

Sporekill®

NRCS Registration: NRCS/8054/243642/713

**READ LABEL AND ATTACHED ENCLOSED LEAFLET BEFORE USE
KEEP LOCKED AND OUT OF REACH OF CHILDREN AND ANIMALS**

PRODUCT INFO:
Broad Spectrum Disinfectant Food, Industrial, Domestic,
Institutional Areas
Bactericidal, Fungicidal, Yeasticidal, Sporicidal and
Virucidal

HAZARD STATEMENTS:
Combustible liquid.
May be harmful if swallowed.
May be harmful in contact with skin.
Causes skin irritation.
Causes serious eye damage.
Harmful if inhaled.
Very toxic to aquatic life with long lasting effects.



DANGER

PRECAUTIONARY STATEMENTS:
Wear protective gloves, protective clothing, eye protection -
when handling concentrate.
Wash hands and face thoroughly after handling. Do not
touch eyes.

Active Ingredient

Didecyldimethylammonium Chloride

120 g/e

Batch Number:
Date of Manufacture:
Expiry date:
Net:

**SEE
CONTAINER**

Registration Holder / Registrasiehouer



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GROUP III

UN No. / VN Nr. 3082

SpkINRCS-008-011

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ACTIVE INGREDIENT: Didecyldimethylammonium Chloride 120 g/l

REGISTERED BY:

ICA INTERNATIONAL CHEMICALS (PTY) LTD REG. NO. 2001/013319/07

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WARNINGS

Re-entry interval: Do not enter treated area until mist, vapours, spray and fog deposit has settled down and dried unless wearing the necessary protective clothing.

Although this remedy has been extensively tested under a large variety of conditions, the registration holder does not warrant that it will be efficacious under all conditions, because the action and effect thereof may be affected by factors such as abnormal climatic and storage conditions, quality of dilution water, compatibility with other substances not indicated on the label and the occurrence of resistance against the remedy concerned as well as by the method, time and accuracy of application. The registration holder furthermore does not accept responsibility for damage to crops, vegetation, and the environment or harm to man/animal or for lack of performance of the remedy concerned, due to failure of the user to follow the label instructions or to the occurrence of conditions, which could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

Residues:

Residues may transfer from treated surfaces to food produce. Consult the relevant market, exporter or importer of the destination country for more information about the maximum residue limits (MRL) of the active on the relevant crop.

PRECAUTIONS

- If medical advice is needed, have product container or label at hand.
- Keep out of reach of children.
- Read carefully and follow all instructions.
- Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking.
- Avoid breathing mist, vapours and spray.
- Wash hands and face thoroughly after handling. Do not touch eyes.
- Use only outdoors or in a well-ventilated area.
- Avoid release to the environment.
- Wear protective gloves, protective clothing, eye protection - when handling concentrate.
- Collect spillage.
- IF SWALLOWED: Get medical help.
- IF ON SKIN: Get medical help.
- IF ON SKIN: Wash with plenty of water.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
- Get emergency medical help.
- Do NOT induce vomiting.
- If skin irritation occurs: Get medical help.
- Take off contaminated clothing and wash it before reuse.
- In case of fire: Use dry chemical, CO₂, water spray or alcohol-resistant foam to extinguish.
- Collect spillage.
- Store in a well-ventilated place.
- Dispose of contents and container in accordance with national regulations.
- Clean applicator thoroughly after use and dispose of wash water where it will not contaminate crops, grazing, rivers or dams.

TRIPLE RINSE THE EMPTY CONTAINER: Invert the empty container over the mixing container/tank and drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter, rinse the empty container three times in succession with one quarter of the container volume fresh water and decant the rinsate into the mixing container/mixing tank. Puncture the triple rinsed container and dispose of via an approved collector or recycler (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.

- Relevant Substances:
- Didecyldimethylammonium chloride (Cas no: 7173-51-5) Acute Oral Toxicity Category 4, H302; Skin Corrosion Category 1B, H314 (12 % w/v)
- Isotridecanol, ethoxylated (Cas no: 69011-36-5) Aquatic Acute Category 1, H400; Aquatic Chronic Category 3, H412 (< 10 % w/v)
- Ethanol (Cas no: 64-17-5) Flammable Liquid Category 2, H225 (< 10 % w/v)

FIRST-AID MEASURES

- INHALATION:**
- If undiluted mist is inhaled, medical treatment is urgent – as product will be corrosive to mucus membranes in respiratory tract. If diluted mist is inhaled, remove patient to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if feeling unwell. If signs of poisoning occur, obtain medical assistance immediately.
- SKIN:**
- If undiluted product is on skin, remove all contaminated clothing immediately. Rinse affected areas (skin) immediately with plenty of water/shower. Wash contaminated clothing before reuse.
- EYES:**
- Rinse eyes IMMEDIATELY with clean water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing while holding eyelids apart. Seek medical assistance if undiluted product is in eyes. Seek medical assistance if irritation continues.
- INGESTION:**
- If swallowed, DO NOT induce vomiting. Get medical advice immediately.
- NOTE TO PHYSICIAN:**
- Treat symptomatically.

