



Product Name: Inca Malaban Wash Concentrate  
Page: 1 of 6  
This revision issued: February, 2015

## Section 1 - Identification of The Material and Supplier

Inca (Flight) Company Pty Ltd  
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**Chemical nature:** Malathion is an organophosphorus derivative.  
**Trade Name:** Inca Malaban Wash Concentrate  
**APVMA Code:** 37201  
**Product Use:** Animal insecticide for use as described on the product label.  
**Creation Date:** November, 2005  
**This version issued:** February, 2015 and is valid for 5 years from this date.

## Section 2 - Hazards Identification

### Statement of Hazardous Nature

This product is classified as: Hazardous according to the criteria of SWA Australia.

Dangerous according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria.

**Risk Phrases:** R10, R38, R20/21/22. Flammable. Irritating to skin. Harmful by inhalation, in contact with skin, and if swallowed.

**Safety Phrases:** S2, S16, S20, S29, S38, S24/25, S36/37. Keep out of reach of children. Keep away from sources of ignition - No smoking. When using, do not eat or drink. Do not empty into drains. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin and eyes. Wear suitable protective clothing and gloves.

**SUSMP Classification:** S6

**ADG Classification:** Class 3: Flammable liquids.

**UN Number:** 1993, FLAMMABLE LIQUID, N.O.S.



**GHS Signal word: WARNING.**

### HAZARD STATEMENT:

H226: Flammable liquid and vapour.  
H302: Harmful if swallowed.  
H312: Harmful in contact with skin.  
H315: Causes skin irritation.  
H332: Harmful if inhaled.

### PREVENTION

P102: Keep out of reach of children.  
P210: Keep away from heat, sparks, open flames and hot surfaces. - No smoking.  
P233: Keep container tightly closed.  
P261: Avoid breathing fumes, mists, vapours or spray.  
P262: Do not get in eyes, on skin, or on clothing.  
P264: Wash contacted areas thoroughly after handling.  
P270: Do not eat, drink or smoke when using this product.  
P281: Use personal protective equipment as required.

### RESPONSE

P312: Call a POISON CENTER or doctor if you feel unwell.  
P337: If eye irritation persists: seek medical attention.  
P362: Take off contaminated clothing and wash before reuse.  
P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.  
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P302+P352: IF ON SKIN: Wash with plenty of soap and water.  
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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Phone: 02 983301728

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P332+P313: If skin irritation occurs: Get medical advice.

P370+P378: In case of fire, note the following. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used. Try to contain spills, minimise spillage entering drains or water courses.

**STORAGE**

P402+P404: Store in a dry place. Store in a closed container.

P403+P235: Store in a well-ventilated place. Keep cool.

**DISPOSAL**

P501: Dispose of contents and containers as specified on the registered label.

**Emergency Overview**

**Physical Description & Colour:** Clear pale coloured solution.

**Odour:** Sulfurous/hydrocarbon odour.

**Major Health Hazards:** It has been reported that single doses of Malathion may affect immune system response. Symptoms of acute exposure to organophosphate or cholinesterase-inhibiting compounds may include the following: numbness, tingling sensations, incoordination, headache, dizziness, tremor, nausea, abdominal cramps, sweating, blurred vision, difficulty breathing or respiratory depression, and slow heartbeat. Very high doses may result in unconsciousness, incontinence, and convulsions or fatality. harmful by inhalation, in contact with skin, and if swallowed, skin irritant. Signs and symptoms associated with mild exposures to organophosphate and carbamate pesticides include: headache, fatigue, dizziness, loss of appetite with nausea, stomach cramps and diarrhoea; blurred vision associated with excessive tearing; contracted pupils of the eye; excessive sweating and salivation; slowed heartbeat, often fewer than 50 per minute; rippling of surface muscles just under the skin. These symptoms may be mistaken for those of flu, heat stroke or heat exhaustion, or upset stomach. Moderately severe organophosphate and carbamate insecticide poisoning cases exhibit all the signs and symptoms found in mild poisonings, but in addition, the victim: is unable to walk; often complains of chest discomfort and tightness; exhibits marked constriction of the pupils (pinpoint pupils); exhibits muscle twitching; has involuntary urination and bowel movement. Severe poisonings are indicated by incontinence, unconsciousness and seizures.

