

Novachem Pty Ltd

Version No: 1.1

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 3

Issue Date: 16/08/2018 Print Date: 16/08/2018 S.GHS.AUS.EN

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	Pesticide Mix (20 components)
Synonyms	Z-014C-R
Proper shipping name	FLAMMABLE LIQUID, N.O.S. (contains n-hexane and toluene)
Other means of identification	Not Available

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Laboratory Chemical Reference Material
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Details of the supplier of the safety data sheet

Registered company name	Novachem Pty Ltd
Address	25 Crissane Road, Heidelberg West Victoria 3081 Australia
Telephone	+61384151255
Fax	+61386250088
Website	www.novachem.com.au
Email	novachem@novachem.com.au

Emergency telephone number

Association / Organisation	Victorian Poisons Information Centre
Emergency telephone numbers	13 11 26
Other emergency telephone numbers	Not Available

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Poisons Schedule	Not Applicable		
Classification ^[1]	Flammable Liquid Category 2, Acute Toxicity (Oral) Category 4, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 2, Carcinogenicity Category 1B, Reproductive Toxicity Category 2, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation), Specific target organ toxicity - single exposure Category 3 (narcotic effects), Aspiration Hazard Category 1, Acute Aquatic Hazard Category 2, Chronic Aquatic Hazard Category 2		
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI		

Label elements

Hazard pictogram(s)	
SIGNAL WORD	DANGER

Hazard statement(s)

 H225
 Highly flammable liquid and vapour.

 H302
 Harmful if swallowed.

 H332
 Harmful if inhaled.

 Causes skin irritation.
 Causes skin irritation.

 H330
 May cause cancer.

H361	Suspected of damaging fertility or the unborn child.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H304	May be fatal if swallowed and enters airways.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P210	Keep away from heat/sparks/open flames/hot surfaces No smoking.
P271	Use in a well-ventilated area.
P281	Use personal protective equipment as required.

Precautionary statement(s) Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P331	Do NOT induce vomiting.
P362	Take off contaminated clothing and wash before reuse.

Precautionary statement(s) Storage

P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

Precautionary statement(s) Disposal

Dispose of contents/container in accordance with local regulations.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

P501

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
309-00-2	0.2	aldrin
319-84-6	0.2	1,2,3,4,5,6-hexachlorocyclohexane (alpha isomer)
319-85-7	0.2	1.2.3.4.5.6-hexachlorocyclohexane (beta isomer)
58-89-9	0.2	lindane
319-86-8	0.2	1,2,3,4,5,6-hexachlorocyclohexane (delta isomer)
5103-71-9	0.2	alpha-chlordane
5103-74-2	0.2	gamma-chlordane
72-54-8	0.2	1,1-dichloro-2,2-bis(p-chlorophenyl)ethane
72-55-9	0.2	2,2-bis(4-chlorophenyl)-1,1-dichloroethylene
50-29-3	0.2	DDT
60-57-1	0.2	dieldrin
959-98-8	0.2	alpha-endosulfan
33213-65-9	0.2	beta-endosulfan
1031-07-8	0.2	endosulfan sulfate
72-20-8	0.2	endrin
7421-93-4	0.2	endrin aldehyde
53494-70-5	0.2	endrin ketone
76-44-8	0.2	heptachlor
1024-57-3*	0.2	Heptachlor epoxide (Isomer B)
72-43-5	0.2	methoxychlor
110-54-3	48	<u>n-hexane</u>
108-88-3	48	toluene

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact

If this product comes in contact with the eyes: Immediately hold eyelids apart and flush the eye continuously with running water.

	 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. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Transport to hospital or doctor without delay. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	 If skin contact occurs: Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.
Inhalation	 If fumes or combustion products are inhaled remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor, without delay.
Ingestion	 If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Seek medical advice. Avoid giving milk or oils. Avoid giving alcohol. If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

Indication of any immediate medical attention and special treatment needed

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

Organochlorines are well absorbed from the lungs, gastrointestinal tract and skin.

- Intoxication from acute oral exposures generally begins within 45 minutes to several hours.
- Diazepam is the anticonvulsant of choice. [Phenobarbitone, sodium phenobarbitone or in repeated convulsions sodium pentothal (2.5% solution) may also be given calcium gluconate may also be helpfull (Manufacturers: David Grav and Hoechst)
- Usual methods of decontamination (Ipecac / lavage / charcoal / cathartics) are recommended within the first several hours following exposure.
- Dialysis, diuresis and haemoperfusion are ineffective because of extensive tissue binding and large volumes of distribution.
- There is no antidote. [Ellenhorn and Barceloux: Medical Toxicology]

Following acute or short term repeated exposures to n-hexane

- Large quantities of n-hexane are expired by the lungs after vapour exposure (50-60%). Humans exposed to 100 ppm demonstrate an n-hexane biological half life of 2 hours.
- Initial attention should be directed towards evaluation and support of respiration. Cardiac dysrhythmias are a potential complication.

INGESTION:

> Ipecac syrup should be considered for ingestion of pure hexane exceeding 2-3ml/kg. Extreme caution must be taken to avoid aspiration since small amounts of n-hexane intratracheally, produce a severe chemical pneumonitis.

[Ellenhorn and Barceloux: Medical Toxicology] BIOLOGICAL EXPOSURE INDEX - BEI

BEIs represent the levels of determinants which are most likely to be observed in specimens collected in a healthy worker who has been exposed to chemicals to the same extent as a worker with

inhalation exposure to the Exposure Standard (ES or TLV).					
Determinant	Index	Sampling Time	Comments		
1. 2,5-hexanedione in urine	5 mg/gm creatinine	End of shift	NS		
2 n-Hexane in end-exhaled air			SQ		

NS: Non-specific determinant; Metabolite observed following exposure to other materials.

SQ: Semi-quantitative determinant; Interpretation may be ambiguous - should be used as a screening test or confirmatory test.

Following acute or short term repeated exposures to toluene:

- Toluene is absorbed across the alveolar barrier, the blood/air mixture being 11.2/15.6 (at 37 degrees C.) The concentration of toluene, in expired breath, is of the order of 18 ppm following sustained exposure to 100 ppm. The tissue/blood proportion is 1/3 except in adipose where the proportion is 8/10.
- Metabolism by microsomal mono-oxygenation, results in the production of hippuric acid. This may be detected in the urine in amounts between 0.5 and 2.5 g/24 hr which represents, on average 0.8 gm/gm of creatinine. The biological half-life of hippuric acid is in the order of 1-2 hours.
- Primary threat to life from ingestion and/or inhalation is respiratory failure.
- Patients should be quickly evaluated for signs of respiratory distress (eg cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO2 <50 mm Hg or pCO2 > 50 mm Hg) should be intubated.
- + Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial damage has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
- A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.
- + Epinephrine (adrenaline) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice
- Lavage is indicated in patients who require decontamination; ensure use

BIOLOGICAL EXPOSURE INDEX - BEI

These represent the determinants observed in specimens collected from a healthy worker exposed at the Exposure Standard (ES or TLV):

		, , ,	
Determinant	Index	Sampling Time	Comments
o-Cresol in urine	0.5 mg/L	End of shift	В
Hippuric acid in urine	1.6 g/g creatinine	End of shift	B, NS
Toluene in blood	0.05 mg/L	Prior to last shift of workweek	

NS: Non-specific determinant: also observed after exposure to other material

B: Background levels occur in specimens collected from subjects NOT exposed

As in all cases of suspected poisoning, follow the ABCDEs of emergency medicine (airway, breathing, circulation, disability, exposure), then the ABCDEs of toxicology (antidotes, basics, change absorption, change distribution, change elimination).

For poisons (where specific treatment regime is absent):

BASIC TREATMENT

Establish a patent airway with suction where necessary.

• Watch for signs of respiratory insufficiency and assist ventilation as necessary.

- Administer oxygen by non-rebreather mask at 10 to 15 L/min.
- Monitor and treat, where necessary, for pulmonary oedema. ÷
- Monitor and treat, where necessary, for shock. Anticipate seizures ъ

> DO NOT use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.

ADVANCED TREATMENT

Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.