Contact the Human Poison Helpline: 0861 555 777 for any emergencies.

DIRECTIONS FOR USE: Use only as directed

General:

- Shake before use.
- **Sporekill**® is stable in a clean solution and not pH dependable.
- **Sporekill**® stays active as long as it is in solution.
- **Sporekill**® has wetting characteristics.
- For effective disinfection, clean surfaces before application.
- For detailed fogging instruction, contact the distributor or registration holder.
- A **Sporekill**® Test Kit is available to measure the active **Sporekill**® in solution.

Transfer of Residues from Surfaces:

Residues may transfer from treated surfaces to food produce. Consult the relevant market, exporter or importer of the destination country for more information about the maximum residue limits (MRL) of the active on the relevant crop.

DISINFECTING OF ON INANIMATE SURFACES: FOOD, INDUSTRIAL, DOMESTIC AND INSTITUTIONAL AREAS	DOSAGE PER 100 ℓ WATER	REMARKS See exposure times below Table*
Water Systems: Spray Tanks, Wet Walls, Pipes, Misting Systems and Driplines	100 – 200 mℓ	Use as initial knock-out treatment. Flush pipes before irrigation of crops. For optimum efficacy, keep solution in the pipes for 5 – 15 minutes.
Irrigation Systems in Nurseries, Greenhouses, Misting Systems, etc.	2 mℓ	This dosage is for a continuous treatment to keep pipes clean. Rinse irrigation pipes frequently when dosing for the first few times. The dirt/algae/organic matter will be discharged and may clog the drippers or spitters. Sporekill ® is not recommended to be used in circulating hydroponic systems where no organic growing medium is present.
Greenhouse: Surfaces, Equipment such as Pruning Shears, Ploughs etc.	1 ℓ	Replace solution when dirty. Dip, flood or wet equipment by applying solution with a cloth or spray. Make sure that all surfaces are exposed to the Sporekill ® solution and kept wet for 10 – 15 minutes.
Greenhouse Wet-Wall	10 mℓ	<u>After initial disinfectant shock treatment</u> , continuous dosage recommended, with further shock treatment of 100 – 200 mℓ/100 ℓ water when required.
Centre Pivot	200 mℓ	Applied at a rate of 10 000 – 20 000 ℓ water per hectare, will keep centre pivot pipes clean.
Plant Nurseries: Growing Medium (inert- or non-organic), Equipment such as Pruning Shears, Ploughs, Hands etc.	1 ℓ	Clean equipment and trays before treatment. Dip, flood or wet by applying solution with a cloth or spray. Make sure that all surfaces are exposed to the Sporekill ® solution and kept wet for 10 – 15 minutes.
Foot & Vehicle Tyre Dips	1 – 4 ℓ	Keep wet for 5 – 15 minutes and allow to dry. Use higher concentrations when solution cannot be replaced often. For optimum disinfection replace solutions when dirty. Can use test strips, available from supplier, to monitor concentration in solution.
Plant Nurseries: Seed Trays and Pot	100 – 200 mℓ	Dip washed seed trays and pots in solution, wet for at least 10 – 15 minutes.
Packinghouses, Cold Rooms, other hard surfaces like Picking Bins, Belts, Tables, Brushes etc.	100 – 200 mℓ	Clean surfaces with detergent as required, rinse with water. Cover surfaces with Sporekill ® solution by applying solution with cloth/fine spray. For best results, keep exposure with Sporekill ® solution for at least 10 – 15 minutes. After exposure (also see Exposure Times), Sporekill ® can be rinsed off with potable water from surfaces if there is a concern for residue transfer to food produce.
Food Processing: Equipment, Surfaces, Basins, Containers, Floors, Sorting Tables, Bins etc.	1 ℓ	Clean equipment before treatment. Make sure that all surfaces are exposed to the Sporekill ® solution. Portable equipment difficult to clean can be immersed in a Sporekill ® solution, and left to dry. Sporekill ® can be added to water and applied to floors/walls with a mop/cloth/fine spray/fogging. For best results, keep wet for at least 10 – 15 minutes.
<u>Domestic and Institutional Areas</u> : General Disinfection as Tables, Kitchen Surfaces, Sink's, Basins, Wall Tiles, Floors, Toilets, Showers, Baths, etc.	100 – 200 mℓ	Disinfect surfaces by covering clean surfaces with Sporekill ® solution by applying with cloth/fine spray. Sporekill ® can be added to water and applied to floors with a mop. For best results, keep wet for at least 10 – 15 minutes.
Spray Tanks	10 mℓ	For optimum results to dramatically reduce viruses, bacteria, including coliforms e.g., <i>E. coli</i> , and fungal counts in the spray tank, allow 20 minutes exposure time to Sporekill ®.
Cut Flower Containers	150 mℓ	For continuous disinfecting of the containers. The solution can be re-used for 7 – 10 days if it is kept clean. Flowers can be kept up to 72 hours in the disinfectant solution.

