

# MATERIAL SAFETY DATA SHEET POOLKARE CHEMICALS BINGO B



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## SECTION 1: IDENTIFICATION OF THE SUBSTANCE:

Product Name: POOLKARE CHEMICALS BINGO B  
Relevant Use: Spa water balancer to raise pH and Alkalinity, Filter aid and Corrosion inhibitor in heated swimming pools and spas.  
Company: Woblea Pty Ltd  
Address: 18 Embrey Court, Pakenham  
Phone: 61 + (3) 5940 1077  
Emergency Telephone: Poison Information Australia 13 11 26  
Emergency Other: Poison Information New Zealand 0800 764 766  
Emergency: 61 + (3) 5997 1690 AH  
Emergency other number: 0427 367 561

## SECTION 2: HAZARDS IDENTIFICATION

### Classification of the mixture

Non Hazardous Chemical and Non Dangerous Good according to WHS Regulations and the ADG Code.  
Poisons Schedule: Not applicable  
Classification: Low rating – Skin irritation, Respiratory irritation maybe experienced, Eye irritation category 2A, Aquatic hazard, specific target organ toxicity. Classification drawn from HSIS and Woblea Pty Ltd.

### Label Elements



WARNING

GHS Label elements  
SIGNAL WORD

### Hazard Statement

May intensify fire; oxidiser  
May cause skin irritation  
May cause serious eye irritation  
May cause allergy or asthma symptoms or breathing difficulties if inhaled  
May cause respiratory irritation

May cause harmful effects to aquatic life  
May cause skin dryness and cracking

Supplementary statement Not applicable

### Precautionary Statements Prevention

Use in a well ventilated area or wear respiratory protection  
Keep/store away from heat/sparks/open flames – No smoking  
Take precaution to avoid mixing with combustibles/organic material  
Avoid breathing dust fumes  
Wear protective gloves/protective clothing/eye protection/face protection

### Precautionary Statements Response

IF INHALED: remove victim to fresh air and keep at rest in a position comfortable for breathing  
Take off contaminated clothing and wash before reuse.  
If swallowed, rinse mouth. Do NOT induce vomiting.  
If experiencing respiratory systems: Call a POISON CENTRE or a doctor  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. If eye irritation persists seek medical advice.  
In case of fire use alcohol resistant foam or fine spray/water fog for extinction  
IF ON SKIN: Wash with plenty of soap and water. Seek medical advice  
Call a POSION CENTRE or doctor if you feel unwell.

### Precautionary Statement Storage

Store locked up  
Store in a well ventilated place. Keep container tightly closed

### Precautionary Statement Disposal

Dispose of contents / container in accordance with local regulations

### SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

#### Substances

CAS Number	% (weight)	Name
16079-88-2	<10%	1 Bromo-3-chloro-5, 5-dimethylhydantoin
10124-56-8	< 10%	Sodium Hexametaphosphate
9004-34-6	<5%	Cellulose
7778-18-9	< 50%	Calcium Sulphate
14808-60-7	< 1%	Crystalline Silica
144-55-8	< 60%	Sodium Bicarbonate

### SECTION 4: FIRST AID

#### Eye Contact: If this product comes into contact with eye:

- Wash out immediately with fresh water for at least 15 minutes
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids
- Seek medical attention without delay; if pain persists or recurs seek medical advice
- Removal of contact lenses after an eye injury should only be undertaken by a skilled person.

#### Skin Contact: If skin contact occurs:

- Immediately remove all contaminated clothing, including footwear
- Flush skin and hair with running water and soap if available
- Seek medical attention in event of irritation

#### Inhalation: If inhalation occurs:

- If fumes, aerosols or combustion products are inhaled remove from contaminated area
- Move from area and give fresh air
- Lay patient down. Keep warm and rested. Seek medical attention if breathing becomes difficult
- Prosthesis such as false teeth, which may block airway should be removed where possible prior to initiating first aid.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, doctor without delay.
- Advise under 10% of mixture is comprised of BCDMH (Bromine) – which may cause lung damage eg lung oedema, fluid in lungs. This reaction may not present until after 24 hours from exposure. A spray containing dexamethasone derivative or beclomethasone derivative maybe considered. This can only be administered by Doctor or other medical personnel.

#### Ingestion:

##### If ingested:

- If swallowed do NOT induce vomiting
- Contact a Poisons Centre or a doctor to seek further advice
- Never give liquid to a person showing signs of being sleepy or with reduced awareness – becoming unconscious
- Only give a glass of water and/or induce vomiting if you are advised by Poisons Centre or Doctor.
- Urgent hospital treatment may be needed
- Qualified first aid personnel should treat patient following observation and employing supportive measures as indicated by the patients condition
- If the services of a medical officer or doctor are available the patient should be placed in their care and a copy of SDS provided. Further action will be the responsibility of the medical specialist.
- If medical attention is not available on the worksite or surroundings send the patient to a hospital with a copy of SDS as soon as possible.
- Only give a glass of water and/or induce vomiting if you are advised by Poisons Centre or Doctor.

