

Reldan* Grain Protector

Hazardous according to the criteria of the National Occupational Health & Safety Commission (NOHSC). Risk Phrases: R36 – Irritating to eyes, R65 – Harmful: May cause lung damage if swallowed.

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Customer Service Toll Free Number: 1800 700 096 (Mon-Fri, 8am–5pm EST)
Emergency Telephone Number: 1800 033 882 (24 hours) (EMERGENCIES ONLY)

IDENTIFICATION

Product Name: Reldan Grain Protector
Product Code: None

UN No.: None allocated
Dangerous Goods Class: Not classified as dangerous goods for transport by road or rail. For marine transport see "Storage and Transport" under "SAFE HANDLING INFORMATION".

Sub Risk Class: None allocated
Shipping Name: None allocated
Hazchem Code: None allocated
Packaging Group: None allocated

Poison Schedule: S6
Uses: An insecticide for control of insect pests in stored grain (except rice and malting barley) and lupins; and on surfaces of buildings and equipment as specified on the label

PHYSICAL APPEARANCE & PROPERTIES

Appearance: Clear, straw coloured liquid
Boiling point: 179°C (solvent)
Volatile materials: No specific data, expected to be low at 100°C.
Flashpoint: 64°C (PMCC)
Specific gravity: 1.12 g/mL @ 20°C
Solubility in water: Emulsifiable
Corrosiveness: Not corrosive
Vapour Pressure: 4.2 x 10⁻⁷ mm Hg at 25°C (chlorpyrifos-methyl)
< 10 mm Hg at 20°C (solvent)

INGREDIENTS

Chemical Entity	CAS No.	Proportion
Chlorpyrifos-methyl	005598-13-0	500 g/L
Aromatic solvent	064742-94-5	495 g/L
Other non hazardous ingredients		< 100 g/L

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HEALTH HAZARD DATA

HEALTH EFFECTS

The active ingredient in Reldan Grain Protectant is the organophosphate compound chlorpyrifos-methyl. Excessive exposure may cause organophosphate type cholinesterase inhibition. Symptoms of excessive exposure to chlorpyrifos-methyl may include pallor, nausea, vomiting, diarrhoea, abdominal cramps, headache, dizziness, eye pain, blurred vision, constriction or dilation of the eye pupils, tears, salivation, sweating, and confusion.

The information provided below is from studies conducted using a formulation similar to Reldan Grain Protectant.

Acute

Swallowed:	The oral LD ₅₀ for male rats is > 2000 mg/kg (low toxicity).
Eye:	May cause temporary, moderate eye irritation.
Skin:	The dermal LD ₅₀ (rabbit) is above 2000 mg/kg (low toxicity).
Inhaled:	Inhalation LC ₅₀ 5.1 mg/L over 4 hours (very low toxicity). Excessive exposure to spray mist may be harmful. Prolonged exposure to solvent vapour from the concentrate may cause eye and respiratory tract irritation, headache, dizziness and narcotic effects.

Chronic Possible chronic health effects from exposure to Reldan Grain Protectant are based on studies using the active ingredient. Chlorpyrifos-methyl has been shown not to cause cancer and does not interfere with reproduction and does not cause genetic damage or birth defects. Chlorpyrifos-methyl is rapidly metabolised and excreted, and as a result, does not accumulate in the body. Repeated minor exposure may have a cumulative poisoning effect. The ingredients are not listed as carcinogenic in NOHSC's document "Exposure Standards for Atmospheric Contaminants in the Occupational Environment" (May 1995).

PERSONAL PROTECTION AND SAFETY DIRECTIONS

Product is poisonous if absorbed by skin contact or swallowed. Avoid contact with eyes and skin. Do not inhale vapour or spray mist. When opening the container, preparing the spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrists, a washable hat, elbow-length PVC gloves and a face shield or goggles. If product on skin, immediately wash area with soap and water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

FIRST AID

General: Consult The National Poisons Information Centre (Ph: 13 11 26) or a Doctor in every case of suspected chemical poisoning. Never give fluids or induce vomiting if a patient is unconscious or convulsing regardless of cause of injury. If breathing difficulties occur seek medical attention immediately.

Atropine tablets 0.6mg should be available in the area where this product is used, or in a nearby unlocked medicine cabinet.

Swallowed: If swallowed, give one atropine tablet every 5 minutes until dryness of the mouth occurs. Get to a doctor or hospital quickly.

Skin: If poisoned by skin absorption or through lungs, remove any contaminated clothing and wash skin thoroughly and give one atropine tablet every 5 minutes until dryness of the mouth occurs. If safety shower is available, use it promptly. Get to a doctor or hospital quickly.

Eyes: If in eyes, hold eyes open and flood with water for at least 15 minutes and see a doctor. Ensure irrigation under eyelids by occasionally lifting them. Do not try to remove contact lenses unless trained.

Inhalation: If affected, remove from contaminated area to fresh air. If breathing is difficult give oxygen and if necessary artificial respiration. Get to a doctor or hospital quickly.

Advice to Doctor: Chlorpyrifos-methyl is a cholinesterase inhibitor. Atropine by injection or ATROVENT/ipratropium by airway puff are the preferred antidotes. Oximes such as 2 PAM/ protropam, may be therapeutic if used early but only if used in conjunction with atropine. Reldan Grain Protectant contains petroleum-like solvents. If lavage is performed endotracheal or oesophagoscopic control is advisable.

