

# SAFETY DATA SHEET

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

## Section 1. Identification of the material and the supplier

Product:	<b>Invado</b>
Product Use:	Herbicide
Restriction of Use:	Refer to Section 15
New Zealand Supplier:	<b>Adria Crop Protection Solutions</b>
Address:	407 State Highway 16 Kumeu 0841, Auckland
Telephone:	+64 9 412 9817
Fax:	+64 9 412 9807
Website:	www.adria.nz
<b>Emergency No:</b>	<b>0800 734 607 (24hr)</b> <b>0800 764 766 (National Poison Centre)</b>
Date of SDS Preparation:	21 March 2023 v2

## Section 2. Hazards Identification

This substance is hazardous according to the EPA Hazardous Substances (Classification) Notice 2020

**EPA Approval No: HSR101106**

### Pictograms



Signal Word: **Warning**

GHS Classification and Category	Hazard Code	Hazard Statement
Acute oral toxicity Cat. 4	H302	Harmful if swallowed.
Skin sensitisation Cat. 1	H317	May cause an allergic skin reaction.
Specific target organ toxicity – repeated exposure Cat. 2	H373	May cause damage to organs through prolonged or repeated exposure.
Hazardous to the aquatic environment acute Cat. 1	H400	Very toxic to aquatic life.
Hazardous to the aquatic environment chronic Cat. 1	H410	Very toxic to aquatic life with long lasting effects.
Hazardous to soil organisms	H421	Hazardous to soil organisms
Hazardous to terrestrial vertebrates	H433	Hazardous to terrestrial vertebrates

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.
P260	Do not breathe fumes, vapours or spray.
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.

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.
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

Storage Code	Storage Statement
None allocated	

Disposal Code	Disposal Statement
P501	Refer to Section 13.

### Section 3. Composition / Information on Hazardous Ingredients

Ingredients	Content (%w/v)	CAS NUMBER.
Flufenacet	40	142459-58-3
Other ingredients determined not to be hazardous	To bal	

### Section 4. First Aid Measures

Routes of Exposure:

If in Eyes	Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.
If on Skin	Wash with soap and water. Get medical attention if irritation or rash develops. Cold water may be used.
If Swallowed	If swallowed do NOT induce vomiting. 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. Call a POISON CENTRE or a doctor immediately.

#### Most important symptoms and effects, both acute and delayed

Symptoms:

<b>Ingestion:</b>	Harmful if swallowed.
<b>Inhalation:</b>	Not applicable.
<b>Skin:</b>	May cause an allergic skin reaction.
<b>Eye:</b>	Not applicable.

**Chronic:** May causes damage to organs through single or repeated or prolonged exposure.  
**Treatment:** Treatment: No known specific antidote. Treat symptomatically (decontamination, vital functions).

**Section 5. Fire Fighting Measures**

<b>Hazard Type</b>	This product is non-flammable.
<b>Hazards from products</b>	Carbon and nitrogen oxides.
<b>Suitable Extinguishing media</b>	Dry chemical, water spray, foam, carbon dioxide.
<b>Recommended protective clothing &amp; Precautions for firefighters</b>	Wear SCBA and chemical-protective clothing.
<b>HAZCHEM CODE</b>	<b>3Z</b>

**Section 6. Accidental Release Measures**

**Personal precautions:**

Use protective clothing. Avoid contact with skin, eyes and clothing. Remove contaminated clothes and shoes immediately.

**Environmental precautions:**

Do not discharge into drains/surface waters/groundwater. Do not discharge into the subsoil/soil. Notify authorities if product enters sewers or public waters.

**Spill and Disposal procedures:**

Absorb spills with inert material and place in waste containers. Wash area with water and absorb with further inert material. Dispose of waste safely, according to local Council regulations.

**Section 7. Handling and Storage**

**Precautions for Handling:**

- Read carefully and follow all instructions.
- Do not breathe fumes, vapours or spray.
- 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.
- Ventilation is required.
- Keep away from heat sources and direct sunlight.
- Refer to Section 15 for restrictions of use.
- Wear protective clothing as detailed in Section 8.

**Precautions for Storage:**

- Keep away from children.
- Keep away from heat and protect from sunlight.
- Protect against freezing.
- Stores containing more than 100L are subject to requirement of an emergency management response plan, secondary containment and signage.
- Store away from incompatible materials listed in Section 10.

**Section 8 Exposure Controls / Personal Protection**

**WORKPLACE EXPOSURE STANDARDS (provided for guidance only)**

Substance	TWA		STEL	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>

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 APRIL 2022 13TH EDITION.

### Engineering Controls / Industrial Hygiene

Ensure adequate ventilation.

### Personal Protection Equipment



<b>Eyes</b>	Safety goggles with side-shields.
<b>Hands</b>	Suitable chemical resistant safety gloves (e.g. nitrile rubber (.4mm)).
<b>Skin</b>	Body protection (chemical protection suit, boots) must be chosen depending on activity and possible exposure.
<b>Respiratory</b>	Wear respiratory protection if ventilation is inadequate. Particle filter with medium efficiency for solid and liquid particles.
<b>General</b>	Keep away from food, drink and animal feedstuffs. No eating, drinking or smoking during use. Wash hands and face before breaks and after work.

