Safety Data Sheet

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **PEMULEN TR-2**

Other name(s): Pemulen TR-2 NF Polymer

Recommended Use of the Chemical and Restrictions on Use Cosmetic applications.

Supplier: Ixom Operations Pty Ltd (Bronson & Jacobs division) - incorporated in Australia
Street Address: 166 Totara Street
Mt Maunganui South
New Zealand

Telephone Number: +64 9 309 2528
Facsimile: +64 9 0508 366 364
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.

Subclasses:
Subclass 9.1 Category C - Substances that are harmful in the aquatic environment.

Additives, Process Chemicals and Raw Materials (Subsidiary Hazard) Group Standard 2017
Approval Number: HSR002503

Hazard Statement(s):
H412 Harmful to aquatic life with long lasting effects.

Precautionary Statement(s):

Prevention:
P273 Avoid release to the environment.

Response:
No response statements.

Storage:
No storage statements.

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) Notice 2017. This may also include any method of disposal that must be avoided.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Product Description: Acrylates/C10-30 Alkyl Acrylate Crosspolymer.

Components	CAS Number	Proportion	Hazard Codes
Cyclohexane	110-82-7	0.1-1%	H225 H304 H315 H336 H400 H410
Acrylic acid	79-10-7	0.1-1%	H226 H332 H312 H302 H314 H335 H400
Polymer/solids	-	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. Seek medical advice if effects persist.

Skin Contact:
If skin or hair contact occurs, remove contaminated clothing and wash skin and hair with soap and water. If irritation occurs seek medical advice.

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 medical advice.

Indication of immediate medical attention and special treatment needed:
Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:
Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).

Unsuitable Extinguishing Media:
Carbon dioxide may be ineffective on larger fires due to lack of cooling capacity which may result in reignition. Avoid hose stream or any method which will create dust clouds.

Specific hazards arising from the chemical:
Combustible solid. On burning will emit toxic fumes, including those of oxides of carbon.

Special protective equipment and precautions for fire-fighters:
Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion. Keep containers cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:
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 wet. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in dust. Work up wind or increase ventilation. Cover with damp absorbent (inert material, sand or soil). Sweep or vacuum up, but avoid generating dust. Collect and seal in properly labelled containers or drums for disposal. Wash area down with detergent and excess water.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid skin and eye contact and breathing in dust. Avoid handling which leads to dust formation.
In common with many organic chemicals, may form flammable dust clouds in air. For precautions necessary refer to Safety Data Sheet "Dust Explosion Hazards". Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities: Store in a cool, dry, well ventilated place and out of direct sunlight. Store away from sources of heat or ignition. Avoid temperatures >80°C. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for spills.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace Exposure Standards: No value assigned for this specific material by the New Zealand Workplace Health & Safety Authority. However, supplier recommended Exposure Standard(s):
8hr TWA = 0.05 mg/m^3 (1)

Exposure Workplace Exposure Standard(s) for other constituents:

Cyclohexane: WES-TWA 100 ppm, 350 mg/m^3; WES-STEL 300 ppm, 1050 mg/m^3
Acrylic acid: WES-TWA 2 ppm, 5.9 mg/m^3, skin
Particulates not otherwise classified: 8hr WES-TWA 10 mg/m^3 (inhalable dust) or 3 mg/m^3 (respirable dust)

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.

`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. Avoid generating and breathing in dusts. 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, SAFETY GLASSES, GLOVES, DUST MASK.

Wear overalls, safety glasses and impervious gloves. Avoid generating and inhaling dusts. If determined by a risk assessment an inhalation risk exists, wear a dust mask/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: Powder

Colour:	White
Odour:	Slight Acetic
Odour Threshold:	Not available
Solubility:	Swells in water.
Specific Gravity:	1.4 @ 20°C
Relative Vapour Density (air=1):	Not available
Vapour Pressure (20 °C):	Not available
Flash Point (°C):	Not applicable
Flammability Limits (%):	Not available
Autoignition Temperature (°C):	approx. 968°C
Explosive properties:	Min. Explosive Concentration: 80 g/m^3 (0.08 oz/ft3); Min. Ignition Energy: >0.03 joules; Deflagration Index: 275 bar m/sec (13095 psi ft/sec); Max. Rate of Pressure Rise: 786 bar/s @ 500 g/m^3 (11400 psi/sec @ 0.5 oz/ft3); Max. Pressure of Explosion: 6 bar @ 500 g/m^3 (87 psi @ 0.5 oz/ft3); Volume Resistivity: >3.68 x 10+15 ohm-cm; Explosion Severity 5.2 (Severe).
Melting Point/Range (°C):	Not available
Boiling Point/Range (°C):	Not available
Decomposition Point (°C):	Not available
pH:	2.5 - 3.0 (1% in water)
Viscosity:	Not available
Partition Coefficient:	Not available