#### Indication of any immediate medical attention and special treatment needed:

**Eye wash and shower and a general washing facility should be available immediately adjacent to the work area.**

#### Treat symptomatically.

The severity of the symptoms described will vary dependent on the concentration and the length of exposure. If adverse symptoms develop the casualty should be transferred to hospital as soon as possible with a copy of SDS

As in all cases of suspected poisoning follow the ABCDE's of emergency medicine (airway, breathing, circulation, disability, exposure) then the ABCDE's of toxicology (antidotes, basics, change absorption, change distribution, change elimination).

The formulation is

### SECTION 5: FIRE FIGHTING MEASURES

**General Measures:** Clear area of all non-emergency personnel. Avoid generating dust. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from the fire area if it can be done without risk. Do NOT allow firefighting water to reach waterways, drains or sewers. Store fire-fighting water for treatment.

#### Extinguishing media

Fire: USE FLOODING QUANTITIES OF WATER FROM A PROTECTED POSITION

#### Special hazards arising from the substrate or mixture

#### Fire incompatibility

- Avoid storage with reducing agents
- Avoid any contamination of this material especially with oxidising agents ie nitrates, oxidising acids, chlorine bleaches, pool chlorine etc as ignition may result

#### Advice for Fire Fighters

##### Fire Fighting

- Alert fire brigade and tell them location and nature of hazard
- Use fire-fighting procedures suitable for surrounding area
- May be reactive and/or explosively reactive
- Wear full body protective clothing with breathing apparatus
- Prevent by any means available spillage from entering drains or water courses

##### Fire explosion/ hazard

- Will not burn but increases intensity of fire
- Not considered a significant fire risk, however containers may burn
- Heating may cause expansion or decomposition leading to rupture of containers
- May emit corrosive and poisonous fumes such as phosphorous oxides (Pox), sulfur oxides, carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), metal oxides and other products typical of burning organic material.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

##### Minor Spills

- Clean up all spills immediately
- Avoid breathing dust and contact with skin and eyes
- Wear protective clothing, gloves safety glasses and dust respirator
- Use dry clean up procedures and avoid generating dust
- Try to ensure that drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.

##### Major spills

- No smoking
- **Moderate hazard**
- CAUTION Advise personnel in area to move upwind from fire
- Alert emergency services and tell them location and nature of hazard
- May be reactive
- Control personal contact by wearing protective clothing.
- See Section 12 for environmental information
- Local authorities should be advised if significant spillages cannot be contained.

Personal protect equipment advice is contained in Section 8 of the SDS

## SECTION 7: HANDLING AND STORAGE

#### Precautions for safe handling

##### Safe Handling

- Avoid all personal contact including inhalation
- Wear protective clothing when risk of exposure occurs
- Use in a well ventilated area
- Always wear protective equipment and wash off any spillage from clothing
- Keep material away from light, heat, flammables or combustibles
- Prevent concentration in hollows and sumps
- Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust -air mixtures and result in a fire of dust explosion (including secondary explosions)
- Minimise airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks and flame
- Establish good housekeeping practices
- Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds

##### Other Information

- **Store in original containers**
- **Keep containers sealed**
- **Store in cool dry area protected from environmental extremes**
- Store away from incompatible materials and foodstuff containers

In addition Goods of Class 5.1, packing Group II should be stored in packages and be separated from buildings, tanks and compounds containing other dangerous goods in tanks, and from property boundaries by a distance of at least 5 metres.

#### Conditions for safe storage, including any incompatibilities

##### Suitable container

- Do not repack. Use containers supplied by manufacturer
- Lined metal can, lined metal pail/can, plastic pail, poly-liner drum
- For solids and materials with a viscosity of at least 2680 cST (23 deg.C) removable head packaging and cans with friction closures may be used

##### Storage incompatibility

- Avoid strong acids, acid chlorides, acid anhydrides and chloroformates
- Avoid reaction with oxidising agents
- Trifluorides are hypergolic oxidizers. They ignite on contact (without external heat or ignition) with recognized fuels. Contact with these materials following an ambient or slightly elevated temperature is often violent and may produce ignition.
- Phosphates are incompatible with oxidizing and reducing agents
- Phosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides.
- Partial oxidation of phosphate by oxidizing agents may result in the release of toxic phosphorous oxides.
- Avoid reaction with oxidizers

Segregate from mono-ammonium phosphate, acids and strong oxidizers. Reacts rapidly with acidic materials generates carbon dioxide gas, which may pressurize, even rupture containers.

