GENEREX (AUST.) PTY LTD

MATERIAL SAFETY DATA SHEET

Generex (Aust) Pty Ltd
PO Box 165
MILSONS POINT NSW 1565

Phone: (02) 9955 7799
Fax: (02) 9955 6599

I IDENTIFICATION

Product Name:	Generex MCPA 500 g/l
Chemical Name:	MCPA, Dimethylamine Salt
Hazchem Code:	None
UN No.:	None
Dangerous Goods Class:	None
Sub Risk Class:	None
Packaging Group:	None
Poison Schedule:	S5
Uses :	Selective Herbicide as per Directions for Use Booklet.

Physical appearance & Properties:

Appearance & Odour:	Clear brown liquid. Ammoniacal odour.
Boiling Point:	> 100C
Melting Point:	Liquid at normal temperature
Vapour Pressure:	Non volatile
Specific Gravity:	1.13
Flash Point (deg C):	Does not burn
Corrosiveness :	Not corrosive
Explosive Limit :	Not applicable
Solubility in water :	Soluble

Ingredients:

Component	CAS No	%
MCPA dimethylamine salt	94-74-6	50
Water and other non hazardous ingredients		to 100

II HEALTH HAZARD DATA

Hazardous according to NOHSC Australia criteria.

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

Safety Phrases : S24/25/26, Avoid contact with skin and eyes. S36/37/39, Wear suitable protective clothing, gloves and eye/face protection. S62, If swallowed due not induce vomiting and seek medical advice immediately.

Not classified as Dangerous Goods according to the Australian Dangerous Goods code.

Acute Health Effects:

Swallowed: Considered an unlikely route of entry in commercial/industrial environments. The material is highly discomforting and is harmful if swallowed. Acute poisoning may result in vomiting, diarrhoea, urinary incontinence, cyanosis (bluish discolouration of the skin and mucous membranes resulting from an inadequate amount of oxygen in the blood), mucous burns, muscle twitching/clonic spasms (i.e. the rhythmic limb movements as in convulsive epilepsy) and in severe cases, myocardium and liver damage. Chlorphenoxy compounds irritate the digestive system and cause nausea and vomiting, chest pain and diarrhoea. Taking large doses can result in mineral imbalance, temperature changes, hyperventilation, low blood pressure, dilated blood vessels, damage to the heart and liver with death of white blood cells and convulsions.

Most salts and esters of 2,4-D exhibit similar effects, although the free acid is more toxic. Massive doses can cause ventricular fibrillation followed by death. If death is delayed, there may be a sluggishness followed by spastic changes in muscles and inco-ordination. Severe cases cause apathy, weakness in the legs, regular muscle spasm and coma. Subacute poisonings cause severe nosebleeds, bleeding from the mouth and irritation of the eye and nose.

Eye: The dust may be highly discomforting to the eyes and is capable of causing pain and severe conjunctivitis. Corneal injury may develop, with possible permanent impairment of vision, if not promptly and adequately treated. Corneal injury resulting from 2,4-D exposure may be slow to heal.

Skin: The material is moderately discomforting to the skin and is capable of causing skin reactions which may lead to dermatitis. Toxic effects may result from skin absorption. Open cuts, abraded or irritated skin should not be exposed to this material. The material may accentuate any pre-existing skin condition. 2,4-D and its derivatives can all be absorbed through the skin of humans. Severe peripheral neuropathy has followed causing limb paralysis and loss of sensation. Fatigue, nausea, vomiting, anorexia, diarrhoea and swelling occur, followed by “pins and needles”, pain and paralysis.

Inhaled: Not normally a hazard due to non-volatile nature of product. The dust may be highly discomforting to the upper respiratory tract if inhaled.

Chronic Health Effects

Principal routes of exposure are usually by skin contact and inhalation of generated dust. Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following. As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

Chronic exposure may result in dizziness, nausea, vomiting, stomach aches, hypotonia (state of reduced tension in muscle), enlarged liver, myocardium dysfunction. Low cumulative toxicity. Embyrotoxic and teratogenic in high doses in rabbits and rats [1LO]

First Aid:

Swallowed: Rinse mouth out with plenty of water. If poisoning occurs, contact a doctor or Poisons Information Centre. In Australia phone 13 1126. If swallowed and if more than 15 minutes from a hospital, induce vomiting, preferably using Ipecac Syrup.
DO NOT INDUCE VOMITING in an unconscious person.
NOTE: Always wear protective glove when inducing vomiting by mechanical means.

Eye: Immediately hold eyes open and wash continuously with running water for at least 15 minutes. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
Seek medical attention without delay.

Skin: If product comes in contact with the skin, immediately remove all contaminated clothing, including footwear (after rinsing with water). Wash affected areas thoroughly with water (and soap if available). Seek medical attention in event of irritation.

Inhaled: Remove from contaminated area. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Give oxygen and if necessary, artificial respiration preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Remove contaminated clothing and wash contaminated skin thoroughly. Get to a hospital or doctor quickly. If fumes or combustion products are inhaled: remove to fresh air. Lay patient down. Keep warm and rested. If breathing is shallow or has stopped, ensure clear airway and apply resuscitation. Transport to hospital or doctor.

Advice to Doctor:

Following exposures to chlorphenoxy compounds:
Acute toxic reactions are rare. The by-product of production, dioxin, may be implicated in subacute features such as hepatic enlargement, chloracne, neuromuscular symptoms and deranged porphyrin metabolism. Large intentional overdoses result in coma, metabolic acidosis, myalgias, muscle weakness, elevated serum creatine kinase, myoglobinuria, irritation of the skin, eyes, respiratory tract and gut and mild renal and hepatic dysfunction. Several cases of sensorimotor peripheral neuropathies have been associated with chronic dermal exposure to 2,4-D. For acute exposures, the usual methods of gut and skin contamination (lavage, charcoal, cathartic) are recommended in the first several hours.

