

1. Identification of the Substance/Mixture and Supplier.																			
Product name:	Betanal AM11																		
Recommended Use:	Herbicide for the control of weeds in sugar and red beets.																		
Company details:	Bayer New Zealand Limited, 3 Argus Place, Glenfield, Auckland, New Zealand.																		
Telephone:	0800 428 246																		
Facsimile:	09 441 8645																		
Emergency telephone:	0800 734 607 Orica SH&E Shared services (24hr)																		
2. Hazards Identification.																			
Hazard classification:	Classified as hazardous according to the criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.																		
Classification and type:	HSNO Class* 3.1D, 6.1D, 6.3B, 6.4A, 6.5B, 6.9B, 9.1A, 9.2A, 9.3C Combustible liquid – keep away from naked flame. May be harmful if swallowed, inhaled or absorbed through the skin. May cause mild skin irritation. May cause organ damage from repeated oral exposure at high doses. Harmful – may cause eye damage. May cause sensitization from prolonged skin contact. Toxic to aquatic organisms. Very toxic to the soil environment. Harmful to terrestrial vertebrates.																		
Risk & Safety Phrases:	R21/R22, R36, R38, R40, R43, R50, R56,																		
3. Composition/Information on Ingredients.																			
Common name:	Phenmedipham + desmedipham																		
Chemical Identity of Ingredients:	Mixture:																		
	<table border="1"> <thead> <tr> <th>Ingredient</th> <th>CAS No.</th> <th>Content (%w/v)</th> </tr> </thead> <tbody> <tr> <td>Phenmedipham</td> <td>13684-63-4 237-199-0</td> <td>8.00</td> </tr> <tr> <td>Desmedipham</td> <td>13684-56-5</td> <td>8.00</td> </tr> <tr> <td>Isophorone</td> <td>78-59-1</td> <td>>50.00 -<60.00</td> </tr> <tr> <td>Octylphenol polyglycol ether</td> <td>9004-87-9</td> <td>>15.00 -<200.00</td> </tr> <tr> <td>Solvent Naptha</td> <td></td> <td>>5.00 -<10.00</td> </tr> </tbody> </table>	Ingredient	CAS No.	Content (%w/v)	Phenmedipham	13684-63-4 237-199-0	8.00	Desmedipham	13684-56-5	8.00	Isophorone	78-59-1	>50.00 -<60.00	Octylphenol polyglycol ether	9004-87-9	>15.00 -<200.00	Solvent Naptha		>5.00 -<10.00
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	(petroleum), light aromatic Tetrapropylene benzene sulfonate, calcium salt	11117-11-6 234-360-7	>1.00 - <5.00
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4. First Aid Measures:

Description of necessary first aid measures:	In case of poisoning by any exposure route contact the National Poisons and Hazardous Chemicals Information Centre, PO Box 913, Dunedin. Phone 0800 764 766, 0800 POISON.
Workplace facilities:	No specific facilities required. Standard emergency equipment must be available.
Hygiene Practices:	Avoid contact with skin and eyes and inhalation of concentration or spray mist. When mixing or applying, wear protective clothing, including face shield, impervious gloves and footwear. If clothing becomes contaminated with product, remove clothing immediately. DO NOT eat, drink or smoke while using. Wash hands and exposed skin thoroughly with soap and water before meals and after work. Wash protective clothing daily after work.
Poisoning symptoms:	Cough, daze, unconsciousness, Allergic reactions.
Eye:	If product gets in eyes wash it out immediately with water.
Skin:	If skin contact occurs remove contaminated clothing and wash affected areas thoroughly with soap and water.
Inhaled:	Move person to fresh air and keep at rest until recovered. Apply artificial respiration if necessary.
Ingestion:	When swallowed accidentally, DO not induce vomiting, get medical help. Rinse out mouth and give plenty of water to drink. Ingest activated charcoal.
Treatment:	Treat symptomatically. In the event of a mouthful or more being ingested, the following measures should be considered: Endotracheal intubation should be done and gastric lavage performed, followed by administration of charcoal. Monitor kidney and respiratory functions. Elimination by dialysis (forced alkaline diuresis).

