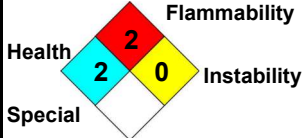

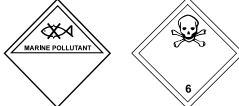



Material Safety Data Sheet

NFPA	HMIS	WHMIS	TDG	DOT								
	<table border="1"> <tr><td>Health</td><td>2</td></tr> <tr><td>Flammability</td><td>2</td></tr> <tr><td>Physical hazards</td><td>0</td></tr> <tr><td>Suggested PPE</td><td>E</td></tr> </table>	Health	2	Flammability	2	Physical hazards	0	Suggested PPE	E			
Health	2											
Flammability	2											
Physical hazards	0											
Suggested PPE	E											

1 . Product and Company Identification

Product name **5152051 Malathion 50 EC Insecticide 205L**

Synonym	MSDS prepared by the Environment, Health & Safety Department on: 11/11/2011.
---------	-------------------------------------------------------------------------------------

Material uses Consumer products: Insecticide	Version 1.01
----------------------------------------------	--------------

In Case of Emergency

MSDS Number 5152051 (PCP #16099)	<p>Transportation: 1-800-792-8311 Medical: 1-888-615-0015</p>
----------------------------------	----------------------------------------------------------------------------------

Manufacturer Agrium Advanced Technologies, Inc. 2915 Rocky Mountain Avenue, Suite 400 Loveland, CO. 80538	For more information on Agrium AT or our products, please go to: http://www.agriumat.com or contact us at Toll-Free:800-461-6471
------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

2 . Hazards Identification

Physical state Liquid.

OSHA/HCS status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview Warning

HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

Harmful if swallowed. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Contains material that may cause target organ damage, based on animal data. Wash thoroughly after handling.

Potential acute health effects

Inhalation May irritate the respiratory tract if inhaled.

Ingestion Toxic if swallowed.

Skin May be absorbed through skin. May cause skin irritation.

Eyes May irritate the eyes upon contact.

Potential chronic health effects

Chronic effects Contains material that may cause target organ damage, based on animal data.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

2 . Hazards Identification

Target organs	Contains material which may cause damage to the following organs: blood, liver, gastrointestinal tract, cardiovascular system, upper respiratory tract, skin, eyes, central nervous system (CNS).
<u>Over-exposure signs/symptoms</u>	
Inhalation	blurred vision, convulsions, frothing from mouth, headache, nausea, tightness in chest, vomiting,
Ingestion	No specific data.
Skin	No specific data.
Eyes	No specific data.
Medical conditions aggravated by over-exposure	Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
See toxicological information (Section 11)	

3 . Composition / Information on Ingredients

United States

<u>Name</u>	<u>CAS number</u>	<u>%</u>
malathion (ISO)	121-75-5	30 - 60

Canada

<u>Name</u>	<u>CAS number</u>	<u>%</u>
solvent naphtha (petroleum), heavy arom.	64742-94-5	30.1 - 61.5
malathion (ISO)	121-75-5	30 - 60
Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	68953-96-8	0.4 - 4.5
Nonylphenol, ethoxylated	9016-45-9	0.15 - 2

Mexico

<u>Name</u>	<u>CAS number</u>	<u>UN number</u>	<u>%</u>	<u>IDLH</u>	<u>Classification</u>			
					<u>H</u>	<u>F</u>	<u>R</u>	<u>Special</u>
malathion (ISO)	121-75-5	UN2810	30 - 60	250 mg/m ³	2	1	0	

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First Aid Measures

Eye contact	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if irritation occurs.
Skin contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.
Inhalation	If inhalation occurs, remove individual(s) to fresh air. Loosen restrictive clothing items if necessary. If individual has irregular or difficulty breathing or is under respiratory arrest seek medical attention immediately. If other conditions or symptoms develop contact a physician.
Ingestion	If ingestion occurs, rinse mouth with copious amounts of water. Do Not induce vomiting unless directed to do so by trained medical personnel. Do Not give anything by mouth to unconscious individuals. Seek immediate medical attention.

4 . First Aid Measures

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Notes to physician No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Malathion may upon repeated, prolonged or gross exposure may cause cholinesterase inhibition. Atropine is antidotal.

5 . Fire-fighting Measures

Flammability of the product In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable Use an extinguishing agent suitable for the surrounding fire.

Not suitable None known.

Special exposure hazards Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
sulfur oxides
phosphorus oxides

Special protective equipment for fire-fighters Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental Release Measures

Personal precautions No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods for cleaning up

Small spill Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

6 . Accidental Release Measures

Large spill Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and Storage

Handling Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Keep out of reach of children.

