

## AQUABUFF

## SAFETY DATA SHEET

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product name:** AQUABUFF  
**Other identifier:** Organic acid and alkali 660 g/l  
**Recommended use:** Adjuvant / Buffer  
**Restrictions on use:** Agriculture

**Supplier:** 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](http://www.villacrop.co.za)

**Emergency telephone numbers:**  
**24 Hr Transport / Spill emergency no:**  
(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

### 2. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	Hazard categories	H-statements
<b>Physical</b>		
Corrosive	Metal corrosion 1	H290
<b>Health</b>		
Oral	Acute Toxicity 4	H302
Dermal	Acute Toxicity 5 Skin corrosion 1B	H313 H314
Specific Target Organ Toxicity – Single Exposure	STOT SE 3	H335
<b>Environment</b>		
Aquatic acute	Aquatic acute 2	H401

**The most important adverse effects:**  
**Physiochemical effects:** May be corrosive to metals.  
**Human health effects:**  
Harmful if swallowed.  
May be harmful in contact with skin.  
Causes severe skin burns and eye damage.  
May cause respiratory irritation.

### Label elements:



**Signal word:** Danger

### Hazard statements:

H290: May be corrosive to metals.  
H302: Harmful if swallowed.  
H313: May be harmful in contact with skin.  
H314: Causes severe skin burns and eye damage.  
H335: May cause respiratory irritation.  
H401: Toxic to aquatic life.

### Precautionary statements:

P234: Keep only in original packaging.  
P260: Do not breathe fumes, vapours, spray or mist.  
P264: Wash hands and face thoroughly after handling.  
P270: Do not eat, drink or smoke when using this product.  
P271: Use only outdoors in a well-ventilated area.  
P273: Avoid release into the environment.  
P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.  
P301+P317+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Get medical help.  
P302+P361+P354+P317: IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes. Get medical help.  
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+P354+P338: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P305+P316: IF IN EYES: Get emergency medical help immediately.  
P319: Get medical help if you feel unwell.  
P363: Wash contaminated clothing before use.  
P390: Absorb spillage to prevent material-damage.  
P403+P233: Store in a well-ventilated place. Keep container tightly closed.  
P405: Store locked up.  
P406: Store in a corrosion resistant container/container with resistant lining.  
P501: Dispose of contents/container in accordance with local regulations.  
**Other hazards:**  
None known.  
**Toxicity:**  
Classification according to GHS: Category 4

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### 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Substance / Mixture:** Mixture

Composition:

Chemical name	CAS	Conc. (m/v%)	Classification EC 1272/2008
Acetic acid	64-19-7	52%	Flammable Liquid 3 (H226) Skin Corrosion 1A (H314)
Ammonium hydroxide 25%	1336-21-6	16%	Skin Corrosion 1B (H314) STOT SE 3 (H335) Aquatic Acute 1 (H400)

### 4. FIRST AID MEASURES

Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of any complaints or symptoms, avoid further exposure. Immediately consult a doctor.

**Inhalation:** Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation persists.

**Skin:** Remove contaminated clothing and shoes. Flood area with cool water for at least 20 minutes or until help arrives. Make sure water doesn't flow onto another part of the person's body. Don't try to neutralize the burn with acid or alkali. This could cause a chemical reaction that worsens the burn. **Obtain medical attention immediately.**

**Eyes:** Flush eyes with clean water for at least 15 – 20 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. **Seek medical attention immediately.**

**Ingestion: Do not induce vomiting.** Never give anything by mouth to an unconscious person. **Obtain medical attention immediately.** Qualified medical personnel should perform administration of oxygen. If the person is alert, rinse mouth thoroughly with water and give person large volumes of water or milk to drink. When vomiting occurs, keep head lower than hips to prevent aspiration.

**Anticipated acute effects:** Harmful if swallowed. Causes severe skin burns and eye damage. May cause respiratory irritation.