***Exposure Times Tested for Registration:**

Clean conditions food, Industrial, Domestic and Institutional Areas:

- **Bacteria Disinfection 5 min exposure:** Tested against bacteria, including *Escherichia coli*, *Pectobacterium carotovorum*, *Pseudomonas aeruginosa*, *Staphylococcus aureus* & *Enterococcus hirae*.
- **Fungal and Yeast Disinfection 15 min exposure:** Tested against fungi and yeast including *Aspergillus brasiliensis*, *Candida albicans*, *Botrytis cinerea*, *Colletotrichum gloeosporioides*, *Galactomyces citri-aurantii* & *Penicillium digitatum*.
- **Spore Disinfection 60 min exposure:** Tested against *Bacillus subtilis* spores.
- **Virucidal Disinfection 30 min exposure:** Virucidal activity against viruses, including enveloped viruses, Norovirus, Rotavirus, Adenovirus & SARS-CoV-2 (15 min).

Low-Level Soiling Industrial, Domestic and Institutional Areas:

- **Bacteria Disinfection 60 min exposure:** Tested against bacteria, including *Escherichia coli*, *Pseudomonas aeruginosa*, *Staphylococcus aureus* & *Enterococcus hirae*.
- **Fungal and Yeast Disinfection 60 min exposure:** Tested against fungi and yeast including *Aspergillus brasiliensis* & *Candida albicans*.
- **Spore Disinfection 60 min exposure:** Tested against *Bacillus subtilis* spores.

AGRICULTURAL SANITISER

- **Sporekill**® is **not** recommended to be used in irrigation water in circulating hydroponic systems **where no organic growing medium is present**.
- **Sporekill**® can be applied as a plant sanitiser to reduce the overall pathogenic load without leaving any residual activity. When **Sporekill**® is used as a foliage spray to sanitise plant surfaces, apply at a rate of 500 – 1500 ℓ spray mixture per hectare, depending on plant size. Higher volumes per hectare are necessary for tree crops. Ensure that both upper and lower leaf surfaces are treated. **IMPORTANT: Sporekill**® should be incorporated into a normal fungicidal programme for adequate disease control.
- **IMPORTANT:** Although numerous phytotoxicity trials were done it is impossible to verify the sensitivity of all the different crop varieties to **Sporekill**®. It is therefore recommended to first test known agrochemical sensitive varieties before use on big scale.
- **Sporekill**® can be used in postharvest dump tanks to assist in food safety and post-harvest decay management by killing pathogens in drenches and dump tanks as well as on fruit surfaces. **IMPORTANT: Sporekill**® has no residual activity. For effective disease control registered fungicides must still be used. **Fruit and vegetables must not be left in dump tank during any disruption of production. This could result in serious burning of sensitive fruit.**
- **Do not use Sporekill**® in hot water fungicide dipping tanks. This may result in serious burning of sensitive fruit.
- **Sporekill**® is stable, effective, not pH dependable and can therefore be used in fertigated irrigation water.
- A **Sporekill**® Test Kit is available to measure the active **Sporekill**® concentration in vegetable and fruit dipping tanks.

USE ONLY AS DIRECTED

Residues on crops:

Sporekill® has no residual activity against pathogens, but may lead to residues of the active ingredient on crops. Consult the relevant market, exporter or importer for more information about the maximum residue limits (MRL) of the active ingredient on the relevant crop.

