

# CHEMAG DELTA-DUO

ChemWatch Material Safety Data Sheet  
Issue Date: Mon 11-Aug-2003

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## IDENTIFICATION

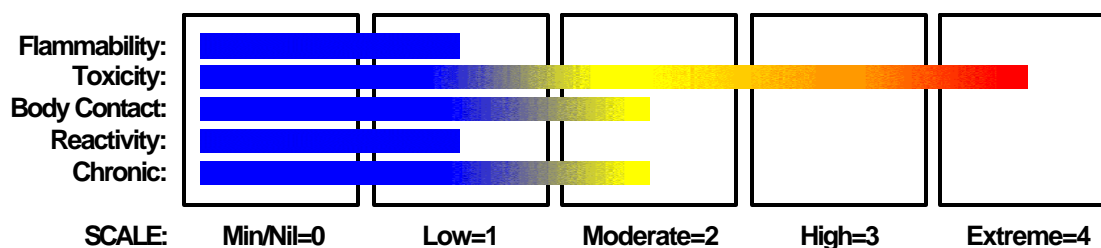
### STATEMENT OF HAZARDOUS NATURE

**HAZARDOUS ACCORDING TO WORKSAFE AUSTRALIA CRITERIA.**

### SUPPLIER

Company:  
ChemAG P/L  
Address:  
Suite 12, 11 Preston Street  
Como  
WA, 6152  
AUS  
Telephone: (+61 8) 9368 7474  
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### CHEMWATCH HAZARD RATINGS



### PERSONAL PROTECTIVE EQUIPMENT FOR INDUSTRIAL/COMMERCIAL ENVIRONMENTS



### SYNONYMS

insecticide

### SHIPPING NAME

None

Product Name:    ChemAg Delta-Duo

CAS RN No(s):            None    None

UN Number:              None

Packing Group:            None

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## IDENTIFICATION ...

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Dangerous Goods Class: None  
Subsidiary Risk: None, None  
Hazchem Code: None  
Poisons Schedule Number: S6

### USE

Insecticide.

## PHYSICAL DESCRIPTION/PROPERTIES

### APPEARANCE

Clear, yellow liquid with a hydrocarbon odour; mixes with water.

Boiling Point (°C): Not Available  
Melting Point (°C): Not Available  
Vapour Pressure (kPa): Not Available  
Specific Gravity: 0.914  
Flash Point (°C): 67 +/- 2 (PMCC)  
Lower Explosive Limit (%): Not Available  
Upper Explosive Limit (%): Not Available  
Solubility in Water (g/L): Miscible

## INGREDIENTS

NAME	CAS RN	%
cis-deltamethrin (27.5 g/L)	52918-63-5	1-5
solvent naphtha petroleum, heavy aromatic surfactants/emulsifiers	64742-94-5	>60 0-10

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## HEALTH HAZARD

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### ACUTE HEALTH EFFECTS

#### SWALLOWED

Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.

Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733)

#### EYE

There is some evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Moderate inflammation may be expected with redness; conjunctivitis may occur with prolonged exposure.

The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

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## HEALTH HAZARD ...

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### SKIN

There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons.

Skin contact is not thought to produce harmful health effects (as classified under EC Directives using animal models). Systemic harm, however, has been identified following exposure of animals by at least one other route and the material may still produce health damage following entry through wounds, lesions or abrasions. Good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

### INHALED

The material may produce respiratory tract irritation, and result in damage to the lung including reduced lung function.

Inhalation of vapours, aerosols (mists, fumes) or dusts, generated by the material during the course of normal handling, may be harmful.

Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by narcosis, drowsiness, reduced alertness, loss of reflexes, lack of coordination and vertigo.

This material, like natural pyrethrins, may cause central stimulation with nausea, vomiting, stomach upset, diarrhoea, hypersensitivity, inco-ordination, tremors, muscle paralysis, convulsion, coma and respiratory failure. Type II compounds cause a "Type II syndrome" characterized by irregular jerky movements, increased saliva production without tears, upper abdominal pain, nausea and vomiting, headache, dizziness, loss of appetite, tiredness, chest tightness, blurred vision, "pins and needles", palpitations, coarse muscle jerks in limbs and altered consciousness. Convulsions can occur in severe cases with flexed arms, extended legs (spastic posture) and unconsciousness. Recovery may take weeks.

