

SAFETY DATA SHEET

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

Section 1. Identification of the material and the supplier

Product: **Methafos 600**
 Product Use: Organophosphate Insecticide for insect control in various crops
 Restriction of Use: Refer to Section 15
 New Zealand Supplier: **Agrisource 2000 Ltd**
 Address: 45 Kitchener Road
 Pukekohe, Auckland
 Telephone: +64 9 237 0422
Emergency No: 0800 764 766 (National Poison Centre)
 Date of SDS Preparation: 21 July 2021

Section 2. Hazards Identification

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

EPA Approval No: HSR000226

Pictograms



Signal Word: **DANGER**

GHS Classification and Category	HSNO Classification	Hazard Code	Hazard Statement
Flammable Liquids Cat. 4	3.1D	H227	Combustible liquid.
Acute oral toxicity Cat. 2	6.1B(oral)	H300	Fatal if swallowed.
Acute dermal toxicity Cat. 2	6.1B(dermal)	H310	Fatal in contact with skin.
Acute inhalation toxicity Cat. 2	6.1B(inh)	H330	Fatal if inhaled.
Specific target organ toxicity – repeated exposure Cat. 1	6.9A	H372	Causes damage to organs through prolonged or repeated exposure.
Skin corrosion Cat. 1C	8.2C	H314	Causes severe skin burns and eye damage.
Serious eye damage Cat. 1	8.3A	H318	Causes serious eye damage.
Hazardous to the aquatic environment acute/chronic Cat. 1	9.1A	410	Very toxic to aquatic life with long lasting effects.
Hazardous to soil organisms	9.2B	H422	Hazardous to soil organisms

Hazardous to terrestrial vertebrates	9.3A	H432	Hazardous to terrestrial vertebrates
Hazardous to terrestrial invertebrates	9.4A	H441	Hazardous to terrestrial invertebrates

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.
P260	Do not breathe dust, fumes, gas, mist, vapours or spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective clothing as detailed in Section 8.
P284	Wear respiratory protection.

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.
P361	Remove/Take off immediately all contaminated clothing.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301 + P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302 + P350	IF ON SKIN: Gently wash with plenty of soap and water.
P303 + P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P370 + P378	In case of fire: Use water spray, foam, dry chemical, carbon dioxide or sand for extinction.

Storage Code	Storage Statement
P405	Store locked up.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.

Disposal Code	Disposal Statement
P501	Dispose of according to Local Regulations or Authorities

Section 3. Composition / Information on Hazardous Ingredients

Ingredients	Wt	CAS NUMBER.
Methamidophos	60%	10265-92-6
Hydrocarbons	>30%	Proprietary
Other ingredients	Balance	

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes Rinse cautiously with water for 15 minutes. Remove contact lenses, if

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Date of SDS: 21 July 2021

SDS Prepared by: Technical Compliance Consultants (NZ) Ltd
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present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.	
If on Skin	Immediately remove contaminated clothing. Wash affected areas with soap and water. Seek urgent medical aid. Persons assisting the patient should protect themselves from contamination.
If Swallowed	Wash out mouth with water. Keep patient at rest. Immediately call a POISON CENTER or doctor/physician or transport patient to doctor quickly. Give one atropine tablet every 5 minutes until dryness of the mouth occurs.
If Inhaled	Wash out mouth with water. Keep patient at rest and seek urgent medical advice as above. Transport patient to doctor or hospital quickly. If advised by doctor or Poisons Centre, atropine tablets may be administered. DO NOT attempt to give anything by mouth to a semi-conscious or unconscious person.

Most important symptoms and effects, both acute and delayed

Symptoms: Fatal if swallowed, inhaled or in contact with skin.
 Causes damage to organs through prolonged or repeated exposure.
 Causes serious eye damage and skin burns. Eye contact may cause miosis and lacrimation.

Systemic: Bradycardia, hypotension, salivation, bronchial secretion, nausea, vomiting, diarrhoea, sweating, muscle fibrillation, tics, myoclonus, paralysis of respiratory muscles, peripheral respiratory paralysis, somnolence, coma, respiratory depression and failure, hypothermia, convulsions. Repeated over-exposure may cause more severe cholinesterase inhibition with more pronounced signs and symptoms.

