



PACTHANE PAC 4032/4064

Chemwatch Material Safety Data Sheet
Issue Date: 13-Feb-2006

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

PACTHANE PAC 4032/4064

STATEMENT OF HAZARDOUS NATURE

Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation.

SYNONYMS

PRODUCT USE

Component for the production of polyurethanes.

SUPPLIER

Company: Pacific Urethanes NZ Ltd
Address:
57 Rangī Road
Takanini
Auckland,
NZL
Telephone: +64 9 269 0710
Emergency Tel: 00 800 2436 2255 (NZ)
Fax: +61 9 269 4140

Section 2 - HAZARDS IDENTIFICATION

GHS Classification

Chronic Aquatic Hazard Category 3

EMERGENCY OVERVIEW

HAZARD

Hazardous
Determined by Chemwatch using GHS/HSNO criteria:
9.1C
Harmful to aquatic life with long lasting effects

PRECAUTIONARY STATEMENTS

Do not breathe gas/fumes/vapour/spray.
Avoid contact with skin.
To clean the floor and all objects contaminated by this material, use water and detergent.

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Section 2 - HAZARDS IDENTIFICATION

This material and its container must be disposed of in a safe way.
Use appropriate container to avoid environment contamination.
Avoid release to the environment. Refer to special instructions/Safety data sheets.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
polyol preparation with alkaline character		>78
dichlorofluoroethane	1717-00-6	5-18

Section 4 - FIRST AID MEASURES

SWALLOWED

- 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.

EYE

- If this product comes in contact with eyes:
- Wash out immediately with water.
 - If irritation continues, seek medical attention.
 - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

- If skin or hair contact occurs:
- 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.
- Other measures are usually unnecessary.

NOTES TO PHYSICIAN

Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

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

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Section 5 - FIRE FIGHTING MEASURES

- Water spray or fog - Large fires only.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water courses.
- Use water delivered as a fine spray to control fire and cool adjacent area.
- 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.
- Equipment should be thoroughly decontaminated after use.

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 (CO₂), hydrogen chloride, phosgene, hydrogen fluoride, other pyrolysis products typical of burning organic material.
May emit poisonous fumes.

FIRE INCOMPATIBILITY

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

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

- Environmental hazard - contain spillage.
- 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

- Environmental hazard - contain spillage.
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.

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Section 6 - ACCIDENTAL RELEASE MEASURES

- 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.

EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:

dichlorofluoroethane 35000 ppm

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:

dichlorofluoroethane 2500 ppm

other than mild, transient adverse effects without perceiving a clearly defined odour is:

dichlorofluoroethane 1500 ppm

The threshold concentration below which most people will experience no appreciable risk of health effects:

dichlorofluoroethane 500 ppm

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

Very Toxic (T+)	$\geq 0.1\%$	Toxic (T)	$\geq 3.0\%$
R50	$\geq 0.25\%$	Corrosive (C)	$\geq 5.0\%$
R51	$\geq 2.5\%$		
else	$\geq 10\%$		

where percentage is percentage of ingredient found in the mixture

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

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- DO NOT enter confined spaces until atmosphere has been checked.
- DO NOT allow material to contact humans, exposed food or food utensils.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately. Launder contaminated clothing

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Section 7 - HANDLING AND STORAGE

before re-use.

- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

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

STORAGE INCOMPATIBILITY

Avoid magnesium, aluminium and their alloys, brass and steel.
Avoid reaction with oxidising agents.
Avoid contamination of water, foodstuffs, feed or seed.

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.
- Store between 15 and 25 degC.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

No data available: dichlorofluoroethane as (CAS: 1717-00-6)

No data for Pacthane PAC 4032/4064.

EXPOSURE STANDARDS FOR MIXTURE

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

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Composite Exposure Standard for Mixture (TWA) (mg/m³): 2392 mg/m³

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

Composite Exposure Standard for Mixture (TWA) (mg/m³):

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

Component Breathing Zone ppm Breathing Zone mg/m³ Mixture Conc: (%)

Component	Breathing zone (ppm)	Breathing Zone (mg/m ³)	Mixture Conc (%)
dichlorofluoroethane	500.00	2392.0000	18.0

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

Composite Exposure Standard for Mixture (TWA) (mg/m³):

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

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Breathing Zone ppm Breathing Zone mg/m³ Mixture Conc: (%).
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.

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

Composite Exposure Standard for Mixture (TWA) (mg/m³):

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

Component Breathing Zone ppm Breathing Zone mg/m³ Mixture Conc: (%).

