Safety Data Sheet

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **TERACEP**

Recommended use of the chemical and restrictions on use: Sanitisation of food contact surfaces. Control of Botrytis Cinerea in grapes and vines up to 24 hours before harvest as approved by NZFSA and NZWine Council. Effective against PSA virus in Kiwifruit orchards and process, plant/transfer equipment.

Supplier: Ixom Operations Pty Ltd (Incorporated in Australia)
NZBN: 9429041465226
Street Address: 166 Totara Street
Mt Maunganui South
New Zealand

Telephone Number: +64 9 368 2700
Facsimile: +64 9 368 2710
Emergency Telephone: **0 800 734 607 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

2. HAZARDS IDENTIFICATION

Classified as a Dangerous Good according to NZS 5433:2012 Transport of Dangerous Goods on Land.

Classified as hazardous according to criteria in the HS (Minimum Degrees of Hazard) Regulations 2001.

SIGNAL WORD: DANGER

Subclasses:
Subclass 5.1.1 Category B (Oxidising Substances that are solids or liquids: medium hazard) - Oxidising Substances.
Subclass 6.1 Category D - Substances which are acutely toxic.
Subclass 6.9 - Substances that are respiratory tract irritants.
Subclass 6.9 Category A - Substances that are toxic to human target organs or systems.
Subclass 8.1 Category A - Substances that are corrosive to metals.
Subclass 8.2 Category B - Substances that are corrosive to dermal tissue.
Subclass 8.3 Category A - Substances that are corrosive to ocular tissue.
Subclass 9.1 Category A - Substances that are very ecotoxic in the aquatic environment.
Subclass 9.3 Category C - Substances that are harmful to terrestrial vertebrates.

Cleaning Products (Oxidising [5.1.1], Corrosive) Group Standard 2006
Approval Number: HSR002591

Hazard Statement(s):
H272 May intensify fire; oxidizer.
H290 May be corrosive to metals.
H302+H332 Harmful if swallowed or if inhaled.
H313 May be harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
H372 Causes damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H433 Harmful to terrestrial vertebrates.

Precautionary Statement(s):

Prevention:
P102 Keep out of reach of children.
P220 Keep/Store away from clothing/incompatible materials/combustible materials.
P221 Take any precaution to avoid mixing with combustibles/incompatible materials.
P260 Do not breathe mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P273 Avoid release to the environment.

Response:
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363 Wash contaminated clothing before re-use.
P321 Specific treatment (see First Aid Measures on the Safety Data Sheet).
P304+P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P312 Call a POISON CENTER or doctor/physician 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.
P310 Immediately call a POISON CENTER or doctor/physician.
P314 Get medical advice/attention if you feel unwell.
P370+P378 In case of fire: Use extinguishing media as outlined in Section 5 of this Safety Data Sheet for extinction.
P391 Collect spillage.

Storage:
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.

Disposal:
P501 In case of a substance that is in compliance with a HSNO approval other than a Part 6A (Group Standards) approval, a label must provide a description of one or more appropriate and achievable methods for the disposal of a substance in accordance with the Hazardous Substances (Disposal) Regulations 2001. This may also include any method of disposal that must be avoided.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Hazard Codes
Non hazardous component(s)	-	>60%	-
Hydrogen peroxide	7722-84-1	10-<30%	H271 H332 H302 H314
Acetic acid	64-19-7	<15%	H226 H290 H314
Peracetic acid	79-21-0	<10%	H226 H242 H332 H312 H302 H314 H400

4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor at once. Urgent hospital treatment is likely to be needed.

Inhalation:
Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.

Skin Contact:
If spilt on large areas of skin or hair, immediately drench with running water and remove clothing. Continue to wash skin and hair with plenty of water (and soap if material is insoluble) until advised to stop by the Poisons Information Centre or a doctor.

Eye Contact:
Immediately wash in and around the eye area with large amounts of water for at least 15 minutes. Eyelids to be held apart. Remove clothing if contaminated and wash skin. Urgently seek medical assistance. Transport promptly to hospital or medical centre.