**Potential Health Effects**

See section 11 for Chronic exposure studies.

**Inhalation**

**Short Term Exposure:** Symptoms are described fully above.

**Skin Contact:**

**Short Term Exposure:** Symptoms are described fully above.

**Eye Contact:**

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

**Ingestion:**

**Short Term Exposure:** Symptoms are described fully above.

**Carcinogen Status:**

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

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

**IARC:** Malathion is Class 3 - unclassifiable as to carcinogenicity to humans.

Xylene is Class 3 - unclassifiable as to carcinogenicity to humans.

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

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

Ingredients	CAS No.	Conc. %	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
Malathion	121-75-5	20	10	not set
Xylene	1330-20-7	76	350	655
Other non hazardous ingredients	secret	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 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 should not be exceeded for more than 15 minutes and should not be repeated for 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.

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## 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 SDS with you when you call.

If swallowed, splashed on skin or inhaled, contact a Poisons Information Centre or a doctor at once. Remove any contaminated clothing and wash skin thoroughly. If swallowed, use of activated charcoal may be advised.

**Inhalation:** If symptoms of poisoning become evident, contact a Poisons Information Centre, or call a doctor at once. Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. DO NOT allow victim to move about unnecessarily. Symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.

**Skin Contact:** Quickly and gently blot away excess liquid. Wash gently and thoroughly with warm water (use non-abrasive soap if necessary) for 10-20 minutes or until product is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts) and completely decontaminate them before reuse or discard. If irritation persists, repeat flushing and seek medical attention.

**Eye Contact:** No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. Take special care if exposed person is wearing contact lenses.

**Ingestion:** If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

## Section 5 - Fire Fighting Measures

**Fire and Explosion Hazards:** This product is classified as flammable. There is a moderate risk of an explosion from this product if commercial quantities are involved in a fire. Firefighters should take care and appropriate precautions. Any explosion will likely spread the fire to surrounding materials. Water spray may be used to cool drums involved in a fire, reducing the chances of an explosion. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances.

Fire decomposition products from this product are likely to be irritating if inhaled.

**Extinguishing Media:** Try to contain spills, minimise spillage entering drains or water courses.

**Fire Fighting:** If a significant quantity of this product is involved in a fire, call the fire brigade. There is a danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is full fire kit and breathing apparatus.

**Flash point:** Approx 30°C

**Upper Flammability Limit:** No data.

**Lower Flammability Limit:** No data.

**Autoignition temperature:** No data.

**Flammability Class:** Flammable Category 3 (GHS); Flammable (AS1940)

## Section 6 - Accidental Release Measures

**Accidental release:** This product is sold in small packages, and the accidental release from one of these is not usually a cause for concern. For minor spills, clean up, rinsing to sewer and put empty container in garbage. Although no special protective clothing is normally necessary because of occasional minor contact with this product, it is good practice to wear impermeable gloves when handling chemical products. In the event of a major spill, prevent spillage from entering drains or water courses and call emergency services.

## 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 SDS 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:** This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Store in a cool, well ventilated area, and make sure that surrounding electrical devices and switches are suitable. Check containers periodically for leaks. Containers should be kept closed in order to minimise contamination and possible evaporation. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. If you keep more than 1000kg or L of Dangerous Goods of Packaging

## SAFETY DATA SHEET

This revision issued: February, 2015

Group III, you may be required to license the premises or notify your Dangerous Goods authority. If you have any doubts, we suggest you contact your Dangerous Goods authority in order to clarify your obligations. 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**, Occupational Protective Clothing: **AS/NZS 4501 set 2008**, 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> )
Malathion	10	not set
Xylene	350	655

The ADI for Malathion is set at 0.02mg/kg/day. The corresponding NOEL is set at 0.26mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, June 2013.

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:** This product should only be used where there is ventilation that is adequate to keep exposure below the TWA levels. If necessary, use a fan.

