SAFETY DATA SHEET

According to
HSNO Hazardous Substances (Safety Data Sheets) Notice 2017

Section 1. Identification of the material and the supplier

Product:	**Azamet Granular**
Product Use:	Soil Fumigant
Restriction of Use:	Refer to Section 15
New Zealand Supplier:	**Adria Crop Protection Solutions**
Address:	407 State Highway 16 Kumeu 0841, Auckland
Telephone:	+64 9 412 9817
Fax:	+64 9 412 9807
Website:	www.adria.nz
Emergency No:	**0800 734 607 (24hr)** **0800 764 766 (National Poison Centre)**
Date of SDS Preparation:	9 February 2021

Section 2. Hazards Identification

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

EPA Approval No: HSR000790

Pictograms

Corrosive Chronic Ecotoxic

Signal Word: **DANGER**

HSNO Classification	Hazard Code	Hazard Statement	GHS Category
6.1C (oral)	H301	Toxic if swallowed.	Acute Tox. 3
6.1E (dermal)	H313	May be harmful in contact with skin.	Acute Tox. 5
6.3B	H316	Causes mild skin irritation.	Skin Irrit. 3
6.4A	H319	Causes serious eye irritation.	Eye Irrit. 2A
6.5B	H317	May cause an allergic skin reaction.	Skin Sens. 1
6.8B	H361	Suspected of damaging fertility or the unborn child.	Repr. 2
6.9A	H372	Causes damage to organs through prolonged or repeated exposure.	STOT RE 1
9.1A	H400	Very toxic to aquatic life.	Aquatic Acute 1

9.2C	H423	Harmful to the soil environment.	-
9.3B	H432	Toxic to terrestrial vertebrates.	-

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective clothing as detailed in Section 8.
P281	Use personal protective equipment as required.

Response code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.

Storage Code	Storage Statement
P405	Store locked up.

Disposal Code	Disposal Statement
P501	Refer to Section 13.

Section 3. Composition / Information on Hazardous Ingredients

Ingredients	Content (%w/v)	CAS NUMBER.
Dazomet Pellet	970g/kg	533-74-4
Non-hazardous ingredients		

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes — Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

If on Skin — After contact with skin, remove contaminated clothes immediately and rinse affected area with water for 15-20 minutes. If irritation or rash develops get medical attention/advice.

If Swallowed — Rinse mouth with water and drink plenty of water. If swallowed do NOT induce vomiting unless directed to do so by a medical practitioner or

poison control center. Do not administer anything orally to an unconscious person. For advice, contact the National Poisons Centre on 0800 POISON (0800 764766) or a doctor immediately.

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. Apply artificial respiration if not breathing. Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed.

Symptoms: Dazomet may cause bullous eruption, sore itching, erythema, oedema and scaling after skin contact, most probably caused by MITC. Systemic effects like hepatotoxicity (increase of transaminases) are possible, as well as gastro-intestinal dysfunction (nausea, irritation, vomiting), and more general symptoms (headache, dizziness).

Ingestion: Toxic if swallowed.
Inhalation: Symptoms include nose and throat irritation, shortness of breath, chest tightness, cough, wheezing.
Skin: May be harmful in contact with skin. Causes mild skin irritation. May cause an allergic skin reaction.
Eye: Causes serious eye damage.
Chronic: Suspected of damaging fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.

Treatment: Treat according to symptoms (decontamination, vital functions). No known specific antidote.

General Do not administer anything orally to an unconscious person. Always have the product container or label with you when calling a poison control center or doctor or going for treatment. Avoid contact with the skin, eyes and clothing. Remove contaminated clothing. If difficulties occur obtain medical attention.

Section 5. Fire Fighting Measures

Hazard Type	This product is not flammable.
Hazards from products	Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides. The substances/groups of substances mentioned can be released in case of fire.
Suitable Extinguishing media	Suitable: Water spray, carbon dioxide (CO2), alcohol resistant foam, dry chemical. Unsuitable: High pressure water jet media.
Recommended protective clothing & Precautions for firefighters	Fire-fighters should wear SCBA and chemical-protective clothing. Self-contained breathing apparatus is required. Do not allow the runoff from firefighting media to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. Addition of water may cause excessive foaming. Vapours may be toxic.
HAZCHEM CODE	**2Z**

Section 6. Accidental Release Measures

Personal precautions:
Use protective clothing as per Section 8. Avoid dust formation. Avoid contact with skin, eyes and clothing. Remove contaminated clothes and shoes immediately. Evacuate personnel from the contaminated area and thoroughly ventilate the area.