**Anticipated delayed effects:** None known.

**Most important symptoms / effects:** None known.

**Advice to physician:** Treat symptomatically and supportively. No specific antidote known.

### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media:** Use carbon dioxide or dry chemical for small fires and water fog or foam for large fires.

**Unsuitable Extinguishing Media:** High volume water jet. Use a water jet only to cool heated containers.

**Specific hazards:** Fire may produce irritating, corrosive and/or toxic oxides of carbon.

**Special fire-fighting procedures:** Remove spectators from surrounding area. Isolate the fire area and evacuate all personnel downwind of the fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Remain upwind of fire. Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk. Do not use high volume water jet, due to contamination risk. Do not scatter the burning material. Water can be used to cool unaffected containers but must be contained for later disposal. Contain fire control agents for later disposal. Avoid pollution of waterways by run-off from the site.

**Personal protective equipment:** Wear NIOSH / MSHA approved self-contained breathing apparatus and full protective gear.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Avoid contact with skin and eyes. Harmful if swallowed. Do not breathe fumes, vapours, spray or mist. Ventilate area of spill or leak, especially in contained areas.

**Protective equipment:** Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.

**Emergency procedures:** Alert firefighting personnel, evacuate unprotected personnel and animals.

**Environmental Precautions:** Prevent spilled product from entering sewers, waterways or ground water. This product is classified as toxic to aquatic organisms. Any spillages or uncontrolled discharges into watercourses should be reported immediately to the police and the Department of Water / Environmental Affairs.

**Methods and Materials for Containment:** Contain spilled product by diking area with sand or earth.

**Methods and Materials for Clean-up:** Cover contained spill with an inert absorbent material such as sand, vermiculite, earth or other appropriate material. Vacuum, scoop, or sweep up material and place the material into a clean, dry, sealable container. Label containers with the contents and dispose of according to local regulations. Do not place spilled material back in original container. Do not re-use spilled material. Collect washings and add to the drums already collected. Do not flush spilled material or washings into drains or waterways. To decontaminate the spill area, tools and equipment, wash with water and suitable detergent. See section 13 for disposal considerations.

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### 7. HANDLING AND STORAGE

#### Handling:

**Precautions for safe handling:** Avoid contact with skin and eyes. Harmful if swallowed. Ensure adequate ventilation during handling and use. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers closed when not in use. In the case of contact with the product refer to First Aid Measures – Section 4.

**General occupational hygiene:** Practice good hygiene when using this material. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Worker should shower at the end of each workday. Launder all clothing before it is re-used.

#### Storage:

**Conditions for safe storage:** Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original, labelled container, tightly closed in an isolated, dry, cool and well-ventilated area. Avoid excess heat. Not to be stored next to foodstuffs, feed and water supplies. Avoid cross contamination with other pesticides and fertilisers.

**Incompatible substances and mixtures:** Refer to product label.

**Packaging material:** Plastic bottles/drums.

### 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

#### Permissible concentration

Components	Exposure limits	Type of exposure limit	Source
Acetic acid	10 ppm 150 ppm	TWA, OEL-RL Short term TWA, OEL-RL	<i>Hazardous Chemical Substances Regulations, 1995</i>

#### Engineering Controls:

It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OELs or other specified exposure limits. Local exhaust ventilation is preferred. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire and other applicable regulations.

#### Personal Protective Equipment:

**Respiratory Protection:** For most well-ventilated conditions, no respiratory protection should be needed. If used in a poorly ventilated area (airborne

concentrations exceed exposure limits), use a NIOSH approved, air-purifying respirator with cartridges / canisters approved for organic vapours.

**Hand Protection:** The use of chemically protective impervious gloves is required to prevent against skin contact.

**Eye Protection:** The use of chemical safety goggles is required to prevent against eye contact. Contact lenses are not protective eye devices.

**Skin and Body Protection:** Employees must wear appropriate protective impervious clothing, rubber boots, hat and equipment to prevent repeated or prolonged skin contact with this substance.

