



SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **BELVEDERE FORTE**
Item Code:
Product Use: Herbicide
Restriction of Use: Refer to Section 15

New Zealand Supplier: ADAMA New Zealand Ltd
Address: Level 1/93 Bolt Road,
Tahunanui, Nelson
Telephone: +64 3 543 8275
Fax Number: +64 3 543 8274

Emergency Telephone: 0800 764 766 (National Poison Centre)

Date of SDS Preparation: 18 July 2018

Section 2. Hazards Identification

This substance is hazardous according to the Hazardous Substances (Classification) Notice 2017

EPA Approval No: HSR101259

Pictograms



Chronic Ecotoxic

Signal Word: **Warning**

HSNO Classification	Hazard Code	Hazard Statement	GHS Category
6.9B (Oral)	H373	May cause damage to organs through prolonged or repeated exposure.	Category 2
9.1A	H400	Very toxic to aquatic life.	Category 1
9.2A	H421	Very toxic to the soil environment.	-

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P260	Do not breathe fumes or vapours or spray.
P273	Avoid release to the environment.

Response Code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P314	Get medical advice/attention if you feel unwell.
P391	Collect spillage.

Storage Code	Storage Statement
None allocated	Keep away from children. Store in original container tightly closed and in a locked, dry, cool, well ventilated area, away from foodstuffs.

Disposal Code	Disposal Statement
P501	Wherever possible completely use material by using according to label instructions. Dispose of unwanted product and wastes from spillages as hazardous substances in accordance with local and national regulations using a licensed waste disposal company. Triple rinse containers and add rinsate to spray tank before puncturing and offering for recycling or landfill. Do not allow product to enter waterways. Do not burn product or container.

Section 3. Composition / Information on Ingredients
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Ingredients	Wt%	CAS NUMBER.
Ethofumesate	16-21	26225-79-6
Phenmedipham	7-12	13684-63-4
Desmedipham	7-12	13684-56-5
1,2-Propylene-glycol	<5	57-55-6
Other ingredients not contributing to the overall classification of the substance or identified in the NZ Workplace Exposure Standards.	To balance	NA

Section 4. First Aid Measures

Routes of Exposure:

- If in Eyes Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.
- If on Skin Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if necessary.
- If Swallowed Rinse mouth. Give copious water to drink. Call a POISON CENTER or doctor/physician if you feel unwell.
- If Inhaled Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position and keep warm. Keep at rest until fully recovered. Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed

Symptoms of:

- Ingestion:** Not applicable.
- Skin:** Not applicable.
- Inhalation:** Not applicable.
- Eyes:** Not applicable.
- Chronic:** May cause damage to organs through prolonged or repeated exposure.

Section 5. Fire Fighting Measures
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Hazard Type	Non Flammable.
Hazards from combustion products	No specific hazard known.
Suitable Extinguishing	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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Precautions for firefighters and special protective clothing	In the event of fire, wear self-contained breathing apparatus In the event of fire and/or explosion do not breathe fumes.
HAZCHEM CODE	3Z

Section 6. Accidental Release Measures

Wear full protective clothing as detailed in Section 8. Evacuate area from unnecessary personnel.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not allow into any sewer, on the ground or into any body of water. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Pick up mechanically and dispose of according to Section 13.

Section 7. Handling and Storage

Precautions for Handling:

- Read label before use.
- Do not breathe fumes or vapours or spray.
- Use only with adequate ventilation.
- Avoid release to the environment.
- Use personal protective equipment as required.
- When using do not eat, drink or smoke. Wash contaminated clothing before reuse.

Precautions for Storage:

- Store away from incompatible materials listed in Section 10.
- Keep away from children.
Keep container tightly closed in a dry and well-ventilated place.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA		STEL	
	ppm	mg/m3	ppm	mg/m3
Propane-1,2-diol [57-55-6]	150	474		
Vapour and particulates Particulates only		10		

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). 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 the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2017 9TH EDITION.

Engineering Controls

Ensure adequate ventilation, especially in confined areas.

Personal Protection Equipment



Eyes	Tight sealing safety goggles.
Hands and Skin	Gloves made of plastic or rubber. Suitable protective clothing.
Respiratory	Normally not necessary.
General	When using, do not eat, drink or smoke. Wash contaminated clothing before reuse.

Section 9 Physical and Chemical Properties

Appearance	Off-White liquid
Odour	Characteristic
Odour Threshold	Not applicable
pH - solution (1 %)	4.1 – 5.1 (Method - CIPAC MT 75.3)
Boiling Point	Not applicable
Melting Point	Not applicable
Flash Point	>110°C
Flammability	Non Flammable
Upper and Lower Exposure Limits	Not applicable
Vapour Pressure	Not applicable
Bulk Density	Not applicable
Bulk Density	Not applicable
Relative Density	1.04 - 1.14
Solubilities	Not applicable
Partition Coefficient:	Not applicable
Auto-ignition Temperature	Not applicable
Kinematic viscosity mm²/s 40 °C	1030 (Method - CIPAC MT 192)
Particle Characteristics	Not applicable

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Conditions to Avoid	Heat, flames and sparks.
Incompatible Materials	No information available.
Hazardous Decomposition Products	None under normal use conditions.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Not applicable
Dermal	Not applicable
Inhalation	Not applicable
Eye	Not applicable
Skin	Not applicable

Chronic Effects:

Carcinogenicity	Not applicable.
Reproductive Toxicity	Not applicable.
Germ Cell Mutagenicity	Not applicable.
Aspiration	Not applicable.
STOT/SE	Not applicable.

