

# Safety Data Sheet



Issue No: GHS 2.9	Issue Date May 2021	Issued by ICA International Chemicals
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## 1. IDENTIFICATION

GHS product identifier:	<b>Virukill®</b>
Other means of identification:	Didecyldimethylammonium chloride (synonyms N,N-Didecyl-N,N-dimethyl ammonium chloride, Polydimethylammonium chloride) (DDAC) 120 g/l
Recommended use:	Fungicide and/or agricultural disinfectant.
Producer:	ICA International Chemicals (Pty) Ltd 28 Planken Street Plankenbrug Industrial STELLENBOSCH · 7600 · SOUTH AFRICA
Telephone No:	+27 21 886 9812
Fax number:	+27 12 886 8209
Emergency Tel No:	Griffon Poison Information Centre +27 82 446 8946 Poisons Helpline 0861 555 777

## 2. HAZARDS IDENTIFICATION

GHS classification of Product as SOLD (liquid)	Combustible liquid – Category 4 Acute Toxicity (oral/dermal) Category 5 Eye Corrosion - Category 1 Skin Corrosion/Irritation – Category 2 Inhalation – Category 2 (Product is a liquid; no vapours and mist will be generated with general handling and transport)
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GHS Label elements	Causes serious eye damage	Causes skin irritation	Very toxic to aquatic life	<b>DO NOT APPLY UNDILUTED PRODUCT AS A MIST</b>
				

Signal Word: Warning

Hazard Statements	H330	Fatal if ( <i>mist of undiluted product is</i> ) inhaled - corrosive to respiratory tract. Liquid form, as product naturally occur, not harmful for inhalation. Aerosols and mists not generated through normal handling.
	H303	May be harmful if swallowed.
	H313	May be harmful in contact with skin.
	H315	Causes skin irritation.
	H318	Causes serious eye damage.
	H227	Combustible liquid
	H411	Very toxic to aquatic life with long lasting effects.
Precautionary Statements	P101	If medical advice is needed, have product container or label at hand.
	P102	Keep out of reach of children.
	P103	Read label before use.
	P260	Do not breathe spray.
	P264	Wash hands and face thoroughly after handling.
	P271	Use only outdoors or in a well-ventilated area.
	P280	Wear protective gloves, protective clothing, eye and face protection. (section 8)
	P284	Wear respiratory protection.
	P301+P312	If SWALLOWED: Call a POISON CENTER/doctor if you feel unwell
	P302+P312	IF ON SKIN: wash with plenty of water
	P332+P313	If skin irritation occurs, consult a doctor/physician.
	P304+P340	IF (undiluted mist): INHALED remove to fresh air and keep at rest in a position comfortable for breathing.
	P320	IF (undiluted mist): INHALED: Specific treatment is urgent – as product is corrosive to mucus membranes in respiratory tract.
	P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P310	Immediately call a POISON CENTRE or doctor/physician if in eyes.
	P362 +P364	Take off contaminated clothing and wash well before re-use.
	P403+P233	Store in a well-ventilated place and keep the container tightly.
	P405	Store locked up.
	P273	Avoid release to the environment.

GHS classification of  
**Product 1 % Dilution** Inhalation Category 5  
 Eye Damage/Irritation- Category 2B  
 Skin Corrosion/Irritation – Category 3

GHS Label elements

Signal Word

**Warning**

Hazard Statements	H333	May be harmful if inhaled
	H316	Causes mild skin irritation - continuous exposure.
Precautionary Statements	H320	Causes eye irritation.
	P260	Do not breathe mist.
	P264	Wash or dry hands thoroughly after handling before touching eyes.
	P280	Wear protective gloves, protective clothing, eye, and face protection (section 8)
	P284	Wear respiratory protection (mask/respirator to filter mists) if applying with fogger or high-volume spray equipment.
	P332+P313	If skin irritation occurs: Get medical advice.
	P304+P312	IF INHALED: Call a POISON CENTER/doctor if you feel unwell.
	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P337+P313	If eye irritation persists: Get medical advice/attention.
P362 +P364	Take off contaminated clothing and wash well before re-use.	

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT(S)	CAS NO:	Proportion
N,N-Didecyl-N,N-dimethyl ammonium chloride (DDAC)	7173-51-5	12 %
Water	7732-18-5	>60 %
ADDITIVE(S)	Not Available	Balance

### 4. FIRST AID MEASURES

**Show this SAFETY DATA SHEET to a doctor.**

<b>INHALATION:</b>	If experiencing respiratory symptoms (irritation, difficulty with breathing), remove person to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. Call for medical assistance.
<b>EYES:</b>	Rinse eyes IMMEDIATELY with clean water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing while holding eyelids apart. Immediately seek medical assistance.
<b>SKIN:</b>	Remove contaminated clothing. Rinse affected areas (skin) immediately with plenty of water/shower. Wash contaminated clothing before re-use. Seek medical assistance if skin irritation occurs.
<b>INGESTION:</b>	If swallowed, DO NOT induce vomiting. Rinse mouth thoroughly with water. Immediately give 3-4 glasses of milk (if unavailable, give water). Never give anything to an unconscious person. Make every effort to prevent vomit from entering the lungs by careful placement of the patient. If vomiting does occur, keep on giving fluids. <b>Get medical attention.</b> Possible mucosal damage may contra-indicate the use of gastric lavage.
<b>Advice to Doctor</b>	Treat symptomatically.