**Emergency eyewash:** 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:** Clear colourless water-like liquid.

**Odour:** Characteristic acetic acid and ammonia odour.

**pH (1% aqueous dilution):** 4.35 ± 0.15

**Melting point:** Not available.

**Freezing Point:** Not available.

**Boiling Point:** Not available.

**Flash Point:** Not available.

**Flammability:** Not flammable & not combustible.

**Upper / lower explosion limits:** Not available.

**Vapour Pressure (mm Hg):** Not available.

**Relative Vapour Density:** Not available.

**Density / Relative density:** 1.077 ± 0.005 g/ml

**Solubility:** Soluble in water.

**n-octanol / water partition coefficient:** Not available.

**Auto-ignition temperature:** Not available.

**Decomposition temperature:** Not available.

**Viscosity:** Not available.

### 10. STABILITY AND REACTIVITY

**Chemical stability:** The product is stable for two years at ambient temperature and pressure, under normal storage and handling conditions. Avoid storage under extreme temperatures and conditions. Store below 50 °C, preferably below 30 °C, and not for prolonged periods in direct sunlight.

**Reactivity:** None known.

**Possibility of hazardous reactions:** Unlikely to occur.

**Conditions to avoid:** Extreme heat or exposure to flames.

**Incompatible materials:** Avoid contact with caustic soda, lime, strong alkali and oxidizing agents. Incompatible with copper, copper alloys, galvanized iron, zinc, aluminium, alkali metals.

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Product reacts with heavy metals, their salts and may form explosive compounds.

**Hazardous decomposition products:** Thermal decomposition products may include oxides of carbon.

### 11. TOXICOLOGICAL INFORMATION

#### ACUTE TOXICITY:

**Calculated according to GHS**

**Oral LD<sub>50</sub>** > 1590 mg/kg (rat)

**Dermal LD<sub>50</sub>** > 2000 mg/kg (rabbit)

**Inhalation LC<sub>50</sub>** (4h) > 5 mg/l (rat)

**Skin Corrosion:** Causes severe skin burns.

**Eye Damage:** Causes severe eye damage.

**Skin Sensitization:** Product is not a skin sensitizer.

**Respiratory Sensitization:** Not classified.

**Reproductive cell mutagenicity:** Not classified.

**Carcinogenicity:** Not classified.

**Reproductive toxicity:** Not classified.

**Specific target organ toxicity – single exposure:** The inert ammonium hydroxide may cause respiratory irritation.

**Specific target organ toxicity – repeated exposure:** Not classified.

**Aspiration hazard:** Not classified.

**Chronic Effects:** Not available.

#### POTENTIAL ADVERSE EFFECTS:

**Inhalation:** Not anticipated to be toxic by inhalation, but the inert ammonium hydroxide may cause respiratory irritation.

**Ingestion:** Harmful if swallowed.

### 12. ECOLOGICAL INFORMATION

This product is considered a marine pollutant.

#### ECOTOXICITY DATA:

**Birds:** Highly toxic to birds.

**Fish:**

**Acetic acid:** Slightly toxic to aquatic organisms.

LC<sub>50</sub> (96hrs): Bluegill sunfish: 75 mg/l

Fathead minnow: 79 - 88 mg/l

Mosquito fish: 251 mg/l

LC<sub>50</sub> (24hrs): *Daphnia magna* 47 mg/l

**Ammonia:** Highly toxic to aquatic organisms.

LC<sub>50</sub> (96hrs) Rainbow trout: 0,16 – 1,1 mg NH<sub>3</sub>/l

Fathead minnow: 0,75 – 3,4 mg NH<sub>3</sub>/l

Bluegill sunfish: 0,26 – 4,6 mg NH<sub>3</sub>/l

**Bees:** Not toxic to bees.

**Algae:** Highly toxic to algae.

#### ENVIRONMENTAL EFFECTS

**Degradability, Mobility and Accumulation:**

**Acetic acid:** Is a common chemical found in all living organisms. It is readily broken down to carbon dioxide and water. 99% of the product is biodegraded after 7 days

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under anaerobic conditions. The atmospheric degradation half-life is estimated to be 26,7 days.