10. STABILITY AND REACTIVITY

Reactivity:	No information available.
Chemical stability:	Stable under normal conditions of use.
Possibility of hazardous reactions:	Hazardous polymerisation will not occur.
Conditions to avoid:	Avoid exposure to heat, sources of ignition, and open flame. Avoid dust generation. Avoid exposure to moisture.
Incompatible materials:	Incompatible with bases and alkalis.
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:	No adverse effects expected, however, large amounts may cause nausea and vomiting.
Eye contact:	May be an eye irritant. Exposure to the dust may cause discomfort due to particulate nature. May cause physical irritation to the eyes.
Skin contact:	Repeated or prolonged skin contact may lead to irritation.

Inhalation: Breathing in dust may result in respiratory irritation.

Acute toxicity:
Average Toxicity Estimate (ATE mix, dermal): >5,000 mg/kg (1)

Skin corrosion/irritation: Non-irritant (rabbit). (for similar products) (1)
Serious eye damage/irritation: Non-irritant (rabbit). (for similar products) (1)
Respiratory or skin sensitisation: Not a skin sensitiser. (for similar products) (1)

Chronic effects: No information available for the product.

Mutagenicity: No information available.
Carcinogenicity: Not listed as carcinogenic according to the International Agency for Research on Cancer (IARC). (1)
Reproductive toxicity: No information available.
Specific Target Organ Toxicity (STOT) - single exposure: No information available.
Specific Target Organ Toxicity (STOT) - repeated exposure: No information available.
Aspiration hazard: Not classified.

Contact dermatitis may occur in sensitive individuals under extreme conditions of prolonged and repeated contact such as high exposure accompanied by elevated temperature and occlusion (held onto the skin) by clothing. (1)
A two-year inhalation study in rats exposed to a respirable, water-absorbent sodium polyacrylate dust resulted in lung effects such as inflammation, hyperplasia and tumors. There were no observed adverse effects at exposures of 0.05 mg/m^3. In addition, long-term medical monitoring of potentially exposed workers has not revealed lung effects such as those observed in the rat. However, the inhalation of respirable dusts should be avoided by implementing respiratory protection measures and observing the recommended permissible exposure limit of 0.05 mg/m^3. (1)
Pre-existing skin problems may be aggravated by prolonged or repeated contact. Persons with sensitive airways (e.g., asthmatics) may react to vapours. This material readily absorbs moisture and may become thick and gelatinous upon contact with mucous membranes of the eye, or upon inhalation into the nasal passages. (1)

12. ECOLOGICAL INFORMATION

Ecotoxicity Avoid contaminating waterways.

Persistence/degradability: No information available.
For acrylic acid: Biodegradability: 80% (28 days, OECD 301D) (1)
For cyclohexane: Biodegradability: 77% (28 days) (OECD 301F) (1)

Bioaccumulative potential: No information available.

Mobility in soil: No information available.

Aquatic toxicity: For acrylic acid: 72hr EC50 (Green algae, Selenastrum capricornutum): 0.13 mg/L (1)
For cyclohexane: 72hr EC50 (Green algae, Selenastrum capricornutum): 9.317 mg/L (1)

Log Octanol/Water Partition Coefficient: For acrylic acid: Log Kow: 0.46 (calculated) (1)
For cyclohexane: Log Kow: 3.44 (measured) (1)

48hr EC50 (Daphnia magna):	For acrylic acid: 95 mg/L (1)
	For cyclohexane: 0.9 mg/L (1)
96hr LC50 (rainbow trout):	For acrylic acid: 27 mg/L (1)
96hr LC50 (fathead minnow):	For cyclohexane: 4.5 mg/L (1)

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:
Subclass 9.1 Category C - Substances that are harmful in the aquatic environment.

Additives, Process Chemicals and Raw Materials (Subsidiary Hazard) Group Standard 2017
Approval Number: HSR002503

Hazard Statement(s):
H412 Harmful to aquatic life with long lasting effects.

16. OTHER INFORMATION

(1) Supplier Safety Data Sheet; 08/ 2018.

PEMULEN is a registered trademark.

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

Reason(s) for Issue:
5 Yearly Revised Primary SDS
Addition/Change of synonymous name(s)
Updated Formulation
Change to Exposure Limits
Update in Toxicological Information
Update in Ecological Information

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 Bronson & Jacobs 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.

Bronson and Jacobs incorporating the businesses of Woods and Woods and Keith Harris.