Section 5. Fire Fighting Measures

Hazard Type	This product is combustible.
Hazards from combustion products	In a fire, hydrogen cyanide, carbon monoxide, phosphorous pentoxide, sulphur dioxide and nitrogen oxides may be formed.
Suitable Extinguishing media	Water spray, foam, dry chemical, Carbon dioxide, sand.
Precautions for firefighters and special protective clothing	Wear full protective clothing and self-contained breathing apparatus. Do not breathe smoke or gases.
HAZCHEM CODE	2X

Section 6. Accidental Release Measures

Avoid contact with skin and eyes. Do not inhale spray. Wear Full Personal Protective Equipment (**PPE**). Chemical resistant coveralls, chemical resistant gloves, chemical resistant footwear plus socks, chemical resistant headgear and chemical resistant eyewear. Respiratory protection equipment (**RPE**) appropriate to protect against respiratory exposure to this substance in mist or vapour forms. Do not eat, drink or smoke while using. Remove protective clothing and wash hands and face thoroughly before meals and after work. Wash protective clothing after work.

Do NOT allow spilled product or wash solution to enter sewers, drains, dams, creeks or any other waterways.

In the case of spillage, contain spilled material. Keep out animals and unprotected persons. Keep material out of streams and sewers. Vacuum or shovel waste into a drum. To decontaminate spill area, tools and equipment, wash with water. Dispose of drummed wastes

in accordance with the requirements of Local Authorities. Dispose of drummed wastes, including decontamination solution, in accordance with the requirements of Local Authorities detailed in Section 13.

Section 7. Handling and Storage

Precautions for Handling:

- Read label before use.
- Keep away from heat, sparks, open flames or hot surfaces. No smoking.
- Do not breathe dust, fumes, gas, mist, vapours or spray.
- Do not get in eyes, on skin, or on clothing.
- Store work clothes and street clothes separately.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Avoid release to the environment.
- Wear protective clothing as detailed in Section 8.
- Wear respiratory protection.
- Change contaminated protective clothing. Keep away from food, drinks and tobacco.

Precautions for Storage:

- Store away from incompatible materials listed in Section 10.
- Keep out of reach of children.
- Store locked up.
- Store in a well-ventilated place. Keep container tightly closed.
- Store in a well-ventilated place. Keep cool.
- Store in original container away from feed, seeds and foodstuffs.
- Store in accordance with the New Zealand Standard for the Management of Agrichemicals (NZS8409).

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 2020 12TH EDITION.

Engineering Controls

Ensure ventilation is adequate, as product is used outdoors generally natural ventilation is adequate.

Personal Protection Equipment



Eyes	Wear chemical goggles or face shield.
Hands	Elbow-length and chemical resistant gloves.
Skin	Chemical resistant coveralls, chemical resistant footwear plus socks, chemical resistant headgear for overhead exposures.

Respiratory	Respiratory protection equipment (RPE) appropriate to protect against respiratory exposure to this substance in mist or vapour forms.
General	Females of childbearing age should not come into contact with the product. Avoid inhaling aerosols and vapours. Avoid contact with eyes and skin. Store work clothes and street clothes separately. Wash hand before breaks and at the end of work. Change contaminated protective clothing. Keep away from food, drinks and tobacco.

Section 9 Physical and Chemical Properties

Appearance	Liquid
Colour	Slightly hazy straw coloured
Odour	Slight characteristic odour, like rotten eggs.
Odour Threshold	Not available
pH	3.5
Boiling Point	188° C.
Melting Point	Not available
Freezing Point	Not available
Flash Point	> 70° C
Flammability	Not available
Upper and Lower Explosive Limits	Not available
Vapour Pressure	2.3 x 10 ⁻⁵ hPa at 20°C(<i>methamidophos</i>)
Vapour Density	Not available
Specific Gravity/ Density	Approx. 1.13-1.16 g/ml at 20° C
Solubility	Miscible with water
Octanol/water partition coefficient	Log Pow = 0.80 at 20°C (<i>methamidophos</i>)
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Kinematic Viscosity	Not available
Octanol/Water Particle Coefficient	Not available

Section 10. Stability and Reactivity

Stability of Substance	Stable when stored in original container under normal conditions of storage and use.
Possibility of hazardous reactions	Dangerous reactions are possible with strong oxidizing.
Conditions to Avoid	Avoid sources of ignition and extreme heat.
Incompatible Materials	Oxidising agents, alkaline materials. Methamidophos is Slightly corrosive to mild steel and copper alloys.
Hazardous Decomposition Products	Mercaptans, disulphates, thioether. In a fire, hydrogen cyanide, carbon monoxide, phosphorus pentoxide, sulphur dioxide and nitrogen oxides may be formed.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Fatal if swallowed. LD ₅₀ > 18 mg/kg (rat)
Dermal	Fatal if in contact with skin. LD ₅₀ 49 mg/kg (rat)
Inhalation	Fatal if inhaled. LC50 0.252 mg/l aerosol

Eye	Causes serious eye damage.
Skin	Causes skin burns.