Environmental precautions:
Do not discharge into drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

Spill and Disposal procedures:
Collect with broom and shovel or preferably vacuum cleaner. Use damp cloth to clean floors and other objects after removal of the product and/or contaminated adsorbent. Adding a detergent will enhance the cleaning process. Avoid raising dust. Cleaning operations should be carried out while wearing breathing apparatus. Place recovered material, contaminated adsorbent and used cleaning materials into suitable containers, which can be labelled and sealed. After removal, flush contaminated area thoroughly with water. Pick up wash liquid with inert absorbent and place in a chemical waste container for disposal. Dispose of material in accordance with regulations as detailed in Section 13.

Section 7. Handling and Storage

Precautions for Handling:

- Read label before use.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Do not breathe dust.
- Avoid skin and eye contact.
- Avoid formation of dust and aerosols.
- Provide appropriate exhaust ventilation at places where dust is formed.
- Normal measures for preventive fire protection.
- Wash clothing after use.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Contaminated work clothing should not be allowed out of the workplace.
- Avoid release to the environment.
- Wear protective clothing as detailed in Section 8.
- Use personal protective equipment as required.

Precautions for Storage:

- Store away from incompatible materials listed in Section 10.
- Keep out of reach of children.
- Store in the closed, original container in a dry, well ventilated area, as cool as possible out of direct sunlight and under lock and key.
- Keep from contact with fertilisers, fungicides and seeds.
- Store in original container.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

	TWA		STEL	
Substance	**ppm**	**mg/m³**	**ppm**	**mg/m³**

No ingredients have exposure limits.

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 2019 11TH EDITION.

Engineering Controls / Industrial Hygiene

Only use product in a well-ventilated area.
Personal Protection Equipment

Eyes	Safety goggles with side-shields.
Hands	Suitable chemical resistant safety gloves (e.g. nitrile rubber (.4mm)). Contaminated gloves should be washed. Gloves should be disposed of when contaminated on the inside, perforated or contamination on the outside cannot be removed.
Skin	Body protection (chemical protection suit, boots) must be chosen depending on activity and possible exposure. Decontaminate contaminated clothing, remove and dispose of in accordance with the manufacturer's instructions.
Respiratory	Wear respiratory protection. Respiratory protection should have appropriate dust/mist cartridge (A1P2 combi-filter).
General	Keep out of reach of children. Wear protective clothing such as impervious gloves, waterproof hat, coat and trousers when using. Avoid contact with skin or eyes and inhalation of spray mist. Wash hands and exposed skin after use and before meals, using tobacco or using the toilet.

Section 9 Physical and Chemical Properties

Appearance	Granular solid
Odour	Characteristic
Odour Threshold	No data available
pH	6 - 8
Boiling Point	Decomposition before boiling (dazomet active ingredient)
Melting Point	Not applicable
Freezing Point	No data available
Flash Point	Not applicable
Flammability	Not highly flammable
Upper and Lower Explosive Limits	No data available
Vapour Pressure	No data available
Vapour Density	No data available
Density	No data available
Water Solubility	No data available
Octanol/water partition coefficient:	No data available
Auto Ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Particle Characteristics	No data available
Surface tension	No data available

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Possibility of hazardous reactions	Contact with water or moisture liberates toxic gases. Dust explosion hazard: The substance itself is not considered to be an explosive due to its chemical composition. The potential for dust explosion hazard was not evaluated but it is mentioned as a precautionary measure.
Conditions to Avoid	Temperature extremes and direct sunlight and moisture.
Incompatible Materials	Store only in original containers. Water.
Hazardous Decomposition Products	Exposition to moisture induces the decomposition of dazomet into methyl isothiocyanate. Methyl isothiocyanate is toxic by inhalation and if swallowed, irritant to eyes and respiratory system, corrosive and sensitizing by skin contact.

Section 11 Toxicological Information

Acute Effects (based on the technical material):

Swallowed (LD_{50})	Toxic if swallowed. Rats 519 mg/kg
Dermal (LD_{50})	May be harmful in contact with skin. Rats >2000 mg/kg
Inhalation (LC_{50})	Not triggered. Rats 8.4 mg/L (4h)
Eye	Causes serious eye irritation.
Skin	Causes mild skin irritation. May cause an allergic skin reaction.