Alkinisation of the urine and generous fluid replacement have the added benefit of treating any myoglobinuria present. Monitor metabolic acidosis, hyperthermia, hyperkalemia, myoglobinuria and hepatic/renal dysfunction.

For 2,4-D chlorophenoxyacetic acid (2,4-D) and its derivatives:
Gastric lavage if there are no signs of impending convulsions. Cautious administration of short-acting anticonvulsant drug if convulsions appear imminent. General supportive measures for central nervous system depression. If hypotension appears, search vigorously for a contributing cause (e.g. dehydration, electrolyte balance, acidosis, myocardial disturbances and hyperexia). As appropriate, treat dehydration, electrolyte disturbances, acidosis and hyperexia. To promote excretion of 2,4-D, initiate alkaline diuresis, as in salicylate poisoning by injecting sodium bicarbonate, intravenously, until the urine pH exceeds 7.5 and then infuse mannitol; renal clearance rise sharply as urine pH rises above 7.5 - above pH 8.0, it is said to be 100-fold greater than pH 6.0. If cardiac disturbances are suspected, monitor ECG continuously when possible. Prepare to deliver defibrillating shocks in the event of ventricular fibrillation. If hypotension intensifies, a trial with a vasopressor drug may be appropriate. Adrenalin (epinephrine) should be avoided because of possible fibrillation. If myotonia appears, a trial with quinidine may be helpful. Physiotherapy may be necessary for motion disorders associated with peripheral neuritis, myopathy or brain stem dysfunction.
GOSSELIN, SMITH & HODGE: Clinical Toxicology of Commercial Products. 5th Ed.

III PRECUATIONS FOR USE

Exposure Standards:

No exposure limits set by NOHSC or ACGIH.

Engineering Controls:

Use in a well ventilated area, preferably outdoors or use in a well ventilated area, or local exhaust ventilation may be required for safe working, i.e. to keep exposures below required standards, otherwise PPE is required. Local exhaust ventilation is required where solids are handled as powders or crystals. Even when particulates are relatively large, a certain proportion will be powdered by mutual friction. If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered. Such protection might consist of: particle dust respirators, if necessary, combined with an absorption cartridge; filter respirators with absorption cartridge or canister of the right type; fresh-air hoods or masks.

Personal Protection:

Eye: Safety glasses with side shields; or as required, chemical goggles. Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them.

Hand/Feet: DO NOT handle directly. Wear gloves and use scoop/tongs/tools. Barrier cream. Impervious protective clothing. Rubber gloves. Safety footwear.

Other: Cotton washable overalls buttoned to the neck and wrist and washable hat. Cotton cap or Soft hat, i.e. Dust Protective headgear. Eyewash unit. Ensure there is ready access to an emergency shower.

Respirator: The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information consult your Occupational Health and Safety Advisor.

IV SAFE HANDLING INFORMATION

Storage & Transport

Suitable container: Packing as recommended by manufacturer. Check all containers are clearly labeled and free from leaks.

Storage Incompatibility: Avoid reaction with oxidizing agents and alkalies. Avoid contamination of water, foodstuffs, feed or seed.

Storage Requirement: Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storing and handling recommendations.

Transportation: No restrictions.

Spills and Disposal:

Minor Spills: Clean up all spills immediately. Avoid contact with skin and eyes. Wear protective clothing, gloves, safety glasses and dust respirator. Use dry clean up procedures and avoid generating dust. Vacuum up or sweep up. Place in clean drum then flush area with water.

Major Spills: Pollutant – contain spillage. Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water courses. No smoking, naked lights or ignition sources. Increase ventilation. Stop leak if safe to do so. Collect recoverable product into labelled containers for recycling. Absorb remaining product with sand, earth or vermiculite. Collect residues and seal in labeled drums for disposal. After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using. If contamination of drains or waterways occurs, advise emergency services.

Disposal: Consult manufacturer for recycling options. Consult State Land Waste Management Authority for disposal. Decontaminate empty containers. Puncture containers to prevent re-use.

Fire Fighter's Report:

Extinguishing Media: Water spray or fog. Foam. Dry chemical powder. BCF (where regulations permit). Carbon dioxide.

Fire Fighting: Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves. Prevent, by any means available, spillage from entering drains or water courses. Cool fire exposed containers with water spray from a protected location. Do not approach containers suspected to be hot. If safe to do so, remove containers from path of fire.

Fire/Explosion Hazard: Not Combustible. There is no risk of explosion under normal circumstances. Decomposes on heating and produces toxic fumes of carbon monoxide (CO), chlorides and nitrogen oxides (NOx).

Fire Incompatibility: Avoid contamination with strong oxidising agents as ignition may result.

Hazchem: None.

V ECOLOGICAL INFORMATION

Birds : MCPA is moderately toxic to wildfowl.
Aquatic Organisms : MCPA is only slightly toxic to freshwater fish, practically non toxic to freshwater invertebrates, and estuarine and marine organisms.
Bees : MCPA is non toxic to bees.
MCPA and its formulations are rapidly degraded by soil microorganisms and it has low persistence. Breakdown rates vary with soil moisture and soil organic matter content. Decreased soil moisture and increased soil organic matter will prolong the field half-life for MCPA.

VI OTHER INFORMATION

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