- Positive-pressure ventilation using a bag-valve mask might be of use.
- Monitor and treat, where necessary, for arrhythmias.
- + Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- Drug therapy should be considered for pulmonary oedema.
- + Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- Treat seizures with diazepam.
- Proparacaine hydrochloride should be used to assist eye irrigation. BRONSTEIN, A.C. and CURRANCE, P.L.

EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

Special hazards arising from the substrate or mixture

Fire Incompatibility	Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
Advice for firefighters	
Fire Fighting	 Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves in the event of a fire. Prevent, by any means available, spillage from entering drains or water courses. Use fire fighting procedures suitable for surrounding area.
Fire/Explosion Hazard	carbon dioxide (CO2) other pyrolysis products typical of burning organic material. Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions. May emit clouds of acrid smoke May emit poisonous fumes.
HAZCHEM	•3YE

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	 Remove all ignition sources. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment.
Major Spills	 Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. May be violently or explosively reactive. Wear full body protective clothing with breathing apparatus.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling				
Safe handling	 Containers, even those that have been emptied, may contain explosive vapours. Do NOT cut, drill, grind, weld or perform similar operations on or near containers. Contains low boiling substance: Storage in sealed containers may result in pressure buildup causing violent rupture of containers not rated appropriately. Check for bulging containers. Vent periodically Always release caps or seals slowly to ensure slow dissipation of vapours 			

	 Electrostatic discharge may be generated during pumping - this may result in fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<=1 m/sec until fill pipe submerged to twice its diameter, then <= 7 m/sec). Avoid splash filling.
Other information	 Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers.

Conditions for safe storage, including any incompatibilities

Suitable container	 Lined metal can, lined metal pail/ can. Plastic pail. Polyliner drum. Packing as recommended by manufacturer. For low viscosity materials Drums and jericans must be of the non-removable head type. Where a can is to be used as an inner package, the can must have a screwed enclosure. For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.): Removable head packaging; Cans with friction closures and Iow pressure tubes and cartridges may be used. All inner and sole packagings for substances that have been assigned to Packaging Groups I or II on the basis of inhalation toxicity criteria, must be hermetically sealed.
Storage incompatibility	 On contact with iron or rust, heptachlor produces hydrogen chloride gas. Toluene: reacts violently with strong oxidisers, bromine, bromine trifluoride, chlorine, hydrochloric acid/ sulfuric acid mixture, 1,3-dichloro-5,5-dimethyl-2,4-imidazolidindione, dinitrogen tetraoxide, fluorine, concentrated nitric acid, nitrogen dioxide, silver chloride, sulfur dichloride, uranium fluoride, vinyl acetate forms explosive mixtures with strong acids, strong oxidisers, silver perchlorate, tetranitromethane is incompatible with bis-toluenediazo oxide attacks some plastics, rubber and coatings may generate electrostatic charges, due to low conductivity, on flow or agitation. For alkyl aromatics: The alkyl side chain of aromatic rings can undergo oxidation by several mechanisms. The most common and dominant one is the attack by oxidation at benzylic carbon as the intermediate formed is stabilised by resonance structure of the ring. Following reaction with oxygen and under the influence of sunlight, a hydroperoxide at the alpha-position to the aromatic ring, is the primary oxidation product formed (provided a hydrogen atom is initially available at this position) - this product is often short-lived but may be stable dependent on the nature of the aromatic substitution; a secondary C-H bond is more easily attacked than a primary C-H bond whilst a tertiary C-H bond is even more susceptible to attack by oxygen Monoalkylbenzenes may subsequently form monocarboxylic acids; alkyl naphthalenes mainly produce the corresponding naphthalene carboxylic acids. Oxidation in the presence of transition metal salts not only accelerates but also selectively decomposes the hydroperoxides. Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic rings and strong oxidising agents. Aromatics can react exothermically with bases and with diazo compounds. </th

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA Material name TWA Source Ingredient STEL Peak Notes 0.25 mg/m3 Not Available Not Available Not Available Australia Exposure Standards aldrin Aldrin 0.008 ppm / 0.1 mg/m3 Australia Exposure Standards lindane Lindane Not Available Not Available Not Available DDT DDT (Dichlorodiphenyl-trichloroethane) Not Available Not Available Not Available Australia Exposure Standards 1 mg/m3 Australia Exposure Standards dieldrin Dieldrin 0.25 mg/m3 Not Available Not Available Not Available Australia Exposure Standards endrin Endrin 0.1 mg/m3 Not Available Not Available Not Available Australia Exposure Standards 0.5 mg/m3 Not Available Not Available Not Available heptachlor Heptachlor Australia Exposure Standards 10 mg/m3 Not Available Not Available Not Available methoxychlor Methoxychlor Not Available Australia Exposure Standards n-hexane Hexane (n-Hexane) 20 ppm / 72 mg/m3 Not Available Not Available Australia Exposure Standards toluene Toluene 50 ppm / 191 mg/m3 574 mg/m3 / 150 ppm Not Available Not Available

EMERGENCY LIMITS TEEL-1 TEEL-2 TEEL-3 Ingredient Material name Aldrin; (1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4-endo,exo-5,8-dimethanonaphthalene) 0.91 mg/m3 10 mg/m3 100 mg/m3 aldrin 1,2,3,4,5,6-hexachlorocyclohexane Hexachlorocyclohexane, alpha-; (Benzene hexachloride-alpha-isomer) 0.3 mg/m3 1.4 mg/m3 8.4 mg/m3 (alpha isomer) 1,2,3,4,5,6-hexachlorocyclohexane Benzene hexachloride; (Hexachlorocyclohexane, mixed isomers) 0.51 mg/m3 5.7 mg/m3 30 mg/m3 (alpha isomer) 1.2.3.4.5.6-hexachlorocvclohexane Hexachlorocyclohexane, beta-1,2,3,4,5,6-; (Benzene hexachloride, trans-alpha-) 0.3 mg/m3 27 mg/m3 160 mg/m3 (beta isomer) 1,2,3,4,5,6-hexachlorocyclohexane 0.51 mg/m3 Benzene hexachloride; (Hexachlorocyclohexane, mixed isomers) 5.7 mg/m3 30 mg/m3 (beta isomer)

lindane	Lindane; (gamma-Benzenehexachloride)		9.1 mg/m3	100 mg/m3	1,000 mg/m3
1,1-dichloro-2,2-bis(p- chlorophenyl)ethane	DDD; (1,1-bis(4-Chlorophenyl)-2,2-dichloroethane)		2.1 mg/m3	24 mg/m3	3,000 mg/m3
2,2-bis(4-chlorophenyl)-1,1- dichloroethylene	DDE; (2,2-bis(p-Chlorophenyl)-1,1-dichloroethylene)		6.5 mg/m3	72 mg/m3	170 mg/m3
DDT	DDT; (Dichlorodiphenyltrichloroethane)		3 mg/m3	34 mg/m3	210 mg/m3
dieldrin	Dieldrin		0.3 mg/m3	6.8 mg/m3	450 mg/m3
endrin	Endrin		1.8 mg/m3	20 mg/m3	2,000 mg/m3
heptachlor	Heptachlor		0.15 mg/m3	14 mg/m3	700 mg/m3
Heptachlor epoxide (Isomer B)	Heptachlor epoxide; (Epoxyheptachlor)		0.15 mg/m3	0.5 mg/m3	3 mg/m3
methoxychlor	Methoxychlor		30 mg/m3	150 mg/m3	4,500 mg/m3
n-hexane	Hexane		260 ppm	Not Available	Not Available
toluene	Toluene		Not Available	Not Available	Not Available
Ingredient	Original IDLH	Revised IDLH			
aldrin	25 mg/m3	Not Available			
1,2,3,4,5,6-hexachlorocyclohexane (alpha isomer)	Not Available	Not Available			
1,2,3,4,5,6-hexachlorocyclohexane (beta isomer)	Not Available	Not Available			
lindane	50 mg/m3 Not Available				
1,2,3,4,5,6-hexachlorocyclohexane (delta isomer)	Not Available	Not Available			
alpha-chlordane	Not Available	Not Available			
gamma-chlordane	Not Available	Not Available			
1,1-dichloro-2,2-bis(p- chlorophenyl)ethane	Not Available	Not Available			
2,2-bis(4-chlorophenyl)-1,1- dichloroethylene	Not Available	Not Available			
DDT	500 mg/m3	Not Available			
dieldrin	50 mg/m3	Not Available			
alpha-endosulfan	Not Available	Not Available			
beta-endosulfan	Not Available	Not Available			
endosulfan sulfate	Not Available	Not Available			
endrin	2 mg/m3	Not Available			
endrin aldehyde	Not Available	Not Available			
endrin ketone	Not Available	Not Available			
heptachlor	35 mg/m3	Not Available			
Heptachlor epoxide (Isomer B)	Not Available	Not Available			
methoxychlor	5,000 mg/m3	Not Available			
n-hexane	1,100 ppm	Not Available			
toluene	500 ppm	Not Available			

