

1: Identification of the Substance and Supplier

Product Name	CHLOR-P 480EC
Recommended Use	Insecticide (Organophosphorus)
Suppliers Details	Orion AgriScience Ltd Unit 1, 15 Sir Gil Simpson Drive, Harewood, Christchurch, 8053 PO Box 39 071, Harewood, Christchurch, 8545
Web Address	www.orionagriscience.co.nz
Email Address	orders@orionagriscience.co.nz
Telephone Number	(03) 928 2386 (office hours), 0800 674 6627 (free phone)
Emergency Telephone	0800 CHEMCALL (0800 243 622) (24 hours)
National Poison Centre	0800 POISON (0800 764 766) (24 hours)
Date of Issue/Revision	October 2020

2: Hazards Identification

Hazard Pictograms



Signal Words

Hazard Classes:

- 3.1D Flammable Liquid (Cat. 4)
- 6.1C Acute Toxicity (Oral Cat. 3)
- 6.1C Acute Toxicity (Dermal Cat. 3)
- 6.1D Acute Toxicity (Inhalation 4)
- 6.1E Aspiration Hazard (Cat. 1)
- 6.3B Skin Irritation (Cat. 3)
- 6.4A Eye Irritation (Cat. 2)
- 6.8B Reproductive Toxicity (Cat. 2)
- 6.9A Target Organ Systemic Toxicity (Oral Cat. 1)
- 9.1A Aquatic Ecotoxicity (Cat. 1)
- 9.2B Soil Ecotoxicity
- 9.3A Terrestrial Vertebrate Ecotoxicity
- 9.4A Terrestrial Invertebrate Ecotoxicity

Precautionary Statements:

Prevention

Danger

Hazard Statements:

- H227 Combustible Liquid
 - H301 Toxic if swallowed
 - H311 Toxic in contact with skin
 - H332 Harmful if inhaled
 - H305 May be harmful if swallowed and enters airways
 - H316 Causes mild skin irritation
 - H319 Causes serious eye irritation
 - H361 Suspected of damaging fertility or the unborn child
 - H372 Causes damage to organs through prolonged or repeated exposure
 - H410 Very toxic to aquatic life with long lasting effects
 - Toxic to the soil environment
 - Very toxic to terrestrial vertebrates
 - Very toxic to terrestrial invertebrates
- P101 If medical advice is needed, have product container or label at hand
- P102 Keep out of reach of children
- P103 Read carefully and follow all instructions
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
No smoking
- P280 Wear protective gloves/protective clothing/eye protection/face protection
- P264 Wash hands thoroughly after handling
- P270 Do not eat, drink or smoke when using this product
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray
- P271 Use only outdoors or in a well ventilated area
- P203 Obtain, read and follow all safety instructions before use
- P280 Wear protective gloves/protective clothing/eye protection/face protection
- P260 Do not breathe dust/fume/gas/mist/vapours/spray

Response	<p>Read label before use. Obtain special instructions before use. Do not use until all safety precautions have been read and understood. Avoid contact with eyes and skin. Do not breathe in the vapour or spray mist. When mixing or applying, wear personal protection as described in section 8. Take all reasonable steps to ensure that this product does not cause any significant adverse effects to the environment beyond the application area. Do not apply directly into or onto water. Do not apply this substance to plants if bees are foraging, or the plants are in flower or part flower, and are likely to be visited by non-target invertebrate pollinators (including bees)</p> <p>P370+P378 In case of fire use water spray, foam, dry chemical or CO2 to extinguish</p> <p>P301+P316 IF SWALLOWED: Get emergency medical help immediately</p> <p>P321 Specific treatment (Refer section 4)</p> <p>P330 Rinse mouth</p> <p>P302+P352 IF ON SKIN: Wash with plenty of water</p> <p>P316 Get emergency medical help immediately</p> <p>P361+P364 Take off immediately all contaminated clothing and wash it before reuse</p> <p>P304+P340 IF INHALED: Move person to fresh air and keep comfortable for breathing</p> <p>P317 Get medical help</p> <p>P301+P316 IF SWALLOWED: Get emergency medical help immediately</p> <p>P331 Do NOT induce vomiting</p> <p>P332+P317 If skin irritation occurs get medical advice</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing</p> <p>P337+P317 If eye irritation persists: Get medical help</p> <p>P318 If exposed or concerned, get medical advice</p> <p>P319 Get medical help if you feel unwell</p> <p>P391 Collect spillage</p> <p>First aid measures described in section 4. Contain and collect spillage for disposal. In an emergency call 111, Police or Fire Brigade. For specialist advice in an emergency only, call 0800 CHEMCALL (0800 243 6225) (24 hrs).</p>
Storage	<p>P403 Store in a well ventilated place</p> <p>P405 Store locked up</p> <p>Keep cool</p>
Disposal	<p>P501 Dispose of contents by using it in accordance with this label. Dispose of the container via AgRecovery after triple rinsing (use the rinsate for spraying).</p>

