



# MATERIAL SAFETY DATA SHEET

## Virukill

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### **SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

#### **1.1 Product Identifier**

- 1.10      Product name:                      VIRUKILL
- 1.12      Other names:                          Didecyldimethylammonium chloride
- 1.13      Use:                                        Broad Spectrum Disinfectant. For disinfectant of poultry premises and equipment kills pathogenic bacteria and some poultry viruses.

### **SECTION 2: HAZARD IDENTIFICATION**

#### **2.1 Hazard Substance: NON-DANGEROUS GOODS**

**Hazard Symbol:**      Xn                      Harmful  
                                  C                      Corrosive (to the eye)  
 Classified as hazardous according to the criteria of NOHSC.  
 Not classified as a dangerous good according to the ADG Code, 6<sup>th</sup> Edition.  
 Classified as a scheduled poison S6 according to the NDPSC.

**Risk Phrases**            R34/41            Causes burns (to the eyes). Risk of serious damage to eyes.  
                                  R22                    Harmful if swallowed.  
                                  R37/387            Irritating to respiratory system and skin.

**Safety Phrases**            S2                    Keep out of reach of children  
                                  S25/26            Avoid contact with eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
                                                       Wear eye protection.  
                                  S37/39            Wear suitable gloves and eye/face protection.  
                                  S38                    In case of insufficient ventilation, wear suitable respiratory equipment.  
                                  S45                    In case of feeling unwell, seek medical advice.

### **SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

<b>INGREDIENT(s)</b>	<b>CAS Number:</b>	<b>Concentration (g/L):</b>
Didecyldimethylammonium Chloride (DDAC)	7173-515	120 g/L
Other non-hazardous components	-	To 100%

**SECTION 4: FIRST AID MEASURES**

**IF poisoning occurs, contact a doctor or Poisons Information Centre ph 0800-764-766. Follow the advice given. Show this MATERIAL SAFETY DATA SHEET to a doctor.**

<b>INGESTION:</b>	If swallowed, DO NOT induce vomiting. Give 3 - 4 glasses of milk (if unavailable, give water), then egg whites or gelatine solution. Never give anything to an unconscious person. If vomiting does occur, give fluids again. Get medical attention to determine if vomiting or evacuation of stomach is necessary. Possible mucosal damage may contraindicate the use of gastric lavage. Provide MSDS.
<b>INHALATION:</b>	If inhalation of mists causes irritation of the nose or throat, remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if irritation continues or if breathing difficulty develops. Administer oxygen if breathing is difficult. Provide MSDS.
<b>SKIN:</b>	Remove contaminated clothing immediately. Wash skin immediately with plenty of soap and water. Wash contaminated clothing before re-use.
<b>EYES:</b>	Immediately flush with plenty of water for at least 15 minutes. Hold eyelids apart to ensure rinsing of the entire surface of the eyes and lids with water. Remove contact lenses if present and easy to do. If irritation persists, get medical attention. Provide MSDS.
<b>FIRST AID FACILITIES:</b>	Ensure washing facilities, such as shower and eyewash station, are available.
<b>MEDICAL ATTENTION:</b>	No specific antidote known. Treat symptomatically. Possible mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsions may be needed.
<b>POTENTIAL HEALTH EFFECTS:</b>	Practically non-toxic. Ingestion may cause immediate burning pain in the mouth, throat and abdomen, and swelling of the larynx. Eye contact may cause severe irritation and damage. Skin contact may cause slight irritation. Not a skin sensitiser. If inhaled, can cause irritation and damage to mucosal surfaces. Occupational exposure to this material has not been reported to cause significant adverse human health effects when used as recommended.
<b>MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:</b>	No

**SECTION 5: FIRE FIGHTING MEASURES**

<b>SMALL FIRES:</b>	Dry chemical, CO <sup>2</sup> , water spray or alcohol-resistant foam.
<b>LARGE FIRES:</b>	Apply water in large quantities (flooding). Keep unopened containers exposed to the fire cool with spraying water on it.
<b>SUITABLE EXTINGUISHING MEDIA:</b>	Carbon dioxide (CO <sub>2</sub> ), dry powder, foam or water.
<b>HAZARDS FROM COMBUSTION PRODUCTS:</b>	Not flammable. Dangerous reactions with strong oxidizing agents.
<b>PRECAUTIONS FOR FIRE FIGHTERS AND SPECIAL PROTECTIVE</b>	

**EQUIPMENT:** Fire fighters should wear full protective gear including self-contained breathing apparatus.

**HAZCHEM CODE:** None allocated.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

**EMERGENCY PRODEDURES:** **CONTAIN SPILL**  
 Do not discharge waste liquid into streams.  
 Avoid contact with product. Use personal protective equipment as outlined in Section 8.  
 Do not smoke, drink or eat during clean-up procedure.

**METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN UP:**  
 Spills should be contained and absorbed with inert absorbent materials. Place contaminated absorbent in a plastic-lined metal drum and dispose of in accordance with disposal regulations. Liquid spills that soak into the ground should be dug up and disposed of with contaminated absorbent.  
 At levels below 10 ppm (active), no detrimental effects on functioning waste treatment systems or the environment have been noted.  
 Leaking containers should be separated from intact containers and either the container or its contents transferred to a plastic-lined drum. Dispose of leaking container in accordance with disposal regulations.  
 Triple or preferably pressure rinse containers before disposal. Add rinsings to dip/spray tank. Do not dispose of undiluted chemicals on-site.  
 Break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots.  
 Empty containers and product should not be burnt.

## **SECTION 7: HANDLING AND STORAGE**

**PRECAUTIONS FOR SAFE HANDLING:** Use in well ventilated area and AVOID inhalation of spray mist. Wear suitable respiratory equipment. Product is poisonous when swallowed. Always store pesticides in their original containers, which include the label listing ingredients, directions for use, and first aid steps in case of accidental poisoning. Never transfer pesticides to soft drink bottles or other containers. Children or others may mistake them for something to eat or drink. Keep out of reach of children  
 Wear suitable protective clothing;  
 Wear suitable gloves to prevent skin irritation.  
 In case of insufficient ventilation, wear suitable respiratory equipment.  
 Wear eye/face protection to avoid contact with eyes.  
 DO NOT keep or store for prolonged periods in direct sunlight.  
 Wash hands, arms and face after use. Wash gloves and contaminated protective clothing daily.

**CONDITIONS FOR SAFE STORAGE:** DO NOT re-use the container for any other purpose.  
 Use plastic containers. Avoid metal.  
 Store in the closed original container in a cool, dry and well ventilated, secure area. Do not store in direct sunlight. Keep away from children, animals, food, and seed.

**SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION**

- NATIONAL EXPOSURE STANDARDS:** No emission limits allocated.
- BIOLOGICAL LIMIT VALUES:** No biological limit allocated.
- ENGINEERING CONTROLS:** Provide proper ventilation to minimise exposure. If mists or vapours are generated, their concentration in the workplace air should be controlled to the lowest reasonable practicable level. Facilities should be equipped with an eyewash facility and a safety shower. When opening the container, preparing solution and using the prepared solution, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), elbow-length PVC gloves, goggles and disposable fume mask. If product in eyes, wash it out immediately with water. Wash hands after use. After each day's use, wash gloves, goggles and contaminated clothing.
- PERSONAL PROTECTIVE EQUIPMENT:** EYES: Wear chemical safety glasses with side shield or face shield.  
GLOVES: Wear rubber gloves to prevent skin contact.  
RESPIRATORY: If inhalation of vapour is likely to occur wear an approved respirator/disposable fume mask/dust mask. Use in well ventilated area ONLY. In case of insufficient ventilation, wear suitable respiratory equipment.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

- APPEARANCE: Clear, colourless, foaming liquid
- ODOUR: Slight bitter odour.
- pH: 5 – 8
- STABILITY: Stable at normal conditions (OECD 113)
- SURFACE TENSION: 36.1 Mn/m (OECD 115)
- MISCIBILITY: Standard water, acetone and ethanol at 30°C – no solid material separation; no separation into layers.
- CORROSION (METALS): NON-CORROSIVE TO METALS. Aluminum, copper, carbon steel and brass = >0.08mm/year. (ASTM G31-72)
- SOLUBILITY IN WATER: Freely soluble
- SPECIFIC GRAVITY / DENSITY: ~1kg/L at 20°C (IP 365)
- FLASH POINT: ASTM D93 = 92,00C (Pensky Martens Closed Cup)
- VOLATILITY: non volatile matter, (% m/m) = 14,66 (SABS)
- FLAMMABILITY: Not Flammable
- VISCOSITY: 70,4 at 25°C (Brookfield viscosity, speed 100, spindle 2)
- FOAM PERSISTENCE: (200 ml/100L) in 100ml emulsion: Hardwater 1 min = 104mL; Hard water 5 min = 88mL
- COMPATABILITY: Not compatible with concentrated anionic compounds
- OXIDISING PROPERTIES: Not an oxidising substance.
- SPECIFIC GRAVITY: 1 @ 20°C
- FLASH POINT: 64°C
- CORROSIVENESS: NON-CORROSIVE TO METALS

**SECTION 10: STABILITY AND REACTIVITY**

CHEMICAL STABILITY:	Stable under normal conditions of use. Tolerant of both acid & alkaline medium (pH 3.5-9)
CONDITIONS TO AVOID:	Do not store at high temperatures for long periods of time. Keep containers closed when not in use.
INCOMPATIBLE MATERIALS:	Not compatible with concentrated anionic compounds or with strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS:	The substance decomposes on burning producing toxic fumes of nitrogen oxides and chloride.