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.
Personal protection	
Eye and face protection	 Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.
Skin protection	See Hand protection below
Hands/feet protection	 Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber NOTE: The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.
Body protection	See Other protection below

Other protection	 Employees working with confirmed human carcinogens should be provided with, and be required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area. [AS/NZS ISO 6529:2006 or national equivalent] Employees engaged in handling operations involving carcinogens should be provided with, and required to wear and use half-face filter-type respirators with filters for dusts, mists and fumes, or air purifying canisters or cartridges. A respirator affording higher levels of protection may be substituted. [AS/NZS 1715 or national equivalent] Emergency deluge showers and eyewash fountains, supplied with potable water, should be located near, within sight of, and on the same level with locations where direct exposure is likely. Prior to each exit from an area containing confirmed human carcinogens, employees should be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood. Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood.
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Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the: "Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the *computer-generated* selection:

Pesticide Mix (20 components)

VITON/CHLOROBUTYL

NEOPRENE/NATURAL

Material

PVA

VITON

TEFLON

BUTYL

NEOPRENE

NITRILE+PVC

SARANEX-23 2-PLY SARANEX-23

VITON/NEOPRENE

NITRILE

PVC

CPE

PE/EVAL/PE

Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	-AUS P2	-	-PAPR-AUS / Class 1 P2
up to 50 x ES	-	-AUS / Class 1	P2 -
up to 100 x ES	-	-2 P2	-PAPR-2 P2 ^

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final

selection must be based on detailed observation. -

 * Where the glove is to be used on a short term, casual or infrequent basis, factors such as

"feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Clear liquid		
Physical state	Liquid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	<4	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	HIGHLY FLAMMABLE.	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available

Solubility in water (g/L)	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	 Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	Inhalation of vapours or aerosols (mists, fumes), generated by the material du The material can cause respiratory irritation in some persons. The body's res Inhalation of vapours may cause drowsiness and dizziness. This may be acco co-ordination, and vertigo. Inhalation of heptachlor dust causes irritability, tremors and collapse. Technic The acute toxicity of inhaled alkylbenzene is best described by central nervous Whole body symptoms of poisoning include light-headedness, nervousness, ringing in the ears, blurred or double vision, vomiting and sensations of heat, depression of breathing, and arrest. Heart stoppage may result from cardiova Inhalation of high concentrations of gas/vapour causes lung irritation with cou slowing of reflexes, fatigue and inco-ordination. The use of a quantity of material in an unventilated or confined space may res starting consider control of exposure by mechanical ventilation.	uring the course of normal handling, may be harmful. sponse to such irritation can cause further lung damage. impanied by sleepiness, reduced alertness, loss of reflexes, lack of al heptachlor is a central nervous system depressant is system depression. These compounds may also act as general anaesthetics. apprehension, a feeling of well-being, confusion, dizziness, drowsiness, cold or numbness, twitching, tremors, convulsions, unconsciousness, ascular collapse. Ighing and nausea, central nervous depression with headache and dizziness, sult in increased exposure and an irritating atmosphere developing. Before
Ingestion	Toxic effects may result from the accidental ingestion of the material; animal produce serious damage to the health of the individual. Swallowing of the liquid may cause aspiration into the lungs with the risk of ch Organochlorine pesticides excite the central nervous system, causing shortne it can cause twitches, spastic movements and seizures. Dogs fed daily on a diet containing methoxychlor developed fasciculations, tre weeks. Rabbits given a daily oral dose of 200 mg/kg died after 4 to 5 doses. A Chronic inhalation or skin exposure to n-hexane may cause damage to nerve	experiments indicate that ingestion of less than 40 gram may be fatal or may nemical pneumonitis; serious consequences may result. (ICSC13733) ess of breath, cough, narrowing of airways and throat spasms. In the muscles emor, hyperaesthesia, tonic seizures and tetanic convulsions after 5 to 8 utopsy revealed mild liver damage and nephrosis. ends in extremities, e.g. finger, toes with loss of sensation.
Skin Contact	The material may accentuate any pre-existing dermatitis condition Skin contact with the material may damage the health of the individual; system Dermal toxicity of heptachlor is increased dramatically when dissolved in solve Repeated application of methoxychlor to the skin of rabbits produced severe a testes, lesions of the central nervous system, some fatty degeneration of the li Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, r use of the material and ensure that any external damage is suitably protected. The liquid may be able to be mixed with fats or oils and may degrease the ski material is unlikely to produce an irritant dermatitis as described in EC Direct The material may cause moderate inflammation of the skin either following dirr contact dermatitis which is characterised by redness, swelling and blistering.	hic effects may result following absorption. ent. Inorexia, depression, emaciation, paralysis of the forelimbs, atrophy of the ver, severe chronic renal disease and changes in bone and skin marrow may produce systemic injury with harmful effects. Examine the skin prior to the in, producing a skin reaction described as non-allergic contact dermatitis. The tives. ect contact or after a delay of some time. Repeated exposure can cause
Eye	Although the liquid is not thought to be an irritant (as classified by EC Directiv characterised by tearing or conjunctival redness (as with windburn).	ves), direct contact with the eye may produce transient discomfort
Chronic	Long-term exposure to respiratory irritants may result in airways disease, invo Skin contact with the material is more likely to cause a sensitisation reaction in There is ample evidence that this material can be regarded as being able to ca Ample evidence exists from experimentation that reduced human fertility is dire Ample evidence exists, from results in experimentation, that developmental dis Based on experience with animal studies, exposure to the material may result i significant toxic effects to the mother. Substance accumulation, in the human body, may occur and may cause some Intentional abuse (glue sniffing) or occupational exposure to toluene can resu of the extremeties (due to widespread cerebrum withering), headache, abnom colour perception, blindness, nystagmus (rapid, involuntary eye movements), The symptoms of chronic heptachlor poisoning include tremors, inco-ordinatio testing shows that it may cause cancer in some species, notably of the liver, it Exposure to organochlorine pesticides for long periods can cause multiple ne nerves with headache, dizziness, "pins and needles", tremor in the limbs, dist the bile duct, rapid heartbeat, hollow heart sounds and a tight pain in the ches change in blood cell distribution, anaemia, loss of appetite and weight. Chronic inhalation or skin exposure to n-hexane may cause damage to nerve gamma-diketones are generally toxic to the nervous system. They can occur in	Diving difficulty breathing and related whole-body problems. In some persons compared to the general population. ause cancer in humans based on experiments and other information. aectly caused by exposure to the material. sorders are directly caused by human exposure to the material. in toxic effects to the development of the foetus, at levels which do not cause a concern following repeated or long-term occupational exposure. It in chronic habituation. Chronic abuse has caused inco-ordination, tremors hal speech, temporary memory loss, convulsions, coma, drowsiness, reduced hearing loss leading to deafness and mild dementia. In, convulsions, kidney damage, failure of breathing and even death. Animal has also caused thyroid tumours. rvous system infections and disorders involving the brain and autonomic urbances in nerves supplying blood vessels, pain in the bowel and stiffening of t. There can be blood problems with loss of platelets and white blood cells, ends in extremities, e.g. finger, toes with loss of sensation. as commercial products or as metabolic products.
Pesticide Mix (20 components)	Not Available	Not Available
	<u> </u>	1