SANITISING OF PRODUCE	DOSAGE PER 100 ℓ	REMARKS
DIPPING TANKS (cold water): Treat the Water during post-harvest dipping: Apple, Asparagus, Avocado, Broccoli, Brussels, Butternut, Cauliflower, Citrus, Guava, Leeks, Mango, Melon, Pear, Pepper, Persimmon, Potato, Pumpkin, Sweet corn, Sweet potato and Tomato	100 – 150 mℓ	Dip for 2 – 5 minutes. When foaming occurs under heavy agitation (e.g., hydrocoolers), use a defoaming product e.g., Foam Fighter. Replace the Sporekill ® solution as soon as dirty. Keep Sporekill ® concentration at recommended rate by using the “ Sporekill ® Test Kit”.
Cherries	25 mℓ	Dip for a maximum of 4 minutes.
Macadamia Nuts (in-shell)	300 mℓ	Dip and keep Sporekill ® concentration at recommended rate by using “ Sporekill ® Test Kit”.
Carrots	50 mℓ	Spray application on packing line. (Maximum application time is 2 minutes).
Post-harvest dipping of Flower Bulbs for storage	100 – 150 mℓ	Use as an initial knock-out disinfection action together with a fungicide for prolonged action.
Water in containers for Cut Flowers	150 mℓ	The solution can be reused for 7 – 10 days if it is kept clean. Do not keep cut flowers in Sporekill ® solution for longer than 72 hours.
SANITISING OF WATER	DOSAGE PER 100 ℓ	REMARKS
		Take note: The cleaner the water to be treated, the better the results.
Water in Greenhouse Wet-Wall	10 mℓ for continuous dosing	<u>After initial disinfectant shock treatment</u> , continuous dosage recommended, with further shock treatment of 100 – 200 mℓ/100 ℓ water when required.
Water in Spray tanks	10 mℓ	For optimum results to dramatically reduce viruses, bacteria, including coliforms e.g., <i>E. coli</i> and fungal counts in the spray tank, allow 20 minutes exposure time to Sporekill ®.
Irrigation water for use in Nurseries, Greenhouses, Misting Systems, etc.	2 mℓ for continuous dosing	Rinse irrigation pipes frequently when dosing for the first few times. The dirt/algae/organic matter will be discharged and may clog the drippers or spitters. Sporekill ® can be used in fertigated water.
APPLIED AS AN OVERHEAD FOLIAR SANITISING SPRAY	DOSAGE PER 100 ℓ	REMARKS
Asparagus, Beans (dry & green), Brassicas, Carrots, Cereals, Celery, Cucurbits, Leeks, Lettuce, Onion, Paprika, Peas, Peppers, Potatoes, Spinach, Strawberries, Tomatoes	50 – 100 mℓ	First application after transplant of seedlings or 6 weeks after seeding. Apply at 10-day intervals. An application of 100 mℓ/100 ℓ water prior to harvest, will also sanitise foliage of human pathogenic organisms, e.g., <i>E. coli</i> .
Cut flowers: Carnation, Chrysanthemum, Gypsophila, Outdoor Roses	50 – 100 mℓ	First application after transplant of seedlings. Apply at 7 – 10-day intervals.
Greenhouse Grown Roses	50 mℓ	Apply at 7 – 10-day intervals.
Wine Grapes	50 – 100 mℓ	First application when young shoots have reached length of 10 cm. Apply at 14-day intervals.
Table Grapes	50 mℓ	First application after full bloom. Apply at 14-day intervals.
Deciduous Fruit	50 mℓ	Can be applied from before bud stage through growing season with 14-day intervals.
Citrus, Macadamia and Subtropical Fruit Orchards	100 mℓ	Can be applied during any growing stage at 14-day intervals. For citrus, to decrease the overall postharvest decay pathogen load, apply a full cover spray up to 7 days before harvest.
Post-harvest Orchard Hygiene of Deciduous Fruit, Citrus, Macadamia, Subtropical fruit, Table and Wine grapes	100 mℓ	Apply after harvest to decrease orchard pathogen population as well as shortly before leaf drop to decrease the overwintering pathogen population. Apply at high spray volumes to ensure thorough wetting of foliage and stems.
Aerial application on crops such as Beans, Cereals and Potatoes		Apply 500 – 750 mℓ Sporekill ® in 25 – 50 ℓ water per hectare.
Centre pivot application on crops such as Beans, Cereals and Potatoes		Apply 2 ℓ Sporekill ® in 10 000 – 20 000 ℓ water per hectare.
Seedling & Nursery stock	25 mℓ	First application after first true leaf expansion. Apply at 7-day intervals.