PRECAUTIONS FOR USE

EXPOSURE STANDARDS

A time weighted average (TWA) concentration for an 8 hour day, and 5 day week has not been established by NOHSC for any of the major ingredients in this product. There is a blanket limit of 10mg/m³ for dusts or mists when limits have not otherwise been established. The nature of this product makes it unlikely that this level will be approached in normal use. The ADI (Acceptable Daily Intake) for chlorpyrifos-methyl is set at 0.01mg/kg/day. The corresponding NOEL (No-observable-effect-level) is set at 0.1mg/kg/day. Values taken from Australian ADI List, January 2001.

ENGINEERING CONTROLS

In industrial situations, concentrated values below the TWA value should be maintained. Values may be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe airborne concentrations of mists, dusts or vapours are high, you are advised to modify the process or environment to reduce the problem.

SAFE HANDLING INFORMATION

STORAGE & TRANSPORT

This product is a S6 Poison. Observe all relevant regulations regarding sale, transport and storage of this class of product. Store in tightly closed original containers in a cool, well-ventilated area, out of direct sunlight. Do not store with food, feedstuffs, fertilisers and seeds.

For transport by ship only: This product is classified as a Marine Pollutant under the IMDG Code, making this product a Class 9 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, liquid, N.O.S. (chlorpyrifos-methyl), Pkg Group III.

SPILLS

Wear protective equipment (see PERSONAL PROTECTION). Clear area of all unprotected personnel. Prevent entry of chemical or used/damaged containers into drains, streams or waterways.

Small Spill: Apply absorbent material such as earth, sand, clay granules or cat litter to the spill. Sweep up material when absorption is completed and contain in a refuse vessel for disposal (see DISPOSAL). If spilled inside a building wash contaminated surfaces to deactivate the chlorpyrifos-methyl with a solution of bleach (sodium hypochlorite) prepared according to the bleach label instructions.

Large Spill: Place leaking containers into salvage drums. Apply absorbent material such as earth, sand or cat litter to the spill area. Form a barricade around spill and in front of drains or waterways in spill vicinity, using earth or other available material. Sweep up material and contain in a refuse vessel for disposal (see DISPOSAL). **Contact Emergency Services on 000 immediately and notify Dow AgroSciences Australia Limited on 1800 033 882 (24 hours) or 1800 700 096 (Mon-Fri, 8am to 5pm EST).**

DISPOSAL

Contaminated material must be disposed of in accordance with all State and/or Local regulations.

Small quantities and containers: Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt. For refillable containers, empty contents into application equipment. Close all valves and return to point of supply for refill or storage.

Large quantities: Contact Dow AgroSciences and seek advice.

FIRE & EXPLOSION HAZARD

Flashpoint:	64°C (PMCC)
Flammability limits:	Upper Value: 6.0%, Lower Value: 0.9%(t)
Extinguishing Media:	Carbon dioxide, dry chemical, foam, water fog. Water fog or fine spray is the preferred medium for large fires.
Special Fire Fighting procedures:	When fighting fires involving significant quantities of this product, wear safety boots, non-flammable overalls, gloves, hat, goggles and self contained breathing apparatus. All skin areas should be covered. Ensure that no spillage enters drains or water courses.
Unusual Fire & Explosion Hazards:	This product is classified as a C1 combustible product. There is a moderate risk of an explosion from this product if it is involved in a fire. Fire decomposition products from this product may form toxic and corrosive mixtures in confined spaces.
Stability:	This product is unlikely to spontaneously decompose.
Polymerisation:	This product is unlikely to spontaneously polymerise.
Decomposition Products:	Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen, and under some circumstances, oxides of nitrogen. Oxides of sulfur. Oxides of phosphorus. Hydrogen chloride gas, chlorides and in some circumstances, phosgene. Water.
Materials to avoid:	Strong oxidising agents.

OTHER INFORMATION

ECOTOXICITY DATA

Chlorpyrifos-methyl is toxic to birds and fish and highly toxic to aquatic invertebrates and estuarine and marine organisms. Chlorpyrifos-methyl is also highly toxic to honeybees and should not be used when bees are actively collecting pollen and nectar. Chlorpyrifos-methyl is moderately toxic to pets and livestock and has low toxicity to earthworms.

ENVIRONMENTAL FATE

In soil, chlorpyrifos-methyl has a short residual half-life of a few days under aerobic condition but this increases to approximately 6-8 months under anaerobic conditions. Chlorpyrifos-methyl binds strongly to particles of soil and organic material, it does not leach in soils and is degraded by hydrolysis, photolysis, microbial action and is lost by volatilisation. Chlorpyrifos-methyl degrades to a non-hazardous pyridinol product and eventually carbon dioxide.

In water, chlorpyrifos-methyl is readily hydrolysed in one to four days, depending on pH, to a pyridinol known to be non-hazardous. This is further degraded into carbon dioxide and simple organic molecules.

CONTACT POINT

FOR FURTHER PRODUCT INFORMATION CALL DOW AGROSCIENCES CUSTOMER SERVICE REPRESENTATIVES TOLL FREE 1800 700 096 DURING BUSINESS HOURS.

THIS MSDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER SHOULD READ THIS MSDS AND CONSIDER THE INFORMATION IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE INCLUDING IN CONJUNCTION WITH OTHER PRODUCTS. IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY. THE RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.