	TOXICITY	IRR	ITATION
aldrin	dermal (rat) LD50: 98 mg/kg ^[2]	Not	Available
	Oral (rat) LD50: 38 mg/kg ^[2]		
		· · · · · · · · · · · · · · · · · · ·	
1,2,3,4,5,6-	TOXICITY	IRRI	TATION
hexachlorocyclohexane (alpha isomer)	Oral (rat) LD50: 177 mg/kg ^[2]	Not A	vailable
1,2,3,4,5,6-	ΤΟΧΙCITY	IRR	ITATION
hexachlorocyclohexane (beta	Oral (rat) D50: 2000 mg/kg ^[2]	Not	Available
isomer)	Chai (hai) EDOC. 2000 mg/kg		
	τονιείτν	ID	
lindene			t Available
lindane			
	Oral (rat) LD50: 76 mg/kg ⁻²		
1,2,3,4,5,6- hexachlorocyclohexane (delta		IRRI	TATION
isomer)	Oral (rat) LD50: 750 mg/kg ¹²¹	Not A	vailable
alpha-chlordane	TOXICITY	IRRI	TATION
	Oral (rat) LD50: 500 mg/kg ^[2]	Not A	vailable
gamma-chlordane	TOXICITY	IRRI	TATION
ganna onoraano	Oral (rat) LD50: 275 mg/kg ^[2]	Not A	vailable
	TOXICITY		IRRITATION
1,1-dichloro-2,2-bis(p- chlorophenyl)ethane	Dermal (rabbit) LD50: 1200 mg/kg ^[2]		Not Available
	Oral (rat) LD50: 113 mg/kg ^[2]		
2.2-bis(4-chlorophenvl)-1.1-	TOXICITY	IRRI	TATION
dichloroethylene	Dral (rat) LD50: 800 mg/kg ^[2] Not A		vailable
	TOXICITY	IR	RITATION
DDT	dermal (rat) LD50: 250 mg/kg ^[2]	Nc	t Available
	Oral (rat) LD50: 87 mg/kg ^[2]		
	TOXICITY		IRRITATION
	dermal (rat) LD50: 56 mg/kg ^[2]		Not Available
dieldrin	Inhalation (rat) LC50: 0.013 mg/l/4h ^[2]		
	Oral (rat) LD50: 38.3 mg/kg ^[2]		
			1
	TOXICITY	IRRIT	ATION
alpha-endosulfan	Oral (rat) LD50: 76 mg/kg ^[2]	Not Av	ailable
	ΤΟΧΙΟΙΤΥ	IRRI	ΓΑΤΙΟΝ
beta-endosulfan	Oral (rat) D50: 240 mg/kg ^[2]	Not 4	vailable
	TOVICITY		
endosulfan sulfate		IRRIA	
		INOT AV	สแลมเซ
endrin	TOXICITY	IRR	ITATION
	dermal (rat) LD50: 12 mg/kg ^[2]	Not	Available

	Oral (rat) LD50: 3 mg/kg ^[2]				
endrin aldehyde	10XICTTY 0ral (rat) D50: 500 ma/ka ^[2]		IRRITATION Not Available		
	Ciai (iai) LDSU. SOU Higing-				
	ΤΟΧΙCΙΤΥ	1	RRITATION		
endrin ketone	Oral (rat) LD50: 10 mg/kg ^[2]	Ν	lot Available		
	TOXICITY		IRRITATION		
heptachlor	dermal (rat) LD50: 119 mg/kg ^[2]		Not Available		
	Oral (rat) LD50: 40 mg/kg ^[2]				
	TOXICITY		IRRITATION		
Heptachlor epoxide (Isomer B)	Dermal (rabbit) LD50: 144 mg/kg ^[2]		Not Available		
	Oral (rat) LD50: 15 mg/kg ^[2]				
	TOXICITY		IRRITATION		
methoxychlor	dermal (rat) LD50: 7600 mg/kg ^[2]		Not Available		
	Oral (rat) LD50: 1855 mg/kg ^[2]				
			TION		
	Dormal (rahkii) I DE0: 2000 ma/ka[1]	hit): 10 mg, mild			
n-hexane	Dermai (rabbit) LDSU: >2000 mg/kg: -				
	Orel (rat) LDE0: 29740 ms/kg ^[2]				
	Oral (rat) LDSU: 287 10 mg/kg ² 2				
	ΤΟΧΙCITY	IRRITATION			
	Dermal (rabbit) LD50: 12124 mg/kg ^[2] Eye (rabbit): 2mg/24h - SEVERE				
	Inhalation (rat) LC50: 49 mg/l/4H ^[2]	mild			
toluene	Oral (rat) LD50: 636 mg/kg ^[2]	Osec - mild			
		h-moderate			
		Skin (rabbit):500 mg -	moderate		
Legend:	 Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* V data extracted from RTECS - Register of Toxic Effect of chemical Substances 	alue obtained from mai	nutacturer's SDS. Unless otherwise specified		
	Asthma-like symptoms may continue for months or even years after exposure to the reactive airways dysfunction syndrome (RADS) which can occur after exposure to	e material ends. This ma high levels of highly irr	y be due to a non-allergic condition known as itating compound. Main criteria for diagnosing		
Pesticide Mix (20 components)	RADS include the absence of previous airways disease in a non-atopic individual, w hours of a documented exposure to the irritant. Other criteria for diagnosis of RAD	vith sudden onset of per S include a reversible a	sistent asthma-like symptoms within minutes to irflow pattern on lung function tests, moderate to		
	severe bronchial hyperreactivity on methacholine challenge testing, and the lack of	minimal lymphocytic inf	lammation, without eosinophilia.		
ALDRIN	NOTE: The substance is classified under EC Directive on Dangerous Substances	s (67/548/EEC): Possib	le risk of irreversible effects, (substances		
400450	suspected of being carcinogenic and/or mutagenic)				
1,2,3,4,5,6- HEXACHLOROCYCLOHEXANE	Somnolence, ataxia, dyspnea recorded.				
(BETA ISOMER)					
LINDANE	Side-reactions during manufacture of the parent compound may result in the productions	ction of trace amounts of	of polyhalogenated aromatic hydrocarbon(s).		
1,1-DICHLORO-2,2-BIS(P- CHLOROPHENYL)ETHANE	Halogenated phenols, and especially their alkali salts, can condense above 300 deg Polyhalogenated aromatic hydrocarbons (PHAHs) can cause effects on hormones and visual disturbances may occur. Tremor, convulsions, excitement, primary irritation recorded.	g. and mimic thyroid hom	none. Acne, discharge in the eye, eyelid swellings		
	For DDT:	Tovicity			
	ו א moderately to slightly toxic to studied mammalian species via the oral route through the gastrointestinal tract, with increased absorption in the presence of fats	e. IOXICITY WIII VARY ACCO	raing to formulation . UD I is readily absorbed		
DDT	One-time administration of DDT to rats at doses of 50 mg/kg led to decreased thyrr of liver-produced enzymes and changes in the cellular chemistry in the central nervo	oid function and a single	e dose of 150 mg/kg led to increased blood levels		
	WARNING: This substance has been classified by the IARC as Group 2A: Probal ADI: 0.002 mg/kg/day NOEL: 0.25 mg/kg/day	bly Carcinogenic to Hu	nans.		