## Section 9 Physical and Chemical Properties

<b>Appearance</b>	Suspension Concentrate
<b>Colour</b>	White
<b>Odour</b>	Slight chemical odour
<b>Odour Threshold</b>	Not available
<b>pH</b>	6.0 – 9.0
<b>Melting Point/Boiling Point</b>	Not available
<b>Freezing Point</b>	Not available
<b>Flash Point</b>	Not available
<b>Flammability</b>	Not available
<b>Upper and Lower Explosive Limits</b>	Not available
<b>Vapour Pressure</b>	Not available
<b>Vapour Density</b>	Not available
<b>Density</b>	1.146
<b>Water Solubility</b>	Not available
<b>Partition Coefficient:</b>	Not available
<b>Ignition Temperature</b>	Not available
<b>Decomposition Temperature</b>	Not available
<b>Viscosity</b>	Not available
<b>Particle Characteristics</b>	Not available

## Section 10. Stability and Reactivity

<b>Stability of Substance</b>	Stable under normal storage and handling conditions.
<b>Possibility of hazardous reactions</b>	None known.
<b>Conditions to Avoid</b>	Temperature extremes
<b>Incompatible Materials</b>	Oxidizing agents, acids and alkali.
<b>Hazardous Decomposition Products</b>	Carbon and nitrogen oxides.

**Section 11 Toxicological Information****Acute Effects:**

<b>Swallowed</b>	Harmful if swallowed. Acute oral toxicity (LD50): > 1300 mg/kg [Rat].
<b>Dermal</b>	Not applicable. LD50 >5,000 mg/kg (rat)
<b>Inhalation</b>	Not applicable. LD50 (4h) rat > 3.12 mg/ℓ.
<b>Eye</b>	Not applicable.
<b>Skin</b>	May cause an allergic skin reaction.

**Chronic Effects:**

<b>Carcinogenicity</b>	Not applicable.
<b>Reproductive Toxicity</b>	Not applicable.
<b>Germ Cell Mutagenicity</b>	Not applicable.
<b>Aspiration</b>	Not applicable.
<b>STOT/SE</b>	Not applicable.
<b>STOT/RE</b>	May cause damage to organs through prolonged or repeated exposure.

**Section 12. Ecotoxicological Information**

<b>Ecological effects information</b>	Very toxic to aquatic life with long lasting effects. Hazardous to soil organisms. Hazardous to terrestrial vertebrates.
<b>Persistence and degradability</b>	No data available
<b>Bioaccumulation</b>	No data available
<b>Mobility in Soil</b>	No data available
<b>Other adverse effects</b>	No data available
<b>Acute fish toxicity:</b>	LC50 (Bluegill sunfish): 2.4ppm LC50 (Rainbow trout): 3.49ppm
<b>Toxicity for daphnia:</b>	EC50: 30.9ppm
<b>Precautions:</b>	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:**

Avoid contamination of any water supply with chemical or empty container.

**Precautions or methods to avoid:** Avoid release to the environment.

**Section 14 Transport Information**

**This product is classified as a Dangerous Good for transport in NZ; NZS 5433:2020**



## Road, Rail, Sea and Air Transport

<b>UN No</b>	3082
<b>Class - Primary</b>	9
<b>Packing Group</b>	III
<b>Proper Shipping Name</b>	<b>ENVIRONMENTALLY HAZARDOUS SUBSTANCE (FLUFENACET), LIQUID, N.O.S.</b>
<b>Marine Pollutant</b>	Yes
<b>Special Provisions-Limited Quantities</b>	If the product's individual container is below 5L, 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 2020

EPA Approval Code: HSR101106

<b>HSW (HS) Regulations 2017</b>	<b>Trigger Quantity</b>
Certified Handlers	Not required
Location Certificate	Not required
Signage Trigger Quantities (Schedule 3)	100L
Emergency Response Plan (Schedule 5)	100L
Secondary Containment (Schedule 5)	100L
Tracking (Schedule 26)	Not required
For all further controls	Refer to EPA <a href="http://www.epa.govt.nz">www.epa.govt.nz</a> for controls document - HSR101106
<b>HSNO Additional Controls (Restrictions of use)</b>	
77A	<p>a) The maximum application rate for this substance is 300 mL/ha.</p> <p>This substance must not be applied more than once in a calendar year.</p> <p>b) The substance must not be applied into or onto water [1]. [1] where 'water' means water in all its physical forms, whether flowing or not, and whether over or under ground, but does not include water in any form while in a pipe, tank or cistern or water used in the dilution of the substance prior to application or water used to rinse the container after use.</p> <p>c) This substance must be applied by ground-based methods only [1] [1] This substance must be applied by ground-based methods only. Ground-based methods of applying pesticides include, but are not limited to, application by ground boom, airblast or knapsack, and do not include aerial application methods.</p>
<b>ACVM Act and Regulations</b>	
ACVM Approval No See <a href="http://www.foodsafety.govt.nz">www.foodsafety.govt.nz</a> for registration controls	P9277

### 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 <sub>50</sub>	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
HSW	Health and Safety at Work.
LC <sub>50</sub>	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD <sub>50</sub>	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 April 2022 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2020
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.

Issue Date: 21 March 2023 Review Date: 21 March 2028