

SAFETY DATA SHEET


GRUNPRO™ HORTI AID

1. IDENTIFICATION

Product Identifier / Trade Name	: GRUNPRO Horti-Aid
Other Means of Identification	: D-allethrin 5.00 %, Permethrin 20.00 % & Piperonyl Butoxide 20.00 % emulsion concentrate.
Recommended Use	: Broad spectrum high performance insecticide for flying insect pest control on ornamental plants. (I.e. Thrips, White Flies, Moths & others). Ultra Low Volume Spray Application: <ul style="list-style-type: none"> • Dilution rate 1+ 49 (Application Rate = 5 L /hectare). • Dilution rate 1+ 9 (Application Rate = 0.5 L /hectare). Thermal Fog Application: <ul style="list-style-type: none"> • Dilution rate 1 + 49 (Application Rate = 5 L /hectare). Frequency: <ul style="list-style-type: none"> • Once every week (Heavy Infestation) • Once every fortnight (Normal)
Local Supplier & Address	: Gruntek International (S) Pte Ltd 50 Ubi Avenue 3, #04-011 Frontier Singapore 408866
Telephone Number / Telefax Number	: +65 6844 5593 / +65 6844 5592
For Support, Please Contact	: Mr. Glenn Chung / Customer Service +65 9754 0891 / +65 6844 5593 glenn@gruntek-intl.com / enquiry@gruntek-intl.com

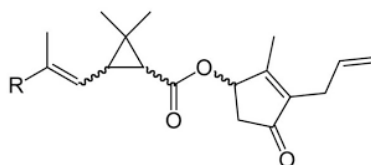
2. HAZARDS IDENTIFICATION

This product may be hazardous to the environment. Special attention should be given to fish and other non-target organisms. This product is unlikely to present acute hazard to humans in normal use and is classified in accordance with NEA guidelines (NEA/July2015).

Classification	: Acute aquatic toxicity (Category 1) Chronic aquatic toxicity (Category 1)
GHS Label Elements	: 
Signal Word	: Warning
Hazard Statement(s)	: H400 - Very toxic to aquatic life. H410 - Very toxic to aquatic life with long lasting effects.
Precautionary Statement(s) Prevention	: P273 - Avoid release to the environment
Precautionary Statement(s) Response	: P391 - Collect spillage.
Precautionary Statement(s) Disposal	: P501 - Dispose of contents/container in accordance with all applicable local regulations

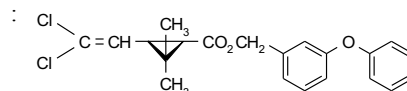
3. COMPOSITION ON INGREDIENTS

Chemical Identification	: D-allethrin
Chemical Family	: Synthetic Pyrethroid
Chemical Name (IUPAC)	: (RS)-3-allyl-2-methyl-4-oxocyclopent-2-enyl(1R)-cis, trans-chrysanthemate;
Chemical Formula	: C ₁₉ H ₂₆ O ₃
Molecular Mass	: 304.4
Chemical Structure	:



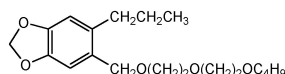
CAS Number	: 584-79-2
Purity	: 5.0 % w/w

Chemical Identification	: Permethrin
Chemical Family	: Synthetic Pyrethroid
Chemical Name (IUPAC)	: 3-phenoxybenzyl (1RS,3RS;1RS,3SR) -3- (2,2-dichlorovinyl) -2 , 2-dimethyl cyclopropanecarboxylate
Chemical Formula	: C ₂₁ H ₂₀ Cl ₂ O ₃
Molecular Mass	: 391.3
Chemical Structure	:



CAS Number	: 52645-53-1
Purity	: 20.00 % w/w

Chemical Identification	: Piperonyl Butoxide
Chemical Family	: Synergist.
Chemical Name (IUPAC)	: 5-[2-(2-butoxyethoxy)ethoxymethyl]-6-propyl-1,3-benzodioxole
Chemical Formula	: C ₁₉ H ₃₀ O ₅
Molecular Mass	: 338.4
Chemical Structure	:



CAS Number	: 51-03-6
Purity	: 20.00 % w/w

Other Ingredients (Determined as Non-hazardous)	: Up to 100.00 % w/w
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4. FIRST AID MEASURES

This product may be hazardous to the environment. Special attention should be given to fish and non-target organisms .