If exposure to highly concentrated solvent atmosphere is prolonged this may lead to narcosis, unconsciousness, even coma and possible death.

Acute effects from inhalation of high vapour concentrations may be chest and nasal irritation with coughing, sneezing, headache and even nausea.

### CHRONIC HEALTH EFFECTS

Substance accumulation, in the human body, is likely and may cause some concern following repeated or long-term occupational exposure.

There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population.

There is limited evidence that, skin contact with this product is more likely to cause a sensitisation reaction in some persons compared to the general population.

Constant or exposure over long periods to mixed hydrocarbons may produce stupor with dizziness, weakness and visual disturbance, weight loss and anaemia, and reduced liver and kidney function. Skin exposure may result in drying and cracking and redness of the skin. Chronic exposure to lighter hydrocarbons can cause nerve damage, peripheral neuropathy, bone marrow dysfunction and

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## HEALTH HAZARD ...

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psychiatric disorders as well as damage the liver and kidneys.

## FIRST AID

### SWALLOWED

If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

- 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.

### EYE

If this product comes in contact with the eyes:

- Wash out immediately with fresh 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.
- If pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

### SKIN

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.

### INHALED

- 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.

## ADVICE TO DOCTOR

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

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## HEALTH HAZARD ..

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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.

For acute or short term repeated exposures to petroleum distillates or related hydrocarbons:

- Primary threat to life, from pure petroleum distillate ingestion and/or inhalation, is respiratory failure.
- Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO<sub>2</sub> 50 mm Hg) should be intubated.
- Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury 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 (adrenalin) 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 of cuffed endotracheal tube in adult patients. [Ellenhorn and Barceloux: Medical Toxicology]

For chronic or short term repeated exposures to pyrethrum and synthetic pyrethroids: Mammalian toxicity of pyrethrum and synthetic pyrethroids is low, in part because of poor bioavailability and a large first pass extraction by the liver. The most common adverse reaction results from the potent sensitising effects of pyrethrins. Clinical manifestations of exposure include contact dermatitis (erythema, vesiculation, bullae); anaphylactoid reactions (pallor, tachycardia, diaphoresis) and asthma. [Ellenhorn Barceloux] In cases of skin contact, it has been reported that topical application of Vitamin E Acetate (alpha-tocopherol acetate) has been found to have high therapeutic value, eliminating almost all skin pain associated with exposure to synthetic pyrethroids. [Incitec]

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## PRECAUTIONS FOR USE

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### EXPOSURE STANDARDS

No data for ChemAg Delta-Duo.

### EXPOSURE STANDARDS FOR MIXTURE

"Worst Case" computer-aided prediction of vapour components/concentrations:

Composite Exposure Standard for Mixture (TWA) (mg/m<sup>3</sup>): 550 mg/m<sup>3</sup>

If the breathing zone concentration of ANY of the components listed below is

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## PRECAUTIONS FOR USE ...

exceeded, "Worst Case" considerations deem the individual to be overexposed.

Component	Breathing Zone ppm	Breathing Zone mg/m <sup>3</sup>	Mixture Conc: (%)
solvent naphtha petroleum, heavy a	100	550	99

Operations which produce a spray/mist or fume/dust, introduce particulates to the breathing zone.

If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be overexposed.

At the "Composite Exposure Standard for Mixture" (TWA) (mg/m<sup>3</sup>): 99 mg/m<sup>3</sup>

Component	Breathing Zone ppm	Breathing Zone mg/m <sup>3</sup>	Mixture Conc (%)
cis-deltamethrin	5.5556	1	0

## INGREDIENT DATA

### CIS-DELTAMETHRIN:

No exposure limits set by NOHSC or ACGIH

CEL TWA: 0.28 mg/m<sup>3</sup>

Recommended daily intake for man should be maintained below 0.01 mg/kg.

[Manufacturer]

### SOLVENT NAPHTHA PETROLEUM, HEAVY AROMATIC:

REL TWA: 100 ppm [Manufacturer]

CEL TWA: 100 ppm, 550 mg/m<sup>3</sup>

## ENGINEERING CONTROLS

Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection.

An approved self contained breathing apparatus (SCBA) may be required in some situations.