Ingestion:
Immediately rinse mouth with water. If swallowed, do NOT induce vomiting. Immediately give a glass of water. Seek immediate medical assistance.

Indication of immediate medical attention and special treatment needed:
Treat symptomatically. Can cause corneal burns.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:
Not combustible, however, if material is involved in a fire use: Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).

Hazchem or Emergency Action Code: 2P

Specific hazards arising from the substance or mixture:
Oxidizing substance. Corrosive substance. Non combustible, but will support combustion of other materials.

Special protective equipment and precautions for fire-fighters:
Not combustible, however following evaporation of the water component of the material, the residual material can burn if ignited. On burning will emit toxic fumes, including those of oxygen . Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion. Heating can cause expansion or decomposition of the material, which can lead to the containers exploding. If safe to do so, remove containers from the path of fire. Keep containers cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:
Clear area of all unprotected personnel. If contamination of sewers or waterways has occurred advise local emergency services.

Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:
Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Neutralise with lime or soda ash. Collect and seal in properly labelled containers or drums for disposal. Wash area down with excess water. Recover the cleaning water for subsequent disposal.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid skin and eye contact and breathing in vapour, mists and aerosols. Keep out of reach of children. Do not return unused product to original container.

Conditions for safe storage, including any incompatibilities: Store in a cool, dry, well ventilated place and out of direct sunlight. Store away from incompatible materials described in Section 10. Store away from foodstuffs. To prevent the buildup of pressure this product is packaged in specially vented containers. Keep this product in the original container when not in use. Container must be stored and transported in an upright position to prevent spillage of the contents through the vent. Storage duration: 6 months. Protect from light. Keep containers closed when not in use - check regularly for leaks.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace Exposure Standards: No value assigned for this specific material by the New Zealand Workplace Health & Safety Authority. However, Workplace Exposure Standard(s) for constituent(s):

Peracetic acid: STEL = 0.4 ppm (ACGIH 2014)

Acetic acid: WES-TWA 10 ppm, 25 mg/m^3; WES-STEL 15 ppm, 37 mg/m^3
Hydrogen peroxide: WES-TWA 1 ppm, 1.4 mg/m^3, 6.7B Suspected human carcinogen

As published by the New Zealand Workplace Health & Safety Authority.

WES - TWA (Workplace Exposure Standard - Time Weighted Average) - The eight-hour, time-weighted average exposure standard is designed to protect the worker from the effects of long-term exposure.

WES - STEL (Workplace Exposure Standard - Short Term Exposure Limits) - The 15 minute average exposure standard. Applies to any 15 minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both short-term and eight-hour, time-weighted average exposures should be determined.

STEL - (ACGIH - Short-Term Exposure Limit) - a 15-minute TWA exposure which should not be exceeded at any time during a work day even if the 8-hour TWA is within the ACGIH -TWA. Exposures above the ACGIH-TWA up to the STEL should not be longer than 15 minutes and should not occur more than four times per day. There should be at least 60 minutes between successive exposures in this range.

Carcinogen Category 6.7B - Suspected human carcinogen.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Appropriate engineering controls:
Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Workplace Exposure Standards. Keep containers closed when not in use.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Individual protection measures, such as Personal Protective Equipment (PPE):
The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, CHEMICAL GOGGLES, FACE SHIELD, GLOVES (Long), APRON, RUBBER BOOTS.

Wear overalls, chemical goggles, face shield, elbow-length impervious gloves, splash apron or equivalent chemical impervious outer garment, and rubber boots. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.
If determined by a risk assessment an inhalation risk exists, wear a suitable mist respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Colour:	Colourless
Odour:	Pungent
Solubility:	Miscible with water.
Specific Gravity:	1.10 @20°C
Relative Vapour Density (air=1):	Not available
Vapour Pressure (20 °C):	<22 mmHg
Flash Point (°C):	Not applicable- flammable vapours may occur above the SADT
Flammability Limits (%):	Not available
Autoignition Temperature (°C):	430
Boiling Point/Range (°C):	Not applicable - thermal decomposition
Decomposition Point (°C):	40 (SADT; tank container or tank vehicle max 20 ton) >=65 (SADT; IBC max 1.5 m-3)
pH:	<1
Partition Coefficient:	log Pow -1.25 (does not bioaccumulate)
Freezing Point/Range (°C):	-25.9