	<td> <td></td> <td></td> </td>	<td></td> <td></td>				
0	0	0	0	X	0	X
<p>X – Must not be stored together</p> <p>0 - May be stored together with specific preventions</p> <p>+ - May be stored together</p>						

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material Name	TWA	STEL	Peak	Notes
Safe Work Australia	Diacel	Diacel 150	10 mg/M3 for inspirable dust			TWA calculated over 5 day week/ 8 hr
Safe Work Australia	Diacel	Diacel 150	3 mg/M3 for respirable dust			
			<b>TEEL -1</b>	<b>TEEL -2</b>	<b>TEEL-3</b>	
Australia Exposure Standards	Sodium bicarbonate	Sodium bicarbonate	13 mg/m3	140 mg/m3	840 mg/m3	
Australia Exposure Standards	Sodium hexametaphosphate	Sodium phosphate, tribasic, (Sodium hexametaphosphate; Calgon)	19 mg/m3	200mg/m3	1200 mg/m3	
<b>Component</b>	<b>EU OEL</b>	<b>Austria</b>	<b>Australia</b>	<b>Denmark</b>		
Calcium sulfate	Not determined	Not determined	10 mg/m <sup>3</sup> TWA (containing no asbestos and <1% crystalline silica, inspirable dust)	Not determined		
Crystalline silica (impurity)	Not determined	Not determined	0.1 mg/m <sup>3</sup> TWA	0.1mg/m <sup>3</sup>		
<b>Component</b>	<b>Malaysia</b>	<b>France</b>	<b>Germany</b>	<b>Hungary</b>		
Calcium sulfate	10 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup> MAK 4 mg/m <sup>3</sup> MAK	Not determined		
Crystalline silica (impurity)	0.1 mg/m <sup>3</sup> TWA	0.1 mg/m <sup>3</sup>	Not determined	Not determined		
<b>Component</b>	<b>New Zealand</b>	<b>Italy</b>	<b>Netherlands</b>	<b>Norway</b>		
Calcium sulfate	10 mg/m <sup>3</sup> TWA	Not determined	Not determined	Not determined		
Crystalline silica (impurity)	0.2 mg/m <sup>3</sup> TWA Known or presumed human carcinogen	Not determined	0.075 mg/m <sup>3</sup>	0.3 mg/m <sup>3</sup> TWA total dust 0.1 mg/m <sup>3</sup> TWA respirable dust 0.9 mg/m <sup>3</sup> STEL total dust 0.3 mg/m <sup>3</sup> STEL respirable dust Carcinogen		
<b>Component</b>	<b>Poland</b>	<b>Portugal</b>	<b>Romania</b>	<b>Russia</b>		
Calcium sulfate	10.0 mg/m <sup>3</sup> TWA <2% free crystalline silica and containing no asbestos total inhalable dust	10 mg/m <sup>3</sup> TWA inhalable fraction	Not determined	Not determined		

Crystalline silica (impurity)	2 mg/m <sup>3</sup> TWA >50% free crystalline silica total inhalable dust 0.3 mg/m <sup>3</sup> TWA >50% free crystalline silica respirable dust 4.0 mg/m <sup>3</sup> TWA 2% to 50% free crystalline silica total inhalable dust 1.0 mg/m <sup>3</sup> TWA 2% to 50% free crystalline silica respirable dust	0.025 mg/m <sup>3</sup> TWA respirable fraction	Not determined	1 mg/m <sup>3</sup> MAC 3 mg/m <sup>3</sup> STEL 1 mg/m <sup>3</sup> TWA aerosol Fibrogenic substance
<b>Component</b>	<b>Spain</b>	<b>Switzerland</b>	<b>Turkey</b>	<b>UK</b>
Calcium sulfate	10 mg/m <sup>3</sup> VLA-ED this value is for the particulated matter that is free from Asbestos and contains less than 1% of Crystalline silica	3 mg/m <sup>3</sup> MAK respirable	Not determined	Not determined
Crystalline silica (impurity)	0.1 mg/m <sup>3</sup> VLA-ED respirable fraction	0.15 mg/m <sup>3</sup> MAK respirable	Not determined	0.3 mg/m <sup>3</sup> STEL calculated respirable 0.1 mg/m <sup>3</sup> TWA respirable

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	chlorine	Chlorine	Not Available	Not Available	3 mg/m <sup>3</sup> / 1 ppm	Not Available
Australia Exposure Standards	bromine	Bromine	0.66 mg/m <sup>3</sup> / 0.1 ppm	2 mg/m <sup>3</sup> / 0.3 ppm	Not Available	Not Available
Australia Exposure Standards	<b>Bingo B</b>	<b>Bingo B</b>	<b>Not available</b>	<b>Not available</b>	<b>Not available</b>	<b>Not available</b>


#### EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
3-bromo-1-chloro-5,5-dimethylhydantoin	Bromo-1-chloro-5,5-dimethylhydantoin 3-; (Bromo-1-chloro-5,5-dimethyl-2,4-imidazolidinedione, 3-)	1.3 mg/m <sup>3</sup>	14 mg/m <sup>3</sup>	83 mg/m <sup>3</sup>
1-bromo-3-chloro-5,5-dimethylhydantoin	Bromo-3-chloro-5,5-dimethylhydantoin, 1-; (1-Bromo-3-chloro-5,5-dimethyl-2,4-imidazolidinedione)	4.2 mg/m <sup>3</sup>	46 mg/m <sup>3</sup>	280 mg/m <sup>3</sup>
chlorine	Chlorine	Not Available	Not Available	Not Available
chlorine	Chlorine Hi dry granular (as Cl)	1 ppm	2.52 ppm	30 ppm
bromine	Bromine	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
3-bromo-1-chloro-5,5-dimethylhydantoin	Not Available	Not Available
1-bromo-3-chloro-5,5-dimethylhydantoin	Not Available	Not Available
hypochlorous acid	Not Available	Not Available
hypobromous acid	Not Available	Not Available
chlorine	30 ppm	10 ppm
bromine	10 ppm	3 ppm
Sodium hexametaphosphate	Not Available	Not Available

#### Exposure Controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of
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	<p>protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</p>
Personal protection	
Eye and face protection	<p>Safety glasses with side shields. Chemical goggles.</p> <p>Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.</p>
Skin protection	See Hand protection below
Hands/feet protection	<p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Suitability and durability of glove type is dependent on usage.</p> <p>Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.</p> <p>polychloroprene. nitrile rubber. butyl rubber. Polyvinyl chloride (PVC)</p> <p>Wear safety footwear or safety gumboots E.g Rubber</p> <p>Note: This chemical is in a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application. Check with manufacturer of PPE if unsure for further advice.</p>
Body protection	See Other protection below
Other protection	<p>Overalls. P.V.C. apron. Barrier cream. Eye wash unit</p> <p>For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets). Non sparking safety or conductive footwear should be considered. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot and shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds.</p>
Thermal hazards	Not Available

#### Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:000 & 149:001, ANSI Z88 or national equivalent)

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	P1 Air-line*	- -	PAPR-P1 -
up to 50 x ES	Air-line**	P2	PAPR-P2
up to 100 x ES	-	P3 Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

\* - Negative pressure demand \*\* - Continuous flow

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- ▶ Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- ▶ The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- ▶ Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- ▶ Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.  
Use approved positive flow mask if significant quantities of dust becomes airborne. Try to avoid creating dust conditions.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Appearance</b>	White, very faint halogen smell , fluffy fine powder. Decomposes in the presence of alcohol, moist air/water.		
<b>Physical state</b>	Divided Solid	<b>Relative density (Water = 1)</b>	Not available
<b>Odour</b>	Very Faint halogen smell	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	Not available.
<b>pH (as supplied)</b>	Not Applicable	<b>Decomposition temperature</b>	Not available
<b>Melting point / freezing point (°C)</b>	70 – 600 expected to Decompose	<b>Viscosity (cSt)</b>	Not Applicable
<b>Initial boiling point and boiling range (°C)</b>	Not available.	<b>Molecular weight (g/mol)</b>	Not available
<b>Flash point (°C)</b>	Non Flammable	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Applicable	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Non Flammable	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Applicable	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Applicable
<b>Lower Explosive Limit (%)</b>	Not Applicable	<b>Volatile Component (%vol)</b>	Not available
<b>Vapour pressure (kPa)</b>	Not available.	<b>Gas group</b>	Not Available
<b>Solubility in water (g/L)</b>	Miscible	<b>pH as a solution</b>	8.0
<b>Vapour density (Air = 1)</b>	Not available.	<b>VOC g/L</b>	Not Available

## SECTION 10 – STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical Stability	Unstable in the presence of incompatible materials. Product is considered stable under normal handling conditions, good manufacturing practice and normal conditions of use, storage and temperature. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

