

UNIVERSAL PERLAN®

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE

Product Name: PERLAN®
 Plant Growth regulator
UN No.: Not regulated
Company: Universal Crop Protection (Pty) Ltd.
Co. Reg. No.: 1983/008184/07
 PO Box 801,
 Kempton Park, 1620, South Africa
Telephone: (011) 396 2233
Fax: (011) 396 4666
Website: www.villacrop.co.za

Emergency telephone numbers:

24 Hr Transport / Spill emergency no:
 Envirosure. +27 31 205 4918
 (Hazcall24) +27 86 044 4411
 (Client: Villa Crop Protection)
 Griffon Poison Information Centre +27 82 446 8946
 (Client: Villa Crop Protection)

Poisoning Emergency telephone numbers:
 Griffon Poison Information Centre +27 82 446 8946
 Poisons Information Centre +27 861 555 777

Villa Crop Protection Emergency number:
National Safety, Health and Environmental Manager:
 +27 63 698 0668

2. COMPOSITION / INFORMATION ON INGREDIENTS

Common Name:

1) **Gibberellins A₄ & A₇ (GA₄ and GA₇)**
 2) 6-benzylaminopurine (6-BAP)

Chemical Name:

1) GA₄: (3S,3aR,4S,4aR,7R,9aR,9bR,12S)-12-hydroxy-3-methyl-6-methylene-2-oxoperhydro-4a,7-methano-3,9b-propenoazuleno[1,2-b]furan-4-carboxylic acid

GA₇: (3S,3aR,4S,4aR,7R,9aR,9bR,12S)-12-hydroxy-3-methyl-6-methylene-2-oxoperhydro-4a,7-methano-9b,3-propenoazuleno[1,2-b]furan-4-carboxylic acid

2) 6-BAP: N-(phenylmethyl)-1H-purine-6-amine
(Chemical Abstracts name);
 6-benzyladenine **(IUPAC)**

CAS No.:

1) GA₄ 468-44-0
 GA₇ 510-75-8
 2) 6-BAP: 1214-39-7

Chemical Family:

2) 6-BAP: cytokinin

Chemical Formula:

1) GA₄: C₁₉H₂₄O₅ (Mol. Wt.: 332.4)
 GA₇: C₁₉H₂₂O₅ (Mol. Wt.: 330.4)

2) 6-BAP: C₁₂H₁₁N₅ (Mol. Wt.: 225.3)
Use: A plant growth regulator used as a fruit thinning agent and to reduce russetting and improve fruit mass in apples.
Formulation: GA₄ + GA₇: 19 g/l
 6-BAP: 19 g/l
 Water Soluble Concentrate
Hazardous components: solvent: 95.6 %
Classification: S36
SYMBOLS: Xn,
RISK-PHASE(S): R22, R43

3. HAZARD IDENTIFICATION

Hazardous Identification: Harmful.
Toxicity class/SABS 0304-1: WHO (a.i.): IV.
Likely routes of exposure: Ingestion. Eye and skin contact.
Eye contact: May cause eye irritation.
Skin contact: May cause skin irritation after prolonged exposure. Solvent: Individual substance-induced sensitisations have been described.
Ingestion: Harmful if swallowed.
Inhalation: Not likely to be inhaled.

4. FIRST AID MEASURES AND PRECAUTIONS

Reactions are not likely to occur unless the absorbed dose is extraordinary.

Inhalation: Unlikely to occur. Remove source of contamination or move victim to fresh air. Keep person warm and at rest. Treat symptomatically and supportively as and when required. Administration of oxygen should be performed by qualified personnel. Get medical attention immediately if effects persist.

Skin contact: Remove contaminated clothing, shoes and leather goods. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. Seek medical advice if necessary. Persons who become sensitised may require specialized medical attention.

Eye contact: Immediately flush the contaminated eyes with gently flowing lukewarm water for 15 to 20 minutes, occasionally lifting the upper and lower lids. Obtain medical attention if necessary.

Ingestion: Have victim rinse mouth thoroughly with water. **Do not induce vomiting.** Give plenty of water or milk to drink (1 to 2 glasses). Seek medical advice immediately. Administration of gastric lavage or oxygen should be performed by qualified medical personnel.

Advice to physicians: There is no antidote. Supportive and symptomatic treatment.

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5. FIRE FIGHTING MEASURES

Fire hazard and explosion hazard: Not flammable. Avoid high temperatures and oxidizing agents.

Flash point: 106 °C (Pensky Martins closed cup).

Combustion and decomposition products: Compounds of carbon and nitrogen.

Fire fighters to wear self-contained breathing apparatus if risk of exposure to products of combustion.

Extinguishing agents: Use carbon dioxide, dry chemical powder, water fog (or fine water spray) or foam to extinguish fire. Water spray can be used for cooling of containers exposed to fire, but avoid water coming in contact with the product. Apply water as a fine mist or fog. Contain water used for fire-fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Firefighting: Isolate the fire area and evacuate downwind. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Contain fire control agents for later disposal. Use a recommended extinguishing agent for the type of surrounding fire. Avoid inhaling hazardous vapours. Do not scatter the material. Avoid pollution of waterways.