### 5. FIRE FIGHTING MEASURES:

**Suitable Extinguishing Media:** **SMALL** Dry chemical, CO<sub>2</sub>, water spray or alcohol-resistant foam.

**FIRES:**

**LARGE FIRES:** Apply water in large quantities (flooding). Keep unopened containers exposed to the fire cool with spraying water on it.

**Hazards from combustion products:** If involved in a fire, it will emit oxides of carbon, oxides of nitrogen, ammonia and hydrocarbons

**Special protective equipment for fire fighters:** Fire fighters should wear full protective gear including self-contained breathing apparatus, especially in confined spaces.

**Fire Fighting Procedures:** Prevent fire water from entering drains or water bodies.

### 6. ACCIDENTAL RELEASE MEASURES:

#### SPILL OR LEAK

- Avoid breathing vapours or mist. Floors may become very slippery.
- PREVENT spilled concentrated product from entering drains or sewer systems. Dike and bund area with sand or earth to prevent contamination of drains or sewers.
- Simplest method of disposal involves dilution to low concentrations in order to allow the biocide to degrade naturally (only if permitted by regulatory authorities). At levels below 10 parts per million (active), no detrimental effects on functioning waste treatment systems have been noted.

### 7. HANDLING AND STORAGE

**HANDLING** Use in well ventilated area and do not breath mists. Wear suitable protective clothing, gloves, eye protection and respiratory equipment. Keep container closed. Use only with adequate ventilation. Use good personal hygiene practices. Wash hands before eating, drinking, smoking. Remove contaminated clothing and clean before re-use.

**STORAGE** Store locked, closed in original containers, in a dry, well ventilated area out of direct sunlight. Keep container tightly sealed and do not store with seed, fertilisers of foodstuffs

### 8. EXPOSURE CONTROL / PERSONAL PROTECTION

**EXPOSURE LIMITS** None allocated

**ENGINEERING CONTROLS:** Handle concentrate in well ventilated areas, generally natural ventilation is adequate. If mists or vapours are generated local exhaust ventilation may be required in confined spaces, facility should be equipped with an eyewash facility and a safety shower.

**PERSONAL PROTECTIVE EQUIPMENT:**

**EYES:** Wear chemical safety glasses with side shield or face shield. When handling and applying the 1% dilution, prevent the dilution from entering eyes, safety glasses or glasses should be sufficient to protect eyes under conditions of sufficient ventilation.

**RESPIRATORY:** If inhalation of vapour/mist is likely to occur, wear an approved respirator mask, especially in case of insufficient ventilation. When handling or applying diluted product for short periods (15 min) under conditions of adequate ventilation, a cotton mask or mouth and nose covering, should be sufficient.

**SKIN:** Wear PVC/rubber gloves, washable hat, shoes and buttoned-up cotton overalls covering arms and legs when handling concentrate. If the 1% diluted product is handled, gloves is recommended, or immediately wash hands and exposed skin with water after contact.

**HYGIENE MEASURES**

After each day's use, wash contaminated clothing and safety equipment.

After use and before eating, drinking, or smoking, wash hands, arms and face thoroughly with soap and water.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE:** Homogenous, clear, colourless to pink, foaming liquid.

**ODOUR:** Slight bitter smell. Bitter taste.

**pH:** 5 – 8

**FLASH POINT:** ASTM D93 = 92 °C (Pensky Martens Closed Cup)

**VOLATILITY:** Non-volatile matter, (% m/m) = 14,66

**SURFACE TENSION:** 36.1 Mn/m

**MISCIBILITY:** Standard water, acetone and ethanol at 30 °C – no solid material separation; no separation into layers.

**SPECIFIC GRAVITY / DENSITY:** ~1 kg/ℓ (0.90 - 1.02 kg/ℓ) at 20 °C (IP 365)

**SOLUBILITY IN WATER:** Freely soluble

**FOAM PERSISTENCE:** (200 ml/100 ℓ) in 100 ml emulsion: Hard water 1 min = 104 ml; Hard water 5 min = 88 ml

**COMPATABILITY:** Not compatible with concentrated anionic compounds.

**CORROSION (METALS):** NON-CORROSIVE TO METALS

Aluminium, copper, carbon steel and brass = <0.08 mm/year. (ASTM G31-72)