5. Fire-Fighting Measures.	
Decomposition:	In case of fire hazardous decomposition products may be produced such as: Carbon dioxide (CO ₂) Carbon monoxide (CO) Oxides of nitrogen (NO _x) Dense black smoke. Under certain conditions of combustion traces of other toxic substances cannot be excluded.
Extinguishing media:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Recommended Protective clothing:	In the event of fire, wear self-contained breathing apparatus.
Further information:	Cool endangered containers with water spray jet.
6. Accidental Release Measures.	
Personal Precautions:	Emergency Procedures: Ensure suitable personal protection during removal of spillages. This means wearing eye protection, chemically resistant gloves, boots and overalls.
Environmental Precautions:	Washings must be prevented from entering surface water drains or waterways.
Procedure for spill:	Keep all bystanders away. Wear goggles, half face-piece respirator with combined dust and vapour cartridge, full length clothing and PVC gloves. Contaminated material must be disposed of in accordance with all local authority requirements. <ul style="list-style-type: none"> • For quantities up to 50L of product bury in a secure approved landfill site. • For quantities greater than 50L seek advice from the manufacturer (use emergency contact number) before attempting disposal. Contain in a secure location until disposal method is established. Decontaminate the spill area with detergent and water and rinse with the smallest volume of water practicable.
Procedure for Disposal:	a) Triple rinsing or preferably pressure rinsing containers with water. Add the rinsings to the spray tank. DO NOT dispose of undiluted chemicals on site.

	<p>b) Burning of empty containers if circumstances, especially wind direction, permit is an alternative method. Do not burn unless in a suitable incinerator.</p> <p>c) Product or unused spray mix should be disposed of according to label instructions.</p>
7. Handling and Storage.	
Handling Practices:	<p>Use only in area provided with appropriate exhaust ventilation. Use solvent-resistant equipment.</p> <p>Keep away from heat and sources of ignition. Do not smoke.</p> <p>Take precautionary measures against static discharges.</p>
Conditions for Safe Storage and Store Sire Requirements:	<p>Store in a cool, dry, well ventilated place and protect from sunlight. Storage temperature <30°C.</p>
Packaging:	<p>Store in original container, tightly closed, away from foodstuffs.</p>
8. Exposure Control/Personal Protection	
Exposure standards:	<p>Isophorone CAS No. 78-59-1 MAK: 11mg/ m³ /2ppm</p>
Additional advice:	<p>Observe: Exposure Limits In Air, Group 3: 100mg/ m³/20ppm (aromatic-rich hydrocarbon mixes with >25% aromatics TRGS 901, No.72)</p>
Engineering measures:	<p>Use in well ventilated areas.</p> <p>Apply technical measures to comply with the occupational exposure limits.</p>
Respiratory protection:	<p>Where insufficient ventilation, use suitable respiratory protection.</p>
Hand protection:	<p>Wear suitable protective gloves (e.g. nitrile rubber gloves min. thickness 0.40mm). After contamination with product change the gloves immediately.</p>
Eye protection:	<p>Chemical goggles/face protection.</p>
Other protective equipment:	<p>Wear suitable protective clothing.</p>
Hygiene measures:	<p>Avoid contact with eyes and skin. Store work clothes and street clothes separately. Wash hand before breaks and at the end of work. Change contaminated protective clothing immediately. Keep away from food, drinks and tobacco.</p> <p>Do not inhale vapours.</p>

9. Physical and Chemical Properties

Form:	Liquid
Colour:	amber
Odour:	sweet
Vapour pressure:	$>2.3 \times 10^{-3}$
Density:	0.985 g/cm ³ at 20°C
Specific gravity:	Not known
Viscosity:	Not known
Solubility in water:	emulsifiable
pH:	3.0-4.0 at 100g/l (20°C)
Flash point:	68°C
Ignition temperature:	Ca. 460°C
Partition coefficient (n-octanol/water):	Log Pow: 3.59 at 22°C The value relates to the active phenmedipham.
Partition coefficient (n-octanol/water):	Log Pow: 3.39 at 22°C The value relates to the active desmedipham.
OTHER PROPERTIES	
Upper explosion limit:	3.8% (V)
Lower explosion limit:	0.8% (V)
Explosion Hazard:	Not explosive

10. Stability and Reactivity

Stability of the Substance:	Stable under standard conditions.
Materials to Avoid:	Oxidizing agents
Thermal decomposition:	No decomposition if used as directed.
Hazardous reactions:	No hazardous reactions when stored and handled according to the label.

