

SAFETY DATA SHEET

according to Regulation (EC) No.-

Section 1. Product and Company Information


GHS Product Name	: Piperine
Product Code	: ALK-1-100
CAS	: [94-62-2]
Molecular Formula	: C ₁₇ H ₁₉ NO ₃ (2E, 4E)-5-(1,3-benzodioxol-5-yl)-1-piperidin-1-ylpenta-2,4-dien-1-one; Bioperine; piperoylpperidine; N-(E,E)-piperoyl-piperidine; 1-[(2E,4E)-5-(1,3-benzodioxol-5-yl)-2- 4-pentadienoyl]piperidine; Piperin (INA)
Company	: MarkHerb
Address	: Gedung Riset dan Inovasi (ex. PAU Lt. 8), Institut Teknologi Bandung, Jl Ganesha 10, Bandung 40132
Tel.	: +62 877-4556-0063
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Website	: www.markherb.com
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Section 2. Hazards Identification

2.1 GHS classification

PHYSICAL HAZARDS	: Not classified
HEALTH HAZARDS	: Acute toxicity, Oral (Category 4), H302
ENVIRONMENTAL HAZARDS	: Acute aquatic toxicity (Category 2), H401 Chronic aquatic toxicity (Category 2), H411

2.2 GHS label elements, including precautionary statements

Pictograms or hazard symbols	: 
Signal word	: Warning
Hazard statements	: H302 Harmful if swallowed. H411 Toxic to aquatic life with long lasting effects.
Precautionary statements	: P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P273 Avoid release to the environment. P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. P391 Collect spillage. P501 Dispose of contents/ container to an approved waste disposal plant.

Section 3. Information on Basic Physical and Chemical Properties

Physical States	: [] Gas [] Liquid [X] Solid
Melting Point	: 129°C
Boiling Point	: No data
Flash Pt	: No data
Evaporation Rate	: No data
Flammability (solid, gas)	: No data
Explosive Limits	: No data
Vapor Pressure (vs. Air or mmHg)	: No data
Vapor Density (vs. Air = 1)	: No data
Specific Gravity (Water = 1)	: No data
Solubility in Water	: 0.04 g/l at 18 °C
Solubility Notes	: Ethanol (soluble); Ether (Soluble)
Autoignition Pt	: No data
Percent Volatile	: No data
Partition coefficient	: log Pow: 3.69 (n-octanol/ water)
pH	: No data

Section 4. First aid measures

Description of first aid measures

If inhaled

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

In case of skin contact

Wash off with soap and plenty of water.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

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

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**).

Indication of any immediate medical attention and special treatment needed

No data available

Section 5. Fire Fighting Measures

Suitable extinguishing

Media: Dry chemical, foam, water spray, carbon dioxide.

Precautions for firefighters: Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Remove movable containers if safe to do so.

Special protective equipment for firefighters: When extinguishing fire, be sure to wear personal protective equipment.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing vapors, mist or gas.

Environmental precautions

Do not let product enter drains.

General Information:

Use proper personal protective equipment as indicated in **Section 8**.

Spills/Leaks:

Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Decontaminate spill site with 10% caustic solution and ventilate area until after disposal is complete.

Section 7. Handling and Storage**Precautions for safe handling:**

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Keep away from sources of ignition. Avoid prolonged or repeated exposure.

Storage:

Store in a well closed container. Protected from air and light, refrigerate or freeze (2-8°C)

Specific end uses

Use in a laboratory fume hood where possible. Refer to employer is COSHH risk assessment.

Section 8. Exposure Controls / Personal Protection**Engineering controls:**

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels.

Control parameters: Not set up

Personal protective equipment:

Respiratory protection: Dust respirator. Follow local and national regulations.

Hand protection: Protective gloves.

Eye protection: Wear safety glasses and chemical goggles if splashing is possible.

Skin and body protection: Wear appropriate protective gloves and clothing to prevent skin exposure.

Section 9. Stability and Reactivity**Reactivity**

No data available.

Chemical Stability

Stable under normal temperatures and pressures.

Conditions to Avoid

No data available.

Incompatibilities with Other Materials

Strong oxidising agents.

Hazardous Decomposition Products

Nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization

Has not been reported.

Section 10. Toxicological Information

Acute Toxicity	: LD50 Oral - Rat - 514 mg/kg Remarks: Behavioral:Excitement. Behavioral:Change in motor activity (specific assay). Lungs, Thorax, or Respiration:Other changes.
Skin corrosion/irritation	: No data
Serious eye damage/irritation	: No data
Germ cell mutagenicity	: No data
Carcinogenicity	: IARC: 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. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
Reproductive toxicity	: No data available

Section 11. Ecological Information

Toxicity	: Toxicity to fish LC50 - <i>Pimephales promelas</i> (fathead minnow) - 7.84 mg/l - 96 h
Persistence and degradability	: The degradability of the product is not known
Bioaccumulative potential	: No data available on bioaccumulation.
Mobility in soil	: No data available
Results of PBT & vPvB assessment	: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
Other adverse effects:	: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life with long lasting effects.

Section 12. Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered.

Section 13. Transport Information

Hazards Class

Does not meet the criteria for classification as hazardous for transport.

UN proper shipping name ADR/RID

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

Transport hazard class(es)

Does not meet the criteria for classification as hazardous for transport.

Section 14. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

no data

Chemical Safety Assessment

no data

Section 15. Additional 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.

----End of safety data sheet----