If Inhaled	: Remove subject to open air. If the subject stops breathing, administer artificial
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If Contact with Skin

respiration. Seek medical advice immediately if necessary.

If Contact with Eyes

: Remove contaminated clothing and wash affected areas with plenty of water and soap. If irritation persists, seek medical advice immediately.

If Ingested

: Remove contact lenses if possible. Flush eyes with plenty of water for 15 minutes. If irritation persists, seek medical advice immediately.

Guide to Physicians

: Seek medical attention immediately. Induce vomiting only if indicated by the doctor. Do not give anything by mouth to an unconscious person.

: Symptomatic treatment should be administered.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

: Carbon dioxide, foam, powder and water fog.

Unsuitable Extinguishing Media

: Jets of water.

Special Exposure Hazards in a Fire

: Combustion may emit hazardous oxides of carbon and other toxic fumes.

Special Instruction for Fire-fighting

: Cool fire-exposed containers with water fog and move materials to a safe place if possible. Inform fire fighters that the substance is toxic to fish and other aquatic life. Minimize environmental contamination through polluted run-off where possible. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

When fighting the fire, wear self-contained respiratory apparatus and complete protective equipment (normal fire-fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137)) at all times.

Extinguish from upwind direction.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

: Stop the source of spill only if safe to do so. Wear complete protective equipment (Section 8) as needed to avoid inhaling and/or skin contact with the substance or contaminated surfaces.

Environmental Precautions

These indications apply for both involved in emergency procedures.

: Keep people and animals away. Avoid entry to drains, sewers and watercourses using a barricade. Contain the spill to prevent further contamination of the soil, surface water or ground water.

Methods for Cleaning Up

: Collect the leaked substance into a suitable container. Soak up with sand or other inert absorbent material. Wash the polluted area with water with suitable detergents and collect all waste and polluted run-off thoroughly into marked containers for treatment.

All waste must be properly processed via certified waste disposal companies.

7. HANDLING AND STORAGE

Safe Handling Conditions

: Use substance in a well-ventilated area. When handling substance, do not eat, drink or smoke. Wash hands and exposed skin before meals and after work. Wear personal protective equipment (Section 8) and avoid contact with eyes, skin and clothing.

Storage Conditions

: Keep the substance in clearly labelled containers, in a dry and well-ventilated place at cool temperature.

The substance is stable under normal atmospheric conditions when stored in properly closed containers.

Special Storage Conditions

: Avoid dust formation.

Keep away from children and unauthorized personnel, food, animal feed, excessive heat and direct sunlight.

Incompatible Substances	: None established.
Recommended Packaging Material	: PET bottles or iron drums with PVF coating recommended.
Packaging Material to be Avoided	: None established.
Supplier Packaging	: 1 L PET bottle & 25 kg drum.
Shelf Life	: At least 2 years if properly packed and stored.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Limit Values for Workplace Air

STEL/TWA/IDLH	: STEL	-	None established.
	: TWA	-	None established.
	: IDLH	-	None established.

Personal Protective Equipment

Respiratory Protection	: None required unless indicated by the regulatory authorities. Select NOISH/MSHA approved equipment based on actual airborne concentrations in according with appropriate regulatory standards.
Hand Protection	: Wear chemical resistant gloves PVC or nitrile (300mm) gloves.
Eye Protection	: Wear protective eyewear or face shield.
Skin Protection	: Wear full protective overalls and boots.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	: Liquid.
Colour	: Yellow – light brown
Odour	: Characteristic solvent odour
pH	: 4.5 – 7.5
Boiling Point	: None established.
Melting Point	: None established.
Flash Point	: > 58°C
Flammability	: Non-flammable under normal conditions.
Auto-flammability (Ignition Point)	: > 100°C
Decomposition Temperature	: None established.
Explosive Limit	: Slight when exposed to excessive heat and flame.
Vapour Pressure	: None established.
Vapour Density	: None established.
Relative Density	: 0.90-0.91 at room temperature.
Solubility in Water	: White emulsion in water.
Solubility in Organic Solvents	: Soluble in organic solvent.
Partition Coefficient: n-octanol / water	: None established.
Viscosity	: None established.

