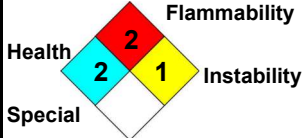

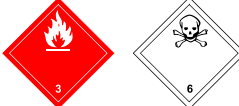



Material Safety Data Sheet

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>1</td></tr> <tr><td>Suggested PPE</td><td>H</td></tr> </table>	Health	2	Flammability	2	Physical hazards	1	Suggested PPE	H		 See Section 14	 See Section 14
Health	2											
Flammability	2											
Physical hazards	1											
Suggested PPE	H											

1 . Product and Company Identification

Product name 5113570 Dimethoate 480 Insecticide 4-4L	
Synonym PCP# 12864	MSDS prepared by the Environment, Health & Safety Department on: 2/25/2013.
Material uses Insecticide	Version 4.03
MSDS Number 5113570	<u>In Case of Emergency</u> Transportation: 1-800-792-8311 Medical: 1-877-615-0015
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.
Odor	mercaptan [Slight]
OSHA/HCS status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Emergency overview	<p>WARNING!</p> <p>HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.</p> <p>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.</p>
<u>Potential acute health effects</u>	
Inhalation	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion	Toxic if swallowed.
Skin	Harmful if absorbed through the skin.
Eyes	May irritate the eyes upon contact.
<u>Potential chronic health effects</u>	
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.

2 . Hazards Identification

Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.
Target organs	Contains material which may cause damage to the following organs: kidneys, liver, mucous membranes, upper respiratory tract, skin, eyes, central nervous system (CNS).
<u>Over-exposure signs/symptoms</u>	
Inhalation	No specific data.
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>
dimethoate (ISO)	60-51-5	48.7
cyclohexanone	108-94-1	15 - 40
Solvent naphtha (petroleum), light arom.	64742-95-6	10 - 30

Canada

<u>Name</u>	<u>CAS number</u>	<u>%</u>
dimethoate (ISO)	60-51-5	48.7
cyclohexanone	108-94-1	15 - 40
solvent naphtha (petroleum), light arom.	64742-95-6	10 - 30

Mexico

<u>Name</u>	<u>CAS number</u>	<u>UN number</u>	<u>%</u>	<u>IDLH</u>	<u>Classification</u>				<u>Special</u>
					<u>H</u>	<u>F</u>	<u>R</u>		
cyclohexanone	108-94-1	Not available.	15 - 40	700 ppm	1	2	0		
dimethoate (ISO)	60-51-5	UN2811	48.7	-	2	2	0		
Solvent naphtha (petroleum), light arom.	64742-95-6	Not available.	10 - 30	-	1	0	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. Seek medical advice if symptoms or conditions persist.
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. Seek medical advice if irritation or symptoms persist.

4 . First Aid Measures

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.
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	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. This product is an organophosphate (cholinesterase inhibiting) insecticide. Atropine is antidotal and should be administered only if symptoms of cholinesterase inhibition are present.

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 nitrogen oxides 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.

6 . Accidental Release Measures

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.

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
cyclohexanone	<p>ACGIH TLV (United States, 1/2008). Absorbed through skin. TWA: 20 ppm 8 hour(s). STEL: 50 ppm 8 hour(s).</p> <p>NIOSH REL (United States, 6/2008). Absorbed through skin. TWA: 25 ppm 10 hour(s). TWA: 100 mg/m³ 10 hour(s).</p>

Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	Notations
cyclohexanone	US ACGIH 1/2008	20	-	-	50	-	-	-	-	-	[1]
	AB 6/2008	25	-	100	-	-	-	-	-	-	[1]
	BC 6/2008	20	-	-	50	-	-	-	-	-	[1]
	ON 6/2008	20	-	-	50	-	-	-	-	-	[1]
	QC 6/2008	25	-	100	-	-	-	-	-	-	[1]

[1] Absorbed through skin.

Mexico

Ingredient	Exposure limits

8 . Exposure Controls / Personal Protection

cyclohexanone

ACGIH TLV (United States, 1/2008). Absorbed through skin.

TWA: 20 ppm 8 hour(s).

STEL: 50 ppm 8 hour(s).

Consult local authorities for acceptable exposure limits.

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.

Color

Amber. [Light]

Odor

mercaptan [Slight]

pH

3.6

VOC

27.5 % (w/w)

9 . Physical and Chemical Properties

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.
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.

