



MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

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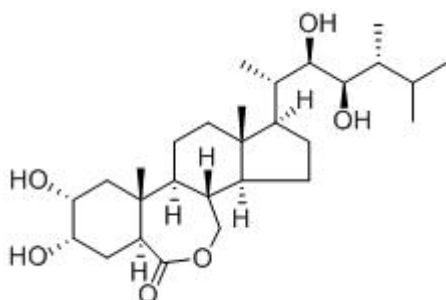
1. Chemical Product Identification

Common Name: Brassinolide 90% TC

Molecular Formula: $C_{28}H_{48}O_6$

Molecular Weight: 480.68

Structural Formula:



Chemical Name: (3aS,5S,6R,7aR,7bS,9aS,10R,12aS,12bS)-10-[(1S,2R,3R,4S)-2,3-dihydroxy-1,4,5-trimethylhexyl]hexadecahydro-5,6-dihydroxy-7a,9a-dimethyl-3H-benzo[c]indeno[5,4-e]oxepin-3-one

Form: Crystal powder

Color: White

Odor: Sickening

CAS No.: 72962-43-7

2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Brassinolide	72962-43-7	90
Other ingredients	---	10



3. Hazards Identification

Effects and Symptoms: May be harmful by inhalation, ingestion, or skin absorption. May cause eye, skin, or respiratory system irritation. To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

4. First Aid Measures

In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

In Case of Ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.

Unsuitable Extinguishing Media: A solid water stream may be inefficient.

Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

6. Accidental Release Measures

Protective Precautions, Protective Equipment and Emergency Procedures: Avoid raising and breathing dust, and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

Environmental Precautions: Take steps to avoid release into the environment, if safe to do so.

Methods and Material For Containment and Cleaning Up: Contain spill and collect, as



appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling And Storage

Precautions To Be Taken in Handling: Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.

Precautions To Be Taken in Storing: Keep container tightly closed. Store in accordance with information listed on the product insert.

8. Exposure Controls/Personal Protection

Engineering Controls (Ventilation etc.): Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Personal protection equipment:

Eye Protection: Safety glasses.

Protective Gloves: Compatible chemical-resistant gloves.

Other Protective Clothing: Lab coat

Respiratory Equipment (Specify Type): NIOSH approved respirator, as conditions warrant.

Work/Hygienic/Maintenance Practices: Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower. Wash thoroughly after handling.

9. Physical and Chemical Properties

Appearance: White crystal powder

Odour: Sickening

pH: 5.0-7.0

Melting point: 256 to 258°C

Moisture content: ≤0.5%

Ethanol insoluble: ≤0.2%

Solubility in water: 5 mg/L

Solubility in organic solvent: Readily soluble in methanol, ethanol, chloroform and acetone.

10. Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.



Conditions to Avoid: Strong oxidants.

Incompatibilities with Other Materials: Not available.

Hazardous Decomposition Products: None

Hazardous Polymerization: Not available.

11. Toxicological Information

Acute oral LD50 for rats: >2000 a.i.mg/kg

Acute dermal LD50 for rats: >2000 a.i.mg/kg

Eye irritation: Non-irritating to eyes (rabbits)

12. Ecological And Ecotoxicological Information

Effect on fish: Acute LC50 (96 h) for Carp is >10 mg/l.

Environmental Fate: No information found.

Environmental Toxicity: No information found.

Product of Biodegradation: Not available.

Toxicity of the Products of Biodegradation: Not available.

13. Disposal Considerations

Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

14. Transport Information

Not applicable.

15. Regulatory Information

Not applicable.

16. Other Information

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood



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by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.