Pesticide Mix (20 components)

ENDRIN	ADI: 0.0002 mg/kg/day					
HEPTACHLOR	for technical grade ADI: 0.0005 mg/kg/day					
METHOXYCHLOR	For methoxychlor: Acute toxicity: Methoxychlor is practically nontoxic via the mg/kg, and the lowest dose through the skin that produce practically nontoxic dermally, with a reported dermal LD50 system depression, progressive weakness, and diarrhoea Equivocal tumorigen by RTECS criteria ADI: 0.1 mg/kg/a	ne oral route The lowest oral dose that ca es toxic effects in humans is 2400 mg/kg b 0 in rabbits of greater than 2000 mg/kg. S a . Extremely high doses can cause death day	n cause lethal effects in humans is estimated to be 6400 based on behavioral symptoms . It is reportedly slightly to ymptoms of high acute exposure include central nervous within 36 to 48 hours.			
N-HEXANE	The material may be irritating to the eye, with prolonged of conjunctivitis.	contact causing inflammation. Repeated (or prolonged exposure to irritants may produce			
TOLUENE	The material may cause skin irritation after prolonged or r scaling and thickening of the skin.	repeated exposure and may produce on a	contact skin redness, swelling, the production of vesicles,			
Pesticide Mix (20 components) & 1,1-DICHLORO-2,2-BIS(P- CHLOROPHENYL)ETHANE & 2,2-BIS(4- CHLOROPHENYL)-1,1- DICHLOROETHYLENE	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.					
Pesticide Mix (20 components) & HEPTACHLOR & Heptachlor epoxide (Isomer B)	For heptachlor and its degradates: Heptachlor has moderate to high toxicity when swallowed and moderate toxicity on skin contact. It is not reported to irrritate the skin or eyes. Like many organochlorines, it interferes with nerve transmission and may cause an increase in activity of enzymes involved in the breakdown of foreign chemicals. This may lead to serious toxicity from drugs taken for medical reasons.					
Pesticide Mix (20 components) & TOLUENE	For toluene: Acute toxicity: Humans exposed to high levels of toluene for short periods of time experience adverse central nervous system effects ranging from headaches to intoxication, convulsions, narcosis (sleepiness) and death. When inhaled or swallowed, toluene can cause severe central nervous system depression, and in large doses has a narcotic effect. 60mL has caused death. Death of heart muscle fibres, liver swelling, congestion and bleeding of the lungs and kidney injury were all found on autopsy.					
ALDRIN & DIELDRIN & ENDRIN & METHOXYCHLOR	The substance is classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing.					
ALDRIN & DIELDRIN	ADI: 0.0001 mg/kg/day					
1,2,3,4,5,6- HEXACHLOROCYCLOHEXANE (ALPHA ISOMER) & 1,2,3,4,5,6- HEXACHLOROCYCLOHEXANE (BETA ISOMER) & LINDANE & 1,2,3,4,5,6- HEXACHLOROCYCLOHEXANE (DELTA ISOMER)	551indane WARNING: This substance has been classified by the I Tenth Annual Report on Carcinogens: Substance anticip [National Toxicology Program: U.S. Dep. of Health & Hur	ARC as Group 1: CARCINOGENIC TO ated to be Carcinogen <i>man Services 2002</i>]	HUMANS.			
1,1-DICHLORO-2,2-BIS(P- CHLOROPHENYL)ETHANE & 2,2-BIS(4- CHLOROPHENYL)-1,1- DICHLOROETHYLENE & HEPTACHLOR	WARNING: This substance has been classified by the I	IARC as Group 2B: Possibly Carcinogeni	ic to Humans.			
ALPHA-ENDOSULFAN & BETA-ENDOSULFAN & ENDOSULFAN SULFATE	Endosulfan is highly toxic if swallowed. Animal testing se endosulfan toxicity. Absorption is more rapid in the prese central nervous system.	ems to indicate that low protein in the die nce of alcohols, oils and emulsifiers. The	t is associated with much increased susceptibility to main characteristic of poisoning is stimulation of the			
ENDRIN & METHOXYCHLOR	Reproductive effector in rats					
Acute Toxicity	✓	Carcinogenicity	✓			
Skin Irritation/Corrosion	✓	Reproductivity	*			
Serious Eye Damage/Irritation	\odot	STOT - Single Exposure	×			
Respiratory or Skin sensitisation	0	STOT - Repeated Exposure	0			
Mutagenicity	\otimes	Aspiration Hazard	✓			
		Legend: X - D	Data available but does not fill the criteria for classification			

Data available to make classification

SECTION 12 ECOLOGICAL INFORMATION

oxicity								
	ENDPOINT	TEST DURATION (HR)		SPECIES	VALUE		SOURCE	
Pesticide Mix (20 components)	Not Available	Not Available		Not Available	Not Availa	ble	Not Available	
aldrin	ENDPOINT	TEST DURATION (HR)	SPECI	ES		VALUE	SOURC	
	LC50	96	Fish		0.0012mg/L	4		
	EC50	48	Crustacea			0.018mg/L	4	
	BCFD	8	Algae or other aquatic plants			1mg/L	4	

S – Data Not Available to make classification

	ENDROUNT			0050150				0011005	
			SPECIES			VALUE	SOURCE		
400456	LC50	96	i	Fish			1.11mg/L	4	
hexachlorocyclohexane (alpha	EC50	48		Crustacea			0.8mg/L	4	
isomer)	EC50	96		Algae or c	other aquatic plants		>10mg/L	4	
	BCFD	2		Algae or c	other aquatic plants		1mg/L	4	
	NOEC	10	S	Algae or c	other aquatic plants		100mg/L	4	
	ENDROINT				SPECIES	VAL	16	SOURCE	
123456-					SPECIES	VAL		JOURCE	
hexachlorocyclohexane (beta	LC50		96		Fish	1.1m	g/L	4	
isomer)	BCF		840		Fish	0.05r	ng/L	4	
	NOEC		2160		Fish	0.032	2mg/L	4	
	ENDPOINT	TE	ST DURATION (HR)	SPECIES			VALUE	SOURCE	
		96		Fish			0.0011mg/l	4	
	EC50	40		Crustagaa			0.0001111g/L	4	
lindane	EC30	40		Crustacea			0.00022mg/L	4	
	EC50	96		Algae or oth	er aquatic plants		1.62mg/L	4	
	BCF	96		Fish			0.142mg/L	4	
	NOEC	72		Crustacea			0.0001mg/L	4	
	ENDROINT				SPECIES	VAL	IE	SOURCE	
1,2,3,4,5,6-					SFECIES	VAL		SOURCE	
nexachlorocyclohexane (delta isomer)	LC50		96		Fish	0.7m	g/L - ^	4	
,	BCF		792		Fish	0.955	5mg/L	4	
	ENDROINT				SPECIES	VALUE		SOURCE	
alpha-chlordane			Fich		VALUE		SOURCE		
	BCE 24			FISH	0.00705	nng/∟	4		
	BCF 24			Fish 0.005		g/L	4		
	NOEC	/2			Crustacea	0.01mg	/L	4	
	ENDROINT				SPECIES	VALU	E	SOURCE	
gamma-chlordane	LC50 96			SFECIES	0 OF OF	⊑ 'ma/l	JOURCE		
	96			FISN	0.0505	smg/∟	4		
	ENDPOINT	DPOINT TEST DURATION (HR)			SPECIES	VALU	F	SOURCE	
	1,050		96		Fish	0.002	- 5ma/l	4	
1,1-dichloro-2,2-bis(p- chlorophenvl)ethane	LC50		49		Cructopop	0.002	1mg/L	4	
	EC50		40		Crustacea	0.002	+mg/L	4	
	BCF 24 Crustacea 0.001mg/L				ng/∟	4			
	ENDPOINT		TEST DURATION (HR)		SPECIES	VAL	UE	SOURCE	
2.2 his/4 shlaranhanul) 4.4	1 C 50		96		Fish	0.03	2ma/l	4	
dichloroethylene	EC50	EC50 49			Crustacea	0.028ma/L		4	
	BCF		72		Fish 0.008)8mg/L 4		
	-								
				SPECIES			VALUE	SOURCE	
	ENDPOINT	TE	ST DURATION (HR)		Fish				
	ENDPOINT LC50	TE 96	ST DURATION (HR)	Fish			0.00026mg/L	4	
DDT	ENDPOINT LC50 EC50	TE 96 48	ST DURATION (HR)	Fish Crustacea			0.00026mg/L 0.00036mg/L	4	
DDT	ENDPOINT LC50 EC50 BCFD	TE 96 48 168	ST DURATION (HR)	Fish Crustacea Algae or oth	er aquatic plants		0.00026mg/L 0.00036mg/L 2.5mg/L	4 4 4 4	
DDT	ENDPOINT LC50 EC50 BCFD NOEC	TE 96 48 168 638	ST DURATION (HR)	Fish Crustacea Algae or oth Fish	er aquatic plants		0.00026mg/L 0.00036mg/L 2.5mg/L 0.0004mg/L	4 4 4 5	
DDT	ENDPOINT LC50 EC50 BCFD NOEC	TE 96 48 168 638	ST DURATION (HR)	Fish Crustacea Algae or oth Fish	er aquatic plants		0.00026mg/L 0.00036mg/L 2.5mg/L 0.0004mg/L	4 4 4 5	
DDT	ENDPOINT LC50 EC50 BCFD NOEC ENDPOINT	TE 96 48 168 638	ST DURATION (HR)	Fish Crustacea Algae or oth Fish SPECIES	er aquatic plants		0.00026mg/L 0.00036mg/L 2.5mg/L 0.0004mg/L	4 4 4 5 	
DDT	ENDPOINT LC50 EC50 BCFD NOEC ENDPOINT LC50	TE 96 48 162 632 TE 96	ST DURATION (HR)	Fish Crustacea Algae or oth Fish SPECIES Fish	er aquatic plants		0.00026mg/L 0.00036mg/L 2.5mg/L 0.0004mg/L VALUE 0.00062mg/L	4 4 5 5 SOURCE 4	
DDT	ENDPOINT LC50 EC50 BCFD NOEC ENDPOINT LC50 EC50	TE 96 48 168 638 TE 96 48 168 538 TE 96 48	ST DURATION (HR)	Fish Crustacea Algae or oth Fish SPECIES Fish Crustacea	er aquatic plants		0.00026mg/L 0.00036mg/L 2.5mg/L 0.0004mg/L VALUE 0.00062mg/L 0.00028mg/L	4 4 5 5 80URCE 4 4	
DDT	ENDPOINT LC50 EC50 BCFD NOEC ENDPOINT LC50 EC50 EC50	TE 96 48 168 638	ST DURATION (HR)	Fish Crustacea Algae or oth Fish SPECIES Fish Crustacea Algae or oth	er aquatic plants		0.00026mg/L 0.00036mg/L 2.5mg/L 0.0004mg/L VALUE 0.00062mg/L 0.00028mg/L >0.1mg/L	4 4 5 5 SOURCE 4 4 4	
DDT	ENDPOINT LC50 EC50 BCFD NOEC ENDPOINT LC50 EC50 EC50 EC50 BCFD	TE 96 48 168 638 TE 96 48 96 48 96 24	ST DURATION (HR)	Fish Crustacea Algae or oth Fish SPECIES Fish Crustacea Algae or oth Crustacea	er aquatic plants		0.00026mg/L 0.00036mg/L 2.5mg/L 0.0004mg/L VALUE 0.00062mg/L 0.00028mg/L >0.1mg/L 6mg/L	4 4 5 5 SOURCE 4 4 4 4 4 4	