## SECTION 11 – TOXICOLOGICAL INFORMATION

### Information on toxicological effects

Inhaled	<p>The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Inhalation of dust in high concentration may cause irritation of respiratory system.</p> <p>Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.</p> <p>If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.</p>
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	Chlorine vapour may be irritating to airways and lungs which may result in a sore throat, coughing and sneezing. Serious effects such as choking, chest pain, difficulty breathing, coughing, headaches, vomiting are not expected due to very low level of chlorine present in final formulation.		
Ingestion	<p>Although ingestion is not thought to produce harmful effects (as classified under EC Directives), the formulation may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g. liver, kidney) damage is evident.</p> <p>Ingestion of large quantities may cause abdominal pain and gastro-intestinal distention.</p> <p>Material may produce chemical burns within oral cavity</p> <p>Note inorganic polyphosphates are used extensively in domestic and industrial products. Experiments on rats showed kidney damage, growth retardation and tetany due to low calcium. Use as a food additive indicates good tolerance to this active.</p> <p>Severe Effects for this formulation can include vomiting, tiredness, fever, diarrhoea, low blood pressure, slow pulse, cyanosis, spasms of the wrist, coma and severe body spasms.</p>		
Skin contact	<p>This material may cause inflammation of the skin on prolonged contact in some persons. The material may accentuate any pre-existing dermatitis condition</p> <p>Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.</p> <p>Repeated exposure may cause skin cracking, flaking or drying following normal handling and use. Irritation and skin reactions are possible with sensitive skin.</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> <p>Undiluted inorganic phosphates may severely irritate the skin, but in typical cosmetic formulations (where they act as chelators) they are only mildly irritating. Even at concentrations of 1%, no irritation was observed in sensitive individuals.</p>		
Eye	<p>Limited evidence or practical experience suggests, that the material may cause eye irritation in a substantial number of individuals. Prolonged eye contact may cause inflammation characterised by a temporary redness of the conjunctiva (similar to windburn).</p> <p>Inorganic phosphates may cause eye irritation on contact in some persons. The severity of eye irritation depends on concentration of product in formula.</p>		
Chronic	<p>Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems.</p> <p>Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p> <p>In long-term animal studies, inorganic polyphosphates produced growth inhibition, increased kidney weights, bone decalcification, enlargement of the parathyroid gland, inorganic phosphate in the urine, focal necrosis of the kidney and alterations of muscle fibre size. Inorganic phosphates have not been shown to cause cancer, genetic damage or reproductive or developmental damage in animal tests.</p> <p>Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis, caused by particles less than 0.5 micron penetrating and remaining in the lung.</p> <p>Sodium phosphate dibasic can cause stones in the kidney, loss of mineral from the bones and loss of thyroid gland function.</p> <p>Persulphate exposure commonly manifests itself in the form of a skin rash, eczema and respiratory conditions such as asthma. Allergy may develop after repeated and prolonged exposures depending on concentration of formula.</p>		
<b>3-bromo-1-chloro- 5,5-dimethylhydantoin</b>	<b>TOXICITY</b> Inhalation (rat) LC50: 1.88 mg/L/4H <sup>[2]</sup> Oral (rat) LD50: 200 mg/kg*E <sup>[2]</sup>	<b>IRRITATION</b> Eye (rabbit): 100 mg/30s- SEVERE Skin (rabbit): 500 mg/24h-SEVERE	
<b>1-bromo-3-chloro- 5,5-dimethylhydantoin</b>	<b>TOXICITY</b> Dermal (rabbit) LD50: >2000 mg/kg <sup>[2]</sup> Oral (rat) LD50: 1390 mg/kg <sup>[2]</sup>		
<b>hypochlorous acid</b>	<b>TOXICITY</b> Not Available	<b>IRRITATION</b> Not Available	LC 50 Inhalation
<b>hypobromous acid</b>	<b>TOXICITY</b> Not Available	<b>IRRITATION</b> Not Available	No data available
<b>chlorine</b>	<b>TOXICITY</b> Dermal (rabbit) LD50: >10000 mg/kg <sup>[1]</sup> Inhalation (rat) LC50: 293 ppm/1H <sup>[2]</sup> Oral (rat) LD50: >237 mg/kg <sup>[1]</sup>	<b>IRRITATION</b> Not Available	No data available No data available



bromine	TOXICITY	IRRITATION
GENERAL TOXICITY INFORMATION	Inhalation (rat) LC50: 2.7 mg/L/4h <sup>[2]</sup> Oral (rat) LD50: 1700 mg/kg <sup>[2]</sup>	Nil reported
SODIUM HEXAMETAPHOSPHATE	<p>The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested</p> <p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyper reactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.</p>	
GYPSUM	This product does not contain any components suspected to be sensitizing.	
SODIUM BICARBONATE	<p>The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness,swelling, the production of vesicles, scaling and thickening of the skin.</p> <p>(human-infant) TDL<sub>o</sub>: 1260 mg/kg Skin (human): 30 mg/3d-I-mild</p>	
3-BROMO-1-CHLORO-5,5-DIMETHYLHYDANTOIN	<p>No significant acute toxicological data identified in literature search.</p> <p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.</p> <p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyper reactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS.</p> <p>51halhyd Genotoxicity assays with Salmonella typhimurium TA98, TA100 and with Saccharomyces cerevisiae, both with and without metabolic activation were negative. ** RED for Halo-hydantoin</p>	
1-BROMO-3-CHLORO-5,5-DIMETHYLHYDANTOIN	<p>The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.</p> <p>No significant acute toxicological data identified in literature search.</p> <p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyper reactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS.</p> <p>for halo hydantoin</p> <p><b>Acute toxicity:</b> The halo hydantoin were shown to be of low toxicity by the oral and dermal routes of exposure. Acute toxicity by the inhalation route is more significant. The halo hydantoin are significant eye and skin irritants. Dermal sensitization has also been observed for some of the halo hydantoin compounds.</p> <p>Positive sensitiser in guinea pig skin assay ** * [Farm Chem. Handbook] ** Red for Halo hydantoin</p>	

<b>HYPOCHLOROUS ACID</b>	No significant acute toxicological data identified in literature search.
<b>CHLORINE</b>	Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyper reactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS.
<b>BROMINE</b>	<p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyper reactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS.</p> <p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulcerations.</p>

Acute toxicity	X	Carcinogenicity	Ø
Skin irritation/Corrosion	✓	Reproductivity	Ø
Serious eye damage/Irritation	✓	STOT – Single exposure	✓
Respiratory or skin sensitisation	✓	STOT – Repeated exposure	Ø
Mutagenicity	Ø	Aspiration hazard	Ø

**Legend:** X – Data available but does not fill the criteria for classification

✓ – Data required to make classification available on individual components only.

