SAFETY DATA SHEET

Issue No: 1.9	Revision date: 2024/11/13 First print date: 2017/02/28

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name:	**HyperCide**
Recommended Use:	Contact bactericide and fungicide
Supplier:	ICA International Chemicals (Pty) Ltd
Address:	28 Planken Street Plankenbrug Industrial STELLENBOSCH · 7600 · SOUTH AFRICA
Telephone No:	+27-21 886 9812
Fax No:	+27-21 886 8209
Emergency Tel No:	Griffon Poison Information Centre: +27-82 446 8946 Human Poison Helpline: +27-861 555 777

2. HAZARD IDENTIFICATION

GHS Classification of product

Organic Peroxide – Type F
Acute Toxicity Oral – Category 5
Acute Toxicity Dermal – Category 4
Acute Toxicity Inhalation – Category 4
Skin Corrosion/Irritant – Category 1A
Eye Damage/ irritation – Category 1
STOT/SE – Category 3
Acute Aquatic Toxicity – Category 1

Label Elements

Classification and Labelling of Chemicals (GHS) Rev 10, 2023; Regulation EC No. 1272/2008 [EU-GHS/CLP]

Signal word **DANGER**

Hazard Statements		
	H242	Heating may cause fire
	H303	May be harmful if swallowed
	H312	Harmful in contact with skin
	H314	Causes severe skin burns and eye damage
	H332	Harmful if inhaled
	H335	May cause respiratory irritation
	H400	Very toxic to aquatic life

General 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.
Prevention Precautionary Statements	P210:	Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
	P234:	Keep only in original packaging.
	P240:	Ground and bond container and receiving equipment.
	P260:	Do not breathe fumes, mist, vapours, spray.

	P264 + P265:	Wash hands and exposed skin thoroughly after handling. Do not touch eyes.
	P271:	Use only outdoors or in a well-ventilated area.
	P273:	Avoid release (of concentrate) to the environment.
	P280:	Wear protective gloves, protective clothing, eye and face protection.
	P284:	[In case of inadequate ventilation] Wear respiratory protection.
Response Precautionary Statements	P301 + P330 + P331 + P317:	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Get medical help.
	P302 + P352:	IF ON SKIN: Wash with plenty of soap and water.
	P302 + P361 + P354:	IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes.
	P304 + P340:	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical help.
	P319:	Get medical help if you feel unwell.
	P305 + P354 + P338:	IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P316:	Get emergency medical help immediately.
	P321:	Specific treatment; see first aid measures in section 4.
	P362 + P364:	Take off contaminated clothing and wash it before reuse.
	P370 + P378:	In case of fire: Use water spray or fog; if water not available use dry chemical, CO_2, or regular foam to extinguish.
	P391:	Collect spillage.
Storage Precautionary Statements	P403 + P233:	Store in a well-ventilated place. Keep container tightly closed (with original vented cap).
	P405:	Store locked up.
	P410:	Protect from sunlight.
	P411:	Store at temperatures not exceeding 30 °C.
	P420:	Store separately.
Disposal Precautionary Statements	P501:	Dispose of contents and container in accordance with national regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT(S)	CAS NO:	CONCENTRATION (%w/v)	CLASSIFICATION EC 1272/2008
Hydrogen Peroxide	7722-84-1	21.5 – 24.0	Oxidizing Liquids Category 1, H271; Acute Oral Toxicity Category 4, H302; Acute Inhalation Toxicity Category 4, H332; Skin Corrosion Category 1A, H314
Peracetic Acid	79-21-0	13.5 – 15.0	Flammable Liquid Category 3, H226; Organic Peroxide Category D, H242; Acute Oral Toxicity Category 4, H302; Acute Dermal Toxicity Category 4, H312; Skin Corrosion Category 1A, H314; Acute Inhalation Toxicity Category 4, H332; Aquatic Acute Toxicity Category 1, H400; STOT SE 3; H335
Acetic acid	64-19-7	< 25	Eye Irritation Category 2, H319; Skin Irritation Category 2, H315

There are no additional ingredients present which, within the current knowledge of the provider of this SDS, and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. See section 16 for legend of additional H-phrases not in section 2.