	ENDDOINT		TEAT BUB ATION (UD)		0050150			00	
	ENDPOINT		TEST DURATION (HR)		SPECIES	VALUE		so	URCE
alpha-endosulfan	LC50		96		Fish	0.00016	img/L	4	
	BCF		504		Fish	0.0002n	ng/L	4	
	ENDPOINT		TEST DURATION (HR)		SPECIES	VALU	E	SO	URCE
beta-endosulfan	LC50		96		Fish	0.0033	3mg/L	4	
	BCF		504		Fish	0.0001	mg/L	4	
			1		1				
	ENDPOINT		TEST DURATION (HR)		SPECIES	VALU	E	SO	URCE
endosulfan sulfate	LC50		96		Fish	0.0014	4mg/L	4	
	EC50		48		Crustacea	0.92m	ig/L	4	
	ENDPOINT		TEST DURATION (HR)		SPECIES	VALUE		SC	URCE
an data	LC50		96		Fish	0.00048	smg/L	4	
enarin	EC50		48		Crustacea	0.00016	ng/L	4	
	BCF		3360		Fish	0.63mg/L	-	4	
	NUEC		3360		FISN	0.00012	ng/L	4	
					SPECIES	VALUE		SOUP	CE
endrin aldehyde	Not Available		Not Available		Not Available	Not Avail	able	Not Av	railable
	NUL Avaliable		Not Available		NUL AVAIIADIE	NOL AVAIL	able	NOL AV	aliable
	ENDPOINT		TEST DURATION (HR)		SPECIES			SOUR	CE
endrin ketone	Not Available				Not Available	Not Avail	ahle	Not Av	ailable
	Not Available				Not Available	Not Avai	able		allable
		TEG		SPECIES	2		VALUE		SOURCE
		06		Fish	,		0.0008mg/l		A
	EC50	48		Crustace	2		0.00015mg/l		4
heptachlor	EC50	96		Algae or	a other aquatic plants		0.00015mg/L		4
	PCE	BCF 720		Fich			0.020711g/L		4
	NOFO	670	0	Fish			0.000mg/l		4 F
	NOEC	072	0	FISH			0.0009mg/L		5
	ENDROINT				SPECIES	VALU	F	sol	
lentachlor enovide (Isomer B)					Fich	0.0053	∟ ?ma/l	4	ONCL
eptachior epoxide (Isomer B)	LC50		30		Fish	0.0053	mg/L	4	
	DUF		700		FISH	0.0013	smg/∟	4	
					SDECIES	VALUE		50	
					SPECIES	VALUE	~//	30	ORCE
mothowychlor	EC50	96			Cructocoo	0.00023mg/l		4	
memoxychiol	BCF		0.25		Crustacea	0.000231	ng/L	4	
	NOEC		1656		Crustacea	0.00000	ima/l	4	
	NOLO		1000		Ciusiacea	0.000000	ing/L	4	
	ENDPOINT		TEST DURATION (HR)		SPECIES	VALUE		SO	URCE
n-hexane	LC50		96		Fish	2.5mg/l	2.5mg/L		
	EC50		48		Crustacea	3877.65	āma/L	4	
	EC50		48		Crustacea	3877.65	āmg/L	4	
	ENDPOINT	TE	ST DURATION (HR)	SPECIE	S		VALUE		SOURCE
	LC50	96	(,	Fish			0.0073ma/L		4
	LC50 96		Fish		ea		3.78ma/L		5
	EC50	48	48 Crustace			3.78mg/L			
toluene	EC50 EC50	48 72		Algae or	other aquatic plants		12.5mg/l		4
toluene	EC50 EC50 BCF	48 72 24		Algae or	other aquatic plants		12.5mg/L 10ma/l		4

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Pesticide Mix (20 components)