Ø – Data Not Available to make classification

## SECTION 12 – ECOLOGICAL INFORMATION

### Toxicity

Ingredient	Endpoint	Test Duration	Species	Value	Source
Diacel	No data	No data	No data	No data	
Sodium hexametaphosphate	LC50	96	Fish	>100mg/L	2
	EC50	48	Crustacea	>485mg/L	2
	EC50	72	Algae or other aquatic plants	>100mg/L	2
	NOEC	72	Algae or other aquatic plants	32mg/L	2
Sodium bicarbonate	LC50	96	Fish	658.217mg/L	3
	EC50	4	Algae or other aquatic plants	52mg/L	4
	EC50	96	Algae or other aquatic plants	650mg/L	4
	EC50	48	Crustacea	1020mg/L	2
	NOEC	1512	Algae or other aquatic plants	>45mg/L	2
Calcium sulphate	LC50	96	Fish	2980mg/L	
			Algae	No information	
	EC50	120	Daphnia and other invertebrates	3200 mg/L	
Crystalline sulphate	No information		No information	No information	
Legend	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data				

### Toxicity – BROMINE

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
3-bromo-1-chloro-5,5-dimethylhydantoin	LC50	96	Fish	22556.311mg/L	3
1-bromo-3-chloro-5,5-dimethylhydantoin	EC50	48	Crustacea	0.4mg/L	4

1-bromo-3-chloro-5,5-dimethylhydantoin	EC50	96	Crustacea	0.1mg/L	4
1-bromo-3-chloro-5,5-dimethylhydantoin	LC50	96	Fish	0.14mg/L	4
hypobromous acid	LC50	96	Fish	0.065mg/L	4
chlorine	EC50	24	Crustacea	0.0186mg/L	4
chlorine	LC50	96	Fish	0.014mg/L	4
chlorine	EC50	48	Crustacea	0.026mg/L	2
chlorine	NOEC	504	Crustacea	0.01mg/L	2
chlorine	EC50	96	Algae or other aquatic plants	ca.0.1 - ca.0.4mg/L	2
bromine	EC50	0.08	Crustacea	0.015mg/L	4
bromine	NOEC	48	Crustacea	>=0.46mg/L	2

**Diacel:**

Harmless, regarded as environmentally friendly -natural fibres.

**Sodium hexametaphosphate:**

May cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

**For Phosphate:**

The principal problems of phosphate contamination of the environment relates to eutrophication processes in lakes and ponds. Phosphorus is an essential plant nutrient and is usually the limiting nutrient for blue-green algae.

Aquatic Fate: Lakes overloaded with phosphates is the primary catalyst for the rapid growth of algae in surface waters. Planktonic algae cause turbidity and flotation films.

**DO NOT discharge into sewer or waterways.**

**BCDMH - Bromine :**

Very toxic to aquatic organisms.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

**DO NOT discharge into Sewer or**

**waterways.** for halo hydantoin:

Structurally, the halo hydantoin consists of a central organic hydantoin ring moiety (either dimethyl hydantoin or ethyl methyl hydantoin) to which halogen atoms (bromine and/or chlorine) can be attached at both the 1 and 3 positions on the hydantoin ring.

Environmental Fate: In concentrated form, the halo hydantoin is very stable. Upon usage, which involves dilution in water or a water system, the halo hydantoin rapidly decompose to release chlorine and/or bromine and dimethyl hydantoin (DMH) and, for certain products, ethyl methyl hydantoin (EMH). These released halogens react with water to form either hypochlorous or hypobromous acid, which is the actual biocidal agent.

|Eco toxicity:|Fish LC50 (96 h) fathead minnow (adult) 0.46-0.57 mg/L; (juvenile) 0.28-0.41 mg/L, bluegill sunfish 0.56-0.71 mg/L, rainbow trout 0.87 mg/L, sheepshead minnow 20 mg/L, Daphnia EC50 48 h) 0.47 mg/L, Grass shrimp LC50 (48 h) 13 mg/L. American oyster gt;640 mg/L, Environmental fate:|During a C14 biodegradation study with activated sludge it was observed that dehalogenation to 5,5-dimethylhydantoin (CAS RN: 77-77-4) occurred, which in turn decreased to 1;1 ppm in 3 days and by day 19, 94% of the label had been recovered as carbon dioxide.

**Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
Sodium bicarbonate	Low	Low
Sodium hexametaphosphate	No data available for all ingredients	No data available for all ingredients
3-bromo-1-chloro-5,5-dimethylhydantoin	High	High
1 bromo, 3 chloro 5, 5 dimethyl hydantoin	High	High
Diacel	Naturally biodegrades	Naturally biodegrades
Calcium sulphate	Not applicable – Inorganic chemical	

**Bio-accumulative potential**

Ingredient	Bio-accumulation
Sodium bicarbonate	LOW (logKOW = 0.4605)
Sodium hexametaphosphate	No data available for all ingredients
Diacel	No data available
3-bromo-1-chloro-5,5-dimethylhydantoin	LOW (Log KOW = -0.9441)
1 bromo, 3 chloro 5, 5 dimethyl hydantoin	LOW (Log KOW = -0.9441)
Calcium sulphate	Not applicable – Inorganic chemical

**Mobility in Soil**

Ingredient	Mobility
Sodium bicarbonate	HIGH (KOC = 1)
Sodium hexametaphosphate	No data available for all ingredients

3-bromo-1-chloro-5,5-dimethylhydantoin	LOW (KOC = 23.14)
1 bromo, 3 chloro 5, 5 dimethyl hydantoin	LOW (KOC = 23.14)
Diacel	No data available
Calcium sulphate	Not applicable – Inorganic chemical


## SECTION 13 – DISPOSAL CONSIDERATIONS

### Waste treatment methods

Product / Packaging disposal	<p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate: Reduction Reuse Recycling Disposal (if all else fails)</p> <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.</p> <p>DO NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal.</p> <p>In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority.</p> <p>Recycle wherever possible or consult manufacturer for recycling options. Recycle container or dispose of in an authorised landfill.</p> <p>Consult State Land Waste Management Authority for further information.</p>
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## SECTION 14 – TRANSPORT INFORMATION

### Labels required

Ingredient	Marine Pollutant	HAZCHEM	Label
Sodium bicarbonate	NO	Not applicable	
Sodium hexametaphosphate	NO	Not applicable	
Calcium sulphate	NO	Not applicable	
3-bromo-1-chloro-5,5-dimethylhydantoin, 1 bromo, 3 chloro 5, 5 dimethyl hydantoin	YES	1W	
Diacel – Diatomaceous Earth Cellulose Fibre Blend	No	Not applicable	

Sodium bicarbonate, Sodium hexametaphosphate, Calcium sulphate, Diacel (DE Powder)

**Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Transport in bulk according to Annex II of MARPOL and the IBC code - Not Applicable**

**INDIVIDUAL COMPONENT : 3-bromo-1-chloro-5,5-dimethylhydantoin, 1 bromo, 3 chloro 5, 5 dimethyl hydantoin**

### Land transport (ADG) and New Zealand S5433

UN number 3085  
Packing group II  
EPG 31 Oxidising Substances  
UN proper shipping name OXIDIZING SOLID, CORROSIVE, N.O.S. (contains 3-bromo-1-chloro-5,5-dimethylhydantoin)  
Environmental hazard Not Applicable

Transport hazard class(es) Class 5.1  
Sub risk 8

Special precautions for user Special provisions 274  
Limited quantity 1 kg

### Air transport (ICAO-IATA / DGR)

UN number 3085  
Packing group II  
UN proper shipping name Oxidizing solid, corrosive, n.o.s. \* (contains 3-bromo-1-chloro-5,5-dimethylhydantoin)  
Environmental hazard Not Applicable

Transport hazard class(es) ICAO/IATA Class 5.1  
 ICAO / IATA Sub risk 8

ERG Code 5C

Special precautions for user Special provisions A3  
 Cargo Only Packing Instructions 562  
 Cargo Only Maximum Qty / Pack 25 kg  
 Passenger and Cargo Packing Instructions 558  
 Passenger and Cargo Maximum Qty / Pack 5 kg  
 Passenger and Cargo Limited Quantity Packing Instructions Y544  
 Passenger and Cargo Limited Maximum Qty / Pack 2.5 kg

**Sea transport (IMDG-Code / GGVSee)**

UN number 3085  
 Packing group II  
 UN proper shipping name OXIDIZING SOLID CORROSIVE, N.O.S. (contains 3-bromo-1-chloro-5,5-dimethylhydantoin)  
 Environmental hazard Marine Pollutant  
 Transport hazard class(es) IMDG Class 5.1  
 IMDG Sub risk 8  
 Special precautions for user EMS Number F-A, S-Q  
 Special provisions 274  
 Limited Quantities 1 kg

Transport in bulk according to Annex II of MARPOL and the IBC code - Not Applicable

**SECTION 14 – TRANSPORT INFORMATION FOR POOLKARE CHEMICALS BINGO B**

**POOLKARE CHEMICALS BINGO B - Labels Required**

Marine Pollutant NO  
 Hazchem NOT APPLICABLE

Land transport (ADG)

UN number NOT APPLICABLE  
 UN proper shipping name NOT APPLICABLE

Transport hazard class(es) Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code Not Applicable

**SECTION 15 – REGULATORY INFORMATION**

**Safety, Health and Environmental regulations / legislation specific for the substance and/or mixture**

No data on full formulation.