3: Composition/ Information on Ingredients

Ingredient	CAS No	Content (% w/v)
Chlorpyrifos (active ingredient)	2921-88-2	48
Other ingredients	Proprietary	Remainder

4: First Aid Measures

If medical advice is needed, have product container or label at hand. If exposed or concerned, get medical advice. For advice call the National Poisons Centre or a Doctor

Ingestion:	Rinse mouth. Do not induce vomiting. Seek medical advice immediately
Skin Contact:	Wash with plenty of soap and water. Seek medical advice immediately
Eye Contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if easy to do so. Continue rinsing. Seek medical advice if irritation persists.

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Inhalation:	Remove to fresh air and keep at rest in a position comfortable for breathing. Seek medical advice immediately
Workplace Facilities:	Hand wash facility. Eye wash facility
Advice to Doctor:	Chlorpyrifos is an organophosphorus insecticide, which inhibits cholinesterase activity, and interferes in nerve pulse transmission. Onset of symptoms may be delayed for several hours. Atropine is the specific antidote and may be given immediately by qualified staff, at a level of 2 - 5mg (intravenously or intramuscularly), every 20 minutes until atropinisation occurs. Considerable amounts of atropine may be necessary. Atropine must NOT be given to cyanosed patients; administer oxygen first. Do NOT use opiates or barbiturates. If convulsions occur, administer diazepam (10mg intravenously). Take venous blood sample for determination of blood cholinesterase activity. Cholinesterase reactivators (Pralidoxime) should, if possible, be given at the same time as atropine. They are not effective after 24 hours post exposure and are not substitutes for atropine. Pralidoxime should be administered at: Mild poisoning: 1g in 2 - 3ml water (intramuscularly), Severe poisoning: 2g in 30ml water (intravenously). Following ingestion, adsorbents such as charcoal may be of value. If gastric lavage or emesis is considered necessary, inhalation of hydrocarbons must be prevented. Hydrocarbon aspiration may complicate poisonings involving ingestion
National Poison Centre	0800 POISON (0800 764 766) (24 hours)
Symptoms of Exposure which could occur if this material is not handled in accordance with instructions:	
Ingestion:	Excessive sweating, salivation, headache, weakness, faintness, nausea, vomiting, diarrhoea, small pupils, blurred vision, convulsions, muscle twitching. The solvent in this product may cause bronchopneumonia or pulmonary oedema if aspirated into the lungs from ingestion or from vomiting
Skin Contact:	Irritation. Can be absorbed via the skin (see 'Ingestion' above).
Eye Contact:	Irritation. May cause constriction of the pupil.
Inhalation:	Irritation. Can be absorbed via the lungs (see 'Ingestion' above).
Note: Symptoms may be delayed for up to 24 hours or more following exposure	

5: Fire-Fighting Measures

Fire/Explosion Hazard	Flammable liquid and vapour
HAZCHEM Code	2X
ERP Guide No	35
Extinguishing Media	Water spray, foam, dry chemical or CO2. Avoid water jet.
Fire Fighting Instructions	During a fire, toxic fumes may be emitted. Wear self-contained breathing apparatus. Contain runoff.
Specific Hazards Arising from Fire	No data available

6: Accidental Release Measures

Personal Precautions	Caution: Floors may be slippery if wet. Eliminate all ignition sources and naked lights. Use non-sparking equipment. Leave and/or avoid entering confined spaces. Wear personal protective clothing and equipment as described in section 8. Respiratory protection (with organic vapour cartridge) required for any spill other than minor. Exclude non-essential people from the area.
Environmental Precautions	Prevent further spillage or leakage. Prevent material from entering drains, waterways, etc.
Clean Up	Absorb spillage with inert material such as spill kit, sand or cat litter. Collect and place in a sealable container for disposal. Wash down affected area with water and detergent. Absorb and collect washings for disposal. Dispose of safely to a suitable landfill.

7: Handling and Storage

Storage:	Keep out of reach of children. Store in the original tightly closed container in a cool, well ventilated, locked and secure area.
Handling and Use:	Refer to Prevention statements in section 2 above. Exclude people and animals from the application area, both during application and for the duration of the REI.
REI	24 hours

8: Exposure Controls / Personal Protection

Tolerable Exposure Limit	None established
Workplace Exposure Standards	Chlorpyrifos 0.2 mg/m ³ (8hr TWA)
Engineering Controls	Select spray application equipment to minimize exposure to operator and bystanders
Biological Monitoring	Regular users should undergo biological monitoring of cholinesterase activity. Consult with your GP or Occupational Health Adviser.
Personal Protection:	
Eye	Safety glasses/goggles (or full face respirator incorporating visor) when mixing or applying.
Skin	Chemical resistant coveralls with hood tightly fitting at head, wrists and ankles (e.g., Tychem F suit), chemical resistant boots and chemical resistant gloves (barrier multilayer, nitrile, neoprene, butyl).
Respiratory	Not required where spray mist is not inhaled. Otherwise, respirator (organic vapour and particulate matter) is required.

