



SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **Pendimethex Herbicide**
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: 10 September 2020

Section 2. Hazards Identification

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

EPA Approval No: HSR002467

Pictograms



Signal Word: **DANGER**

HSNO Classification	Hazard Code	Hazard Statement	GHS Category
3.1C	H226	Flammable liquid and vapour.	Flam. Liq. 3
6.1E (oral)	H303	May be harmful if swallowed.	Acute Tox. 5
6.3A	H315	Causes skin irritation.	Skin Irrit. 2
6.9B	H373	May cause damage to organs through prolonged or repeated exposure.	STOT RE 2
8.3A	H318	Causes serious eye damage.	Eye Corr. 1
9.1A	H410	Very toxic to aquatic life with long lasting effects.	Aquatic Chronic 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.
P210	Keep away from heat, sparks, open flames or hot surfaces. No smoking.

P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe fumes,vapours or spray.
P264	Wash hands thoroughly after handling.
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.
P310	Immediately call a POISON CENTER or doctor/physician.
P362	Take off contaminated clothing and wash before re-use.
P391	Collect spillage.
P303 + P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P370 + P378	In case of fire: Use dry chemical, water spray, foam, carbon dioxide for extinction.

Storage Code	
P403 + P235	Store in a well-ventilated place. Keep cool.

Disposal Code	Disposal Statement
P501	Refer to Section 13

Section 3. Composition / Information on Ingredients

Ingredients	Wt	CAS NUMBER.
Pendimethalin	33w/v	40487-42-1
Solvent naphtha (petroleum)	54w/v	64742-95-6

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. Immediately call a POISON CENTER or doctor/physician.
If on Skin	Take off contaminated clothing and wash before re-use. Gently blot away excess liquid. Wash gently and thoroughly with water (use non- abrasive soap if necessary) for 5 minutes or until chemical is removed. If skin irritation occurs: Get medical advice/attention.
If Swallowed	Do NOT induce vomiting. Wash out mouth with plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.
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:

Ingestion: May be harmful if swallowed.

Product Name: Pendimethex Herbicide
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SDS Prepared by: Technical Compliance Consultants (NZ) Ltd
Tel: 64 9 475 5240 www.techcomp.co.nz

Inhalation:	Not applicable.
Skin:	Causes skin irritation.
Eye:	Causes serious eye damage.
Chronic:	May cause damage to organs through repeated or prolonged exposure.

Section 5. Fire Fighting Measures

Hazard Type	Flammable Liquid
Hazards from products	Carbon dioxide, carbon monoxide and smoke. Nitrogen and oxides of nitrogen. Decomposition Products: Occasionally hydrogen cyanide gas.
Suitable Extinguishing media	Water spray, water fog, foam.
Precautions for firefighters and special protective clothing	Self-contained breathing apparatus and total protection required in enclosed areas. Flashback may occur along vapour trail.
HAZCHEM CODE	3Y

Section 6. Accidental Release Measures

Wear full protective clothing as specified in SECTION 8. Clear area of unprotected personnel. Keep away from: open flame, sparks and heat.

Do not discharge into drains or the environment.

Absorb remainder in sand or other inert material. Dispose of in an authorised waste collecting point.

Section 7. Handling and Storage

Precautions for Handling:

- Read label before use.
- Keep away from heat, sparks, open flames or hot surfaces. Do not eat, drink or smoke while using.
- Keep container tightly closed.
- Ground/bond container and receiving equipment.
- Use explosion-proof electrical/ventilating/lighting.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Do not breathe fumes, vapours or spray.
- Wash hands thoroughly after handling.
- Avoid release to the environment.
- When mixing or applying wear appropriate clothing including cotton overalls buttoned to the neck and wrist, impervious, elbow-length gloves and eye protection.

Precautions for Storage:

- Store away from incompatible materials such as acids, bases, oxidising agents.
- Keep out of reach of children.
- Store in the original, unopened container in a cool, dry place, out of direct sunlight and away from stockfeed or foodstuffs.
- As a Class 9 Substance with Ecotoxicity Classifications, storage of Pendimethex Herbicide 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 (NZS 8409:2004) is followed as a means of meeting the secondary containment provisions of the HSNO Emergency Management Regulations.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA		STEL	
	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

Use in well ventilated areas.

Personal Protection Equipment



Eyes	Safety goggles or Chemical goggles.
Hands and Skin	Wear suitable protective clothing. Chemical resistant boots. Chemical resistant gloves.
Respiratory	Respiratory protection is not required if good ventilation is maintained.
General	When handling do not eat, drink or smoke. Wash hands thoroughly after handling. Wash clothing separately before re-use.