Provide adequate ventilation in warehouse or closed storage area. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:	Air Speed:
solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min.)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air	1-2.5 m/s (200-500 f/min.)

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## PRECAUTIONS FOR USE ...

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motion)  
grinding, abrasive blasting, tumbling, 2.5-10 m/s (500-2000 f/min.)  
high speed wheel generated dusts  
(released at high initial velocity into  
zone of very high rapid air motion).

Within each range the appropriate value depends on:

Lower end of the range

- 1: Room air currents minimal or favourable to capture
- 2: Contaminants of low toxicity or of nuisance value only.
- 3: Intermittent, low production.
- 4: Large hood or large air mass in motion

Upper end of the range

- 1: Disturbing room air currents
- 2: Contaminants of high toxicity
- 3: High production, heavy use
- 4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

## PERSONAL PROTECTION

### EYE

Safety glasses with side shields.

Chemical goggles.

Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them. DO NOT wear contact lenses.

### HANDS/FEET

Wear chemical protective gloves, eg. PVC.

Wear safety footwear or safety gumboots, eg. 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.

### OTHER

Overalls.

P.V.C. apron.

Barrier cream.

Skin cleansing cream.

Eye wash unit.

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## PRECAUTIONS FOR USE ...

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### RESPIRATOR

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Breathing Zone Level ppm (volume)	Maximum Protection Factor	Half-face Respirator	Full-Face Respirator
1000	10	A-AUS P-	-
1000	50	-	A-AUS P-
5000	50	Airline *	-
5000	100	-	A-2 P-
10000	100	-	A-3 P-
	100+		Airline**

\* - Continuous Flow \*\* - Continuous-flow or positive pressure demand

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

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## SAFE HANDLING

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### STORAGE AND TRANSPORT

#### SUITABLE CONTAINER

- Metal can or drum
- Packaging as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

#### STORAGE INCOMPATIBILITY

Avoid reaction with oxidising agents

#### STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- No smoking, naked lights or ignition sources.
- 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.

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## SAFE HANDLING ..

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### TRANSPORTATION

No restrictions.

## SPILLS AND DISPOSAL

### MINOR SPILLS

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact by using protective equipment.
- Contain and absorb spill with sand, earth, inert material or vermiculite.
- Wipe up.
- Place in a suitable labelled container for waste disposal.

### MAJOR SPILLS

Moderate hazard.

- Clear area of personnel and move upwind.
- 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 course.
- No smoking, naked lights or ignition sources.
- Increase ventilation.
- Stop leak if safe to do so.
- Contain spill with sand, earth or vermiculite.
- Collect recoverable product into labelled containers for recycling.
- Absorb remaining product with sand, earth or vermiculite.
- Collect solid residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- If contamination of drains or waterways occurs, advise emergency services.

### DISPOSAL

Puncture containers to prevent re-use and bury at an authorised landfill.

## FIRE FIGHTERS' 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 full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.

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## SAFE HANDLING ..

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- . Use water delivered as a fine spray to control fire and cool adjacent area.
- . Avoid spraying water onto liquid pools.
- . DO NOT approach containers suspected to be hot.
- . Cool fire exposed containers with water spray from a protected location.
- . If safe to do so, remove containers from path of fire.

## FIRE/EXPLOSION HAZARD

- . Combustible.
- . Slight fire hazard when exposed to heat or flame.
- . Heating may cause expansion or decomposition leading to violent rupture of containers.
- . On combustion, may emit toxic fumes of carbon monoxide (CO).
- . May emit acrid smoke.
- . Mists containing combustible materials may be explosive.

Combustion products include

carbon dioxide (CO<sub>2</sub>)

other pyrolysis products typical of burning organic material

May emit poisonous fumes.

May emit corrosive fumes.

## FIRE INCOMPATIBILITY

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

## HAZCHEM

None

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## CONTACT POINT

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### COMPANY CONTACT

(+61 8) 9368 7474

### AUSTRALIAN POISONS INFORMATION CENTRE

24 HOUR SERVICE: 13 11 26

POLICE, FIRE BRIGADE OR AMBULANCE: 000

### NEW ZEALAND POISONS INFORMATION CENTRE

24 HOUR SERVICE: 0800 764 766

NZ EMERGENCY SERVICES: 111

End of Report

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## CONTACT POINT ...

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