8 . Exposure Controls / Personal Protection

United States

Ingredient	Exposure limits
malathion (ISO)	ACGIH TLV (United States, 1/2008). Absorbed through skin. TWA: 1 mg/m ³ 8 hour(s). OSHA PEL (United States, 11/2006). Absorbed through skin. TWA: 15 mg/m ³ 8 hour(s). Form: Total dust

Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			Notations
Ingredient	List name	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	
malathion (ISO)	US ACGIH 1/2008	-	-	1	-	-	-	-	-	-	[1]
	AB 6/2008	-	-	10	-	-	-	-	-	-	[1]
	BC 6/2008	-	-	1	-	-	-	-	-	-	[1] [a]
	ON 6/2008	-	-	1	-	-	-	-	-	-	[1] [b]
	QC 6/2008	-	-	10	-	-	-	-	-	-	[1]

[1] Absorbed through skin.

Form: [a] Inhalable vapour and aerosol [b] inhalable, vapour and aerosol

Mexico

Ingredient	Exposure limits
malathion (ISO)	ACGIH TLV (United States, 1/2008). Absorbed through skin. TWA: 1 mg/m ³ 8 hour(s).

Consult local authorities for acceptable exposure limits.

8 . Exposure Controls / Personal Protection

Recommended monitoring procedures If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Hygiene measures Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eyes Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Personal protective equipment (Pictograms)



Environmental exposure controls Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and Chemical Properties

Physical state Liquid.
VOC 0.31 % (w/w)

10 . Stability and Reactivity

Chemical stability The product is stable.

Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur.

Hazardous polymerization Under normal conditions of storage and use, hazardous polymerization will not occur.

10 . Stability and Reactivity

Conditions to avoid	No specific data.
Materials to avoid	No specific data.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Burning may produce harmful gases.

11 . Toxicological Information

United States

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
malathion (ISO)	LD50 Dermal	Rat	>4444 mg/kg	-
	LD50 Oral	Rat	290 mg/kg	-
	LC50 Inhalation Vapor	Rat	43790 ug/m3	4 hours

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
malathion (ISO)	A4	3	-	-	-	-

Canada

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
malathion (ISO)	LD50 Dermal	Rat	>4444 mg/kg	-
	LD50 Oral	Rat	290 mg/kg	-
	LC50 Inhalation Vapor	Rat	43790 ug/m3	4 hours
solvent naphtha (petroleum), heavy arom.	LD50 Dermal	Rabbit	>2 mL/kg	-
	LC50 Inhalation Vapor	Rat	>590 mg/m3	4 hours

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
malathion (ISO)	A4	3	-	-	-	-

Mexico

11 . Toxicological Information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
malathion (ISO)	LD50 Dermal	Rat	>4444 mg/kg	-
	LD50 Oral	Rat	290 mg/kg	-
	LC50 Inhalation	Rat	43790 ug/m3	4 hours
	Vapor			

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
malathion (ISO)	A4	3	-	-	-	-

12 . Ecological Information

Environmental effects Water polluting material. May be harmful to the environment if released in large quantities.

United States

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
malathion (ISO)	-	Acute LC50 4.1 to 7.4 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 1.1 g	96 hours
	-	Acute LC50 1.6 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours

Canada

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
malathion (ISO)	-	Acute LC50 4.1 to 7.4 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 1.1 g	96 hours
	-	Acute LC50 1.6 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours
Nonylphenol, ethoxylated	-	Acute LC50 12200 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - LARVAE - <=24 hours	48 hours
	-	Acute LC50 4700	Fish - Rainbow	96 hours

12 . Ecological Information

to 5350 ug/L
Fresh water
trout,donaldson
trout -
Oncorhynchus
mykiss - 12 to 16
cm

Mexico

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
malathion (ISO)	-	Acute LC50 4.1 to 7.4 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 1.1 g	96 hours
	-	Acute LC50 1.6 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours

13 . Disposal Considerations



Waste disposal

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.




Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport Information

Regulatory information	UN number	Shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN3018	Organophosphorous Pesticides, Liquid, Toxic, N.O.S. (malathion) Marine Pollutant	6.1	III	 	-

14 . Transport Information

TDG Classification	UN3018	Organophosphorous Pesticides, Liquid, Toxic, N.O.S. (malathion) Marine Pollutant	6.1	III	 	Considered Limited Quantity when container is equal to, or less than, 5 liters
Mexico Classification	UN3018	Organophosphorous Pesticides, Liquid, Toxic, N.O.S. (malathion)	6.1	III		-
PG* : Packing group						

15 . Regulatory InformationUnited States**HCS Classification**

Toxic material
Target organ effects

U.S. Federal regulations

TSCA 8(a) IUR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): Not determined.