Section 9 Physical and Chemical Properties

Appearance	Brown-orange liquid
Odour	Aromatic hydrocarbon
Odour Threshold	Not applicable
pH	Not available
Boiling Point	155-181°C at 100kPa
Melting Point	Not applicable
Flash Point	45°C
Flammability	Flammable liquid
Upper and Lower Exposure Limits	1 – 7% solvent
Vapour Pressure	4.0 mPa @ 25°C (Pendimethalin)
Vapour Density	Not available
Specific Gravity	Not applicable
Solubility in water	Emulsifiable
Partition Coefficient:	Not applicable
Auto-ignition Temperature	Not applicable
Viscosity	Not applicable

Section 10. Stability and Reactivity

Stability of Substance	Stable under normal storage conditions.
Conditions to Avoid	Keep away from sources of sparks or ignition. Any electrical equipment in area of this product should be flame proofed.
Incompatible Materials	Oxidizing agents, acids, bases.
Hazardous Decomposition Products	Carbon dioxide, carbon monoxide and smoke. Nitrogen and its compounds. Occasionally hydrogen cyanide gas.

Section 11 Toxicological Information**Acute Effects:**

Swallowed	May be harmful if swallowed.
Dermal	Not applicable.
Inhalation	Not applicable.
Eye	Causes serious eye damage.
Skin	Causes skin irritation.

Chronic Effects:

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

Preparation

Common name:	Pendimethalin
Chronic toxicity:	No effects - 40mg/kg/day 90 day feed (rats)
Reproduction effects:	No effects were observed at 30mg/kg/day (rats)
Carcinogenicity:	Not carcinogenic
Mutagenicity:	Not mutagenic
Teratogenicity:	Not teratogenic

Section 12. Ecotoxicological Information

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

Persistence and degradability	No data available.
Bioaccumulation	No data available
Mobility in Soil	No data available
Other adverse effects	No data available

Common name: Pendimethalin**Birds**

Mallard duck LD50 = 1421 mg/kg
Mallard duck LC50 = > 10,900 mg/kg
Bobwhite quail LC50 (8 day feeding) = 3149 mg/kg

Fish

Bluegill sunfish LC50 = 199 µg/L (96h)
Rainbow trout LC50 = 138 µg/L (96h)
Daphnia magna LC50 = 280 µg/L (48h)

Highly toxic: Fish and aquatic invertebrates
Toxic to aquatic organisms. Slightly toxic: birds, Nontoxic: Bees

Environmental Fate:**Breakdown in soil and groundwater:**

Pendimethalin is moderately persistent, with a field half-life of approx 40 days. It does not undergo rapid microbial degradation except under anaerobic conditions. Slight losses of Pendimethalin can result in photodecomposition and volatilization. Pendimethalin is strongly

adsorbed by most soils. Increasing soil organic matter and clay is associated with increased soil binding capacity. It is practically insoluble in water, and thus will not leach appreciably in most soils, and should present a minimal risk of ground water contamination.

Breakdown in water:

Pendimethalin is stable to hydrolysis, but may be degraded by sunlight in aquatic systems. Pendimethalin may also be removed from the water column by binding to suspended sediment and organic matter. It is rapidly degraded under anaerobic conditions once precipitated to sediment.

Breakdown in vegetation:

Plant roots and shoots, absorb Pendimethalin, and inhibits cell division and cell elongation. Once absorbed into plant tissues, translocation is limited and Pendimethalin breaks down via oxidation. The leaves of grasses do not absorb Pendimethalin, and plants take up only very small amounts from the soil. Residues on crops at harvest are usually below detectable levels (0.5 ppm).

Section 13. Disposal Considerations

Disposal Method:

Container Disposal - Triple rinse empty container and add rinsate to spray tank. Burn in an appropriate incinerator, if circumstances such as wind direction permit. Otherwise crush or puncture and bury in a suitable landfill, or if appropriate, recycle.

Product Disposal - Dispose of this product only by using according to the label, or through the Agrecovery® Chemical Recovery service or other approved facility.

Disposal methods to avoid: Avoid contamination of any water supply with product or empty container.

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	1993
Class - Primary	3
Packing Group	III
Proper Shipping Name	FLAMMABLE LIQUID, N.O.S
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 (Classification) Notice 2017

EPA Approval Code: HSR002467

HSNO Classification: 3.1C, 6.1E(oral), 6.3A, 6.9B, 8.3A, 9.1A, 9.2A

Refer to EPA website www.epa.govt.nz for controls document - HSR002467

HSW (HS) Regulations 2017	Trigger Quantity/Regulation
Certified Handlers	Not required
Location Certificate	500L(>5L), 1500L(<5L), 250L open
Signage Trigger Quantities (Schedule 3)	100L (9.1A)

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Fire Extinguishers (Schedule 4)	500L – 2x required
Emergency Response Plan (Schedule 5)	100L (9.1A)
Secondary Containment (Schedule 5)	100L (9.1A)
Tracking (Schedule 26)	Not required
HSNO Additional Controls (Restrictions of use)	
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 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 application of class 9 pesticides.
ACVM Act and Regulations	
See www.foodsafety.govt.nz for registration Conditions	P7364

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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