Chronic Effects:

Carcinogenicity	Not triggered.
Reproductive Toxicity	Suspected of damaging fertility or the unborn child.
Germ Cell Mutagenicity	No data available
Aspiration	Not likely to be an aspiration hazard
STOT/SE	No data available
STOT/RE	Causes damage to organs through prolonged or repeated exposure.

Section 12. Ecotoxicological Information

Based on the active ingredient Dazomet

Ecological effects information	9.1A = Very toxic to aquatic life. 9.2C = Harmful to the soil environment. 9.3B = Toxic to terrestrial vertebrates.
Persistence and degradability	Following application to strawberries, no residues of dazomet or of its degradation products methyl isothiocyanate, dimethyl- or monomethylthiourea were detected at >0.01 ppm in the fruit.
Bioaccumulation	No specific detailed data available
Mobility in Soil	In soil, DT50 <1 d; in water, DT50 <10 h (pH >5). In soil, in the presence of moisture, degrades to methyl isocyanate, formaldehyde, hydrogen sulfide and methylamine.
Other adverse effects	No data available
Dazomet: **- Birds [LD50 mg/kg]**	Acute oral LD50 for bobwhite quail >415 mg/kg. Dietary LC50 for bobwhite quail 1850, mallard ducks >5000 mg/kg diet.
- Fish [LC50 mg/L] (96 h, flow-through):	LC50 (96 h) for rainbow trout >3, bluegill sunfish 0.3, carp 37 mg/l.
- Bees [LD50 µg/bee] (48 h)	>10 (oral), >50 (contact)
- Worms [LC50 mg/kg] (14 d)	LC50 (14 d) for Eisenia fetida 6.5 mg/kg soil.
- Others **Daphnia: [EC50 mg/L] (48 h, flow-through):**	EC_{50} (48 h) 0.3 mg/l.
Algae: [ErC50 mg/L] (72 h, static):	EC50 (96 h) for Scenedesmus subspicatus 1.0 mg/l.
Precautions:	Do not allow to enter waterways.

Section 13. Disposal Considerations

Disposal Method:
Triple rinse container and add residue to spray tank. Return empty container to an AgRecovery collection point for disposal.

Empty container precautions:
Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance//product.

Precautions or methods to avoid: Waste resulting from the use of this product cannot be reused or reprocessed. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers.

Section 14 Transport Information

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

Road, Rail, Sea and Air Transport

UN No	3077
Class - Primary	9
Subclass	6
Packing Group	III
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains DAZOMET)
Marine Pollutant	Yes
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

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

EPA Approval Code: HSR000790

HSNO Classification: 6.1C(oral), 6.1E(dermal), 6.3B, 6.4A, 6.5B, 6.8B, 6.9A, 9.1A, 9.2C, 9.3B

HSW (HS) Regulations 2017	**Trigger Quantity**
Certified Handlers	Not required
Location Certificate	1000 kg (6.1C)
Signage Trigger Quantities (Schedule 3)	100 kg (9.1A)
Emergency Response Plan (Schedule 5)	100 kg (9.1A)
Secondary Containment (Schedule 5)	100 kg (9.1A)
Tracking (Schedule 26)	Not required
HSNO Additional Controls (Restrictions of use)	**Refer to EPA www.epa.govt.nz for controls document – HSR101370**

77A	The substance must not be applied onto or into water.
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 2	Certain substances restricted to workplace only.
HPC Notice Part 3	Hazardous substances in a place other than a workplace.
HPC Notice Part 4 Subpart A	Site and storage controls for class 9 substances.
HPC Notice Part 4 Subpart C	Qualifications required for applications of class 9 pesticides.
ACVM Act and Regulations	
ACVM Approval No See www.foodsafety.govt.nz for registration controls	P9804

Section 16 Other Information

For proper and safe use of this product, please refer to the approval conditions laid down on the product label. The data contained in this safety data sheet is based on our current knowledge and describes the product only with regard to safety requirements. The data does not describe the products properties. Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any existing laws and legislation are observed.

Glossary

EC_{50}	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
HSW	Health and Safety at Work.
LC_{50}	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD_{50}	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

This document has been prepared by TCC (NZ) Ltd and serves as the suppliers Safety Data Sheet ('SDS'). It is based on information concerning the product which has been provided to TCC (NZ) Ltd or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer. While TCC (NZ) have taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, TCC (NZ) Ltd accept no liability for any loss, injury or damage

(including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

The information herein is given in good faith, but no warranty, express or implied is made.

Please contact Adria if further information is required.

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