Clean protective equipment after use

9: Physical and Chemical Properties

Appearance	Clear Amber Liquid
Odour	Solvent like
Odour Threshold	No data available
pH	Not applicable
Melting Point/Freezing Point	No data available
Boiling Point	No data available
Flash Point	<94°C (closed cup method)
Flammability	Flammable
Upper/Lower Flammability Limits	No data available. May form explosive mixture in enclosed or poorly ventilated areas
Vapour Pressure	No data available
Vapour Density	>1 (heavier than air)
Relative Density	1.15 g/mL (approx.)
Solubility in Water	Emulsifiable
Partition Coefficient: n-octanol/water	See section 12
Auto ignition Temperature	No data available
Decomposition Temperature	No data available
Kinematic Viscosity	No data available

10: Stability and Reactivity

Stability	Stable under normal conditions
Hazardous Reactions	None Expected
Incompatibility	None Known
Hazardous Decomposition Products	None Known

11: Toxicological Information

This section describes effects which could occur if this material is not handled in accordance with this data sheet and label instructions

Acute Oral Toxicity	LD50 > 50 mg/kg
Acute Dermal Toxicity	LD50 > 200 mg/kg
Acute Inhalation Toxicity	LD50 > 1 mg/L
Skin Irritant/Corrosive	Skin Irritant
Eye Irritant/Corrosive	Eye Irritant
Sensitisation Effects	None
Mutagenic Effects	None

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Carcinogenic Effects	None
Reproductive Effects	Suspected of damaging fertility or the unborn child
Specific Organ Toxicity	Chlorpyrifos interferes with cholinesterase, an enzyme essential for the correct functioning of the nervous system

12: Ecological Information

This section describes effects which could occur if this material is not handled in accordance with this data sheet and label instructions

The following information is presented in respect of the active ingredient:

Ecotoxicity	<ul style="list-style-type: none">Acute Oral LD50 (Chicken) 32 mg/kgLC50 (96 hr) (Rainbow trout) 0.007 mg/lLC50 (48 hr) (Daphnia) 1.7 µg/lAlgae EC50 (72 hr) 0.48 mg/lAcute Oral LD50 (Bee) 0.36µg/bee
Persistence/degradability	Biodegradable. DT50 (soil) 386 days (typical)
Bioaccumulative Potential	Octanol-water partition coefficient LogP = 4.7 (high)
Soil Mobility	Soil organic carbon water partitioning coefficient Koc = 5509 (non-mobile)
Environmental Exposure Limit:	None established

13: Disposal Considerations

Product	Dispose of product by using it in accordance with the label. Waste product should be disposed of to a suitable landfill. For disposal of large quantities contact Orion AgriScience Ltd.
Container	Dispose of to a suitable landfill or via AgRecovery. Do not burn. Do not use packaging for any other purpose.

14: Transport Information

Dangerous Goods	
UN Number	3018
Proper Shipping Name	ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC (CHLORPYRIPHOS 48%)
Class	6
Subsidiary Class	None
Packing Group	III
Additional Information	MARINE POLLUTANT
MTQ (Non-Commercial)	250 litres
Passenger Service Vehicle	Maximum quantity 1 litre

15 Regulatory Information

EPA Approval No	HSR000224
ACVM Registration No	P4852
Qualified Person	Required
Certified Handler	Not required
Workplace Only	Yes
Tracking	Not required
Record Keeping	Required. Mitigation measures employed to avoid spray drift and adverse effects beyond the boundary must also be recorded
Site Requirements under EPA Notice and HSWHS Regs:	<ul style="list-style-type: none">A hazardous substance location compliance certificate is requiredA hazardous area is not requiredSeparation distances for class 3 and class 6 substances to protected places and public places is