4. FIRST AID MEASURES

Show this SAFETY DATA SHEET to a doctor.

UNDILUTED PRODUCT

INHALATION:	Coughing, burning sensation. Corrosive to nose, throat, and lungs. May cause irreversible tissue damage.	Remove from exposure, lie down. Keep patient warm and at rest. Supply oxygen or artificial respiration if needed. Obtain medical attention immediately.
SKIN CONTACT:	Biting sensation, discolouring white, burns.	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation occurs, call a physician. Keep warm. Wash contaminated clothing with plenty of water to prevent fire hazard.

EYE CONTACT:	Biting sensation, discolouring white, burns. Burning sensation. Corrosive to eyes. May cause irreversible tissue damage, which may include blindness.	Immediately wash eyes with large amounts of water for at least 15 minutes, lifting upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing. Obtain immediate medical attention. Consult an ophthalmologist immediately if symptoms persist.
INGESTION:	Burning sensation. Corrosive to mouth, throat, and intestines. May cause irreversible tissue damage.	Rinse mouth. Immediately give large quantities of water to drink. Obtain medical attention. Do NOT induce vomiting. If vomiting occurs, aspiration of the vomitus into the air passage and lungs must be avoided at all costs. When dealing with caustic substances, notify emergency physician immediately.
MEDICAL ATTENTION:	Treat symptomatically. Medical observation is recommended for 24 to 48 hours after breathing overexposure, as pulmonary oedema may be delayed.	

PRODUCT – DILUTED AS PER LABEL

INHALATION:	Get medical attention if symptoms occur.
SKIN CONTACT:	Solutions with HyperCide concentrations of < 1 % should not damage the skin. If symptoms occur, wash with neutral soap.
EYE CONTACT:	Immediately wash eyes with large amounts of water for at least 15 minutes, lifting upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing.
INGESTION:	Rinse mouth. Get medical attention if symptoms occur.

5. FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:	**Small fires:** Water spray or fog is preferred; if water not available use dry chemical, CO_2, or regular foam. **Large fires:** Flood fire area with water from a distance. Use water spray or fog; avoid aiming straight or solid streams directly onto the product. Do not move cargo or vehicle if cargo has been exposed to heat. If it can be done safely, move undamaged containers away from the area around the fire
FIRE INVOLVING TANKS:	Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned master stream devices or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
UNSUITABLE EXTINGUISHING MEDIA:	DO NOT use high volume water jet, due to contamination risk.
SPECIFIC EXTINGUISHING METHODS:	Fight fire from maximum distance. For massive fire, use unmanned hose holder or monitor nozzles. Collect contaminated extinguishing water separately; do not allow contaminated water to reach the sewage or effluent systems.
SPECIFIC HAZARDS ARISING FROM COMBUSTION PRODUCTS:	On decomposition hydrogen peroxide releases oxygen, which may intensify fire.
PRECAUTIONS FOR FIRE FIGHTERS:	Fire fighters should wear full protective gear including self-contained breathing apparatus (SCBA). Fight fire from safe distance. Contact with the fumes and vapours should be avoided by staying upwind. Clean all clothing before re-use. Severely contaminated clothing cannot be adequately decontaminated and must be disposed as a hazardous waste. Shower with soap and water after contact with chemical product.
FURTHER INFORMATION:	If possible, safely move undamaged intact containers away from the area around the fire. Keep containers cool by spraying with water if exposed to fire. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. In case of fire and/or explosion do not breathe fumes.

6. ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK:

PERSONAL PRECAUTIONS:	Avoid contact with skin and eyes. Do not touch or walk through spilled material. Do not inhale spray or fumes.