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters Wastes resulting from use of the product must be disposed of on site or at approved waste sites. for heptachlor and its degradates log Kow: 4.4-7.248 log Koc: 4.48 Koc: 30000 Half-life (hr) air: 6 Half-life (hr) H2O surface water: 23.1 Half-life (hr) soil: 3504-7008 Henry's atm m3 /mol: 1.48E-03 BCF: 200-37000 Breakdown in soil and groundwater: Heptachlor and heptachlor epoxide are highly persistent in soils, with a reported representative field half-life of 250 days. Data suggests a soil half-life for heptachlor of 0.4 to 0.8 years. The mean disappearance rates of heptachlor from soil ranged from 5.25 to 79.5% per year, depending upon the soil type and mode of application. The highest rates of degradation were observed in sandy soils following an application of a granular formulation. For Aromatic Substances Series: Environmental Fate: Large, molecularly complex polycyclic aromatic hydrocarbons, or PAHs, are persistent in the environment longer than smaller PAHs. Atmospheric Fate: PAHs are 'semi-volatile substances' which can move between the atmosphere and the Earth's surface in repeated, temperature-driven cycles of deposition and volatilization. Terrestrial Fate: BTEX compounds have the potential to move through soil and contaminate ground water, and their vapors are highly flammable and explosive. Ecotoxicity - Within an aromatic series, acute toxicity increases with increasing alkyl substitution on the aromatic nucleus. For n-Hexane: Log Kow: 3.17-3.94; Henry 🕏 Law Constant: 1.69 atm-m3 mol; Vapor Pressure: 150 mm Hg @ 25 C; Log Koc: 2.90 to 3.61. BOD 5, (if unstated): 2.21; COD: 0.04; ThOD: 3.52. Atmospheric Fate: n-Hexane is not expected to be directly broken down by sunlight. The main atmospheric removal mechanism is through reactions with hydroxyl radicals, with an approximant half-life of 2.9 days For Organochlorides (Including DDT and Dieldrin): Outbreaks of poisoning from food contaminated with organochlorines are characterized by headache, nausea, vomiting, restlessness, irritability, vertigo, muscle twitching, confusion, stupor, coma and convulsions. Environmental Fate: The organochlorine pesticides are highly soluble in fats and most organic solvents but have low water solubilities and low vapor pressure. Volatilization from water or soil may also occur. The actual evaporation rate depends on factors such as temperature, soil properties, soil water content and other physicochemical properties such as water solubility and degree of adsorption. For Toluene log Kow : 2.1-3: log Koc : 1.12-2.85; Koc: 37-260; log Kom : 1.39-2.89; Half-life (hr) air : 2.4-104: Half-life (hr) H2O surface water : 5.55-528; Half-life (hr) H2O ground : 168-2628; Half-life (hr) soil : <48-240; Henry's Pa m3 /mol : 518-694; Henry's atm m3 /mol : 5.94: E-03BOD 5 0.86-2.12, 5%COD - 0.7-2.52,21-27%; ThOD - 3.13 ; BCF - 1.67-380; log BCF - 0.22-3.28 Atmospheric Fate: The majority of toluene evaporates to the atmosphere from the water and soil. The main degradation pathway for toluene in the atmosphere is reaction with photochemically produced hydroxyl radicals. The estimated atmospheric half life for toluene is about 13 hours. DO NOT discharge into sewer or waterways Persistence and degradability Ingredient Persistence: Water/Soil Persistence: Air aldrin HIGH (Half-life = 1183.33 days) LOW (Half-life = 0.38 days) 1,2,3,4,5,6-hexachlorocyclohexane HIGH (Half-life = 270 days) LOW (Half-life = 3.85 days) (alpha isomer) 1,2,3,4,5,6-hexachlorocyclohexane HIGH (Half-life = 248 days) LOW (Half-life = 3.85 days) (beta isomer) lindane HIGH (Half-life = 240.21 days) LOW (Half-life = 3.85 days) 1,2,3,4,5,6-hexachlorocyclohexane HIGH (Half-life = 200 days) LOW (Half-life = 3.85 days) (delta isomer) alpha-chlordane HIGH HIGH HIGH HIGH gamma-chlordane 1,1-dichloro-2,2-bis(p-HIGH (Half-life = 11250 days) LOW (Half-life = 5.54 days) chlorophenyl)ethane 2.2-bis(4-chlorophenyl)-1,1-HIGH (Half-life = 11250 days) LOW (Half-life = 1.7 days) dichloroethvlene DDT HIGH (Half-life = 11250 days) LOW (Half-life = 7.38 days) dieldrin HIGH (Half-life = 2160 days) LOW (Half-life = 1.69 days) HIGH beta-endosulfan HIGH

HIGH

HIGH

HIGH

IOW

LOW (Half-life = 0.41 days)

LOW (Half-life = 2.5 days)

LOW (Half-life = 0.47 days)

LOW (Half-life = 4.33 days)

Heptachlor epoxide (Isomer B)

endosulfan sulfate

endrin aldehvde

heptachlo

methoxychlo

n-hexane toluene

endrin

HIGH

HIGH

HIGH

LOW

LOW (Half-life = 5.39 days)

HIGH (Half-life = 1104 days)

HIGH (Half-life = 365 days)

LOW (Half-life = 28 days)

Ingredient	Bioaccumulation
aldrin	HIGH (BCF = 20000)
1,2,3,4,5,6-hexachlorocyclohexane (alpha isomer)	MEDIUM (BCF = 893)
1,2,3,4,5,6-hexachlorocyclohexane (beta isomer)	MEDIUM (BCF = 893)
lindane	MEDIUM (BCF = 1400)
1,2,3,4,5,6-hexachlorocyclohexane (delta isomer)	MEDIUM (LogKOW = 4.14)
alpha-chlordane	HIGH (LogKOW = 6.2599)
gamma-chlordane	HIGH (LogKOW = 6.22)
1,1-dichloro-2,2-bis(p- chlorophenyl)ethane	HIGH (LogKOW = 6.02)
2,2-bis(4-chlorophenyl)-1,1- dichloroethylene	HIGH (LogKOW = 6.51)
DDT	HIGH (BCF = 4020)
dieldrin	HIGH (BCF = 14500)
beta-endosulfan	LOW (LogKOW = 3.6812)
endosulfan sulfate	HIGH (LogKOW = 4.7396)
endrin	HIGH (BCF = 12600)
endrin aldehyde	HIGH (LogKOW = 5.7328)
heptachlor	HIGH (BCF = 17300)
methoxychlor	HIGH (LogKOW = 5.08)
n-hexane	MEDIUM (LogKOW = 3.9)
toluene	LOW (BCF = 90)

Mobility in soil

Ingredient	Mobility
aldrin	LOW (KOC = 105600)
1,2,3,4,5,6-hexachlorocyclohexane (alpha isomer)	LOW (KOC = 3380)
1,2,3,4,5,6-hexachlorocyclohexane (beta isomer)	LOW (KOC = 3380)
lindane	LOW (KOC = 3380)
1,2,3,4,5,6-hexachlorocyclohexane (delta isomer)	LOW (KOC = 3380)
alpha-chlordane	LOW (KOC = 86650)
gamma-chlordane	LOW (KOC = 86650)
1,1-dichloro-2,2-bis(p- chlorophenyl)ethane	LOW (KOC = 152500)
2,2-bis(4-chlorophenyl)-1,1- dichloroethylene	LOW (KOC = 152500)
DDT	LOW (KOC = 220300)
dieldrin	LOW (KOC = 10600)
beta-endosulfan	LOW (KOC = 48.16)
endosulfan sulfate	LOW (KOC = 824)
endrin	LOW (KOC = 10600)
endrin aldehyde	LOW (KOC = 10450)
heptachlor	LOW (KOC = 52410)
methoxychlor	LOW (KOC = 42550)
n-hexane	LOW (KOC = 149)
toluene	LOW (KOC = 268)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods	
Product / Packaging disposal	 Containers may still present a chemical hazard/ danger when empty. Return to supplier for reuse/ recycling if possible. Otherwise: If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. Where possible retain label warnings and SDS and observe all notices pertaining to the product.

DO NOT allow wash water from cleaning or process equipment to enter drains.
It may be necessary to collect all wash water for treatment before disposal.
In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
Where in doubt contact the responsible authority.
Recycle wherever possible or consult manufacturer for recycling options.
Consult State Land Waste Authority for disposal.
Bury or incinerate residue at an approved site.
Recycle containers if possible, or dispose of in an authorised landfill.

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	
HAZCHEM	•3YE
HAZCHEM	•3YE

Land transport (ADG)

UN number	1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (contains n-hexane and toluene)
Transport hazard class(es)	Class 3 Subrisk Not Applicable
Packing group	Ш
Environmental hazard	Environmentally hazardous
Special precautions for user	Special provisions 274 Limited quantity 1 L

Air transport (ICAO-IATA / DGR)

UN number	1993	
UN proper shipping name	Flammable liquid, n.o.s. * (contains n-hexane and toluene)	
Transport hazard class(es)	ICAO/IATA Class 3 ICAO / IATA Subrisk Not Applicable ERG Code 3H	
Packing group	11	
Environmental hazard	Environmentally hazardous	
	Special provisions Cargo Only Packing Instructions	A3 364
	Cargo Only Maximum Qty / Pack	60 L
Special precautions for user	Passenger and Cargo Packing Instructions	353
	Passenger and Cargo Maximum Qty / Pack	5L
	Passenger and Cargo Limited Quantity Packing Instructions	is Y341
	Passenger and Cargo Limited Maximum Qty / Pack	1L

Sea transport (IMDG-Code / GGVSee)

	,
UN number	1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (contains n-hexane and toluene)
Transport hazard class(es)	IMDG Class 3 IMDG Subrisk Not Applicable
Packing group	ll
Environmental hazard	Marine Pollutant
Special precautions for user	EMS NumberF-E , S-ESpecial provisions274

