



SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **MESOFLEX 480 SC**
Chemical Name of Active Ing: Mesotrione: 2-[4-(Methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione
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: 28 May 2019

Section 2. Hazards Identification

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

EPA Approval No: HSR100668

Pictograms



Ecotoxic

Signal Word: **Warning**

HSNO Classification	Hazard Code	Hazard Statement	GHS Category
6.1E (inh)	H333	May be harmful if inhaled.	Acute Tox. 5
9.1A	H400	Very toxic to aquatic life.	Aquatic Acute 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.
P273	Avoid release to the environment.

Response Code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P391	Collect spillage.
P304 + P312	IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.

Storage Code	Storage Statement
None allocated	

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

Ingredients	Wt %	CAS NUMBER.
Mesotrione	38-42%	104206-82-8
Other non-hazardous ingredients	To bal	-

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes Rinse cautiously with water for 15 minutes. If eye irritation persists: Get medical advice.

If on Skin Take off contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: get medical advice/attention.

If Swallowed Wash out mouth with water. Never give anything to the mouth of an unconscious person. If vomiting occurs, place victim face downwards, with the head turned to the side and lower than the hips to prevent vomit entering the lungs. 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. Apply artificial respiration if not breathing. Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed

Symptoms:

Ingestion: Not applicable.

Inhalation: May be harmful if inhaled.

Skin: Not applicable.

Eye: Note applicable.

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

Section 5. Fire Fighting Measures

Hazard Type	Non Flammable / Not combustible.
Hazards from combustion products	On exposure to high temperature, may decompose, releasing toxic gases, sulfur oxides, carbon monoxide and nitrogen oxides (NO,NO2...)
Suitable Extinguishing media	For large fire: Carbon dioxide water spray, water fog For Small fire: Use dry chemical powder, carbon dioxide, foam (Be aware of runoff from fire control methods)
Precautions for	Wear suitable protective clothing, gloves and eye/face protection.

firefighters and special protective clothing	Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
HAZCHEM CODE	3Z

Section 6. Accidental Release Measures

Put on appropriate personal protective equipment (see Section 8). Evacuate all unnecessary personnel.

Environmental precautions

In the event of a major spill, prevent spillage from entering into drains and water courses.

Methods and material for containment and cleaning up

Absorb remainder in sand or other inert material. Avoid using sawdust or other combustible materials. Dispose of in an authorized waste collecting point.

Section 7. Handling and Storage

Precautions for Handling:

- Read label before use.
- Wash hands thoroughly after handling.
- Use only outdoors or in a well-ventilated area.
- Do not smoke, drink or eat while using.
- Avoid release to the environment.
- Wear protective clothing as detailed in Section 8.

Precautions for Storage:

- Store away from incompatible materials listed in Section 10.
- Store in the original, tightly closed container, in a secure place away from feed, seeds or foodstuffs.
- Storage of certain quantities of this product trigger specific storage requirements (Refer to HazNote). When stored appropriately this product should show no significant degradation for two years from the date of manufacture. Contact your supplier for further information about the use of product that is older than this.
- Keep out of reach of children.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA		STEL	
	ppm	mg/m ³	ppm	mg/m ³

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

Ventilation required.

Personal Protection Equipment



Eyes	Safety goggles or face shield.
Hands and Skin	Chemical resistant gloves. Wear suitable protective clothing. Chemical resistant boots.
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	Off White liquid
Odour	Slight
Odour Threshold	Not applicable
Coefficient pH	<4
Boiling Point	Not applicable
Melting Point	Not applicable
Flash Point	>100°C
Flammability	Not flammable
Upper and Lower Exposure Limits	Not applicable
Vapour Pressure	5.69* 10 ⁻³ mPa (Mesotrione) 20oC
Density	1.155 - 1.185(20°C)
Solubilities	Miscible
Log P octanol/water at 25 °C	<1.0 (Mesotrione)
Auto-ignition Temperature	Not applicable
Kinematic viscosity mm²/s 40 °C	Not applicable
Particle Characteristics	Not applicable
Volatiles	No specific data.

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Reactivity	None known.
Conditions to Avoid	None known.
Incompatible Materials	Mild steel iron and aluminum
Hazardous Decomposition Products	Carbon monoxide, sulfur oxides, toxic gas and nitrogen oxides (NO,NO ₂ ...)

Section 11 Toxicological Information

Acute Effects:

Swallowed	Not applicable. LD50 (rat)= >2,000 mg/kg
Dermal	Not applicable. LD50 (rat) > 2,000 mg/kg
Inhalation	May be harmful if inhaled. LC50 (rat) > 5.59 mg/L (4 hours)
Skin	Not applicable.
Eye	Not applicable.

Chronic Effects:

Carcinogenicity	Not applicable.
Reproductive Toxicity	Not applicable.
Germ Cell Mutagenicity	Not applicable.
Aspiration	Not applicable.

STOT/SE	Not applicable.
STOT/RE	Not applicable.

Section 12. Ecotoxicological Information

HSNO Classes: 9.1A = Very toxic to aquatic life.

Ecotoxicity

96 H-LC50- Rainbow trout	> 100 [mg/l] NOEC > 100 (96h)
48 H-LC50 - Daphnia magna	> 100 [mg/l]
ErC50 Algae	20.6 [mg/l]
EC50 Algae	8.85 [mg/l] (yield)
LD50 Birds	> 2000 [mg/l] (Bobwhite quail)
Bees LD50 [μ /bee]	Oral: > 237 ug/bee Contact: > 242ug/bee

Persistence and degradability	Soil: Aerobic DT50=6-27d
Bioaccumulation	No data available
Mobility in Soil	Soil: Moderate
Other adverse effects	No data available
Precautions	Do not allow to enter waterways.

Section 13. Disposal Considerations

Disposal Method: 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. Avoid contamination of any water supply with product or empty container.

Precautions and 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 and Rail Transport

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

Air Transport

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

Marine Transport

UN No:	3082
Class-primary	9
Packing Group	III

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S, (Mesotrione)
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: HSR100668
HSNO Classification: 6.1D(inh), 9.1A, 9.2A

Refer to EPA website www.epa.govt.nz for controls document - HSR100668

HSW (HS) Regulations 2017	Trigger Quantity
Signage Trigger Quantities (Schedule 3)	100L (9.1A)
Emergency Response Plan (Schedule 5)	100L (9.1A)
Secondary Containment (Schedule 5)	100L (9.1A)
Tracking (Schedule 26)	Not required
HSW(Hazardous substance) Regulations Part 4 Certified Handlers and supervision and training of workers	HSW Reg 4.5 – 4.6 Information, instruction, training and supervision.
HSNO Additional Controls (Restrictions of use)	
77A - The maximum level of an impurity in the technical grade active material for this substance is set.	The maximum level of 1-cyano-6-(methylsulfonyl)-7-nitro-9H-xanthen-9-one in the mesotrione component of Mesoflex Herbicide shall not exceed 0.0002% w/w in the technical material.
77A - A restriction has been placed on the application method for this substance.	Use of Mesoflex Herbicide is limited to ground based low-boom application.
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
ACVM Act and Regulations	
ACVM Approval No See www.foodsafety.govt.nz for registration controls	P8494

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 ADAMA, if further information is required.

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