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

**Skin Protection:** Prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. See below for suitable material types.

**Protective Material Types:** We suggest that protective clothing be made from the following materials: rubber, PVC, Teflon, polyvinyl alcohol, PE/EVAL.

**Respirator:** Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above. Otherwise, not normally necessary.

Safety deluge showers should, if practical, be provided near to where this product is being used.

### Section 9 - Physical and Chemical Properties:

<b>Physical Description &amp; colour:</b>	Clear pale coloured solution.
<b>Odour:</b>	Sulfurous/hydrocarbon odour.
<b>Boiling Point:</b>	Solvent (xylene) boils about 135°C at 100kPa
<b>Freezing/Melting Point:</b>	No specific data. Liquid at normal temperatures.
<b>Volatiles:</b>	Not available.
<b>Vapour Pressure:</b>	No data.
<b>Vapour Density:</b>	No data.
<b>Specific Gravity:</b>	Approx 0.9
<b>Water Solubility:</b>	Emulsifiable.
<b>pH:</b>	No data.
<b>Volatility:</b>	No data.
<b>Odour Threshold:</b>	No data.
<b>Evaporation Rate:</b>	No data.
<b>Coeff Oil/water Distribution:</b>	No data
<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:** This product should be kept in a cool place, preferably below 30°C. Keep containers tightly closed. Keep away from sources of sparks or ignition. Handle and open containers carefully.

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

**Fire Decomposition:** Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Oxides of sulfur (sulfur dioxide is a respiratory hazard) and other sulfur compounds. Most will have a foul odour. Oxides of phosphorus and other phosphorus compounds. 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.

### SAFETY DATA SHEET

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## Section 11 - Toxicological Information

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

**Acute toxicity:** Malathion is harmful to toxic via the oral route, with reported oral LD<sub>50</sub> values of 1000 mg/kg to greater than 10,000 mg/kg in the rat, and 400 mg/kg to greater than 4000 mg/kg in the mouse. It is also not harmful via the dermal route, with reported dermal LD<sub>50</sub> values of greater than 4000 mg/kg in rats. Effects of Malathion are similar to those observed with other organophosphates, except that larger doses are required to produce them. It has been reported that single doses of Malathion may affect immune system response. Symptoms of acute exposure to organophosphate or cholinesterase-inhibiting compounds may include the following: numbness, tingling sensations, incoordination, headache, dizziness, tremor, nausea, abdominal cramps, sweating, blurred vision, difficulty breathing or respiratory depression, and slow heartbeat. Very high doses may result in unconsciousness, incontinence, and convulsions or fatality. The acute effects of Malathion depend on product purity and the route of exposure.

**Chronic toxicity:** Human volunteers fed very low doses of Malathion for 1½ months showed no significant effects on blood cholinesterase activity. Rats fed dietary doses of 5 mg/kg/day to 25 mg/kg/day over 2 years showed no symptoms apart from depressed cholinesterase activity. When small amounts of the compound were administered for 8 weeks, rats showed no adverse effects on whole-blood cholinesterase activity. Weanling male rats were twice as susceptible to Malathion as adults.

**Reproductive effects:** Several studies have documented developmental and reproductive effects due to high doses of Malathion in test animals. However, Malathion fed to rats at low dosages caused no reproductive effects. It is not likely that Malathion will cause reproductive effects in humans under normal circumstances.

**Teratogenic effects:** Rats fed high doses (240 mg/kg/day) showed no teratogenic effects. Current evidence indicates that Malathion is not teratogenic.

**Mutagenic effects:** Malathion produced detectable mutations in three different types of cultured human cells, including white blood cells and lymph cells. It is not clear what the implications of these results are for humans.

**Carcinogenic effects:** Available evidence suggests that Malathion is not carcinogenic but the data are not conclusive.

**Organ toxicity:** Malathion has been shown in animal testing and from use experience to affect the central nervous system, immune system, adrenal glands, liver, and blood.

**Fate in humans and animals:** Malathion is rapidly and effectively absorbed by practically all routes including the gastrointestinal tract, skin, mucous membranes, and lungs. Malathion undergoes similar detoxification mechanisms to other organophosphates, but it can also be rendered nontoxic via another simple mechanism, splitting of either of the carboxy ester linkages. Animal studies indicate it is very rapidly eliminated through urine, faeces and expired air with a reported half-life of approximately 8 hours in rats and approximately 2 days in cows.

