



## SAFETY DATA SHEET

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

Product: **PENTAGON**  
Chemical name of active(s) MCPB: 4-(4-chloro-2-methylphenoxy) butanoic acid  
MCPA: (4-chloro-2-methylphenoxy) acetic acid  
Product Use: Herbicide  
Restriction of Use: Refer to Section 15

New Zealand Supplier: ADAMA New Zealand Ltd  
Address: Level 1/93 Bolt Road  
Tahunanui, 7011, Nelson  
Telephone: +64 3 543 8275  
E-mail: [nzorders@adama.com](mailto:nzorders@adama.com)

**Emergency Telephone: 0800 764 766 (National Poison Centre)  
0800 734 607 (24hr Emergency Response)**

Date of SDS Preparation: 14 October 2022

### Section 2. Hazards Identification

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

**HSNO Approval No:** HSR000726

#### Pictograms



Signal Word: **WARNING**

HSNO Classification	Hazard Code	Hazard Statement
Acute oral toxicity Category 4	H302	Harmful if swallowed.
Eye irritation Category 2	H319	Causes serious eye irritation.
Reproductive toxicity Category 2	H361	Suspected of damaging fertility or the unborn child.
Specific target organ toxicity (repeated exposure) Category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Hazardous to the aquatic environment acute Category 1	H400	Very toxic to aquatic life.
Hazardous to the aquatic environment chronic Category 1	H410	Very toxic to aquatic life with long lasting effects.
Hazardous to soil organisms	H421	Very toxic to the soil environment.
Hazardous to terrestrial vertebrates	H433	Harmful to terrestrial vertebrates.

<b>Prevention Code</b>	<b>Prevention Statement</b>
P102	Keep out of reach of children.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing fumes, vapours or spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid unintended release into the environment.
P280	Wear protective clothing as detailed in Section 8.

<b>Response Code</b>	<b>Response Statement</b>
P101	If medical advice is needed, have product container or label at hand.
P301 + P312 + P330	IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.
P305 + P337 + P338 + P351	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.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P391	Collect spillage.

<b>Storage Code</b>	<b>Storage Statement</b>
P405	Store locked up.

<b>Disposal Code</b>	<b>Disposal Statement</b>
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**

<b>Ingredients</b>	<b>Wt %</b>	<b>CAS NUMBER.</b>
MCPA (as sodium salt)	2 - 3	94-74-6
MCPB (as sodium salt)	37 - 38	94-81-5
Other ingredients not contributing to the overall classification of the substance or non-hazardous	To balance	NA

### **Section 4. First Aid Measures**

Routes of Exposure:

If in Eyes	Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. Seek medical assistance.
If on Skin	Immediately flush body and clothes with large amounts of water. Remove contaminated clothing and footwear. Wash affected areas with soap and water. If a large area is affected seek medical assistance.
If Swallowed	Wash out mouth with plenty of water. Never give anything by mouth to an unconscious person. Call a POISON CENTER or doctor/physician if you feel unwell.
If Inhaled	Remove patient to fresh air. Lie down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Get medical advice if breathing becomes difficult.

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

### Symptoms:

<b>Ingestion:</b>	Harmful if swallowed.
<b>Skin:</b>	Not applicable.
<b>Inhalation:</b>	Not applicable.
<b>Eyes:</b>	Causes serious eye irritation.
<b>Chronic:</b>	Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

**Notes to physician:** There is no specific antidote. Treat symptomatically and give supportive therapy.

## Section 5. Fire Fighting Measures

<b>Hazard Type</b>	Non-Combustible Liquid
<b>Hazardous thermal (de)composition products</b>	None.
<b>Suitable Extinguishing media</b>	Dry chemical, water spray, foam, carbon dioxide.
<b>Precautions for firefighters and special protective clothing</b>	Self-contained breathing apparatus required in enclosed areas.
<b>HAZCHEM CODE</b>	<b>2X</b>

## Section 6. Accidental Release Measures

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

### Environmental precautions

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

Absorb remainder in sand or other inert material. Dispose of container in a suitable landfill or take to an Agrecovery collection site.

## Section 7. Handling and Storage

### Precautions for Handling:

- Do not handle until all safety precautions have been read and understood.
- Avoid breathing fumes, vapours or spray.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Avoid unintended release into the environment.
- Wear protective clothing as detailed in Section 8.

### Precautions for Storage:

- Store locked up.
- Store away from incompatible materials listed in Section 10.
- Keep away from children.
- Store in original container, tightly closed, away from foodstuffs, seeds, fertilisers and pesticides.
- As a substance with aquatic ecotoxicity classifications, storage of PENTAGON must be carried out in such a manner as to prevent contamination of waterways. It is recommended that The New Zealand Standard for the Management of Agrichemicals (NZS8409) is followed.

**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 NOV 2017 9TH EDITION.

**Engineering Controls**

Ensure adequate ventilation.