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	<p>applicable</p> <ul style="list-style-type: none"> • Fire extinguishers are required for more than 500 litres (2 fire extinguishers) • Signage is required for more than 100 litres • An emergency response plan is required for more than 100 litres • Secondary containment is required for more than 100 litres • Segregation from incompatible substances (classes 1, 2, 3.2, 4 and 5) is required
Application Rates	Maximum application rate 3.125 L/ha
Bee Safety	This product is toxic to bees. Do not apply this product to any plant or tree likely to be visited by bees (a) at the time of application; or, (b) immediately after application until spray has dried; or (c) in areas where bees are foraging.
Notification	For aerial application, written notification must be given to any persons likely to be affected – this includes occupiers and owners immediately neighbouring the application area. Notification must be made 2 working days – 4 weeks ahead of the application. Notification must include the location of the application area; the proposed date and approximate duration of the application; the steps to be taken by those notified to avoid exposure (e.g., staying indoors, closing windows and doors, moving washing indoors, disconnecting roof water supply, etc.); and the notifiers details (including name and phone number for immediate contact during application)
Additional Requirements	Refer to NZS 8409:2004 'Management of Agrichemicals', and relevant local and regional council plans

16: Other Information

Glossary	
ADE	Acceptable Daily Exposure – A daily dose, received via any route, below which no adverse effects are expected over a lifetime of exposure
ACVM	Agricultural Compounds and Veterinary Medicines group of the Ministry of Primary Industries
Cat.	GHS category
Ceiling	A concentration that should not be exceeded at any time during any part of the working day
Certified Handler	A qualification issued by a Compliance Certifier to handle and use particularly toxic substances (6.1A and 6.1B)
DT50	Time (days) for 50% reduction in concentration
EC50	Concentration required to produce an effect in 50% of organisms
Environmental Exposure Limit	Maximum concentration limit of a substance in an environmental medium, e.g., water, soil.
EPA Notice	Hazardous Property Controls Notice 2017
ERP Guide	Dangerous Goods – Initial Emergency Response Guide SNZ HB 76:2008
GHS	Globally harmonized system of classification and labelling of chemicals
Hazardous Substance Location	For locations storing hazard substances of certain classes above threshold quantities
Compliance Certificate	
Hazardous Area	A designated area designed for the presence of flammable substances - Refer AS/NZS 60079.10.1:2009
HAZCHEM Code	Emergency action code for emergency services
HSWHS Regs	Health and Safety at Work (Hazardous Substances) Regulations 2017
LC50	Concentration that will kill 50% of organisms
LD50	Dose that will kill 50% of organisms
MTQ	Maximum Transport Quantity. The maximum amount of dangerous goods that can be transported by road by the user
Notification	Advance notice given to neighbours and other affected parties, of details of proposed application, and other details as described
Octanol-Water Partition Coefficient	The partition coefficient of a substance between n-octanol and water, used as the Logarithm base 10 form, as an indicator that a substance may bioaccumulate

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PDE	Permitted Daily Exposure - A daily dose below which no adverse effects are expected over a lifetime of exposure
Protected Place	Residential properties, schools, hospitals, kindys, factories, shops, warehouses, etc., and other places where people assemble
Public Place	A place frequented by the public, including roads (does not include private property)
Qualified Person	A requirement for the loader, contractor or person applying the product to hold a qualification such as a GROWSAFE Certificate, Unit Standard 21563, etc.
Record Keeping	Includes a spray diary or other record of application
REI	Restricted Entry Interval – The length of time after application before entry into the treated area is permitted without the use of protective equipment. For indoor environments, this time period commences once ventilation after treatment begins.
Segregation	Certain classes of substances must not be in contact with, and must be stored separately from, certain other classes as specified in HSWHS Regs
Separation Distances	The distances specified in Part 11 and Part 13 of HSWHS Regs between storage and/or use of hazardous substances and protected places and/or public places
Signage	Positioned at entrances to commercial premises providing information on the hazardous substances present
Soil Adsorption Coefficient (Kd)	The ratio of the concentrations of a substance adsorbed onto a solid sorbent to that dissolved in a liquid phase. The higher the value the less mobile the chemical is in soil
Soil Organic Carbon-Water Partitioning Coefficient (Koc)	The ratio of the mass of a chemical that is adsorbed in the soil per unit mass of organic carbon in the soil. The higher the value the less mobile the chemical is in soil
STEL	Short term exposure level – 15 minute time weighted average
Tolerable Exposure Limit	Maximum concentration limit of a substance above which persons must not be exposed
Tracking	For some particularly hazardous substances, a record must be kept of the transport, storage, sale and use of the product
TWA	Time weighted average calculated over an 8 hour working day
Workplace Exposure Standard	An occupational health standard limiting concentrations of specified substances to which persons are exposed
Workplace Only	A product that is restricted to a workplace only and under the supervision of a certified handler

Please Note

Users must ensure that the most up to date version of this safety data sheet is used.

This Safety Data Sheet summarises information on this product, and how to safely handle and use the product. Each user should familiarise themselves with the product label and Safety Data Sheet, and consider the information in the context of how the product will be handled and used, including in conjunction with other products. Orion AgriScience Ltd assumes no responsibility for the accuracy, completeness or suitability of this information. The user is responsible for determining the suitability and accuracy of this information for their particular purposes.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.