

**Section 1 - Identification of Chemical Product and Company**

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<b>Chemical nature:</b>	Iprodione is a dicarboximide derivative.
<b>Trade Name:</b>	<b>Cheminova Iprodione Liquid 250 Fungicide</b>
<b>Product Use:</b>	Agricultural fungicide for use as described on the product label.
<b>APVMA Number:</b>	60941

**Section 2 - Hazards Identification****Statement of Hazardous Nature**

This product is classified as: Xn, Harmful. N, Dangerous to the environment. Hazardous according to the criteria of SWA.

Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code. However, this is a C1 Combustible Liquid and for storage meets the definition of Dangerous Goods.

**Risk Phrases:** R40, R50. Limited evidence of a carcinogenic effect. Very toxic to aquatic organisms.

**Safety Phrases:** S23, S45, S60, S61, S24/25. Do not breathe vapours or spray mist. In case of accident or if you feel unwell, contact a doctor or Poisons Information Centre immediately (show the label where possible). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/Safety Data Sheets. Avoid contact with skin and eyes.

**SUSDP Classification:** S5

**ADG Classification:** None allocated. Not a Dangerous Good under the ADG Code.

**UN Number:** None allocated

**Emergency Overview**

**Physical Description & Colour:** Viscous white liquid.

**Odour:** Negligible odour.

**Major Health Hazards:** Iprodione is not harmful by ingestion, with reported oral LD<sub>50</sub> values of 3500 mg/kg in rats, 4000 mg/kg in mice, and greater than 4400 mg/kg in rabbits. No dermal toxic effects were noted at doses of over 2500 mg/kg in the rat and at 1000 mg/kg in the rabbit, indicating slight toxicity by this route. Inhalation toxicity is also low for this compound. The 4-hour inhalation LC<sub>50</sub> for Iprodione is greater than 3.3 mg/L in the rat. This product may cause irreversible effects.

**Potential Health Effects**

See section 11 for Chronic exposure studies.

**Inhalation:**

**Short Term Exposure:** Available data indicates that this product is not harmful. However product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

**Skin Contact:**

**Short Term Exposure:** Available data indicates that this product is not harmful. It should present no hazards in normal use. However product is believed to be mildly irritating, but is unlikely to cause anything more than mild transient discomfort.

**Eye Contact:**

**Short Term Exposure:** This product is believed to be mildly irritating, to eyes, but is unlikely to cause anything more than mild transient discomfort.

**Ingestion:**

**Short Term Exposure:** Significant oral exposure is considered to be unlikely. However, this product is believed to be mildly irritating to mucous membranes but is unlikely to cause anything more than mild transient discomfort.

**Carcinogen Status:**

**SWA:** Iprodione is classified by SWA as a Class 3 Carcinogen, possibly carcinogenic to humans.

See the SWA website for further details. A web address has not been provided as addresses frequently change.

**NTP:** No significant ingredient is classified as carcinogenic by NTP.

**IARC:** No significant ingredient is classified as carcinogenic by IARC.

**Section 3 - Composition/Information on Ingredients**

Ingredients	CAS No	Conc, %	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
Iprodione	36734-19-7	250g/L	not set	not set
Liquid hydrocarbon	64742-56-9	336g/L	not set	not set
Other non hazardous ingredients	various	to 100	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

**Section 4 - First Aid Measures****General Information:**

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this MSDS with you when you call.

**Inhalation:** First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

**Skin Contact:** Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 10 minutes or until chemical is removed. If irritation persists, repeat flushing and obtain medical advice.

**Eye Contact:** Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed, while holding the eyelid(s) open. Obtain medical advice immediately if irritation occurs. Take special care if exposed person is wearing contact lenses.

**Ingestion:** If product is swallowed or gets in mouth, do NOT induce vomiting; wash mouth with water and give some water to drink. If symptoms develop, or if in doubt contact a Poisons Information Centre or a doctor.

