Safety Data Sheet

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **REFLUX E4000**

Other name(s): Epizyme

Recommended Use of the Chemical and Restrictions on Use: Sanitiser.
For industrial or professional use only.

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

Not classified as a Dangerous Good under NZS 5433:2012 Transport of Dangerous Goods on Land.

Classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Notice 2017 and the Hazardous Substances (Classification) Notice 2017.

SIGNAL WORD: DANGER

Subclasses:
Subclass 6.3 Category A - Substances that are irritating to the skin.
Subclass 6.4 Category A - Substances that are irritating to the eye.
Subclass 6.5 Category A - Substances that are respiratory sensitisers.
Subclass 6.8 Category B - Substances that are suspected human reproductive or developmental toxicants.
Subclass 6.9 Category B - Substances that are harmful to human target organs or systems.

Cleaning Products (Subsidiary Hazard) Group Standard 2017
Approval Number: HSR002530

Hazard Statement(s):
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary Statement(s):

Prevention:
P103 Read label before use.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P280 Wear protective gloves, protective clothing, eye and face protection.
P281 Use personal protective equipment as required.
P285 In case of inadequate ventilation wear respiratory protection.

Response:
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.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P321 Specific treatment (see First Aid Measures on the Safety Data Sheet).
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362 Take off contaminated clothing before re-use.
P304+P341 IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P314 Get medical advice/attention if you feel unwell.

Storage:
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

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 AND INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Hazard Codes
Dipropylene glycol monomethyl ether	34590-94-8	5-15%	H227
Ethylene glycol	107-21-1	1-10%	H302 H373
Propylene glycol	57-55-6	1-10%	-
Sodium borate decahydrate	1303-96-4	1-5%	H319 H360FD
Subtilisin	9014-01-1	0.5-1.5%	H315 H318 H334 H335
Other component(s)	-	to 100%	-

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.

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 skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water and soap. If swelling, redness, blistering or irritation occurs seek medical assistance.

Eye Contact:
If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes.

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

Indication of immediate medical attention and special treatment needed:
Treat symptomatically. Ethylene glycol can cause central nervous system depression and metabolic acidosis. Consider removal by gastric lavage. Blockade of the diacid/hydroxyacid metabolites may follow competitive inhibition of alcohol dehydrogenase with ethanol or 4-methyl pyrazole. Consider maintenance of a plasma ethanol level of 100 mg/dL to 150 mg/dL.

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).

Specific hazards arising from the chemical:
Non-combustible material.

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 oxides of carbon . Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:
Clear area of all unprotected personnel. Shut off all possible sources of ignition. 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). Collect and seal in properly labelled containers or drums for disposal. Use non-sparking tools.

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. When using do not eat, drink or smoke. Wash hands thoroughly after handling. Launder contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities: Store in a cool, dry, well ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. 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):

Borates, tetra, sodium salts: Decahydrate WES-TWA 5 mg/m^3
Dipropylene glycol methyl ether: WES-TWA 100 ppm, 606 mg/m^3; WES-STEL 150 ppm, 909 mg/m^3, skin
Ethylene glycol vapour & mist: Ceiling 50 ppm, 127 mg/m^3
Glycerin (glycerol) mist: WES-TWA 10 mg/m^3
Subtilisins (Proteolytic enzymes, as 100% pure crystalline enzyme): Ceiling = 0.00006 mg/m^3, skin
Propane-1,2-diol (propylene glycol) (vapour & particulates): WES-TWA 150 ppm, 474 mg/m^3; (particulates only): WES-TWA 10 mg/m^3.

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.

WES - Ceiling (Workplace Exposure Standard - Ceiling). A concentration that should not be exceeded during any part of the working day.

`Skin' Notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

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, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, RESPIRATOR.

Wear overalls, chemical goggles and impervious gloves. 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.
Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Clear to Slightly Turbid Liquid
Colour:	Light Fluorescent Green
Odour:	Citrus
Solubility:	Miscible with water.
Specific Gravity:	1.00-1.1
Relative Vapour Density (air=1):	Not available
Vapour Pressure (20 °C):	Not available
Flash Point (°C):	75 (Closed Cup); (Greater than 75°C self extinguishing)
Flammability Limits (%):	Not applicable
Autoignition Temperature (°C):	Not applicable
Boiling Point/Range (°C):	Not available
pH:	6.5-6.9 @25°C

10. STABILITY AND REACTIVITY

Reactivity:	No information available.
Chemical stability:	Stable.
Possibility of hazardous reactions:	Hazardous polymerisation will not occur.
Conditions to avoid:	Avoid exposure to heat. Avoid exposure to light.
Incompatible materials:	Incompatible with strong acids , strong bases , strong oxidising agents .
Hazardous decomposition products:	Oxides of carbon.

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 and central nervous system depression. If the victim is showing signs of central system depression (like those of drunkeness) there is greater likelihood of the patient breathing in vomit and causing damage to the lungs.
Eye contact:	An eye irritant.

Skin contact: Contact with skin will result in irritation.

Inhalation: Breathing in mists or aerosols may produce respiratory irritation. A respiratory sensitiser. Can cause possible allergic reactions, producing asthma-like symptoms.

Acute toxicity: No LD50 data available for the product.
Average Toxicity Estimate (ATE mix, oral): >5,000 mg/kg
Average Toxicity Estimate (ATE mix, dermal): >5,000 mg/kg
Average Toxicity Estimate (ATE mix, inhalation-dust/mist): >12.5 mg/L

Chronic effects: Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

12. ECOLOGICAL INFORMATION

Ecotoxicity Avoid contaminating waterways.

Persistence/degradability: No information available.

Bioaccumulative potential: No information available.

Mobility in soil: No information available.

Aquatic toxicity: Harmful to aquatic organisms.

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
Not classified as a Dangerous Good under NZS 5433:2012 Transport of Dangerous Goods on Land.

Marine Transport
Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON-DANGEROUS GOODS.

Air Transport
Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; NON-DANGEROUS GOODS.

15. REGULATORY INFORMATION

Classification:
Classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Notice 2017 and the Hazardous Substances (Classification) Notice 2017.

Subclasses:
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16. OTHER INFORMATION

Supplier Safety Data Sheet; 06/ 2014.

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

Reason(s) for Issue:
5 Yearly Revised Primary SDS
Change in Formulation
Change in Hazardous Chemical Classification
Change in Physical Properties

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.