

Material Safety Data Sheet

Issue No.: 1.2	1 st Edition: 12/06/2003	Revision date: 11 March 2008
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1. IDENTIFICATION OF THE SUBSTANCE AND SUPPLIER

Product Name: **Virukill® Avian**
 Other names: None allocated
 Recommended Use: Fungicide and/or agricultural disinfectant.
 Supplier: ICA International Chemicals (Pty) Ltd
 Address: 28 Planken Street
 Plankenbrug Industrial
 STELLENBOSCH · 7600 · SOUTH AFRICA
 Telephone No.: +27 (0) 21 886 9812
 Fax No.: +27 (0) 21 886 8209
 Emergency Phone No.:

2. HAZARD IDENTIFICATION

Hazard: **HAZARDOUS SUBSTANCE. NON-DANGEROUS GOOD**
 Classification: Classified as hazardous according to the criteria of NOHSC
 C - Corrosive (eyes)
 Not classified as a dangerous good according to the ADG Code, 6th edition.
 Classified as scheduled poison S6 according to the NDPSC
 Risk Phrases: R22 - Harmful if swallowed
 Safety Phrases: S (2) - Keep out of reach of children
 S26 - In case of contact with eyes, rinse immediately with plenty of water
 S36 - Wear suitable protective clothing;
 S37 - Wear suitable gloves
 S38 - In case of insufficient ventilation, wear suitable respiratory equipment.
 S39 - Wear eye/face protection.

3. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT(s)	CAS NO.:	US EPA PC Code	Classification	Proportion
N,N-Didecyl-N,N-dimethyl ammonium chloride (DDAC)	7173-51-5	069149	Xn; R22 C; R34	12%
Other non-hazardous components				To 100%

4. FIRST AID MEASURES

Show this MATERIAL SAFETY DATA SHEET to a doctor.

INHALATION:	<ul style="list-style-type: none">· If inhalation of spray mist causes breathing problems, immediately remove person away from spray mist.· Move victim to fresh air.· Administer oxygen if breathing is difficult.· Do not use mouth-to-mouth. Use pocket mask with one-way valve.· Get medical attention if breathing gets worse
EYES:	Check and remove any contact lenses. Rinse eyes IMMEDIATELY with clean water for at least 15 minutes. Hold eyelids apart while flushing. Corneal involvement or irritation may occur - clearing in 7 days or less. Get medical attention.
SKIN:	Remove contaminated clothing immediately. Wash affected areas (skin) immediately with plenty water (and soap)
INGESTION:	If swallowed, DO NOT induce vomiting. Give 3-4 glasses of milk or water, then egg whites or gelatine solution. If vomiting does occur, keep on giving fluids. Get medical attention to determine if evacuation of stomach or vomiting is necessary.
MEDICAL ATTENTION:	<ul style="list-style-type: none">· No specific antidote known.· Treat symptomatically.· Possible mucosal damage may contra-indicate the use of gastric lavage.· Measures against circulatory shock, respiratory depression and convulsion may be needed.·
POTENTIAL HEALTH AFFECTS:	<ul style="list-style-type: none">· Practically non-toxic.· Inhalation of spray mist can cause irritation and damage to mucosal surfaces.· Eye contact may cause severe irritation and damage.· Not a skin sensitizer may cause slight irritation.· Ingestion may cause burning pain in the mouth, throat and abdomen and swelling of the larynx.

5. FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:	<ul style="list-style-type: none">· SMALL FIRE: Dry chemical, CO₂, water spray or alcohol-resistant foam.· LARGE FIRE: Use water spray to cool fire-exposed containers. Avoid strong acids. Move containers from fire area if you can do it without risk.
HAZARDS FROM STRONG COMBUSTION PRODUCTS:	<ul style="list-style-type: none">· Not Flammable· Dangerous reactions with strong oxidising agents.
PRECAUTIONS FOR FIRE FIGHTERS:	Fire fighters should wear full protective gear including self-contained breathing apparatus. If possible, safely remove intact containers from the fire.
HAZCHEM CODE:	No code has been assigned

6. ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK:

- Avoid contact with spilled material or contaminated surfaces.
- DO NOT eat, drink or smoke.
- Wear personal protective clothing and equipment (see section 8). Keep people and animals away.
- PREVENT spilled material 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 of the environment have been noted.

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.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

NATIONAL EXPOSURE STANDARDS: No exposure standards have been assigned for this product.