The log n-octanol water partition coefficient for **Acetic acid** is –0,17. This suggests that **Acetic acid** has low potential to bio-accumulate.

No harm is expected to wildlife or the environment and no risk to the public, if the product is used according to label recommendations.

**Ammonia:** Is part of the nitrogen cycle within the environment. It volatilises into the atmosphere where it may undergo a variety of reactions.

In surface water, ammonium may undergo microbiological nitrification, which yields hydrogen and utilizes oxygen so that, in certain systems, acidification and oxygen depletion may result.

Ammonia may be assimilated by aquatic plants as a nitrogen source or transferred to sediments or volatilised.

In soil, major sources of ammonia are the aerobic degradation of organic matter and the application and atmospheric deposition of synthetic fertilizers. The ammonium cation is adsorbed on positively charged clay particles and is relatively immobile. Most ammonium undergoes nitrification; the nitrate ion is mobile and is removed by leaching, plant root uptake or denitrification.

### 13. DISPOSAL CONSIDERATIONS

**Waste:** Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Never pour untreated waste or surplus product 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. Comply with local legislation applying to waste disposal. The product may be taken to a registered waste disposal site or incineration plant.

**Container:** Emptied containers retain product residues. Do not re-use the empty container for any other purpose. Invert the empty container over the spray or mixing tank and drain for at least 30 seconds after the flow has slowed down to dripping. Thereafter rinse the empty container three times in succession with one quarter of the container volume fresh water and decant the rinsate into the spray or mixing tank. Puncture the triple rinsed container and dispose of via an approved collector or recycler ([www.croplife.co.za](http://www.croplife.co.za)). Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages. Observe all labelled safeguards until container is destroyed.

### 14. TRANSPORT INFORMATION

**UN Number:** 2790

**Road Transport ADR / ORD:**



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Class: 8  
 Packaging group: II  
 UN Proper Shipping Name: ACETIC ACID SOLUTION, not less than 50% but not more than 80% acid, by mass (Organic acid and alkali 660 g/l)

### Maritime Transport IMDG / IMO:

Class: 8  
 Packaging group: II  
 UN Proper Shipping Name: ACETIC ACID SOLUTION, not less than 50% but not more than 80% acid, by mass (Organic acid and alkali 660 g/l)

**Marine pollutant (Y/N):** Yes

### Air Transport IATA / ICAO:

Class: 8  
 Packaging group: II  
 UN Proper Shipping Name: ACETIC ACID SOLUTION, not less than 50% but not more than 80% acid, by mass (Organic acid and alkali 660 g/l)

**Special / Environmental Precautions:** Wedge drums tightly to avoid movement.

**Transport in bulk:** Refer to MARPOL 73/78, Annex II and the IBC code.

## 15. REGULATORY INFORMATION

### Safety, health and environmental regulations / legislation for the mixture:

OHSAS 1993 Regulations for Hazardous Chemical Substances.

**Relevant information regarding restrictions:** None.

**EU regulation:** Regulation EC1272/2008 (EU-GHS/CLP)

**Other national regulations:** None.

**Chemical Safety Assessment carried out?** No

## 16. OTHER INFORMATION

**Packaging:** Packed in 5, 20 and 25 litres plastic bottles/drums labelled according to South African regulations and guidelines.

### Other hazard statements, abbreviations and explanations:

**H226:** Flammable liquid and vapour.

**H400:** Very toxic to aquatic life.

**IATA:** International Air Transport Association.

**IBC:** International Bulk Chemical.

**ICAO:** International Civil Aviation Organization.

**IMDG:** International Maritime Dangerous Goods

**IMO:** International Maritime Organization.

**LD<sub>50</sub> value:** The median lethal dose or the amount of a toxic agent that is sufficient to kill 50 percent of a population within a certain period of time.

**OEL/RL:** Occupational exposure limit-recommended limit.

**TWA:** Time-weighted average – The average exposure over a specified period, usually a nominal eight hours.

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**ST/STEL:** Short-term exposure limits.

**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 and 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. 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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