

Product name: BENEFIL® HARDENER

## 1. Identification of the Producer and the Marketing Company

- a. Production Plant: BENEFIL LICENSEE  
Fytogreen Australia
- b. Marketing Company: BENEFIL LICENSEE  
Fytogreen Australia
- c. Distributor: BENEFIL LICENSEE

## 2. Composition.

- a. Chemical Name: 4,5% Phosphoric Acid
- b. Synonyms: 4,5% Orthophosphoric acid
- c. Chemical Family: Mineral Acid
- d. Molecular Formula: 4,5% H<sub>3</sub>PO<sub>4</sub>
- e. CAS N°: 7664-38-2
- f. EEC N°: 015-011-00-6
- g. EINECS N°: 231-633-2H

## 3. Hazards Information.

- a. NFPA R: 36 & 37 & 38  
S: 26 & 36 & 37 & 39
- b. This water-based diluted acid is non hazardous
- c. It has light irritation effect on eyes, skin after contact
- d. Ingestion caution, "burns" to mouth, throat/stomach

## 4. First Aid Measures.

- a. Skin Contact: Rinse immediately with plenty of water for at least 15 minutes
- b. Eye Contact: Rinse immediately with water and ask for medical advise
- c. Inhalation: Leave area immediately to get fresh air and remove contaminated clothing. If no breathing give artificial respiration
- d. Ingestion: Do not induce vomiting, If conscious give a little water. Obtain medical attention

## 5. Fire Fighting Measures.

- a. Flammability: The water based hardener is non flammable, does not ignite nor burn
- b. Suitable extinguishing Media: use water spray, dry, chemical, CO<sub>2</sub> or foam
- c. Unsuitable Extinguishing Media: do not use direct water stream
- d. Special Hazards: contact with common metal products
- e. Protective Equipment: fire fighters should wear a self contained breathing apparatus and full impermeable clothing  
keep containers cool by spraying water

## 6. Accidental Release Measures.

- a. Personal Precautions: Wear full protective clothing, boots, rubber gloves  
Keep unnecessary people away
- b. Environmental precautions: Contain spill by diking with absorbent material  
Keep non-neutralised material out of sewers, storm drains, surface water and soil
- c. Methods for cleaning: Ventilate area of spill or leak  
Apply fly ash or cement powder to absorb liquid.  
Neutralize with lime, soda, ash, Calcium Carbonate or sodium bicarbonate and collect into suitable containers for disposal

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## 7. Handling and Storage.

- a. Handling: Operators must be trained to work with diluted Phosphoric acids.  
Operators must wear rubber gloves and safety goggles  
Prevent contact with eyes, skin or clothing  
Wash after handling
- b. Storage: Remove stained clothes and clean before re-use  
Store the hardener above 5°C to prevent crystallization.  
Keep storage container tightly closed. Protect from direct sun light,  
alkalis, sulphides, cyanides and metal powders.  
Preferred storage containers  
Keep soda, ash or lime in area for emergency use

## 8. Exposure Protection and Personal Protection.

- a. Exposure Protection: Keep storage container always closed  
See 7b
- b. Personal Protection:
- i. Respiratory Protection: Not required for normal work procedures
  - ii. Hand Protection: Operators must wear rubber gloves with gauntlets
  - iii. Eye Protection: Operators must wear chemical safety goggles
  - iv. Skin Protection: Operators should wear acid resistant clothing with rubber boots.
  - v. Other Protective Measures: An eyewash and safety shower should be nearby and ready for use

## 9. Physical and Chemical Properties.

- a. Appearance: Colourless, transparent liquid
- b. Odour: Odourless
- c. H<sub>3</sub>PO<sub>4</sub> percentage: 4,5%
- d. pH: 1,8 – 2,8
- e. Boiling Point: 100 °C (approx)
- f. Flash Point: Non flammable
- g. Self ignition: Non flammable
- h. Flammability: Non flammable
- i. Explosive properties: Non
- j. Oxidizing Properties: At high temperatures only
- k. Vapour Pressure: Non volatile acid
- l. Vapour Density: Non volatile acid
- m. Density: 1,02 kg / liter
- n. Solubility in water: Complete 100%
- o. Dynamic Viscosity (cP at 30°C): 0,8

## 10. Stability and Reactivity.

The water based hardener is stable and remains stable during at least 8 months after production, subject to proper storage and handling.  
Storage above 5°C to prevent crystallization

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## 11. Toxicological Information.

- |                     |   |
|---------------------|---|
| a. Carcinogenicity: | The hardener is non carcinogenic  |
| b. Eyes:            | Irritating and burns. No permanent damage expected if treated immediately |
| c. Skin:            | Irritating and burns, dryness and cracking                                |
| d. Inhalation:      | Slightly irritating   |

## 12. Ecological Information

- |                           |  |
|---------------------------|--|
| a. Environmental effects: | May be harmful due to possible acidification if not flushed abundantly |
| b. Eco toxicity:          | May be harmful due to possible acidification if not flushed abundantly |
| c. Bio concentration:     | None   |

## 13. Disposal Considerations.

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|---------------------|--|
| a. Disposal Method: | Dilute with water, add soda ash or lime and flush away |
|---------------------|--|

## 14. Transport Information.

- |                           |                |
|---------------------------|----------------|
| a. Identification Number: | 38249095       |
| b. Transport Name:        | Hardener       |
| c. ADR/RID:               | Not applicable |
| d. IMO-IMDG code:         | Not applicable |
| e. ICAO/IATA:             | Not applicable |

## 15. Regulatory Information.

- |                   |   |
|-------------------|---|
| a. R – sentences: | R36,37,38 – Irritating to eyes, respiratory tract and skin, rinse immediately and abundantly with water   |
| b. S – sentences: | S26 – Irritate eyes, rinse eyes immediately and abundantly with water and require medical advise<br>S36/37 – Wear suitable gloves and protective clothing<br>S39 – Wear protective full face mask or safety goggles |

## 16. Other Information.

For detailed information see manufacturer's specifications and manuals.

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