BIOLOGICAL LIMIT VALUES: No biological limit allocated.

ENGINEERING CONTROLS: Provide ventilation to minimise exposure. If mists 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.

PERSONAL PROTECTIVE EQUIPMENT:
EYES: Safety goggles or face shield.
CLOTHING: Wear cotton overalls buttoned to the neck and wrist to avoid skin contact.
GLOVES: Wear elbow-length chemical resistant PVC gloves.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE (colour, physical form:)	Clear colourless foaming liquid
ODOUR:	Slight bitter smell. Bitter taste.
pH:	5 -8
VAPOUR PRESSURE:	No data available
VAPOUR DENSITY:	No data available
BOILING POINT:	No data available
MELTING POINT:	Not applicable
SOLUBILITY IN WATER:	Soluble
SPECIFIC GRAVITY:	~1kg.L at 20°C (IP 365)
FLASH POINT:	64°C
EVAPORATION RATE:	No data available
UPPER AND LOWER FLAMMABLE (explosive) LIMITS:	No data available
VISCOSITY:	70 at 25°C (Brookfield)
COMPATIBILITY:	Not compatible with concentrated anionic compounds
CORROSION:	Copper: 1 (IP154)
OXIDISING PROPERTIES:	Not likely to occur

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:	Stable under normal conditions of use.
CONDITIONS TO AVOID:	Tolerant of both acid & alkaline medium (pH 3.5 - 9)
INCOMPATIBLE MATERIALS:	Not compatible with concentrated anionic compounds or with strong oxidising agents.
HAZARDOUS DECOMPOSITION PRODUCTS:	None known
HAZARDOUS REACTIONS:	No dangerous reaction known under conditions of use.

11. TOXICOLOGICAL INFORMATION

ANIMAL ACUTE TOXICITY DATA (PRODUCT)

ORAL:	LD ₅₀ (rat)	>4000mg/kg
DERMAL:	LD ₅₀ (rabbit)	>2000mg/kg
INHALATION:	LC ₅₀ 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

12. ECOLOGICAL INFORMATION

ECOTOXICITY:	Fish	<ul style="list-style-type: none">· Moderate toxic to aquatic organisms.· DO NOT contaminate streams, rivers or waterways with the chemical or used containers.· Active ingredient: LC₅₀ (96hr) - 1mg/L (salmon)· Active ingredient: EC₅₀ (48hr) - 0.94mg/L (<i>Daphnia magna</i>)
	Bees	<ul style="list-style-type: none">· Not toxic to bees.· Acute contact (product) LD₅₀ > 100g a.i./bee (<i>Apis mellifera</i>)
	Birds	<ul style="list-style-type: none">· Not hazardous to birds.· Active Dietary LC₅₀ Oral > 5.620ppm (bobwhite quail and mallard ducks)
	Earthworms	<ul style="list-style-type: none">· No data available
PERSISTENCE AND DEGRADABILITY:		<ul style="list-style-type: none">· DDAC is biodegradable in sewage and natural water systems.
MOBILITY:		<ul style="list-style-type: none">· Immobile in soil.

13. DISPOSAL CONSIDERATIONS

Do not use fungicide containers or packaging material for storing water or food. Triple or preferable pressure rinse empty containers with clean water before disposal. Add rinsing to spray/mixing tank. Do not dispose of undiluted chemical 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 any water source (river, dam, spring, or borehole). Empty containers and product should not be burnt.

14. TRANSPORT INFORMATION

UN NUMBER:	NOT a Dangerous Good (<i>Classed by the South African and Australian Code for The Transport of Dangerous Goods</i>)
PROPER SHIPPING NAME:	Non allocated
CLASS AND SUBSIDIARY RISK(S):	Non allocated
PACKING GROUP:	III (minor danger)
HAZCHEM CODE:	Non allocated

15. REGULATORY INFORMATION

Poisons Schedule No.:	S6 (According to <i>Standard for the Uniform Scheduling of Drugs and Poisons</i> established under the Therapeutic Goods Act Australia (1989).
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16. OTHER INFORMATION

This Material and Safety Data Sheet replace the previous version dated 12/06/2003.

Reason for update: To conform to the SABS ISO 11014-1: 1994 standard of the 16 Header Format.

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 Material Safety Data Sheet (MSDS) summarises our best knowledge of 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 MSDS 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.

Abbreviations and Acronyms:	ADG:	Australian Dangerous Goods Code, Rail & road 6 th 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.

END of MSDS