**Personal Protection Equipment**

<b>Eyes</b>	Safety goggles or face shield. Avoid wearing contact lenses.
<b>Hands and Skin</b>	Wear chemical resistant gloves, suitable protective clothing and chemical resistant boots.
<b>Respiratory</b>	Respiratory protection is not required if good ventilation is maintained.
<b>General</b>	Change work clothes daily. May irritate the eyes and skin. Avoid contact with eyes and skin. Do not intake dust or spray mist. If product gets on skin immediately wash area with soap and water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

**Section 9 Physical and Chemical Properties**

<b>Appearance</b>	Clear Brown liquid
<b>Odour</b>	Very Slight odor
<b>Odour Threshold</b>	N/A
<b>pH</b>	10.5 - 12
<b>Boiling Point</b>	N/A
<b>Melting Point</b>	N/A
<b>Flash Point</b>	N/A
<b>Flammability</b>	Non-Flammable
<b>Upper and Lower Exposure Limits</b>	N/A
<b>Explosive properties</b>	N/A
<b>Vapour Pressure</b>	Not available.
<b>Specific Gravity</b>	1.16 g/mL
<b>Bulk Density</b>	Not applicable
<b>Relative Density</b>	Not applicable
<b>Solubilities in water</b>	Not available.
<b>Auto-ignition Temperature</b>	N/A
<b>Octanol/water partition coefficient</b>	Not available.
<b>Volatiles</b>	Not applicable

## Section 10. Stability and Reactivity

<b>Stability of Substance</b>	Relatively stable in neutral, weakly acidic and weakly alkaline media.
<b>Conditions to Avoid</b>	None.
<b>Incompatible Materials</b>	Oxidizing agents, acids and alkali.
<b>Hazardous Decomposition Products</b>	None.

## Section 11 Toxicological Information

The following data is for the active ingredient-MCPB:

Acute oral LD50 for male rats 4300, female rats 5300 mg/kg.  
Skin and eye Acute percutaneous LD50 for rats >2000 mg/kg.  
Not an eye or a skin irritant.  
Not a skin sensitiser.  
Inhalation LC50 (4 h) for rats >1.14 mg/l air.

The following data is for the active ingredient-MCPA:

Oral Acute oral LD50 for rats 962–1470 mg/kg.  
Skin and eye Acute percutaneous LD50 for rats >4000 mg/kg.  
Not irritating to skin;  
severe eye irritant.  
Not a skin sensitiser.  
Inhalation LC50 (4 h) for rats >6.36 mg/l.

## Section 12. Ecotoxicological Information

The following data is for the active ingredient-MCPB:

Fish LC50 (48 h) for rainbow trout 75, fathead minnows 11 mg/l.  
Bees Not toxic to bees.

The following data is for the active ingredient-MCPA:

Birds Acute oral LD50 for bobwhite quail 377 mg/kg.  
Fish LC50 (96 h, using MCPA salt solution) for rainbow trout 50–560, bluegill sunfish >150, carp 317, silverside 220 mg/l.  
Daphnia LC50 (48 h) >190 mg/l.  
Algae EC50 for *Selenastrum capricornutum* >392 mg/l.  
Bees LD50 (oral and contact) >200 µg/bee.  
Worms LD50 (14 d) for *Eisenia foetida* 325 mg/kg dry soil.

## 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 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.

Product Name: Pentagon  
Date of SDS: 14 October 2022

Issued by: Adama New Zealand Ltd  
Tel: 64 3 543 8275

[www.adama.com](http://www.adama.com)

**Section 14 Transport Information****This product is classified as a Dangerous Good for transport in NZ; NZS 5433****Road and Rail Transport**

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

**Air Transport**

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

**Marine Transport**

UN No: 3082  
 Class-primary 9  
 Packing Group III  
 Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, (Contains MCPA and MCPB)  
 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 hazardous according to the Hazardous Substances (Hazard Classification) Notice 2020****HSNO Approval Code:** HSR000726

**HSNO Classification:** Acute oral toxicity Category 4, Eye irritation Category 2, Reproductive toxicity Category 2, Specific target organ toxicity (repeated exposure) Category 2, Hazardous to the aquatic environment acute Category 1, Hazardous to the aquatic environment chronic Category 1, Hazardous to soil organisms, Hazardous to terrestrial vertebrates.

<b>HSW (HS) Regulations 2017 and EPA Notices</b>	<b>Trigger Quantity</b>
Certified Handlers	Not required
Location Certificate	Not required
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	100 L
Emergency Response Plan	100 L
Secondary Containment	100 L
<b>Hazardous Property Controls Notice 2017</b>	
HPC Notice Part 1	Hazardous Property Controls preliminary provisions
HPC Notice Part 3	Hazardous substances in a place other than a workplace
HPC Notice Part 4 Subpart A	Substances that are hazardous to the environment:

	Site and storage controls
HPC Notice Part 4 Subpart B	Use of substances that are hazardous to the environment
HPC Notice Part 4 Clause 47	Equipment for environmentally hazardous substances must be appropriate
HPC Notice Part 4 Clause 48	Records of application of ecotoxic pesticides and plant growth regulators
HPC Notice Part 4 Clause 52	Agrichemicals that are hazardous to the aquatic environment must not be applied to water
HPC Notice Part 4 Subpart C	Qualifications required for the application of substances that are hazardous to the environment
<b>ACVM Act and Regulations</b>	
Registered pursuant to the ACVM Act 1997, See <a href="http://www.nzfsa.govt.nz/acvm">www.nzfsa.govt.nz/acvm</a> for registration conditions	P010007

## Section 16 Other Information

### Glossary

ACVM	Agricultural Compounds and Veterinary Medicines Act 1997.
EC50	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority.
HSNO	Hazardous Substances and New Organisms Act 1996.
HSW	Health and Safety at Work Act 2015.
HSW (HS) Regulations	Health and Safety at Work (Hazardous Substances) Regulations 2017.
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.
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
5. HSW (Hazardous Substances) Regulations 2017

### Disclaimer:

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