**OXIDISING PROPERTIES:** Not an oxidising substance.

**VISCOSITY:** 70,4 at 25 °C (Brookfield viscosity, speed 100, spindle 2)

**10. STABILITY AND REACTIVITY**

**CHEMICAL STABILITY:** Stable under normal conditions.

**CONDITIONS TO AVOID:** Excessive heat and fire.

**INCOMPATIBLE MATERIALS:** Avoid strong oxidising and strong reducing agents as well as anionic detergents.

**HAZARDOUS DECOMPOSITION:** The substance decomposes on burning producing toxic fumes of nitrogen oxides and chloride.

**PRODUCTS:**

**11. TOXICOLOGICAL INFORMATION**

**Eye contact** Risk of serious damage to eyes. Exposure can lead to irritation/burning, eye pain, conjunctivitis, swelling of eye and swelling of eyelid.

**Skin Contact** Prolonged skin contact, especially with the concentrate, will cause severe irritation/burning, rash, itching, and blistering.

**Inhalation** Breathing in high concentrations of vapours or aerosols of this material may cause respiratory irritation/burning, irritation to mouth/throat/nose, coughing/choking, chest pain, disorientation, dizziness, shortness of breath.

**Ingestion** Ingestion may result in ulceration and burns to the mouth/throat/nose, vomiting/nausea/abdominal pain, dizziness, and headache.

**Skin Sensitisation** Product is not a skin sensitiser.

**Chronic effects** None expected with normal use and exposure, does not accumulate in body tissue, not carcinogenic or mutagenic.

**ANIMAL ACUTE TOXICITY DATA**

**Oral:** LD<sub>50</sub> (rat) 4 032 mg/kg GHS Category 5 (2000-5000 mg/kg)

**Dermal:** LD<sub>50</sub> (rabbit) >2000 mg/kg GHS Category 5 (2000-5000 mg/kg)

**Inhalation:** LC<sub>50</sub> rat 0.161 – 0.250 mg/ℓ air, GHS Category 2 (0.05 – 0.5 mg/ℓ)

**12. ECOLOGICAL INFORMATION: (Active ingredient)**
**ECOTOXICITY:**

**Aquatic Organisms** Fish - Acute LC<sub>50</sub> (96hr) 1.16 mg/ℓ (*Oncorhynchus mykiss*)  
 Fish - Chronic 21-day NOEC 0.032 mg/ℓ (*Brachydanio rerio*)  
 Aquatic invertebrates - Acute LC<sub>50</sub> (96hr) 0.094 mg/ℓ (*Daphnia magna*)  
 Aquatic invertebrates - Chronic 21-day NOEC 0.01 mg/ℓ (*Daphnia magna*)  
 Algae EC<sub>50</sub> 0.026 mg/ℓ (*Selenastrum capricornutum*)  
 Algae 48-hour NOAEC 0.014 mg/ℓ (*Selenastrum capricornutum*)

**Bees:** Not toxic to bees.  
 Acute contact (product) LD<sub>50</sub> > 100 g a.i./bee (*Apis mellifera*)

**Birds:** Not hazardous to birds.  
 LC<sub>50</sub> Oral > 5620 ppm (bobwhite quail)  
 NOEC 1780 1780 ppm (bobwhite quail)

Bioaccumulation is not expected to be significant. This product is readily biodegradable. Low potential for bio-concentration.

No long-term influence on nitrogen or carbon transformation in soils.

**13. DISPOSAL CONSIDERATIONS:**

On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities.

Invert empty container over mix or spray tank and allow draining for at least 30 seconds until flow has slowed to a drip. Triple rinse the empty container with clean water equal to a minimum of 30 % of the volume of the container. Add rinsing to the contents of the spray tank. Offer container for recycling or puncture and dispose of at authorised landfill. Do not use container for any other purpose.

DIP disposal: According to local legislative requirements

#### 14. TRANSPORT INFORMATION:

UN NUMBER:	3082
PROPER SHIPPING NAME:	Environmental Hazardous Substance, Liquid N.O.S.
ADR RID CLASSIFICATION	9
PACKING GROUP:	III (minor danger)
HAZARD WARNING:	None

#### 15. REGULATORY INFORMATION:

This product is registered in South Africa with the Registrar of ACT 36 of 1947, registration number G2838

#### 16. OTHER INFORMATION

Date of last revision: 18 May 2021

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Contact: Suzel Serfontein or Laurika Swart

Issue no: 2.9 Minor amendments section 1

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This information concerns only the product conforming to its specifications and limits to the uses herein stated. This sheet complements the technical sheet of use but does not replace it. The information contained on this sheet is based on knowledge of the product on date of publication. It is given in good faith.

The data does not signify any warranty with regard to the product properties. This Safety Data Sheet (SDS) summarises to our best knowledge the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how to prevent accidents in the normal workplace including in conjunction with other products.

Care for the environment is essential for our future.

END of SDS