



Section 1 - Identification of The Material and Supplier

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Chemical nature: Group I Herbicide
Trade Name: Adama LVE MCPA 750 Herbicide
Product Use: Agricultural herbicide for use as described on the product label.
Creation Date: April, 2008
This version issued: August, 2012 and is valid for 5 years from this date.

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: Xn, Harmful. Xi, Irritating. Hazardous according to the criteria of SWA.
Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.

Risk Phrases: R22, R38, R41. Harmful if swallowed. Irritating to skin. Risk of serious damage to eyes.

Safety Phrases: S2, S13, S20, S26, S36, S46, S24/25, S37/39. Keep out of reach of children. Keep away from food, drink and animal feeding stuffs. When using, do not eat or drink. In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre. Wear suitable protective clothing. If swallowed, contact a doctor or Poisons Information Centre immediately and show this MSDS or label. Avoid contact with skin and eyes. Wear suitable gloves and eye/face protection.

SUSMP Classification: S6

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

UN Number: None allocated

Emergency Overview

Physical Description & colour: Clear red-brown liquid.

Odour: Ammoniacal odour.

Major Health Hazards: Symptoms in humans from very high acute exposure could include slurred speech, twitching, jerking and spasms, drooling, low blood pressure, and unconsciousness. This product may cause serious damage to eyes, harmful if swallowed, skin irritant.

Potential Health Effects

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.

Long Term exposure: No data for health effects associated with long term inhalation.

Skin Contact:

Short term exposure: Available data indicates that this product is a skin irritant. Symptoms may include itchiness and reddening of contacted skin. Other symptoms may also become evident, but all should disappear once exposure has ceased.

Long Term exposure: No data for health effects associated with long term skin exposure.

Eye Contact:

Short term exposure: This product is a severe eye irritant. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms such as swelling of eyelids and blurred vision may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment is likely to cause permanent damage.

Long Term exposure: No data for health effects associated with long term eye exposure.

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**Ingestion:**

Short term exposure: Significant oral exposure is considered to be unlikely. Available data shows that this product is harmful, but symptoms are not available. However, this product is an oral irritant. Symptoms may include burning sensation and reddening of skin in mouth and throat. Other symptoms may also become evident, but all should disappear once exposure has ceased.

Long Term exposure: No data for health effects associated with long term ingestion.

Carcinogen Status:

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

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 ³)	STEL (mg/m ³)
MCPA (present as the dimethylamine salt)	94-74-6	750g/L	not set	not set
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 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: No first aid measures normally required. However, if inhalation has occurred, and irritation has developed, remove to fresh air and observe until recovered. If irritation becomes painful or persists more than about 30 minutes, seek medical advice.

Skin Contact: 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: Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. 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: There is no risk of an explosion from this product under normal circumstances if it is 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: Not Combustible. Use extinguishing media suited to burning materials.

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

Flash point: Does not burn.

Upper Flammability Limit: Does not burn.

Lower Flammability Limit: Does not burn.

Autoignition temperature: Not applicable - does not burn.

Flammability Class: Does not burn.

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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 chemically resistant clothing including eye/face protection, gauntlets and self contained breathing apparatus. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include rubber, PVC, Viton. Eye/face protective equipment should comprise as a minimum, protective 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). Otherwise, not normally necessary.

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: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. 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**, 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/m³)	STEL (mg/m³)
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Exposure limits have not been established by SWA for any of the significant ingredients in this product.

The ADI for MCPA is set at 0.01mg/kg/day. The corresponding NOEL is set at 1.1mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Sept 2011.

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 in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

Eye Protection: Protective glasses or goggles must be worn when this product is being used. Failure to protect your eyes may lead to severe harm to them or to general health. Emergency eye wash facilities must also be available in an area close to where this 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.

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.

Eyebaths or eyewash stations and safety deluge showers should be provided near to where this product is being used.

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Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Clear red-brown liquid.
Odour:	Ammoniacal odour.
Boiling Point:	Not available.
Freezing/Melting Point:	No specific data. Liquid at normal temperatures.
Volatiles:	No data.
Vapour Pressure:	Negligible.
Vapour Density:	No data.
Specific Gravity:	1.181
Water Solubility:	Soluble.
pH:	No data.
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water distribution:	-0.71 at pH 7 (MCPA acid) (log P octanol/water)
Autoignition temp:	Not applicable - does not burn.

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: Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities: acids, 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 MCPA is available at <http://extoxnet.orst.edu/pips/ghindex.html>

Acute toxicity: MCPA acid is harmful via ingestion, with reported oral LD₅₀ values for the technical product in rats ranging from 700 mg/kg to 1160 mg/kg and ranging in mice from 550 to 800 mg/kg. It is harmful via the dermal route as well, with reported dermal LD₅₀ values ranging from greater than 1000 mg/kg in rats to greater than 4000 mg/kg in rabbits.