10. STABILITY AND REACTIVITY

Reactivity	: None established.
Chemical Stability	: Stable under recommended storage and handling conditions.
Possibility of Hazardous Reactions	: The substance does not have hazardous reactions under normal conditions.
Conditions to Avoid	: Avoid ignition sources and do not expose to temperatures higher than 60 °C in

order to avoid degradation of lined containers.

Incompatible Materials

Avoid direct sunlight.

: Substance degrades when in contact with strong acids, alkalis and oxidizing agents.

Hazardous Decomposition Products

: Combustion may emit hazardous oxides of carbon and other toxic fumes.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity - LD₅₀ Oral (Rat)

: Based on WHO Calculation guidelines
>5,000.00 mg/kg

Acute Toxicity - LD₅₀ Dermal (Rabbit)

: Based on WHO Calculation guidelines
>5,000.00 mg/kg

Inhalation LC₅₀ (Rat)

: None established.

Eye (Rabbit)

: Mild irritant.

Skin Irritation (Rabbit)

: Mild irritant.

Skin Sensitization (Guinea Pig)

: Mild sensitizer.

Effects on Humans

: Non-carcinogenic.
Non-mutagenic.
Non-teratogenic.
Non-toxic to reproduction.

12. ECOLOGICAL INFORMATION

Ecotoxicity

: This substance is extremely toxic to fish, aquatic invertebrates and other aquatic organisms. It has long-term negative effects on aquatic environment. Do not contaminate streams, rivers or waterways with the material or its container.

Persistence & Degradability

: Subjected to rapid photochemical degradation.

Bio-Accumulative Potential

: Not expected to bio-accumulate.

Mobility

: None established.

13. DISPOSAL CONSIDERATIONS

Product Disposal

: This substance must be disposed as hazardous waste in accordance with local, national or state regulations. Do not empty into drains or waterways. This substance to be processed at an approved waste disposal facility. Advice may be obtained from the local waste regulatory authorities.

Container Disposal

: Reuse when possible; otherwise puncture container to avoid re-use. Licensed disposal or incineration methods based on local codes of practice and law.

14. TRANSPORT INFORMATION

Road & Rail Transport (ADR)

UN Number

: 3082

Class

: 9

Hazchem Code

: 2X

Proper Shipping Name

: Environmentally hazardous substances, liquid, n.o.s.
Pyrethroid pesticide, toxic, flammable, flash point 23°C or more.

Packing Group

: III



Sea & Air Transport (IMDG & IATA)

UN Number : 3082
Class : 9
Hazchem Code : 2X
Proper Shipping Name : Environmentally hazardous substances, liquid, n.o.s.
Pyrethroid pesticide, toxic, flammable, flash point 23°C or more.
Packing Group : III



Additional Information : Product is designated as marine pollutant.

15. REGULATORY INFORMATION

This substance is registered with regulating bodies in the country of sale and is subjected to certain labelling requirements. The requirements differ based on workplace label classification criteria and hazard information assessed from safety data sheets.

16. OTHER INFORMATION

Updated : 01 October 2016

This article is as accurately as possible complied with the best of Gruntek's knowledge at the time documentation. Each user should read this SDS and consider the information in the context of how the material will be handled and used in the workplace including in conjunction with other products. If clarification of further information is needed to ensure an appropriate risk assessment, the user should contact Gruntek.

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. No warranty is expressed or implied regarding the accuracy and completeness of the data. As such, Gruntek cannot be held liable for any injury or economic loss. Users are further reminded of the possible risks of using this material for any other purposes than those for which it was intended. The above information can be utilized only for meeting regulatory norms in regard to handling and labelling advice.

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