**Section 5 - Fire Fighting Measures**

**Fire and Explosion Hazards:** This product is classified as a C1 combustible product. There is a slight risk of an explosion from this product if commercial quantities are involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

**Extinguishing Media:** Preferred extinguishing media are carbon dioxide, dry chemical, foam, water fog.

**Fire Fighting:** If a significant quantity of this product is involved in a fire, call the fire brigade.

**Flash point:** No data

**Upper Flammability Limit:** No data.

**Lower Flammability Limit:** No data.

**Autoignition temperature:** No data.

**Flammability Class:** C1

**Section 6 - Accidental Release Measures**

**Accidental release:** In the event of a major spill, prevent spillage from entering drains or water courses. Wear full protective clothing including eye/face protection. All skin areas should be covered. See below under Personal

Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include rubber, PVC. Eye/face protective equipment should comprise as a minimum, protective glasses and, preferably, goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8).

Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this MSDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

### Section 7 - Handling and Storage

**Handling:** Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

**Storage:** Note that this product is combustible and therefore, for Storage, meets the definition of Dangerous Goods in some states. If you store large quantities (tonnes) of such products, we suggest that you consult your state's Dangerous Goods authority in order to clarify your obligations regarding their storage.

Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging - there may be further storage instructions on the label.

### Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Industrial Clothing: **AS2919**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

#### SWA Exposure Limits

#### TWA (mg/m<sup>3</sup>)

#### STEL (mg/m<sup>3</sup>)

Exposure limits have not been established by SWA for any of the significant ingredients in this product.

The ADI for Iprodione is set at 0.04mg/kg/day. The corresponding NOEL is set at 4mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Dec 2005.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

**Ventilation:** No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that vapours and mists are minimised.

**Eye Protection:** Eye protection such as protective glasses or goggles is recommended when this product is being used.

**Skin Protection:** You should avoid contact even with mild skin irritants. Therefore you should wear suitable impervious elbow-length gloves and facial protection when handling this product. See below for suitable material types.

**Protective Material Types:** We suggest that protective clothing be made from the following materials: rubber, PVC.

**Respirator:** Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

### Section 9 - Physical and Chemical Properties:

**Physical Description & colour:** Viscous white liquid.

**Odour:** Negligible odour.

<b>Boiling Point:</b>	Not available.
<b>Freezing/Melting Point:</b>	No specific data. Liquid at normal temperatures.
<b>Volatiles:</b>	No data.
<b>Vapour Pressure:</b>	$5 \times 10^{-4}$ mPa at 25°C
<b>Vapour Density:</b>	No data.
<b>Specific Gravity:</b>	Approx 1.02 at 20°C
<b>Water Solubility:</b>	Emulsifiable.
<b>pH:</b>	2-4
<b>Volatility:</b>	No data.
<b>Odour Threshold:</b>	No data.
<b>Evaporation Rate:</b>	No data.
<b>Coeff Oil/water Distribution:</b>	3.0 (pH 3 and 5) (log P octanol/water)
<b>Autoignition temp:</b>	No data.

### Section 10 - Stability and Reactivity

**Reactivity:** This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

**Conditions to Avoid:** Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

**Incompatibilities:** strong acids, strong bases, strong oxidising agents.

**Fire Decomposition:** Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. Hydrogen chloride gas, other compounds of chlorine. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

**Polymerisation:** This product will not undergo polymerisation reactions.

### Section 11 - Toxicological Information

**Toxicity:** An information profile for Iprodione is available at <http://extoxnet.orst.edu/pips/ghindex.html>

Toxicological Effects:

**Acute toxicity:** Iprodione is not harmful by ingestion, with reported oral LD<sub>50</sub> values of 3500 mg/kg in rats, 4000 mg/kg in mice, and greater than 4400 mg/kg in rabbits. No dermal toxic effects were noted at doses of over 2500 mg/kg in the rat and at 1000 mg/kg in the rabbit, indicating slight toxicity by this route. Inhalation toxicity is also low for this compound. The 4-hour inhalation LC<sub>50</sub> for Iprodione is greater than 3.3 mg/L in the rat.

