquid spill with sand, earth or other non-combustible absorbent material (e.g. sand, earth, diatomaceous earth, and vermiculite). Cover powder spill with plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal.

Section 7. *Handling and storage*

Precautions for safe handling

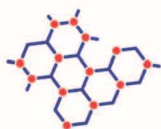
Advice on safe handling:	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.
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Conditions for safe storage, including any incompatibilities

Storage Conditions:	Keep container tightly closed in a dry and well-ventilated place.
Keep out of the reach of children.	
Store at -20 °C.	
Incompatible materials:	None known based on information available.

Section 8. *Exposure Controls/Personal Protection*

No occupational exposure limits are listed for this material.	
OSHA Permissible Exposure Limits	No Data Available
NIOSH Recommended Exposure Limits	No Data Available



ACGIH Threshold Limit Values No Data Available

Exposure controls

Appropriate engineering controls

Engineering Controls Showers, Eyewash stations, Ventilation systems

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Use fumehood for routine work.

Personal protective equipment [PPE=Personal Protection Equipment]

The employer/end user, prior to use of this product should perform all recommendations below are advisory in nature and a risk assessment. The type of protective equipment must be selected based on the amount and concentration of the dangerous material being used in the workplace.

PPE: Respiratory protection	Where risk assessment shows air-purifying respirators are appropriate, use a full-face particle respirator type N100 (US) or type P3 (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).
PPE: Hand Protection:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal techniques to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices, and wash and dry hands
PPE: Eye Protection:	Use a face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU)
PPE: Skin and Body Protection:	Handle with gloves. Wear protective clothing. Choose body protection according to the amount and concentration of the dangerous substance at the work place. When deemed needed according to the concentration and amount of this product, use a complete body suit

Section 9. Physical and chemical properties

Physical / chemical properties

Physical State at room temperature	Solid / powder
Color	white
Melting/freezing point	150-°C 160°C
No further safety relevant data are available	

Section 10. Stability and reactivity

Reactivity:	No information available.
Chemical stability:	Stable under normal conditions.
Conditions to avoid	Heat, flames and sparks. Sunlight.
Incompatible materials	Strong reducers and oxidizers
Possibility of Hazardous Reactions	None under normal processing
Hazardous decomposition products:	Carbon oxides

Section 11. Toxicological information

Information on toxicological effects

The toxicological effects of this product have not been thoroughly studied.

Acute Toxicity	LD50 (oral - rat)	5576 mg/kg
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Skin corrosion/irritation:	No data available
Serious eye damage/eye irritation:	No data available
Respiratory or skin sensitization:	No data available
Germ cell mutagenicity:	No data available
Carcinogenicity:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity / Teratogenicity:	No data available
STOT-SE – single exposure (GHS):	No data available
STOT-RE – 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
Skin	May be harmful if absorbed through skin. May cause skin irritation
Eyes:	May cause eye irritation
Ingestion	Toxic if swallowed
Signs and Symptoms of Exposure	No information available.
Additional information:	RTECS:KD4170000

Section 12. Ecological Information

Eco-Toxicity	No further relevant information available
Other adverse effects	No further relevant information available.

Section 13. Disposal Considerations

Waste treatment methods

Waste from residues / unused products	Dispose of in accordance with local regulations
Contaminated packaging	Dispose of as unused product

Section 14. Transport information

UN number, Proper Shipping Name, Transport Hazard Class, packing group

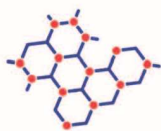
	US DOT	ADR/RID:	IMDG:	IATA
UN Number	Not dangerous goods	Not dangerous goods	Not dangerous goods	Not dangerous goods
UN proper shipping name	Not dangerous goods	Not dangerous goods	Not dangerous goods	Not dangerous goods
Transport Hazard Class & Packing Group	Not dangerous goods	Not marine pollutant	Not dangerous goods	Not dangerous goods

Section 15. Regulatory information

Safety, health and environmental regulations/legislation

USA EPA / TSCA	This product is not listed on the USA EPA TSCA
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Section 16. *Other information*

Date of revision: 28 June 2017

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 here is designed only as 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.

End of SDS





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