Chronic Effects:

Carcinogenicity	Not applicable.
Reproductive Toxicity	Not applicable.
Germ Cell Mutagenicity	Not applicable.
Aspiration	Not applicable.
STOT/SE	Not applicable.
STOT/RE	Causes damage to organs through prolonged or repeated exposure. Repeated minor exposure may have a cumulative poisoning effect. The main health effects from repeated exposure would be toxic symptoms of cholinesterase inhibition as described above. Animal studies with methamidophos showed no evidence of oncogenic, carcinogenic or teratogenic potential. It may be weakly mutagenic.

Section 12. Ecotoxicological Information

Very toxic to aquatic life with long lasting effects

Hazardous to soil organisms

Hazardous to terrestrial invertebrates

Product:	Methamidophos 600
Persistence and degradability	No data available
Bioaccumulation	No data available
Mobility in Soil	No data available
Other adverse effects	No data available

Fish toxicity: LC50 (96 h): 25 mg/l rainbow trout (*Oncorhynchus mykiss*)
LC50: 34 mg/l (96 h) (*Lepomis macrochirus*)

Daphnia toxicity: EC50 (48 h): 0.27 mg/l (Daphnia magna)

Algae toxicity: ErC50 (96 h): > 178 mg/L (*Scenedesmus subspicatus*)

Bird toxicity: LD50: 10 mg/kg (bobwhite quail) (96h)

Bee toxicity: Toxic to Bees

Earthworm toxicity: LC50 (14 d): 44 mg/kg soil (*Eisenia foetida*)

Soil, Water, Air: Rapidly degraded in soil; field DT50 approx. < 2 days. In water, DT50 5 to 27 days (pH 7); photolysis may contribute to degradation. Rapidly degraded in air, DT50 0.578 days.

Do not allow to enter waterways.

Section 13. Disposal Considerations

Disposal Method:

Ideally, the product should be used for its intended purpose. If there is a need to dispose of the

product, follow the recommendations in NZS 8409.

Container disposal: Triple rinse container and add rinsate to spray tank. Dispose of cleaned container at your local AGRECOVERY container collection site. Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.



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 5433:2012



Road, Rail, Sea and Air Transport

UN No	3018
Class - Primary	6.1
Subclass	-
Packing Group	II
Proper Shipping Name	ORGANOPHOSPHOROUS PESTICIDE, LIQUID, TOXIC (contains methamidophos)
Marine Pollutant	Yes
Special Provisions	If the product's individual container is below 100ml, 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: HSR000226

HSW (HS) Regulations 2017	Trigger Quantity
Signage Trigger Quantities (Schedule 3)	100L (aquatic Acute/Chronic Cat. 1)
Emergency Response Plan (Schedule 5)	100L (aquatic Acute/Chronic Cat. 1)
Secondary Containment (Schedule 5)	100L (aquatic Acute/Chronic Cat. 1)
Tracking (Schedule 26)	Yes, Any quantity (Acute toxicity Cat. 2)
Certified Handlers	Yes, Any quantity (Acute toxicity Cat. 2)
Location Certificate	250L (Acute toxicity Cat. 2)
HSNO Additional Controls (Restrictions of use)	
77A	The substance must not be applied onto or into water.
CONTROL R-3: Application parameters	The substance may be applied at a maximum rate of 900 g methamidophos / ha .
CONTROL R-4: Spray drift mitigation	Variation: (1) No person may apply the substance in a manner that results in adverse effects

	beyond the boundary of the subject property. (2) Any person applying the substance must take all reasonable care to avoid off-target movement of the substance.
R-8: Identification as an organophosphate or carbamate substance	Variation: This control come into effect on 1 July 2015 (1) A person must not supply a hazardous substance to any other person unless the substance label clearly states that the substance is an organophosphate - containing substance. (2) A person who is in charge of a hazardous substance must ensure that the substance label shows the information required by (1).
CONTROL R-11: Notification	Variation: This control come into effect on 1 July 2015 (1) For wide-dispersive applications, no person may apply, or engage another person to apply, the substance unless that person has given written notice of the proposed application to any person likely to be directly affected by the application, including occupiers and owners of land, dwellings or buildings or property that is immediately abutting the application area. (2) The notice referred to in subclause (1) must— (a) be given at least 2 working days but no more than 4 weeks in advance of each application; and (b) specify the following: (i) the location of application area that the substance will be applied to; (ii) the date and approximate duration of each application; (iii) the steps to be taken by the notified parties to avoid exposure; (iv) the name of the organisation/s undertaking the application; (v) contact details for the person in charge of the application (phone, email or postal address, including a contact number for immediate contact during application).
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 workplaces 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 application of class 9 pesticide.

ACVM Act and RegulationsSee www.foodsafety.govt.nz for registration
Conditions**P5915****Section 16****Other Information****Glossary**

Cat	Category
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

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Please contact the Agrisource 2000 Ltd, if further information is required.

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