11 . Toxicological Information

United States

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
cyclohexanone	LD50 Oral	Rat	1800 mg/kg	-
	LD50 Oral	Rat	1620 uL/kg	-
	LC50 Inhalation Gas.	Rat	8000 ppm	4 hours
dimethoate (ISO)	LD50 Dermal	Rat	353 mg/kg	-
	LD50 Oral	Rat	60 mg/kg	-

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
cyclohexanone	A3	3	-	-	-	-

Canada

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
cyclohexanone	LD50 Oral	Rat	1800 mg/kg	-
	LD50 Oral	Rat	1620 uL/kg	-
	LC50 Inhalation Gas.	Rat	8000 ppm	4 hours
dimethoate (ISO)	LD50 Dermal	Rat	353 mg/kg	-
	LD50 Oral	Rat	60 mg/kg	-
solvent naphtha (petroleum), light arom.	LD50 Oral	Rat	8400 mg/kg	-

11 . Toxicological Information

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
cyclohexanone	A3	3	-	-	-	-

Mexico

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
cyclohexanone	LD50 Oral	Rat	1800 mg/kg	-
	LD50 Oral	Rat	1620 uL/kg	-
	LC50 Inhalation Gas.	Rat	8000 ppm	4 hours
dimethoate (ISO)	LD50 Dermal	Rat	353 mg/kg	-
	LD50 Oral	Rat	60 mg/kg	-

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
cyclohexanone	A3	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
cyclohexanone	-	Acute LC50 630000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 0.12 g	96 hours
	-	Acute LC50 0.5 mg/L Fresh water	Fish - Minnow - Phoxinus phoxinus	96 hours
dimethoate (ISO)	-	Acute LC50 580 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours

Canada

Aquatic ecotoxicity

12 . Ecological Information

Product/ingredient name	Test	Result	Species	Exposure
cyclohexanone	-	Acute LC50 630000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 0.12 g	96 hours
dimethoate (ISO)	-	Acute LC50 0.5 mg/L Fresh water	Fish - Minnow - Phoxinus phoxinus	96 hours
	-	Acute LC50 580 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <24 hours	48 hours

Mexico

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
cyclohexanone	-	Acute LC50 630000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 0.12 g	96 hours
dimethoate (ISO)	-	Acute LC50 0.5 mg/L Fresh water	Fish - Minnow - Phoxinus phoxinus	96 hours
	-	Acute LC50 580 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. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. 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. 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	3017	Organophosphorous pesticide, Liquid, Toxic, Flammable (solvent naphtha (petroleum), light arom., dimethoate (ISO)). Marine Pollutant(dimethoate (ISO))	6.1(3)	III	  	
TDG Classification	3017	Organophosphorous pesticide, Liquid, Toxic, Flammable (dimethoate (ISO)) Marine Pollutant	6.1(3)	III	 	Considered 'Limited Quantity' when container is less than, or equal to 1 liter.
Mexico Classification	3017	Organophosphorous pesticide, Liquid, Toxic, Flammable (dimethoate (ISO))	6.1(3)	III	  	-
PG* : Packing group						

15 . Regulatory Information

United States

HCS Classification

Toxic material
Target organ effects

U.S. Federal regulations

TSCA 8(a) IUR Exempt/Partial exemption: Partial exemption
United States inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: dimethoate (ISO)

SARA 302/304 emergency planning and notification: dimethoate (ISO)

SARA 302/304/311/312 hazardous chemicals: dimethoate (ISO); cyclohexanone

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:

dimethoate (ISO): Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; cyclohexanone: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

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

15 . Regulatory Information

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

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
Form R - Reporting requirements	dimethoate (ISO)	60-51-5	48.7

Supplier notification	dimethoate (ISO)	60-51-5	48.7
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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.

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:

CYCLOHEXANONE; DIMETHOATE

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:

CYCLOHEXANONE; DIMETHOATE

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:

Cyclohexanone; Dimethoate

New York Toxic Chemical Release Reporting: None of the components are listed.

Pennsylvania RTK Hazardous Substances: The following components are listed:

CYCLOHEXANONE; DIMETHOATE

Rhode Island Hazardous Substances: None of the components are listed.

United States inventory (TSCA 8b) All components are listed or exempted.

Canada

WHMIS (Canada) Class D-1B: Material causing immediate and serious toxic effects (Toxic).
Class D-2B: Material causing other toxic effects (Toxic).

15 . Regulatory Information

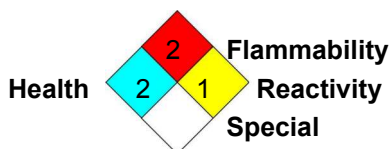
Canadian lists
CEPA Toxic substances: None of the components are listed.
Canadian ARET: None of the components are listed.
Canadian NPRI: The following components are listed: Light aromatic solvent naphtha
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

Canada inventory At least one component is not listed in DSL but all such components are listed in NDSL.

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



Risk phrases

R45- May cause cancer.
 R20/21/22- Also harmful by inhalation, in contact with skin and if swallowed.

Safety phrases

S53- Avoid exposure - obtain special instructions before use.
 S2- Keep out of the reach of children.
 S36/37- Wear suitable protective clothing and gloves.
 S46- If swallowed, seek medical advice immediately and show this container or label.

International regulations

International lists

Australia inventory (AICS): All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: Not determined.
Korea inventory: All components are listed or exempted.
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.

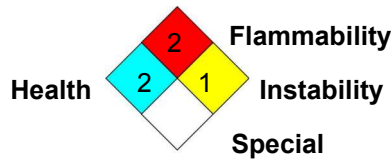
Hazardous Material Information System (U.S.A.)

Health	2
Flammability	2
Physical hazards	1

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.)



Date of issue

2/25/2013.

Version

4.03

☑ Indicates information that has changed from previously issued version.

Notice to Reader:

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