Information on toxicological effects**Acute toxicity**

	Values	Species	Method
Oral LD50 mg/kg	: > 2000	Rat	OECD 423
Dermal LD50 mg/kg	: > 2000	Rat	OECD 402
Inhalation LC50 mg/I/4h	: > 0.46	Rat	OECD 403
Skin corrosion/irritation	: Non-irritating to the skin	Rabbit	OECD 404
Serious eye damage/eye irritation	: Not irritating to eyes	Rabbit	OECD 405

Section 12. Ecotoxicological Information

HSNO Classes: 9.1A = Very toxic to aquatic life.
 9.2A = Very toxic to the soil environment.

Aquatic Toxicity**Acute toxicity**

	Values	Method	Remarks
Fish 96-hour LC50 mg/I	: > 122	Oncorhynchus mykiss	OECD 203
Crustacea 48-hour EC50 mg/I	: 5.41	Daphnia magna	OECD 202
Algae 72-hour EC50 mg/I	: 2.2	D. Subspicatus	OECD 201
Other plants EC50 mg/I			No data available

Terrestrial Toxicity**Birds Oral LD50 mg/kg****Chemical Name**

Ethofumesate	: > 2000		OECD 401
Phenmedipham	: > 2100	Mallard duck	
Desmedipham	: ---		No data available

Bees Oral LD50 pg/bee**Chemical Name**

Ethofumesate	: > 50		OECD 213
Phenmedipham	: > 100		
Desmedipham	: ---		No data available

Persistence and degradability Persistence and degradability**Abiotic Degradation****Water DT50 days****Chemical Name**

	Values	Method	Remarks
Ethofumesate	: 105 - 242		
Phenmedipham	: 0.11 - 0.18		
Desmedipham	: ---		No data available

Soil DT50 days**Chemical Name**

Ethofumesate	: 47 - 211
Phenmedipham	: 37
Desmedipham	: 34

Biodegradation**Chemical Name**

Ethofumesate	: Not readily biodegradable
Phenmedipham	: Not readily biodegradable
Desmedipham	: No data available

Bioaccumulative potential Bioaccumulative potential

Partition Coefficient (n-octanol/water) Log Pow Chemical Name	Values	Method	Remarks
Ethofumesate	: 2.7		pH 6.4, 20-25 ° C
Phenmedipham	: 2.7		pH 6.4, 20-25 ° C
Desmedipham	: 3.59		pH 3.9

Bioconcentration factor (BCF) Chemical Name	Values	Method	Remarks
Ethofumesate			No data available
Phenmedipham	: 165		
Desmedipham	: ---		No data available

Mobility in soil Mobility in soil

Adsorption/Desorption Chemical Name	Values	Method	Remarks
Ethofumesate	: 147 - 132		Koc
Phenmedipham	: 888		Koc

Section 13. Disposal Considerations

Disposal Method: Wherever possible completely use material by using according to label instructions. Dispose of unwanted product and wastes from spillages as hazardous substances in accordance with local and national regulations using a licensed waste disposal company. Triple rinse containers and add rinsate to spray tank before puncturing and offering for recycling or landfill.

Precautions: Do not allow product to enter waterways.

Disposal methods to avoid: Do not burn product or container.

Section 14 Transport Information

This product is classified as a Dangerous Good for transport in NZ; NZS 5433:2012



Road and Rail Transport

UN No: 3082
Class-primary 9
Packing Group III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenmedipham, Desmedipham)

Air Transport

UN No: 3082
Class-primary 9
Packing Group III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Phenmedipham, Desmedipham)

Marine Transport

UN No: 3082
Class-primary 9
Packing Group III

Proper Shipping Name:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S. (Phenmedipham, Desmedipham)

Special Provisions:

If the product's individual container is below 5L/kg, it can be transported as a non-DG as long as the product packaging is still labelled as per DG requirements and the driver is given safety information in accordance with Chapter 3.4 of the UNRTDG.

Section 15 Regulatory Information

EPA Approval Code: HSR101259
HSNO Classification: 6.9B, 9.1A, 9.2A

HSW (HS) Regulations 2017 and EPA Notices	Trigger Quantity
Certified Handlers	Not Required
Location Certificate	Not required
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	100L(9.1A)
Emergency Response Plan	100L(9.1A)
Secondary Containment	100L(9.1A)
Restrictions of Use (HSNO S77A)	<ul style="list-style-type: none"> • This substance must not be applied into or onto water • This substance must be applied via ground-based methods only • The maximum application rate of this substance is 2L/ha (equivalent to 0.2kg phenmedipham/ha, 0.2kg desmedipham/ha and 0.4kg ethofumesate/ha) per application, with a maximum application frequency of two per calendar year. • The maximum application rate must be mentioned on the Label. • The following limits are set for toxicologically relevant impurities in the active ingredient ethofumesate used to manufacture this substance: <ul style="list-style-type: none"> - Ethyl methan sulfonate (62-50-0):0.1 mg/kg maximum - Iso-butyl methane sulfonate (16156-53-9) :0.1mg/kg maximum.
Hazardous Property Controls Notice 2017	
HPC Notice Part 4 Clause 47	Equipment for class 9 substances must be appropriate
HPC Notice Part 4 Clause 48	Records of application of class 9 pesticides and plant growth regulators
HPC Notice Part 4 Subpart A	Site and storage controls for class 9 substances
HPC Notice Part 4 Subpart C	Qualifications required for application of class 9 Pesticides.
ACVM Act and Regulations	
Registered pursuant to the ACVM Act 1997, See www.foodsafety.govt.nz for registration conditions	No. P9545
For all further controls	Refer to EPA website (www.epa.govt.nz) for controls document - HSR101259

Section 16 Other Information

Glossary

EC50 Median effective concentration.
EEL Environmental Exposure Limit.

EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
LC50	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD50	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

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Please contact the New Zealand distributor, if further information is required.

Issue Date: 18 July 2018 Review Date: 18 July 2023