11. Toxicological Information

Acute oral toxicity:	LD ₅₀ : >4000mg/kg (rat)
Acute dermal toxicity:	LD ₅₀ : >2000mg/kg (rabbit)
Acute inhalation toxicity:	Irritating to respiratory system.
Skin irritation:	Slight irritant effect
Eye irritation:	Slight irritant effect
Other information	May cause sensitization by skin contact.

12. Ecological Information

Acute fish toxicity:	<p>LC₅₀: Rainbow trout (<i>Oncorhynchus mykiss</i>) ca. 3mg/l Exposure time: 96h The value relates to the active phenmedipham.</p> <p>LC₅₀: Rainbow trout (<i>Oncorhynchus mykiss</i>) ca. 0.26mg/l Semi-static test. 96h The value relates to the active desmedipham.</p>
Toxicity for daphnia:	<p>EC₅₀: Water flea (<i>Daphnia magna</i>) 6mg/l Exposure time: 48h The value relates to the active phenmedipham.</p> <p>EC₅₀: Water flea (<i>Daphnia magna</i>) 0.45mg/l semi-static test Exposure time: 48h The value relates to the active desmedipham.</p>
Toxicity to algae:	<p>IC₅₀: (<i>Selenastrum capricornutum</i>) 0.13 mg/l. Exposure time: 96h The value relates to the active phenmedipham.</p> <p>IC₅₀: (<i>Selenastrum capricornutum</i>) 0.056 mg/l. Exposure time: 96h The value relates to the active desmedipham.</p>

13. Disposal Considerations.

Product Disposal:	Dispose of this product only by using according to the label, or at an approved landfill or other approved facility.
Container Disposal:	Triple rinse the empty container adding rinseate to the spray tank. Recycle if possible. If allowed under local authority, burn if circumstances, especially wind direction permit, otherwise crush and bury in an approved local authority facility. Do not use container for any other purpose.

14. Transportation Information.

Rail/Road (RID/ADR)	UN 3082 Environmentally Hazardous Substance, Liquid, N.O.S. (Phenmedipham, Desmedipham solution), Class 9, Packaging Group III, Hazchem 2X.
Sea (IMDG-Code)	UN 3082 Environmentally Hazardous Substance, Liquid, N.O.S. (Phenmedipham, Desmedipham solution), Class 9, Packaging Group III, Hazchem 2X. Marine Pollutant.

Air (ICAO/IATA)	UN 3082 Environmentally Hazardous Substance, Liquid, N.O.S. (Phenmedipham, Desmedipham solution), Class 9, Packaging Group III, Hazchem 2X.
15. Regulatory Information.	
HSNO Approval Number:	HSR000825
HSNO Controls (inc. Tracking):	See www.ermanz.govt.nz for controls.
Approved Handlers required:	Approved Handlers required at time of use.
ACVM Registration:	P 2759
ACVM Controls:	See www.nzfsa.govt.nz/acvm for registration conditions.
16. Other Information.	
<p>3.1D Combustible liquid – keep away from naked flame. 6.1D May be harmful if swallowed, inhaled or absorbed through the skin. 6.3B May cause mild skin irritation. 6.4A May cause organ damage from repeated oral exposure at high doses. 6.5B Harmful – may cause eye damage. 6.9B May cause sensitization from prolonged skin contact. 9.1A Toxic to aquatic organisms. 9.2A Very toxic to the soil environment. 9.3C Harmful to terrestrial vertebrates.</p>	
<p>R21/R22 Harmful in contact with skin and if swallowed. R36 Irritating to eyes. R38 Irritating to skin. R40 Limited evidence of carcinogenic effect. R43 May cause sensitization by skin contact. R50 Very toxic to aquatic organisms. R56 Toxic to soil organisms.</p>	

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The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe products in terms of their safety requirements. The above details do not imply any guarantee concerning composition, properties or performance of the product.