Limited Quantities 1 L

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION	
Safety, health and environmental regulations / legislation specific for the s	substance or mixture
ALDRIN(309-00-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS Australia Exposure Standards	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals Australia Inventory of Chemical Substances (AICS)	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
1,2,3,4,5,6-HEXACHLOROCYCLOHEXANE (ALPHA ISOMER)(319-84-6) IS FOUND ON THE	FOLLOWING REGULATORY LISTS
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals Australia Inventory of Chemical Substances (AICS)	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix B (Part 3)	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
1,2,3,4,5,6-HEXACHLOROCYCLOHEXANE (BETA ISOMER)(319-85-7) IS FOUND ON THE F	OLLOWING REGULATORY LISTS
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals Australia Inventory of Chemical Substances (AICS)	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix B (Part 3)	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
LINDANE(58-89-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS	
Australia Exposure Standards	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals Australia Inventory of Chemical Substances (AICS)	4 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix B (Part 3)	5 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
1,2,3,4,5,6-HEXACHLOROCYCLOHEXANE (DELTA ISOMER)(319-86-8) IS FOUND ON THE	FOLLOWING REGULATORY LISTS
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals Australia Inventory of Chemical Substances (AICS)	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix B (Part 3)	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
	Monographs
ALPHA-CHLORDANE(5103-71-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS	
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6	
GAMMA-CHLORDANE(5103-74-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS	
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6	
1.1-DICHLORO-2.2-BIS(P-CHLOROPHENYL)ETHANE(72-54-8) IS FOUND ON THE FOLLO	WING REGULATORY LISTS
Australia Inventory of Chemical Substances (AICS)	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5	6
2,2-BIS(4-CHLOROPHENYL)-1,1-DICHLOROETHYLENE(72-55-9) IS FOUND ON THE FOL	LOWING REGULATORY LISTS
Australia Inventory of Chemical Substances (AICS)	
DDT(50-29-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS	
Australia Exposure Standards	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule
Australia Inventory of Chemical Substances (AICS)	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)	ivio i ograpi i S
DIELDRIN(60-57-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS	
Australia Exposure Standards Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
Australia Inventory of Chemical Substances (AICS)	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

ALPHA-ENDOSULFAN(959-98-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS) Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 7
BETA-ENDOSULFAN(33213-65-9) IS FOUND ON THE FOLLOWING REGULATORY LIST	'S
Australia Inventory of Chemical Substances (AICS) Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 7
	ete
Australia Inventory of Chemical Substances (AICS)	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule
Australia Inventory of Chemical Substances (AICS) Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule	7
6	
ENDRIN(72-20-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS	
Australia Exposure Standards	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	6
Australia Inventory of Chemical Substances (AICS)	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 7
	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
ENDRIN ALDEHYDE(7421-93-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS	
Australia Inventory of Chemical Substances (AICS)	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)	5
ENDRIN KETONE(53494-70-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS	
Not Applicable	
Australia Exposure Standarde	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule
Australia Exposure Standards Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	6
Australia Inventory of Chemical Substances (AICS)	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
HEPTACHLOR EPOXIDE (ISOMER B)(1024-57-3*) IS FOUND ON THE FOLLOWING RE	GULATORY LISTS
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals Australia Inventory of Chemical Substances (AICS)	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
Australia Exposure Standards	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule
Australia Inventory of Chemical Substances (AICS)	
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
N-HEXANE(110-54-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS	
Australia Exposure Standards	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	E (Part 2) Australia Standard for the Uniform Scheduling of Madiaines and Paisans (SUSMP) - Schedula
Australia Inventory of Chemical Substances (AICS)	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
TOLUENE(108-88-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS	
Australia Exposure Standards	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Part 2.
Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals	Section Seven - Appendix I
Australia Inventory of Chemical Substances (AICS)	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix	6
F (Part 3)	Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 7

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

National Inventory Status

National Inventory	Status
Australia - AICS	N (gamma-chlordane; endrin ketone; alpha-chlordane)
Canada - DSL	N (1,1-dichloro-2,2-bis(p-chlorophenyl)ethane; 1,2,3,4,5,6-hexachlorocyclohexane (alpha isomer); aldrin; 2,2-bis(4-chlorophenyl)-1,1-dichloroethylene; alpha-endosulfan; endrin aldehyde; DDT; endrin; 1,2,3,4,5,6-hexachlorocyclohexane (beta isomer); gamma-chlordane; endosulfan sulfate; dieldrin; beta-endosulfan; heptachlor; Heptachlor epoxide (Isomer B); endrin ketone; 1,2,3,4,5,6-hexachlorocyclohexane (delta isomer); alpha-chlordane)
Canada - NDSL	N (toluene; 1,1-dichloro-2,2-bis(p-chlorophenyl)ethane; lindane; aldrin; 2,2-bis(4-chlorophenyl)-1,1-dichloroethylene; alpha-endosulfan; endrin aldehyde; DDT; n-hexane; methoxychlor; endrin; gamma-chlordane; endosulfan sulfate; dieldrin; beta-endosulfan; heptachlor; Heptachlor epoxide (Isomer B); endrin ketone; alpha-chlordane)
China - IECSC	N (1,2,3,4,5,6-hexachlorocyclohexane (alpha isomer); aldrin; alpha-endosulfan; endrin aldehyde; gamma-chlordane; endosulfan sulfate; beta-endosulfan; heptachlor, Heptachlor epoxide (Isomer B); endrin ketone; alpha-chlordane)
Europe - EINEC / ELINCS / NLP	N (alpha-endosulfan; endrin aldehyde; endosulfan sulfate; beta-endosulfan; endrin ketone)
Japan - ENCS	N (1,1-dichloro-2,2-bis(p-chlorophenyl)ethane; 2,2-bis(4-chlorophenyl)-1,1-dichloroethylene; alpha-endosulfan; endrin aldehyde; methoxychlor; endosulfan sulfate; beta-endosulfan; Heptachlor epoxide (Isomer B); endrin ketone)

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Pesticide Mix (20 components)

Korea - KECI	N (1,1-dichloro-2,2-bis(p-chlorophenyl)ethane; 2,2-bis(4-chlorophenyl)-1,1-dichloroethylene; alpha-endosulfan; endrin aldehyde; gamma-chlordane; endosulfan sulfate; beta-endosulfan; Heptachlor epoxide (Isomer B); endrin ketone; alpha-chlordane)
New Zealand - NZIoC	N (lindane; aldrin; alpha-endosulfan; endrin aldehyde; DDT; methoxychlor; endrin; gamma-chlordane; dieldrin; beta-endosulfan; heptachlor; Heptachlor epoxide (Isomer B); endrin ketone; alpha-chlordane)
Philippines - PICCS	N (1,2,3,4,5,6-hexachlorocyclohexane (alpha isomer); alpha-endosulfan; endrin aldehyde; 1,2,3,4,5,6-hexachlorocyclohexane (beta isomer); gamma- chlordane; endosulfan sulfate; beta-endosulfan; Heptachlor epoxide (Isomer B); endrin ketone; 1,2,3,4,5,6-hexachlorocyclohexane (delta isomer); alpha- chlordane)
USA - TSCA	N (1,1-dichloro-2,2-bis(p-chlorophenyl)ethane; aldrin; 2,2-bis(4-chlorophenyl)-1,1-dichloroethylene; alpha-endosulfan; endrin aldehyde; methoxychlor; endrin; gamma-chlordane; endosulfan sulfate; dieldrin; beta-endosulfan; heptachlor; Heptachlor epoxide (Isomer B); endrin ketone; alpha-chlordane)
Legend:	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Revision Date	16/08/2018
Initial Date	16/08/2018

Other information

Ingredients with multiple cas numbers

Name	CAS No
gamma-chlordane	5103-74-2, 34253-81-1
alpha-endosulfan	959-98-8, 33213-66-0
beta-endosulfan	33213-65-9, 891-86-1, 19670-15-6

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC-TWA: Permissible Concentration-Time Weighted Average

PC-STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit。 IDLH: Immediately Dangerous to Life or Health Concentrations

OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level

LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value

LOD: Limit Of Detection

OTV: Odour Threshold Value

BCF: BioConcentration Factors BEI: Biological Exposure Index

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