PROTECTIVE EQUIPMENT:	Wear personal protective clothing and equipment (see section 8).
EMERGENCY PROCEDURES:	Keep people and animals away. Eliminate all ignition sources (no smoking, flares, sparks, or flames) from immediate area. All equipment used when handling the product must be grounded. Use water spray to reduce vapours or divert vapour cloud drift.
ENVIRONMENTAL PRECAUTIONS:	PREVENT spilled concentrated liquid from entering waterway and sewer systems, basements, and confined areas. If the product contaminates rivers, dams or waterways immediately inform respective authorities.
METHODS AND MATERIALS FOR CONTAINMENT:	Contain and absorb liquid spills with inert material, remove by scoop or vacuum. Use approved industrial vacuum cleaner for removal and place in clearly marked waste containers.
METHODS AND MATERIALS FOR CLEANING UP:	Contain spillage, and then collect with non-combustible absorbent material, (e.g., sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Use clean, non-sparking tools to collect absorbed material.
SECONDARY DISASTER PREVENTION MEASURES:	Never use sawdust, wood chips, cloths, or similar material to soak up spill. Dilute spilled product with at least 10 times water. Neutralization: once diluted with 10 – 100 times of water, neutralize with a suitable alkali such as sodium bicarbonate (baking soda). Very dilute solution can be washed into drains with plenty of water. Contact the proper local authorities. This product may be harmful to fish when exposed to 1 ppm or more of peracetic acid on a continuous basis.

7. HANDLING AND STORAGE

7.1: PRECAUTIONS FOR SAFE HANDLING:	· Always store in original containers, which include the label listing ingredients, directions for use, and first aid steps in case of accidental poisoning. · Never transfer to soft drink bottles or other containers. Children or others may mistake them for something to eat or drink. · Wear suitable protective clothing which include chemical-resistant overalls, footwear, socks, dust mask, eye shields and gloves. · Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Wash hands, arms, and face after application. Wash gloves and contaminated protective clothing daily before re-use.
7.2: CONDITIONS FOR SAFE STORAGE:	· Keep out of reach of unauthorized persons, children, and animals. Always store in original containers, closed with original cap and the original label, in a cool, dry, and well-ventilated area out of direct sunlight. · Segregate from foods and animal feeds. · DO NOT re-use the container for any other purpose.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

ADI – Acceptable Daily Intake	Does not cause systemic effects.
AOEL – Accepted Operator Exposure Level	Inhalation AEC (external reference value) values for peracetic acid = 0.5 mg/m^3 and for hydrogen peroxide = 1.25 mg/m^3
NATIONAL EXPOSURE STANDARDS:	Not available for SA: GB: Acetic acid and Hydrogen peroxide STEL = 2 ppm = 2,8 mg/m^3 TWA = 1 ppm = 1,4 mg/m^3
BIOLOGICAL LIMIT VALUES:	Does not cause systemic effects.
ENGENEERING CONTROLS:	Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. If airborne mist/vapours are generated use local exhaust ventilation controls. Facilities should be equipped with an eyewash station and a safety shower. Where necessary, seek additional occupational hygiene advice.
PERSONAL PROTECTIVE EQUIPMENT:	**Respiratory Protection:** Where exposure through inhalation may occur when handling and/or when preparing the application mixture, wear a face mask. If the product is used in confined spaces a respirator suitable for protection from mists is adequate.

Hand Protection: Wear chemical-resistant gloves made of any waterproof material such as nitrile rubber. Glove thickness: 0.5 mm

Eye Protection: The use of safety goggles (full-face shield) is recommended.