**Chronic toxicity:** Rats given dietary doses of approximately 60 mg/kg/day over 1 1/2 years suffered no ill effects. Dogs fed approximately 60 mg/kg/day over 18 months also showed no adverse effects. In another study, beagle dogs fed dietary doses of about 2.3 mg/kg/day for 1 year showed liver and kidney weight increases. At doses starting at about 1.5 mg/kg/day, the dogs had decreased prostrate weights and changes within red blood cells (damage to the haemoglobin molecules). Females also had slight decreases in uterus weights. No effects were noted below 0.5 mg/kg/day dose.

**Reproductive effects:** Female rats were fed Iprodione over three successive generations showed no effects on reproduction at doses at and below 1.25 mg/kg/day. Based on these data, Iprodione is not likely to cause reproductive effects.

**Teratogenic effects:** There were no developmental effects noted in the offspring of pregnant rats receiving dietary doses of about 5.4 mg/kg/day. It appears that Iprodione is not likely to cause teratogenic effects at expected exposure levels.

**Mutagenic effects:** No data are currently available.

**Carcinogenic effects:** A 2-year feeding experiment with rats showed no increases in tumour formation or tumour precursors (neoplastic foci) at dietary doses of about 2.5 mg/kg/day. An 18-month study in mice showed cancer related effects at doses up to approximately 22 mg/kg/day. Current evidence on the carcinogenicity of Iprodione is inconclusive.

**Organ toxicity:** Target organs identified in animal studies include the reproductive system (prostate gland and uterus), liver, and kidneys.

**Fate in humans and animals:** No data are currently available.

## Section 12 - Ecological Information

This product is very toxic to aquatic organisms. This product is biodegradable. It will not accumulate in the soil or water or cause long term problems.

**Effects on birds:** Iprodione is slightly toxic to wildfowl. The reported acute oral LD<sub>50</sub> in bobwhite quail is 930 mg/kg.

**Effects on aquatic organisms:** Iprodione is moderately toxic to fish species, with LC<sub>50</sub> values ranging from 2.25 mg/L in the sunfish to 6.7 mg/L in the rainbow trout. Reported bioconcentration factors of 50 to 360 in carp and other fish species indicate low bioconcentration potential.

**Effects on other organisms:** Iprodione is nontoxic to bees.

### Environmental Fate:

**Breakdown in soil and groundwater:** The half-life of Iprodione in soil ranges from less than 7 to greater than 60 days. A representative half-life in most soils is estimated to be 14 days. These properties, combined with its short field half-life indicate a low potential to contaminate groundwater.

**Breakdown in water:** The compound breaks down very rapidly in water under aerobic conditions; the rate is lesser, but still rapid under near-anaerobic conditions. The compound is readily degraded by UV light.

**Breakdown in vegetation:** The compound is rapidly broken down in the plant after it is taken up by the roots and translocated. Iprodione alone or in combinations with several other fungicides was not toxic to plants (phytotoxic).

## Section 13 - Disposal Considerations

**Disposal:** There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. The Hierarchy of Controls seems to be common - the user should investigate: Reduce, Reuse, and Recycle and only if all else fails should disposal be considered. Note that properties of a product may change in use, so that the following suggestions may not always be appropriate. The following may help you in properly addressing this matter for this product. Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 <http://www.chemclear.com.au/> and for help with the disposal of empty drums, contact DrumMuster <http://www.drummuster.com.au/> where you will find contact details for your area.

## Section 14 - Transport Information

**ADG Code:** This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

## Section 15 - Regulatory Information

**AICS:** All of the significant ingredients in this formulation are compliant with NICNAS regulations. The following ingredient: Liquid hydrocarbon, is mentioned in the SUSDP.

## Section 16 - Other Information

This Material Safety Data Sheet 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 SDS 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.

### DISCLAIMER

This product must be used, stored and handled strictly as directed in accordance with this Safety Data Sheet, the label, packaging and other reference material ("Directions"). To the extent permitted by law Cheminova Pty Ltd and its related companies will have no liability for any injury, loss or damage arising from a failure to follow the Directions.