

PRODUCT SAFETY DATA SHEET

1. Product Name:

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CYREN

An insecticide for use in agriculture and horticulture

Marketed by:

Headland Agrochemicals Ltd.

Contact Points:

In all cases of emergency and for further advice, contact

Headland Agrochemicals Ltd

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2. Composition:

Ingredient	CAS No	Conc'n	Class'n	Risk Phrases
Chlorpyrifos	2921-88-2	480 g/l	T,N	R24,25; R50/53
Solvent				
Naphtha	64742-94-5	550 g/l		
Emulsifiers		4.3 g/l		
1,2,4-trimethyl benzene		3.5 g/l	Xn	R20-36/37/38

3. Hazards:

Harmful by inhalation, in contact with skin and if swallowed.

EU Classification Xn (Harmful); N (Dangerous for the Environment)

This product contains an anticholinesterase organophosphorus compound, chlorpyrifos. DO NOT USE if under medical advice NOT to work with such compounds.

4. First Aid Measures:

Eyes: Irrigate gently with clean water for at least 15 minutes. Seek medical attention without delay.

Skin: Remove contaminated clothing. Wash exposed skin and hair thoroughly with soap and water and seek medical attention without delay.

Ingestion: Keep patient cool and at rest. Do NOT induce vomiting. Call a doctor AT ONCE and show him this leaflet or the product container label.

Inhalation: Remove from exposure and provide maximum ventilation. If unconscious, secure airway and place in recovery position

If heart-beat is absent, give external cardiac compression
If there is coughing or difficulty breathing, keep at rest in a position of maximum comfort. Call a doctor without delay.

Symptoms of

Poisoning These may include: excessive sweating, headache, weakness, faintness and giddiness, nausea, stomach pains, vomiting, blurred vision, muscle twitching.

If any of the above symptoms occur, particularly when there is known contamination, STOP WORK. Remove contaminated clothing. Wash exposed skin and hair. Prevent all exertion. Call a doctor AT ONCE and show him this leaflet or the product container label.

Guide to Doctor:

This product contains an anticholinesterase organophosphorus compound, chlorpyrifos. It also contains petroleum distillates which may present an aspiration hazard.

IN ALL CASES AND AS EARLY AS POSSIBLE inject atropine sulphate 2mg or *pro rata* for children and repeat (if necessary) until fully atropinised.

IF AVAILABLE administer pralidoxime 1 gramme by intramuscular injection. Repeat after 3-4 hours.

Other measures:

Keep airway clear.

Watch respiration – intubation with endotracheal tube or tracheotomy may be necessary in conjunction with artificial ventilation. Put patient at rest in hospital for 24 hours at least

Confirmation of Diagnosis:

By estimating cholinesterase activity (5ml blood, unhaemolysed, collected in an anticoagulant).

5. Fire Fighting Measures

Cyren will burn. If involved in a fire, decomposition fumes and vapours will be toxic and malodorous, and include hydrogen chloride, ethyl mercaptan, diethyl sulfide and oxides of nitrogen and sulphur. Fire fighters should wear breathing apparatus.

Use dry chemical, foam, water spray, carbon dioxide, sand or earth. Use water spray to keep fire-exposed containers cool.

Prevent entry of the product or contaminated water into watercourses ditches or drains by bunding the area with sand or earth if possible.

6. Accidental Release (Spillage)

Wear suitable protective clothing (see Section 8). Remove contaminated clothing immediately. Do not eat drink or smoke. Keep bystanders away.

Spillages on impervious surfaces should be absorbed with an inert absorbent material such as sawdust, Fuller's earth or other absorbent clay, or sand. Shovel into labelled containers for later transfer to a safe place for disposal. Large spillages should be banded to prevent spread.

Rinse the area with soda lye when all traces of spillage have been removed.

Large spillages which soak into the ground should be dug up and shovelled into labelled containers for later transfer to a safe place for disposal.

Prevent spillages from entering watercourses sewers or drains. Inform the proper authorities if gross contamination of waterways, sewers or drains is threatened or occurs.

7. Storage and Handling

Keep in original container, tightly closed.

Keep cool and dry in a suitable agricultural chemical store under lock and key

Keep out of bright sunshine and away from sources of heat.

Keep away from food, drink and animal feedingstuffs and out of reach of children.

Avoid contact with skin, eyes or clothing. Avoid breathing vapours.