Personal protective equipment: Fire may produce irritating or poisonous vapours (compounds of carbon and nitrogen), mists or other products of combustion. Fire-fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES (SPILLAGE)

Personal precautions: Avoid contact with skin and eyes. Do not breathe in spray, fumes or mists. For personal protection see Section 8.

Environmental precautions: Do not allow entering drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.

Occupational spill: Keep spectators away. Isolate hazard area and do not touch or walk through spilled material. Stop leak if you can do so without risk.

For **small spills**, cover spill with sand or suitable non-combustible absorbent material, sweep up and place into labelled containers for subsequent disposal.

Wash area with detergent and water and follow with clean water rinse. Do not allow spill to contaminate water supplies. Dike far ahead of liquid spills for later disposal.

For **large spills** contact the supplier. Contain liquid far ahead of spill. Contain spillage and contaminated water for subsequent disposal. Do not flush spilled material into drains.

7. HANDLING AND STORAGE REQUIREMENTS

Handling: Relatively safe to handle. Handle with the care and caution applicable to crop protection chemicals. Avoid spillage. Harmful if swallowed. May irritate eyes and skin. Avoid contact with eyes and skin and inhalation of fumes. Avoid exposure to spray. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking or using the toilet. Operators should change and wash clothing daily. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

Storage: Store in a dry, cool covered warehouse in original, well-labelled containers. Store away from oxidising agents. Store away from food, feedstuffs, fertilisers, seed and agricultural chemicals. Keep away from children and animals. Local regulations should be complied with.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering control measures: It is essential to provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

PERSONAL PROTECTIVE EQUIPMENT: If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal equipment including approved respiratory protection.

Respirator: No special requirement when used as recommended.

Clothing: Employee must wear appropriate protective (impervious) clothing (long sleeved cotton overalls, apron, rubber boots, face shield and hat or cap) and equipment to prevent skin contact with the substance.

Gloves: Employee must wear appropriate chemical resistant protective gloves (PVC or neoprene gloves) to prevent contact with this substance.

Eye protection: Employee must wear splash-proof safety goggles and face-shield to prevent contact with this substance.

Emergency eye wash: Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Bright clear, slight straw, colourless liquid.

Odour: Alcoholic.

Flash point: 106 °C (Pensky Martins closed cup).

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pH: 4.16 at 1% in reverse osmosis water.
Specific gravity: 1.043 at 20 °C
Viscosity, kinematic 20°C: 66.5 cP.
Solubility: Soluble.
Boiling point: ~187 °C.
Explosive properties: Non-explosive.
Auto ignition: 415 °C.

10. STABILITY AND REACTIVITY

Storage stability: Stable for up to 2 years when stored in a dry, cool covered warehouse in original, well-labelled containers.
Compatibility: Incompatible with oxidizing agents.
Products of combustion and decomposition: Carbon and nitrogen.

11. TOXICOLOGICAL INFORMATION

Acute oral LD₅₀: > 5000 mg/kg in rats.
Acute dermal LD₅₀: > 4000 mg/kg in rats.
Acute skin irritation: May cause irritation. Mild skin irritant.
Acute eye irritation: Unlikely to cause irritation.
Dermal sensitization: May cause skin irritation after prolonged exposure. Solvent: Individual substance-induced sensitisations have been described.
Carcinogenicity: None.
Mutagenicity: None.
Reproductive Toxicity: None
WHO Class: Table 5
EPA Toxicity Class: III

12. ECOLOGICAL INFORMATION

Biodegradation: Rapidly degraded.
ECOTOXICOLOGY:
Fish: Non-toxic.
Solvent: carp: LC₅₀ (48 hrs): 6000 ppm
 goldfish LC₅₀ (24 hrs): > 5000 mg/l
Daphnia: Non-toxic.
Solvent: EC₅₀ (48 hrs): 34 400 mg/l
Bees: Not toxic to bees.
Bacterial Toxicity: Non-toxic.

13. DISPOSAL CONSIDERATION

Open dumping or burning of this pesticide is prohibited. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers.

Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed.

TRIPLE RINSE empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow draining for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water equal to a minimum of one third of that of the container. Add the rinsing to the contents of the spray tank before destroying the container in the prescribed manner.

Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dump site. Prevent contamination of food, feedstuffs, drinking water and eating utensils.

14. TRANSPORT INFORMATION

UN No.: NOT REGULATED
Road Transport ADR/IRD: NOT REGULATED
Air Transport ICAO/IATA: NOT REGULATED
Maritime Transport IMDG/IMO: NOT REGULATED

15. REGULATORY INFORMATION

Symbol: Xn
Indication of danger: Harmful Substance
Risk phrases:
R22 Harmful if swallowed.
R43 May cause sensitization by skin contact.
Safety phrases:
S2 Keep out of reach of children.
S13 Keep away from food, drink and animal feeding stuffs.
S20 When using do not eat or drink.
S24/25 Avoid contact with skin and eyes
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

16. OTHER INFORMATION

Packing and Labelling: The product is packed in HDPE fluorinated 1, 5, 10, 20, 25 litres plastic containers and labelled according to South African regulations and guidelines.

Disclaimer: The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage use of the product. It is not applicable to unusual or non-standard uses of the product nor where instructions or recommendations are not followed.

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All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

END OF DOCUMENT

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For detailed information on revisions, contact the Registration holder.