

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	March 2025

2: Hazards Identification

Hazard Pictograms



Signal Words

Hazard Classes:

Flammable Liquid (Cat. 4)
Acute oral toxicity (Cat. 3)
Acute Dermal toxicity (Cat.3)
Acute Inhalation toxicity (Cat.4)
Aspiration Hazard (Cat.1)
Eye Irritation (Cat. 2)
Reproductive toxicity (Cat. 2)
Specific target organ toxicity (repeated exposure) (Cat. 1)
Hazardous to the aquatic environment acute (Cat. 1)
Hazardous to the aquatic environment chronic (Cat. 1)
Hazardous to soil organisms
Hazardous to terrestrial vertebrates
Hazardous to terrestrial invertebrates

Precautionary Statements:

Prevention

Danger

Hazard Statements:

H227 Combustible Liquid
H301 Toxic if swallowed
H311 Toxic in contact with skin
H332 Harmful if inhaled
H304 May be fatal if swallowed and enters airways
H319 Causes serious eye irritation
H361 Suspected of damaging fertility or the unborn child
H372 Causes damage to organs through prolonged or repeated exposure
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects
H422 Toxic to the soil environment
H431 Very toxic to terrestrial vertebrates
H441 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
P201 Obtain special instructions before use
P202 Do not handle until all safety precautions have been read and understood
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
P271 Use only outdoors or in a well ventilated area
P260 Do not breathe dust/fume/gas/mist/vapours/spray
P273 Avoid release to the environment

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)

P370+P378 In case of fire use water spray, foam, dry chemical or CO2 to extinguish

P301+P310 IF SWALLOWED: Immediately call a POISON CENTRE/doctor

P331 Do NOT induce vomiting

P321 Specific treatment (Refer section 4)

P330 Rinse mouth

P302+P352 IF ON SKIN: Wash with plenty of water

P312 Call a POISON CENTRE/doctor if you feel unwell

P308+P313 If exposed or concerned: Get medical advice/attention

P361+P364 Take off immediately all contaminated clothing and wash it before reuse

P304+P340 IF INHALED: Move person to fresh air and keep 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 so. Continue rinsing

P337+P317 If eye irritation persists: Get medical help

P314 Get medical advice/attention if you feel unwell

P391 Collect spillage

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).

P403 Store in a well ventilated place

P405 Store locked up

Keep cool

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).

Response

Storage

Disposal

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.
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	Pipfruit and stonefruit -24 hours

8: Exposure Controls / Personal Protection

Tolerable Exposure Limit	None established
Workplace Exposure Standards	Chlorpyrifos 0.2 mg/m3 (8hr TWA)

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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:	
	The following Standards provide general advice regarding safety clothing and equipment: Respiratory equipment: AS/NZS 1715, Protective Gloves: AS 2161, Occupational Protective Clothing: AS/NZS 4501, Industrial Eye Protection: AS1336 and AS/NZS 1337, Occupational Protective Footwear: AS/NZS2210.
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	Does not apply
pH	Does not apply
Melting Point/Freezing Point	Does not apply
Boiling Point	Does not apply
Flash Point	<94°C (closed cup method)
Flammability	Flammable
Upper/Lower Flammability Limits	May form explosive mixture in enclosed or poorly ventilated areas
Vapour Pressure	Does not apply
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	Does not apply
Decomposition Temperature	Does not apply
Kinematic Viscosity	Does not apply
Particle characteristics	Does not apply

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 corrosion/irritation	Skin Irritant
Serious eye damage/Eye irritation	Eye Irritant
Respiratory or skin sensitisation	Information not available
Germ cell mutagenicity	Information not available

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Carcinogenicity	Information not available
Reproductive Toxicity	Suspected of damaging fertility or the unborn child
Specific Organ Toxicity – Single exposure	Information not available
Specific Organ Toxicity – Repeated exposure	Chlorpyrifos interferes with cholinesterase, an enzyme essential for the correct functioning of the nervous system
Aspiration hazard	Information not available

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

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Site Requirements under EPA Notice and HSWHS Regs:

- A hazardous substance location compliance certificate is required
- A hazardous area is not required
- Separation distances for class 3 and class 6 substances to protected places and public places is applicable
- 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 (1500 g chlorpyrifos/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

SDS review date

7 March 2025

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

Octanol-Water Partition Coefficient	other details as described
PDE	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
Protected Place	Permitted Daily Exposure - A daily dose below which no adverse effects are expected over a lifetime of exposure
Public Place	Residential properties, schools, hospitals, kindys, factories, shops, warehouses, etc., and other places where people assemble
Qualified Person	A place frequented by the public, including roads (does not include private property)
Record Keeping	A requirement for the loader, contractor or person applying the product to hold a qualification such as a GROWSAFE Certificate, Unit Standard 21563, etc.
REI	Includes a spray diary or other record of application
Segregation	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.
Separation Distances	Certain classes of substances must not be in contact with, and must be stored separately from, certain other classes as specified in HSWHS Regs
Signage	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
Soil Adsorption Coefficient (Kd)	Positioned at entrances to commercial premises providing information on the hazardous substances present
Soil Organic Carbon-Water Partitioning Coefficient (Koc)	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
STEL	The ratio of the mass of a chemical that is adsorbed in the soil per unit mass of organic carbon in the soil.
Tolerable Exposure Limit	The higher the value the less mobile the chemical is in soil
Tracking	Short term exposure level – 15 minute time weighted average
TWA	Maximum concentration limit of a substance above which persons must not be exposed
Workplace Exposure Standard	For some particularly hazardous substances, a record must be kept of the transport, storage, sale and use of the product
Workplace Only	Time weighted average calculated over an 8 hour working day
	An occupational health standard limiting concentrations of specified substances to which persons are exposed
	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.