8. Personal Protection

Wear coveralls, suitable protective gloves and face-shield to BS2092 when handling the concentrated product or contaminated surfaces and dealing with spillages. Wear suitable respiratory equipment in cases of insufficient ventilation. Avoid breathing the spray mist when using.

Decontaminate all personal protective equipment after use.

Occupational Exposure Limits: TLV (Chlorpyrifos): 0.2 mg/m³
TLV (Solvent naphtha): 100 ppm recommended.

9. Physical and Chemical Properties

Appearance: an amber to light brown liquid

Odour: characteristic aromatic odour

Boiling point/range: Decomposes

Vapour pressure: Chlorpyrifos: 1.87 x 10⁻⁵ mm Hg at 25°C

Solvent: 0.6 mm Hg at 20°C

Solubility: Completely emulsifies in water

Specific Gravity: 1.084

PH: 5.9 (1% aqueous solution)

Flashpoint: 66°C (Pensky-Martens CC)

Autoignition temp.: 460°C

10. Stability and Reactivity

Stability: Stable. Stores for at least 2 years in original containers in normal agricultural chemical storage conditions. Decomposes rapidly at temperatures above 160°C

Reactivity: Avoid contact with strong alkalis, amines and oxidising agents.
Corrosive to copper, iron, steel and tinplate.
Decomposition: decomposition reactions involve rearrangements and polymerisations, releasing toxic, malodorous and inflammable compounds such as diethyl sulfide and ethyl mercaptan.

11. Toxicological Information

Acute Toxicity:

Acute oral LD50:	205 mg/kg.bw (rat)
Acute dermal LD50:	>4000 mg/kg.bw (rat)
Inhalation LC50:	2.16 mg/l for 4 hours (rat)
Irritancy:	Moderately irritating to skin and eyes
Sensitisation:	Not a skin sensitiser

Chronic toxicity:

Carcinogenicity:	None detected
Reproductive effects:	None detected
Mutagenic effects:	None detected
Teratogenic effects:	Not teratogenic in rats up to levels of 15 mg/kg.bw/day

12. Environmental Protection

Extremely dangerous to fish and aquatic invertebrates:

96-hour LC50s:	Rainbow trout - 48µg/litre
48-hour EC50:	Daphnia – 2.6µg/litre
Toxic to birds:	
LD50:	Bobwhite quail – 83 mg/kg.bw
Toxic to bees:	
Topical LD50:	Honeybees – 0.07µg/bee
Acute oral LD50:	Honeybees – 0.36µg/bee
Behaviour in soils:	Strongly adsorbed and not mobile.
Biodegradation:	Readily and rapidly biodegradable in the environment. Negligable bio-accumulation potential.

13. Disposal of Unwanted Product and Used Containers

Consult the local authorities before disposing of unwanted chemical.
Triple-rinse containers and dispose of as permitted by local authorities. Do not re-use containers for any purpose.

14. Transport Information

Road Transport:	Hazardous
UN Number:	3018
Proper Shipping Name:	Organophosphorus Pesticide, Liquid, Toxic (contains chlorpyrifos 45% w/w)
UN Class:	6.1
CPL Packing Group:	III
ADR/RID Description:	Toxic
IMDG Code:	Marine pollutant

15. Regulatory Information

Hazard Symbol:	Primary symbol: Harmful Xn Secondary symbol: Dangerous for the environment N
Risk Phrase:	R20/22 Harmful by inhalation and if swallowed R50/53 Very toxic to aquatic organisms; may cause long-term effects in the aquatic environment.
Safety Phrases:	S24-46 Avoid contact with skin. If swallowed, seek medical advice immediately; show the container label.

16. Other Information

The above information is intended to give health and safety guidance on the storage and transport of the substance or product to which it relates. It is not intended to apply to the use of the product, for which purpose the product label and any appropriate technical usage literature available should be consulted and any relevant licences, consents or approvals complied with. The requirements or recommendations of any relevant site or working procedure, system or policy in force or arising from any risk assessment involving the substance or product should take precedence over any of the guidance contained in this safety data sheet where there is a difference in the information given. The information provided in this safety data sheet is accurate to the best of the issuer's available knowledge at the date of publication, and will be updated as and when appropriate. No liability will be accepted for any loss or damage resulting from any failure to take account of information or advice contained in this safety data sheet.

Cyren is approved by MAFF Pesticides Safety Directorate for use as an insecticide; registration number MAFF 08358.

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