**SECTION 11: TOXICOLOGICAL INFORMATION**

ORAL TOXICITY:	LD <sub>50</sub> (rat)	>4000mg/kg
DERMAL TOXICITY:	LD <sub>50</sub> (rabbit)	>2000mg/kg
INHALATION TOXICITY:	LC <sub>50</sub> rat	0.161 mg/L air – can cause irritation and damage to mucosal surface.
DERMAL IRRITATION:	(OECD 404)	Irritating to skin
EYE IRRITATION:	(OECD 405)	Risk of serious damage to eyes
SENSITISATION:	Guinea pig	Not a skin sensitizer
CHRONIC TOXICITY:	Oral dog	1 year – no target organs effects
PHARMACOKINETICS:	Dog	This material does not accumulate in body tissues.
MUTAGENICITY:		Non-teratogenic. Non-carcinogenic. Non-mutagenic.

**SECTION 12: ECOLOGICAL INFORMATION:**

ECOTOXICITY:	Fish: Moderate toxic to aquatic organisms. Active ingredient: LC <sub>50</sub> (96hr) – 1mg/L (salmon) Active ingredient: EC <sub>50</sub> (48hr) – 0.94mg/L ( <i>Daphnia magna</i> ) DO NOT contaminate streams, rivers or waterways with the chemical or used containers.
	Bees: Not toxic to bees. Product Acute contact LD <sub>50</sub> > 100g a.i./bee ( <i>Apis mellifera</i> )
	Birds: Not hazardous to birds.
PERSISTENCE & MOBILITY:	DDAC is biodegradable in sewage and natural water systems. Immobile in soil.

**SECTION 13: DISPOSAL CONSIDERATIONS:**

Do not use fungicide containers or packaging material for storing water or food.

**Disposal Methods:** Triple or preferably pressure rinse containers with clean water before disposal. Add rinsings to dip/spray tank. Do not dispose of undiluted chemicals on-site.

If recycling, replace cap and return clean containers to recycler or designated collection point.

If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

**SECTION 14: TRANSPORT INFORMATION:**

UN NUMBER: Not a Dangerous Good.  
 PROPER SHIPPING NAME: None allocated (according to UN Number)  
 PACKING GROUP: II (minor danger)  
 SPECIAL PRECAUTIONS FOR USER: None allocated  
 HAZCHEM CODE: None allocated  
 MATERIAL FOR EXPORT: Not classified as dangerous by the following:  
 Land – US Dept Transport & European Transport  
 Water – IMDG Code  
 Air – IATA & ICAO

**SECTION 15: REGULATORY INFORMATION:**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP):** Poison Schedule Number 6

**Agricultural and Veterinary Chemicals Act 1988:** Registered by the APVMA under Product No. 50860

**International:** Registered for use Globally, refer ICA South Africa for country details.

**SECTION 16: OTHER INFORMATION**

**Preparation Information:** Replaces: 15 April 2004 version  
 Reason for Update: Update of Company Name and Conversion to new Australian 16 Header Format

**Abbreviations and Acronyms:** ADG = Australian Dangerous Goods Code, Rail & Road, 6th Edition  
 APVMA = Australian Pesticide and Veterinary Medicines Authority  
 CAS Number = Chemical Abstract Service Registry Number  
 EPG = Emergency Procedure Guide  
 IATA = International Air Transport Association  
 ICAO = International Civil Aviation Organization  
 IMDG = International Maritime Dangerous Goods Code  
 NDPSC = National Drugs and Poisons Scheduling Committee  
 NOHSC = National Occupational Health and Safety Commission  
 SUSDP = Standard for the Uniform Scheduling of Drugs and Poisons

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Sources for Data: ICA Laboratories cc (formulator) Material Safety Data Sheet

*This information concerns only the product conforming to its specifications and limits to the uses herein stated. This MSDS complements the technical sheet of use but doesn't 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.*