10. STABILITY AND REACTIVITY

Reactivity:	Reacts with metals.
Chemical stability:	Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Possibility of hazardous reactions:	Heating can cause expansion or decomposition of the material, which can lead to the containers exploding. Oxidising agent. Supports combustion of other materials and increases intensity of a fire.
Conditions to avoid:	Avoid exposure to heat.
Incompatible materials:	Incompatible with acids , reducing agents , bases , oxidising agents , combustible materials , organic chemicals , metals , metal salts , permanganates .
Hazardous decomposition products:	Oxygen, which will support combustion.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Ingestion:	Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract.
Eye contact:	A severe eye irritant. Corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury.
Skin contact:	Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns.
Inhalation:	Breathing in mists or aerosols will produce respiratory irritation.

Acute toxicity:
Oral LD50 (rat): 1518 mg/kg (for Hydrogen peroxide)

Skin corrosion/irritation: Not a skin sensitiser (guinea pig).
Chronic effects: No evidence of carcinogenicity. Animal mutagenicity studies were negative. In vitro tests have shown mutagenic effects.

12. ECOLOGICAL INFORMATION

Ecotoxicity Avoid contaminating waterways.

13. DISPOSAL CONSIDERATIONS

Disposal methods:
Refer to local government authority for disposal recommendations. Dispose of contents/container in accordance with local/regional/national/international regulations.

14. TRANSPORT INFORMATION

Road and Rail Transport
Classified as a Dangerous Good according to NZS 5433:2012 Transport of Dangerous Goods on Land.

UN No:	3149
Transport Hazard Class:	5.1 Oxidizing Agent
Subrisk 1:	8 Corrosive
Packing Group:	II
Proper Shipping Name or Technical Name:	HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE WITH ACID(S), WATER AND NOT MORE THAN 5% PEROXYACETIC ACID, STABILIZED
Hazchem or Emergency Action Code:	2P

Marine Transport
Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN No:	3149
Transport Hazard Class:	5.1 Oxidizing Agent
Subrisk 1:	8 Corrosive
Packing Group:	II
Proper Shipping Name or Technical Name:	HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, WITH ACID(S), WATER AND NOT MORE THAN 5% PEROXYACETIC ACID, STABILIZED
IMDG EMS Fire:	F-H
IMDG EMS Spill:	S-Q

Air Transport
Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN No:	3149
Transport Hazard Class:	5.1 Oxidizing Agent
Subrisk 1:	8 Corrosive
Packing Group:	II
Proper Shipping Name or Technical Name:	HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE WITH ACID(S), WATER AND NOT MORE THAN 5% PEROXYACETIC ACID, STABILIZED

15. REGULATORY INFORMATION

Classification:
Classified as hazardous according to criteria in the HS (Minimum Degrees of Hazard) Regulations 2001.

Subclasses:
Subclass 5.1.1 Category B (Oxidising Substances that are solids or liquids: medium hazard) - Oxidising Substances.
Subclass 6.1 Category D - Substances which are acutely toxic.
Subclass 6.9 - Substances that are respiratory tract irritants.
Subclass 6.9 Category A - Substances that are toxic to human target organs or systems.
Subclass 8.1 Category A - Substances that are corrosive to metals.
Subclass 8.2 Category B - Substances that are corrosive to dermal tissue.
Subclass 8.3 Category A - Substances that are corrosive to ocular tissue.
Subclass 9.1 Category A - Substances that are very ecotoxic in the aquatic environment.
Subclass 9.3 Category C - Substances that are harmful to terrestrial vertebrates.

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16. OTHER INFORMATION

ACGIH is a registered trademark of The American Conference of Governmental Industrial Hygienists.

This safety data sheet has been prepared by Ixom Operations Pty Ltd Toxicology & SDS Services.

Reason(s) for Issue:
5 Yearly Revised Primary SDS

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.