Chronic toxicity: Dietary levels of approximately 50 mg/kg/day and 125 mg/kg/day over 7 months caused reduced feeding rates and retarded growth rates in rats. White blood cell counts and ratios were not affected, but some reductions in red blood cell counts and haemoglobin did appear to be associated with exposure to MCPA at oral dose levels of approximately 20 mg/kg/day. In the same study, oral doses of approximately 5 mg/kg/day caused increased relative kidney weights, and oral doses of approximately 20 mg/kg/day caused increased relative liver weights. Another study in rats showed no effects on kidney or liver weights over an unspecified period at oral doses of 60 mg/kg/day, but oral doses of 150 mg/kg/day did cause reversible increases in these weights over a course of 3 months. Very high dermal doses of 500 mg/kg/day caused reduced body weight, and even higher dermal doses of 1000 and 2000 mg/kg/day resulted in increased mortality and observable changes in liver, kidney, spleen, and thymus tissue.

Reproductive effects: A two-generation rat study at doses of up to 15 mg/kg/day affected reproductive function. It is unlikely that humans will experience these effects under normal exposure conditions.

Teratogenic effects: Offspring of pregnant rats fed low to moderate doses of MCPA (20 to 125 mg/kg) on days 6 to 15 of gestation, had no birth defects. Teratogenic effects in humans are unlikely at expected exposure levels.

Mutagenic effects: MCPA is reportedly weakly mutagenic to bone marrow and ovarian cells of hamsters, but negative results were reported for other mutagenic tests. It appears that the compound poses little or no mutagenic risk.

Carcinogenic effects: All of the available evidence on MCPA indicates that the compound does not cause cancer. Forestry and agricultural workers occupationally exposed to MCPA in Sweden did not show increased cancer incidence.

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Organ toxicity: Target organs identified in animal studies include the liver, kidneys, spleen, and thymus. Farm worker exposure has resulted in reversible anaemia, muscular weakness, digestive problems, and slight liver damage.

Fate in humans and animals: MCPA is rapidly absorbed and eliminated from mammalian systems. Rats eliminated nearly all of a single oral dose within 24 hours, mostly through urine with little or no metabolism. Humans excreted about half of a 5 mg dose in the urine within a few days. No residues were found after day 5.

Section 12 - Ecological Information

This product is biodegradable. It will not accumulate in the soil or water or cause long term problems.

Effects on birds: MCPA is moderately toxic to wildfowl; the LD₅₀ of MCPA in bobwhite quail is 377 mg/kg.

Effects on aquatic organisms: MCPA is only slightly toxic to freshwater fish, with reported LC₅₀ values ranging from 117 to 232 mg/L in rainbow trout. MCPA is practically nontoxic to freshwater invertebrates, and estuarine and marine organisms.

Effects on other organisms: It is nontoxic to bees, with a reported oral LD₅₀ of 104µg/bee.

Environmental Fate:

Breakdown in soil and groundwater: MCPA and its formulations are rapidly degraded by soil microorganisms and it has low persistence, with a reported field half-life of 14 days to 1 month, depending on soil moisture and soil organic matter. MCPA and its formulations show little affinity for soil.

Breakdown in water: It is relatively stable to light breakdown, but can be rapidly broken down by microorganisms. In rice paddy water, MCPA is almost totally degraded by aquatic microorganisms in under 2 weeks.

Breakdown in vegetation: MCPA is readily absorbed and translocated in most plants. It is actively broken down in plants, the major metabolite being 2-methyl-4-chlorophenol.

Algae: EC₅₀ >392mg/L

Daphnia: EC₅₀ >190mg/L

Fish: LC₅₀ rainbow trout (*Oncorhynchus mykiss*): 50mg/L

Section 13 - Disposal Considerations

Disposal: Instructions concerning the disposal of this product and its containers are given on the registered label. These should be carefully followed. 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: MCPA, is mentioned in the SUSMP.

Section 16 - Other Information

This MSDS 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 (7 th edition)
AICS	Australian Inventory of Chemical Substances
SWA	Safe Work Australia, formerly ASCC and NOHSC
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
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

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Contact Points:

Call Adama on (02)9431 7800 and ask for the technical manager.

Fax: (02)9431 7700

Police and Fire Brigade:

Dial 000

Emergency contact:

1800 024 973 (24 hours)

If ineffective:

Dial Poisons Information Centre

(13 1126 from anywhere in Australia)

The information contained in this Material Safety Data Sheet is provided in good faith and is believed to be correct at the date hereof. However, it is expected that individuals receiving the information will exercise their independent judgement in determining its appropriateness for a particular purpose. Adama Australia Pty Ltd makes no representation as to the accuracy or comprehensiveness of the information and to the full extent allowed by law excludes all liability whatsoever, whether with respect to negligence or otherwise, for any loss or damage arising from or connection with the supply or use of the information in this Material Safety Data Sheet.

Please read all labels carefully before using product.

This MSDS is prepared in accord with the SWA document "National Code of Practice for the Preparation of Material Safety Data Sheets" 2nd Edition [NOHSC:2011(2003)]

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