

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product Name: 5,8-Dihydroxy-2-(1-hydroxy-4-methylpent-3-en-1-yl)naphthalene-1,4-dione((Rac)-Shikonin) CAS Number: 54952-43-1 Catalog Numbers: A288138

1.2 Relevant identified uses of the substance or mixture and uses advised against Identified uses: For laboratory research purposes.Not for drug or household use.

1.3 Details of the supplier of the safety data sheet Ambeed, Inc.
3205 N WILKE RD, STE 3205-125, Arlington Hts, IL 60004, USA Tel: 630-580-1088 E-mail: sales@ambeed.com

1.4 Emergency telephone number Emergency phone (USA): 1-352-323-3500 Emergency phone (Canada): 1-800-535-5053 AlamBer

2. HAZARDS IDENTIFICATION

2.1	Classification of the substance or mixture	
	GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)	
	Acute toxicity, oral(Category 4)	H302
	Serious eye damage/eye irritation(Category 2A)	H319
	Acute toxicity, inhalation (Category 4)	H332
	Specific target organ toxicity, repeated exposure(Category 1)	H372
	Hazardous to the aquatic environment, acute hazard (Category 1)	H400
	No Resource File	

- 2.2 GHS Label elements, including precautionary statements
 - Pictogra



Signal word:

Hazard statement(s)			
H302	Harmful if swallowed		
H319	Causes serious eye irritation		
H332	Harmful if inhaled		
H372	Causes damage to organs through prolonged or repeated exposure		
H400	Very toxic to aquatic life		
Precautionary statement(s)			
P260	Do not breathe dust/fume/gas/mist/vapours/spray.		
P264	Wash hands thoroughly after handling.		
P270	Do not eat, drink or smoke when using this product.		
P273	Avoid release to the environment.		
P280	Wear protective gloves/protective clothing/eye protection/face		
	protection.		

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P301+P312+P330IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.P304+P312IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.P305+P351+P338IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.P314Get medical advice/attention if you feel unwell.P337+P313If eye irritation persists: Get medical advice/attention.P391Collect spillage.P501Dispose of contents/container to in accordance with local regulation		
P305+P351+P338IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.P314Get medical advice/attention if you feel unwell.P337+P313If eye irritation persists: Get medical advice/attention.P391Collect spillage.	P301+P312+P330	
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P337+P313If eye irritation persists: Get medical advice/attention.P391Collect spillage.	P305+P351+P338	
P391 Collect spillage.	P314	Get medical advice/attention if you feel unwell.
	P337+P313	If eye irritation persists: Get medical advice/attention.
P501 Dispose of contents/container to in accordance with local regulation	P391	Collect spillage.
	P501	Dispose of contents/container to in accordance with local regulation

2.3 Other hazards

3.1

Additional precautionary phrases are located throughout the safety data sheet.

3. COMPOSITION, INFORMATION ON INGREDIENTS

-		16H16O5 38.30	R
	Component		Concentration
5,8-Dihydroxy-2-(1-hydroxy-4-methylpent-3-en-1-yl)naphthalene-1,4-dione			dione
	CAS Number	54952-43-1	-

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. 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 physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

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Suitable extinguishing media: alcohol-resistant foam, dry chemical or carbon dioxide Unsuitable extinguishing media: no data

5.2 Special hazards arising from the substance or mixture

In combustion toxic fumes may form.

5.3 Advice for firefighters

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures 6.1

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. Do not attempt to take action without suitable protective clothing. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains or river. Alert the neighbourhood to the presence of fumes or gas.

Methods and materials for containment and cleaning up 6.3

Mix with sand or vermiculite. Sweep up and shovel. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Wash hands thoroughly after handling. Ensure there is sufficient ventilation of the area.

Normal measures for preventive fire protection. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated area. Containers which are opened must be carefully resealed and kept upright to prevent leakage.Sealed in dry,2-8°C

7.3 Specific end use(s)

The end use(s) have not been fully determined. The substance is supplied for Research and Development purposes by professionals only.

EXPOSURE CONTROLS, PERSONAL PROTECTION 8.

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

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Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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Personal protective equipment

Eye/face protection

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).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product.

Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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).

Control of environmental exposure

Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid
Boiling Point	No data available
Melting Point	No data available
Odour 🔗	No data available
Odour Threshold	No data available
рН	No data available
Flash point	No data available
Evapouration rate	No data available
Vapour pressure	No data available
Vapor Density	No data available
Relative density	No data available
Solubility in water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity No Data	No data available
Explosive properties	No data available
Oxidizing properties	No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

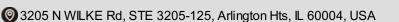
10.2 Chemical stability

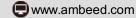
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Stable under recommended storage conditions.

- DAmBeed 10.3 Possibility of hazardous reactions No data available
- 10.4 Conditions to avoid No data available
- 10.5 Incompatible materials No data available
- 10.6 Hazardous decomposition products Carbon monoxide, carbon dioxide

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity

Skin corrosion/irritation Serious eye Damage/irritation

Respiratory or skin sensitisation

Germ Cell mutagenicity

Carcinogenicity

Reproductive toxicity

STOT-single exposure

STOT-repeated exposure

Aspiration hazard

11.2 Additional

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No data available

- 12.2 Persistence and degradability No data available
- 12.3 Bioaccumulative potential No data available

12.4 Mobility in soil No data available

12.5 Results of PBT and vPvB assessment No data available

12.6 Other adverse effects

No data available

DISPOSAL CONSIDERATIONS 13.

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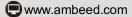
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No data available No data available



Ambeed, Inc.
SAFETY DATA SHEET (A288138)



13.1 Waste treatment methods

Disposal Operations

pra AmBe Consult state, local or national regulations for proper disposal. Hand over to authorised disposal company as hazardous waste.

Disposal of Packaging

Disposal must be made according to official regulations.

14. TRANSPORT INFORMATION

14.1 UN number ADR/RID: 3077	IMDG: 3077	IATA: 3077
14.2 UN proper shipping name ADR/RID: Environmentally hazard IMDG: Environmentally hazardous IATA: Environmentally hazardous	s substances, solid, n.o.s	
14.3 Transport hazard class(es) ADR/RID: 9	IMDG: 9	IATA: 9
14.4 Packaging group ADR/RID: III	IMDG: III	IATA: III
14.5 Environmental hazards ADR/RID: Pollutant	IMDG: Pollutant	IATA: Pollutant
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14.6 Special precautions for user

No special precautions required

14.7 Further information

A AmBood EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

15. REGULATORY INFORMATION

Safety, health and environmental and national regulations: Product is not subject to any additional regulations or provisions California Proposition 65 Not listed on California's listing of known or potential carcinogens. U.S. Federal Regulations Amt SARA 313: Not applicable SARA 302: Not applicable SARA 311/312 Hazard Categories: See section 2 for more information Safety Assessment No Chemical Safety Assessment 16. OTHER INFORMATION The reference company name of written contents Company: Ambeed, Inc.

Tel:630-580-1088 Fax: 630-581-0788 E-mail:sales@ambeed.com Address: 3205 N WILKE RD, STE 3205-125, Arlington Hts, IL 60004, USA

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This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.

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Revision Date 03/14/2024 Print Date 09/10/2024

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