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: malathion (ISO)

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
malathion (ISO): Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)

Not listed

Clean Air Act Section 602 Class I Substances

Not listed

Clean Air Act Section 602 Class II Substances

Not listed

DEA List I Chemicals (Precursor Chemicals)

Not listed

DEA List II Chemicals (Essential Chemicals)

Not listed

SARA 313**Form R - Reporting requirements**

Product name
malathion (ISO)

CAS number
121-75-5

Concentration
30 - 60

Supplier notification

malathion (ISO)

121-75-5

30 - 60

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

15 . Regulatory Information

State regulations

Connecticut Carcinogen Reporting: None of the components are listed.
Connecticut Hazardous Material Survey: None of the components are listed.
Florida substances: None of the components are listed.
Illinois Chemical Safety Act: None of the components are listed.
Illinois Toxic Substances Disclosure to Employee Act: None of the components are listed.
Louisiana Reporting: None of the components are listed.
Louisiana Spill: None of the components are listed.
Massachusetts Spill: None of the components are listed.
Massachusetts Substances: The following components are listed: MALATHION
Michigan Critical Material: None of the components are listed.
Minnesota Hazardous Substances: None of the components are listed.
New Jersey Hazardous Substances: The following components are listed: MALATHION
New Jersey Spill: None of the components are listed.
New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.
New York Acutely Hazardous Substances: The following components are listed: Malathion
New York Toxic Chemical Release Reporting: None of the components are listed.
Pennsylvania RTK Hazardous Substances: The following components are listed: BUTANEDIOIC ACID, [(DIMETHOXYPHOSPHINOTHIOYL)THIO]-, DIETHYL ESTER
Rhode Island Hazardous Substances: None of the components are listed.

United States inventory (TSCA 8b) Not determined.

Canada

WHMIS (Canada) Class D-2B: Material causing other toxic effects (Toxic).
Class E: Corrosive material

Canadian lists

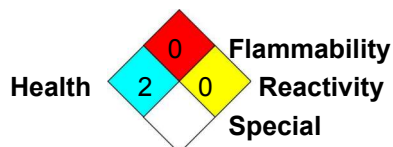
CEPA Toxic substances: The following components are listed: Nonylphenol and its ethoxylates
Canadian ARET: None of the components are listed.
Canadian NPRI: The following components are listed: Heavy aromatic solvent naphtha; Nonylphenol and its ethoxylates
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

Canada inventory All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Mexico

Classification



EU regulations

Hazard symbol or symbols



15 . Regulatory Information

Risk phrases R45- May cause cancer.
R46- May cause heritable genetic damage.
R22- Also harmful if swallowed.
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases S53- Avoid exposure - obtain special instructions before use.
S2- Keep out of the reach of children.
S29- Do not empty into drains.
S46- If swallowed, seek medical advice immediately and show this container or label.
S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

International regulations

International lists **Australia inventory (AICS):** Not determined.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: Not determined.
Korea inventory: Not determined.
New Zealand Inventory of Chemicals (NZIoC): Not determined.
Philippines inventory (PICCS): Not determined.

Chemical Weapons Convention List Schedule I Chemicals Not listed

Chemical Weapons Convention List Schedule II Chemicals Not listed

Chemical Weapons Convention List Schedule III Chemicals Not listed

16 . Other information

Label requirements HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

Hazardous Material Information System (U.S.A.)

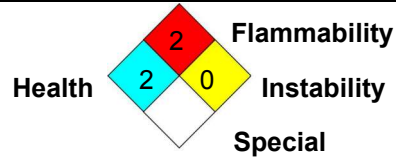
Health	2
Flammability	2
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material. Suggested protective clothing might not be adequate. Consult a specialist before handling this product.

National Fire Protection Association (U.S.A.)

16 . Other information



Date of issue 11/11/2011.

Version 1.01

✔ Indicates information that has changed from previously issued version.

Notice to Reader:

The buyer assumes all risk in connection with the use of this material. The buyer assumes all responsibility for ensuring this material is used in a safe manner in compliance with applicable environmental, health and safety laws, policies and guidelines. Agrium Inc. assumes no responsibility or liability for the information supplied on this sheet, including any damages or injury caused thereby. Agrium Inc. does not warrant the fitness of this material for any particular use and assumes no responsibility for injury or damage caused directly or indirectly by or related to the use of the material. The information contained in this sheet is developed from what Agrium Inc. believes to be accurate and reliable sources, and is based on the opinions and facts available on the date of preparation.