Skin and Body Protection: Wear suitable protective clothing which include chemical-resistant overalls, footwear, socks, dust mask, eye shields and gloves. Remove and wash contaminated protective clothing daily.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Liquid
COLOUR:	Colourless to slightly white
ODOUR:	Strong chemical, acetic
MELTING POINT / FREEZING POINT °C:	Not available
BOILING POINT:	Not available
FLAMMABILITY:	Not available
EXPLOSIVE LIMITS:	Not available
FLASH POINT:	None observed
AUTO-IGNITION TEMPERATURE:	270 °C
DECOMPOSITION TEMPERATURE (a.i):	> 55 °C
PH (1% IN WATER)	< 1
KINEMATIC VISCOSITY:	~ 55 mPa/s
SOLUBILITY - WATER (a.i):	Freely miscible
N-OCTANOL / WATER PARTITION COEFFICIENT (a.i):	log K_{ow} = -0.46 at pH 5 log K_{ow} = - 0.60 at pH 7 log K_{ow} = -0.66 at pH 9
VAPOUR PRESSURE:	2666.45 Pa at 25°C
DENSITY / RELATIVE DENSITY:	~ 1.13 g/mℓ
RELATIVE VAPOUR DENSITY	Not available
PARTICLE CHARACTERISTICS	Not applicable

10. STABILITY AND REACTIVITY

REACTIVITY:	Organic peroxides are liable to exothermic decomposition at normal or elevated temperatures. The decomposition can be initiated by heat, contact with impurities (e.g., acids, heavy-metal compounds, amines), friction or impact.
CHEMICAL STABILITY:	Stable under normal conditions of storage and use, with a slow rate of oxygen release.
HAZARDOUS REACTION:	Tempo of oxygen release will increase with increased temperatures. Decomposes on heating, releasing oxygen which may intensify fire.
CONDITIONS TO AVOID: **(e.g. – heat, pressure, static discharge, shock, or vibration)**	Heat, flames, sparks, exposure to sunlight. Combustibles such as paper and wood; Temperatures above 30°C. Keep away from food, drink and open bodies of water.
INCOMPATIBLE MATERIALS:	Oxidizing agents; Strong reducing agents; Combustible materials; Heavy metals. Highly corrosive with iron and certain metals. Non-Corrosive to aluminum, 99.5%, stainless steel 304 and 316, and tin-plated iron. Slightly corrosive to copper. Marginally corrosive to galvanized iron, bases, and organic material.
HAZARDOUS DECOMPOSITION PRODUCTS:	Hydrogen peroxide releases oxygen, which supports combustion. Will also release irritating fumes.

11. TOXICOLOGICAL INFORMATION

ANIMAL ACUTE TOXICITY DATA of products

ORAL:	LD_{50} (rat)	> 2 000 mg/kg (Category 5)
DERMAL:	LD_{50} (rat)	Test not possible due to low pH. Cat 4 (occupational data)
INHALATION:	LC_{50} (4h) rat	Test not possible due to corrosive nature. Cat 4 (occupational data)
SKIN IRRITATION / CORROSION:		Skin irritant (Category 2)

SERIOUS EYE IRRITATION / DAMAGE:	Corrosive (Sub-category 1A)
RESPIRATORY OR SKIN SENSITIZATION:	-

Data for the active ingredients	**Hydrogen Peroxide**	**Peracetic Acid**
GERM CELL MUTAGENICITY:	Negative	Negative
CARCINOGENICITY:	Negative (Mammalian Liver Cells in rats)	Not expected, rapidly decompose to hydrogen peroxide and acetic acid
REPRODUCTIVE TOXICITY:	In Vivo mice - Negative	Not expected, rapidly decompose to hydrogen peroxide and acetic acid
SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE:	Local irritancy and corrosion. Cause respiratory irritation.	Local irritancy and corrosion. Cause respiratory irritation.
SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE:	Local irritancy and corrosion Cause respiratory irritation.	Local irritancy and corrosion. Cause respiratory irritation.
ASPIRATION HAZARD:	Yes	Yes

12. ECOLOGICAL INFORMATION

ECOTOXICITY:

(HYDROGEN PEROXIDE + PERACETIC ACID)	Birds: LD_{50} (oral)	Hydrogen Peroxide = 5 000 mg/ℓ
		Peracetic Acid = Not available
	Fish: LC_{50}	Hydrogen Peroxide = 16.4 mg/ℓ
		Peracetic Acid = 0.53 mg/ℓ (Fresh water fish)
		Peracetic Acid = 11 mg/ℓ (Marine Fish)
	Aquatic invertebrates - *Daphnia*	Hydrogen Peroxide = 2.34 mg/ℓ
		Peracetic Acid = 116.6 mg/ℓ
		Peracetic Acid = NOEL 0.0121 mg
	Algae - EC_{50} / NOEC	*Pseudokirchneriella subcapitata*
		Hydrogen Peroxide = 1.69 mg/ℓ
		Hydrogen Peroxide = NOEL 0.63 mg/ℓ
		Peracetic Acid = 0.16 mg/ℓ
		Peracetic Acid = NOEL 0.061 mg/ℓ
	Bees	*Apis mellifera*
		No data available
	Earthworms: LC_{50} /NOEC	*Eisenia fetida*
		Not expected
PERSISTENCE, DEGRADABILITY AND MOBILITY:	In water, fully and rapidly hydrolysed and biodegraded to water and oxygen. Mainly distributes in the aqueous phase if released into the environment, where it is degraded. (DT_{50} for biodegradation of peracetic acid in sewage sludge is 3 minutes.) Mobile in the soil water. Do not adsorb strongly to soils. Volatilization from moist soil an important fate.	
BIO-ACCUMULATIVE POTENTIAL:	Based on its low octanol-water partition coefficient and its rapid degradation in the environment, this product is not bio-accumulable.	
SOIL MICRO-ORGANISMS:	Carbon transformation	No significant adverse/long-term effect
	Nitrogen transformation	No significant adverse/long-term effect

13. DISPOSAL CONSIDERATIONS

Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities.

TRIPLE RINSE THE EMPTY CONTAINER AS FOLLOWS: Invert the empty container over the spray or mixing tank and drain for at least 30 seconds after the flow has slowed down to dripping. Thereafter rinse the empty container three times in succession with one quarter of the container volume fresh water and decant the rinsate into the spray or 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.

14. TRANSPORT INFORMATION

UN NUMBER:	3109
UN PROPER SHIPPING NAME:	ORGANIC PEROXIDE TYPE F, LIQUID, N.O.S (peroxyacetic acid 13.5 – 15%)
TRANSPORT HAZARD CLASS(ES)	5.2
PACKING GROUP	-

TRANSPORT PICTOGRAMS:

ENVIROMENTAL HAZARD	Marine Pollutant:Yes – Category 1
TRANSPORT IN BULK (imo instruments)	Not applicable for this product
SPECIAL PRECAUTIONS FOR USER:	**Transport upright with original venting caps. Keep away from heat.**

15. REGULATORY INFORMATION

Conform to South African **Regulation for Hazardous Chemical Agents, 2021**

This product is registered in South Africa under the National Regulator for Compulsory Specification (NRCS) for chemical disinfectants as published by Government Notice No. 1119 (Government Gazette No. 41186) of 20 October 2017. Product NRCS Registration Number: NRCS/8054/243642/532 and Act 36 of 1947 Registration Number L11483.

SDS valid for five years from date of issue.

16. OTHER INFORMATION

Legend: Full text of H-Statements referred to under sections 3:

H226 – Flammable liquid and vapour.

H302 – Harmful if swallowed.

H312 – Harmful in contact with skin.

H314 – Causes severe skin burns and eye damage.

H315 – Causes skin irritation.

H318 – Causes serious eye damage.

H319 – Causes serious eye irritation.

H332 – Harmful if inhaled.

H400 – Very toxic to aquatic life.

Key literature references and sources of data: Occupational Health and Safety Act 1993. Regulation for Hazardous Chemical Agents, 2021. Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Rev. 10, 2023. UN Model Regulations Rev. 23 (2023). EU REGULATION (EC) No 1272/2008.

This Safety Data Sheet (SDS) 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 SDS and consider the information in the context of how to prevent accidents in the normal workplace including in conjunction with other products.

The information was obtained from sources which we believe are reliable. However, the information is provided in good faith. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and for these reasons we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used for this product only.

First Edition Date: 28 February 2017

Issue: 1.9 – 13 November 2024 (Section 14: Updated Transport Information).

END of SDS