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/m³): 18 mg/m³

INGREDIENT DATA

DICHLOROFLUOROETHANE:

CEL TWA: 500 ppm, 2392 mg/m³ [DUPONT]

WEEL TWA: 500 ppm, 2392 mg/m³ [AIHA]

REL STEL: 800 ppm, 3827 mg/m³ [ATOCHEM]

Studies with HCFC 141b indicate that the substance possesses a low order of toxicity. Exposure of rats up to 20000 ppm produced only minor effects.

Rats exposed daily for extended periods at 20000 ppm for 6 hours per day (a dose equivalent to half the acute lethal concentration (60000 ppm/4h) showed minimal effects thus ruling out the possibility of chronic effects.

Exposure at or below 8000 ppm produced no adverse findings.

No teratogenic effects were seen. The threshold for cardiac sensitisation is 10000 ppm with dogs and in the range of 5000 to 10000 ppm for monkeys.

A similar threshold is seen with CFC 11 (the substance for which HCFC 141b was intended as a replacement). The TLV-TWA for CFC 11 is 1000 ppm and by analogy it might be expected that an identical value might be adopted for HCFC 141b. However the AIHA recommends a much lower workplace environmental exposure level (WEEL) to reflect the finding that in a rabbit teratology study, exposure at 12600 ppm caused reduced body weight gain, alterations in breathing pattern and partially closed eyes while only a slight effect was seen at 4200 ppm. In addition a rat teratology study reported that 8000 ppm produced central nervous system depression which was not seen at 3200 ppm

PERSONAL PROTECTION

EYE

- 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 lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

Wear chemical protective gloves, eg. PVC.

Wear safety footwear or safety gumboots, eg. Rubber.

OTHER

- Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.
- Eye wash unit.

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.

ENGINEERING CONTROLS

General exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Yellow to brownish liquid with an aromatic odour; partly mixes with water.

PHYSICAL PROPERTIES

Liquid.

Molecular Weight: Not Applicable

Melting Range (C): Not Available

Solubility in water (g/L): Partly Miscible

pH (1% solution): Not Available

Volatile Component (%vol): Not Available

Relative Vapour Density (air=1): Not Available

Lower Explosive Limit (%): Not Available

Autoignition Temp (C): Not Available

State: Liquid

Boiling Range (C): Not Available

Specific Gravity (water=1): Not Available

pH (as supplied): Not Applicable

Vapour Pressure (kPa): Not Available

Evaporation Rate: Not Available

Flash Point (C): Not Available

Upper Explosive Limit (%): Not Available

Decomposition Temp (°C): Not Available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.

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Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

- Hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Considered an unlikely route of entry in commercial/industrial environments.

Ingestion may result in nausea, abdominal irritation, pain and vomiting.

EYE

Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).

SKIN

The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models).

Nevertheless, 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

Not normally a hazard due to non-volatile nature of product.

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models).

Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

CHRONIC HEALTH EFFECTS

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Prolonged or continuous skin contact with the liquid may cause defatting with drying, cracking, irritation and dermatitis following. Fluorocarbons can cause an increased risk of cancer, spontaneous abortion and birth defects.

TOXICITY AND IRRITATION

TOXICITY

Oral (Rat) LD50: >5000 mg/kg

IRRITATION

DICHLOROFLUOROETHANE:

TOXICITY

Inhalation (mouse) LC50: 151000 mg/m³/2h

Dermal (rabbit) LD50: >2000 mg/kg

Oral (rat) LD50: >5000 mg/kg

IRRITATION

Nil Reported

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Section 12 - ECOLOGICAL INFORMATION

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.

On the basis of the available evidence concerning properties and predicted or observed environmental fate and behavior, the material may present a danger to the structure and/ or functioning of the stratospheric ozone layer.

DO NOT discharge into sewer or waterways.

Refer to data for ingredients, which follows:

DICHLOROFLUOROETHANE:

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.

On the basis of the available evidence concerning properties and predicted or observed environmental fate and behavior, the material may present a danger to the structure and/ or functioning of the stratospheric ozone layer.

DO NOT discharge into sewer or waterways.

Section 13 - DISPOSAL CONSIDERATIONS

- 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 - TRANSPORTATION INFORMATION

HAZCHEM

None

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS:UN,IATA,IMDG

Section 15 - REGULATORY INFORMATION

REGULATIONS

dichlorofluoroethane (CAS: 1717-00-6) is found on the following regulatory lists;

International Council of Chemical Associations (ICCA) - High Production Volume List

New Zealand Transferred List of Single Component Substances

OECD Representative List of High Production Volume (HPV) Chemicals

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Section 15 - REGULATORY INFORMATION

Specific advice on controls required for materials used in
New Zealand can be found at
<http://www.ermanz.govt.nz/search/registers.html>

Section 16 - OTHER INFORMATION

NEW ZEALAND POISONS INFORMATION CENTRE
0800 POISON (0800 764 766)
NZ EMERGENCY SERVICES: 111

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