



Safety Data Sheet

Issue No: GHS 2.6	Issue Date July 2020	Issued by ICA International Chemicals
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1. IDENTIFICATION

GHS product identifier:	Virukill®
Other means of identification:	Didecylidimethyl Ammonium Chloride (DDAC) 120 g/l
Recommended use:	General Disinfection: Public Places, General areas in Hospitals, Agricultural, Animal Husbandry
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)
GHS Label elements	Causes serious eye damage Causes skin irritation Very toxic to aquatic life DO NOT APPLY UNDILUTED PRODUCT AS A MIST
	 
Signal Word	Warning
Hazard Statements	<p>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.</p> <p>H303 May be harmful if swallowed.</p> <p>H313 May be harmful in contact with skin.</p> <p>H315 Causes skin irritation.</p> <p>H318 Causes serious eye damage.</p> <p>H227 Combustible liquid</p> <p>H411 Very toxic to aquatic life with long lasting effects.</p>
Precautionary Statements	<p>P260 Do not breathe spray.</p> <p>P264 Wash hands and face thoroughly after handling.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P280 Wear protective gloves, protective clothing, eye and face protection.</p> <p>P284 Wear respiratory protection.</p> <p>P301+P312 If SWALLOWED: Call a POISON CENTER/doctor if you feel unwell</p> <p>P302+P312 IF ON SKIN: wash with plenty of water</p> <p>P332+P313 If skin irritation occurs, consult a doctor/physician.</p> <p>P304+P340 IF (undiluted mist): INHALED remove to fresh air and keep at rest in a position comfortable for breathing.</p> <p>P320 IF (undiluted mist): INHALED: Specific treatment is urgent – as product is corrosive to mucus membranes in respiratory tract.</p> <p>P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P310 Immediately call a POISON CENTRE or doctor/physician if in eyes.</p> <p>P362 +P364 Take off contaminated clothing and wash well before re-use.</p> <p>P403+P233 Store in a well-ventilated place and keep the container tightly.</p> <p>P405 Store locked up.</p> <p>P273 Avoid release to the environment.</p>
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.
	H320	Causes eye irritation.
Precautionary Statements	P260	Do not breathe mist.
	P264	Wash or dry hands thoroughly after handling before touching eyes.
	P284	Wear protective gloves, protective clothing, eye and face 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.

INHALATION:	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.
EYES:	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.
SKIN:	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.
INGESTION:	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. Get medical attention. Possible mucosal damage may contra-indicate the use of gastric lavage.
Advice to Doctor	Treat symptomatically.

5. FIRE FIGHTING MEASURES:

Suitable Extinguishing Media: **SMALL FIRES:** Dry chemical, CO₂, water spray or alcohol-resistant foam.

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 or foodstuffs

8. EXPOSURE CONTROL / PERSONAL PROTECTION

EXPOSURE LIMITS	None allocated
ENGINEERING CONTROLS:	Handle in well ventilated areas, generally natural ventilation is adequate. If mists or vapours are generated local exhaust ventilation may be required in confined spaces. Facilities 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. RESPIRATORY: If inhalation of vapour/mist is likely to occur, wear an approved respirator mask, especially in case of insufficient ventilation. SKIN: Wear PVC/rubber gloves, washable hat and buttoned-up cotton overalls.
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, 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 PRODUCTS: The substance decomposes on burning producing toxic fumes of nitrogen oxides and chloride.

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 ₅₀ (rat)	4 032 mg/kg GHS Category 5 (2000-5000 mg/kg)
Dermal: LD ₅₀ (rabbit)	>2000 mg/kg GHS Category 5 (2000-5000 mg/kg)
Inhalation: LC ₅₀ 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 ₅₀ (96hr) 1.16 mg/ℓ (<i>Oncorhynchus mykiss</i>) Fish - Chronic 21-day NOEC 0.032 mg/ℓ (<i>Brachydanio rerio</i>) Aquatic invertebrates - Acute LC ₅₀ (96hr) 0.094 mg/ℓ (<i>Daphnia magna</i>) Aquatic invertebrates - Chronic 21-day NOEC 0.01 mg/ℓ (<i>Daphnia magna</i>) Algae EC ₅₀ 0.026 mg/ℓ (<i>Selenastrum capricornutum</i>) Algae 48-hour NOAEC 0.014 mg/ℓ (<i>Selenastrum capricornutum</i>)
Bees:	Not toxic to bees. Acute contact (product) LD ₅₀ > 100 g a.i./bee (<i>Apis mellifera</i>)
Birds:	Not hazardous to birds. LC ₅₀ 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: 30 July 2020 Phone +27(0) 21886 912
 Contact: Suzel Serfontein or Laurika Swart
 ® Registered trademark of ICA Laboratories Issue no: 2.6 Minor amendments

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