## Section 12 - Ecological Information

**Effects on birds:** Malathion is moderately toxic to birds. The reported acute oral LD<sub>50</sub> values are: in mallards, 1485 mg/kg; in pheasants, 187 mg/kg; in blackbirds and starlings, over 100 mg/kg; and in chickens, 525 mg/kg. The reported 5- to 8-day dietary LC<sub>50</sub> is over 3000 ppm in Japanese quail, mallard, and northern bobwhite, and is 2639 ppm in ring-neck pheasants. Furthermore, 90% of the dose to birds was metabolized and excreted in 24 hours via urine.

**Effects on aquatic organisms:** Malathion has a wide range of toxicities in fish, extending from very highly toxic in the walleye (96-hour LC<sub>50</sub> of 0.08 mg/L) to highly toxic in brown trout (0.1 mg/L) and the cutthroat trout (0.28 mg/L), moderately toxic in fathead minnows (8.6 mg/L) and slightly toxic in goldfish (10.7 mg/L). Various aquatic invertebrates are extremely sensitive, with EC<sub>50</sub> values from 1 µg/L to 1 mg/L. Malathion is highly toxic to aquatic invertebrates and to the aquatic stages of amphibians. Because of its very short half-life, Malathion is not expected to bioconcentrate in aquatic organisms. However, brown shrimp showed an average concentration of 869 and 959 times the ambient water concentration in two separate samples.

**Effects on other organisms:** The compound is highly toxic to honeybees.

**Environmental Fate:**

**Breakdown in soil and groundwater:** Malathion is of low persistence in soil with reported field half-lives of 1 to 25 days. Degradation in soil is rapid and related to the degree of soil binding. Breakdown occurs by a combination of biological degradation and nonbiological reaction with water.

**Breakdown in water:** In raw river water, the half-life of Malathion is less than 1 week, whereas it remained stable in distilled water for 3 weeks.

**Breakdown in vegetation:** Residues were found mainly associated with areas of high lipid content in the plant. Increased moisture content increased degradation rate.

## Section 13 - Disposal Considerations

**Disposal:** 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.

## SAFETY DATA SHEET

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**Section 14 - Transport Information**

Dangerous according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria.

UN Number: 1993, FLAMMABLE LIQUID, N.O.S.

Hazchem Code: +3Y

Special Provisions: 223, 274

Limited quantities: ADG 7 specifies a Limited Quantity value of 5 L for this class of product.

Dangerous Goods Class: Class 3, Flammable liquids.

Packaging Group: III

Packaging Method: P001, IBC03, LP01

Class 3 Flammable Liquids shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 2.1 (Flammable Gases where flammable liquids and flammable gases are both in bulk), 2.3 (Toxic Gases), 4.2 (Spontaneously Combustible Substances), 5.1 (Oxidising Agents), 5.2 (Organic Peroxides), 6 (Toxic Substances, except Flammable Liquid is nitromethane), and 7 (Radioactive Substances). They may however be loaded in the same vehicle or packed in the same freight container with Classes 2.1 (Flammable Gases except where the Flammable Liquids and Flammable Gases are in bulk), 2.2 (Non-Flammable Non-Toxic Gases), 4.1 (Flammable Solids), 4.3 (Dangerous When Wet Substances), 6 (Toxic Substances, except where Flammable Liquid is nitromethane), 8 (Corrosive Substances), 9 (Miscellaneous Dangerous Goods), Foodstuffs or foodstuff empties.

**Section 15 - Regulatory Information**

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.

The following ingredients: Malathion, Xylene, are mentioned in the SUSMP.

**Section 16 - Other Information**

This SDS contains only safety-related information. For other data see product literature.

**Acronyms:**

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th Edition
AICS	Australian Inventory of Chemical Substances
CAS Number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
SWA	Safe Work Australia, formerly ASCC and NOHSC
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

THIS SDS 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 MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS. OUR 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.

Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" (December 2011)

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