**Actives as:-**

**DIACEL** – EPA (New Zealand) HSR002512. UN number not regulated

**GYPSUM** – UN number not regulated

SODIUM BICARBONATE(144-55-8), SODIUM HEXAMETAPHOSPHATE (10124-56-8) ARE FOUND ON THE FOLLOWING REGULATORY LISTS:-

Australia Inventory of Chemical Substances (AICS)

**Assorted Actives:-**

National Inventory	Status of Actives as Sodium hexametaphosphate, Diacel, Sodium bicarbonate and Gypsum
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (sodium hexametaphosphate), N (sodium bicarbonate),
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	Y
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y

USA - TSCA	Y
<b>Legend:</b>	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets)

**3-BROMO-1-CHLORO-5,5-DIMETHYLHYDANTOIN (126-06-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS** - Australia Inventory of Chemical Substances (AICS)

**1-BROMO-3-CHLORO-5,5-DIMETHYLHYDANTOIN (16079-88-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS** - Australia Inventory of Chemical Substances (AICS)

**Environmental Protection Authority (New Zealand) - Hazardous Substances and New Organisms Amendment Act 2015**  
Registered name Ym-Fab Nylate G980 has HSNO Approval number HSRR000774

**HYPOCHLOROUS ACID (7790-92-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS**  
International Air Transport Association (IATA) Dangerous Goods Regulations-Prohibited List Passenger and Cargo Aircraft

**HYPOBROMOUS ACID (13517-11-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS**  
International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft

**CHLORINE (7782-50-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS**  
Australia Exposure Standards Australia Hazardous Substances Information System - Consolidated Lists  
Australia Inventory of Chemical Substances (AICS) International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft

**BROMINE (7726-95-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS**  
Australia Exposure Standards Australia Hazardous Substances Information System - Consolidated Lists  
Australia Inventory of Chemical Substances (AICS) International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft

**National Inventory Status**

Australia - AICS	N (hypobromous acid; hypochlorous acid)
Canada - DSL	N (hypobromous acid; hypochlorous acid)
Canada - NDSL	N (chlorine; bromine; 1-bromo-3-chloro-5,5-dimethyl hydantoin; 3-bromo-1-chloro-5,5-dimethylhydantoin)
China - IECSC	N (hypobromous acid; 3-bromo-1-chloro-5,5-dimethylhydantoin; hypochlorous acid)
Europe - EINEC / ELINCS / NLP	N (hypobromous acid)
Japan - ENCS	N (hypobromous acid; chlorine; bromine; 3-bromo-1-chloro-5,5-dimethylhydantoin; hypochlorous acid)
Korea - KECI	N (hypobromous acid)
New Zealand - NZIoC	N (hypobromous acid; hypochlorous acid)
Philippines - PICCS	N (hypobromous acid; hypochlorous acid)
USA - TSCA	Y

Legend: Y = All ingredients are on the inventory

N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets)

## SECTION 16 – OTHER INFORMATION

**Definitions and abbreviations**

PC—TWA: Permissible Concentration-Time Weighted Average  
PC—STEL: Permissible Concentration-Short Term Exposure Limit  
IARC: International Agency for Research on Cancer  
ACGIH: American Conference of Governmental Industrial Hygienists  
STEL: Short Term Exposure Limit  
TEEL: Temporary Emergency Exposure Limit.  
IDLH: Immediately Dangerous to Life or Health Concentrations  
OSF: Odour Safety Factor  
NOAEL :No Observed Adverse Effect Level  
LOAEL: Lowest Observed Adverse Effect Level  
TLV: Threshold Limit Value  
LOD: Limit Of Detection  
OTV: Odour Threshold Value  
BCF: Bio Concentration Factors BEI: Biological Exposure Index  
EPA (NZ) - Environmental Protection Agency – New Zealand

**Disclaimer:**

All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. Wobelea Pty Ltd accepts no responsibility whatsoever for its accuracy or for any results that may be obtained by customers from using the data and disclaims all liability for reliance on information provided in this data sheet or by our technical representatives.

Please note this product is a blended product and is formulated with low concentration of some of the actives. Therefore this SDS should be used a guideline only.

Further information can be obtained from the manufacturer if required.

The user should be aware of changing technology, research, regulations, and analytical procedures that may require changes herein. The above data is supplied upon the condition that persons will evaluate this information and then determine its suitability for their use.

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\*\*\*\*\* END OF SDS \*\*\*\*\*