Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
DUNLOP DAMP-PROOF WATERPROOFING PART A

PRODUCT USE
Part A of a two component water-based epoxy waterproofing coating.

SUPPLIER
Company: Ardex Australia Pty Ltd
Address:
20 Powers Road
Seven Hills
NSW, 2147
AUS
Telephone: 1800 224 070
Fax: +61 2 9838 7817

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE
HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

POISONS SCHEDULE
None

RISK
» May cause SENSITISATION by skin contact.

SAFETY
» Do not breathe gas/ fumes/ vapour/ spray.

» Use only in well ventilated areas.
» Keep container in a well ventilated place.
» Avoid exposure - obtain special instructions before use.
» To clean the floor and all objects contaminated by this material use water and detergent.
» Keep container tightly closed.
» In case of contact with eyes rinse with plenty of water and contact Doctor or Poisons Information Centre.
» If swallowed IMMEDIATELY contact Doctor or Poisons Information Centre (show this container or label).

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
polyamide resin	Not avail.	10-30
triethylenetetramine	112-24-3	1-2
ingredients determined not to be hazardous		>60

continued...

Section 4 - FIRST AID MEASURES

SWALLOWED
• Immediately give a glass of water.
• First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

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, without delay.

NOTES TO PHYSICIAN
» Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
• There is no restriction on the type of extinguisher which may be used.
• Use extinguishing media suitable for surrounding area.

FIRE FIGHTING
• Alert Fire Brigade and tell them location and nature of hazard.
• Wear breathing apparatus plus protective gloves for fire only.
• Prevent, by any means available, spillage from entering drains or water courses.
• Use fire fighting procedures suitable for surrounding 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
• Non combustible.
• Not considered a significant fire risk, however containers may burn.
Decomposition may produce toxic fumes of: carbon dioxide (CO2), nitrogen oxides (NOx), other pyrolysis products typical of burning organic material.
May emit poisonous fumes.
May emit corrosive fumes.

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

HAZCHEM: None

Personal Protective Equipment
Gas tight chemical resistant suit.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS
• 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.
• Stop leak if safe to do so.
• Contain spill with sand, earth or vermiculite.
• Collect recoverable product into labelled containers for recycling.
• Neutralise/decontaminate residue.
• Collect solid residues and seal in labelled drums for disposal.
• Wash area and prevent runoff into drains.
• After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
• If contamination of drains or waterways occurs, advise emergency services.

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

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING
• DO NOT allow clothing wet with material to stay in contact with skin.
• DO NOT use aluminium, galvanised or tin-plated containers.
• DO NOT USE brass or copper containers / stirrers.
• Avoid all personal contact, including inhalation.
• Wear protective clothing when risk of exposure occurs.
• Use in a well-ventilated area.
• Avoid contact with moisture.
• 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.

continued...

• Work clothes should be laundered separately. Launder contaminated clothing 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
• Polyethylene or polypropylene container.
• Packing 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.
• 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.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS
The following materials had no OELs on our records
• triethylenetetramine: CAS:112- 24- 3

MATERIAL DATA
» Not available. Refer to individual constituents.

INGREDIENT DATA
POLYAMIDE RESIN:
» No exposure limits set by NOHSC or ACGIH.

TRIETHYLENETETRAMINE:
CEL TWA: 1 ppm, 6 mg/m3; STEL: 2 ppm, 12 mg/m3
[compare OEL TWA (Sweden): 1 ppm, 6 mg/m3; STEL: 2 ppm, 12 mg/m3 Sensitiser]

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 NIOSH Current Intelligence Bulletin 59].

continued...

HANDS/FEET
• When handling liquid-grade epoxy resins wear chemically protective gloves (e.g nitrile or nitrile-butatoluene rubber), boots and aprons.
• DO NOT use cotton or leather (which absorb and concentrate the resin), polyvinyl chloride, rubber or polyethylene gloves (which absorb the resin).
• DO NOT use barrier creams containing emulsified fats and oils as these may absorb the resin; silicone-based barrier creams should be reviewed prior to use.
• 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.
• Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

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

RESPIRATOR
» Respiratory protection is required when ANY "Worst Case" vapour-phase concentration is exceeded (see Computer Prediction in "Exposure Standards").

Protection Factor (Min)	Half- Face Respirator	
Full- Face Respirator	10 x ES	AK- P- - AUS
	-	
AK- P- - PAPR- AUS		-
50 x ES	-	
AK- P- - AUS		-
	AK- P- - PAPR- AUS	100 x ES
-		AK- P- - 2
	-	

^ - Full-face.

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
» 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.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE
Grey or coloured paste with a mild amine odour; mixes with water.

continued...

PHYSICAL PROPERTIES
Liquid.

Molecular Weight: Not Applicable
Melting Range (℃): Not Available
Solubility in water (g/L): Partly Miscible
pH (1% solution): Not Available
Volatile Component (%vol): 45- 50
Relative Vapour Density (air=1): Not Available
Lower Explosive Limit (%): Not Applicable
Autoignition Temp (℃): Not Applicable
State: Liquid

Boiling Range (℃): 100 approx.
Specific Gravity (water= 1): 1.38
pH (as supplied): 9.5- 10.5
Vapour Pressure (kPa): Not Available
Evaporation Rate: Not Available
Flash Point (℃): Not Applicable
Upper Explosive Limit (%): Not Applicable
Decomposition Temp (℃): Not Available
Viscosity: Not Available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY
• Presence of incompatible materials.
• Product is considered stable.
• Hazardous polymerisation will not occur.
For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED
» The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (eg. liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

EYE
» This material can cause eye irritation and damage in some persons.
Vapours of volatile amines irritate the eyes, causing excessive secretion of tears, inflammation of the conjunctiva and slight swelling of the cornea, resulting in "halos" around lights. This effect is temporary, lasting only for a few hours. However this condition can reduce the efficiency of undertaking skilled tasks, such as driving a car. Direct eye contact with liquid volatile amines may produce eye damage, permanent for the lighter species.
The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

SKIN
» This material can cause inflammation of the skin oncontact in some persons.
The material may accentuate any pre-existing dermatitis condition.
The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

INHALED
» Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.

continued...

The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.
Inhalation of amine vapours may cause irritation of the mucous membrane of the nose and throat, and lung irritation with respiratory distress and cough. Swelling and inflammation of the respiratory tract is seen in serious cases; with headache, nausea, faintness and anxiety. There may also be wheezing.

CHRONIC HEALTH EFFECTS
» There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population.
Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.
There is some evidence from animal testing that exposure to this material may result in toxic effects to the unborn baby.
Exposure to the material for prolonged periods may cause physical defects in the developing embryo (teratogenesis).
Sensitisation may give severe responses to very low levels of exposure, i.e. hypersensitivity. Sensitised persons should not be allowed to work in situations where exposure may occur.
Inhalation of epoxy resin amine hardeners (including polyamines and amine adducts) may produce bronchospasm and coughing episodes lasting several days after cessation of the exposure. Even faint traces of these vapours may trigger an intense reaction in individuals showing "amine asthma". The literature records several instances of systemic intoxications following the use of amines in epoxy resin systems.

TOXICITY AND IRRITATION
» Not available. Refer to individual constituents.

POLYAMIDE RESIN:
» unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY	IRRITATION
Oral (rat) LD50: 23100 mg/kg	Skin (rabbit): Mild [Man HENK]

TRIETHYLENETETRAMINE:
» unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY	IRRITATION
Oral (rat) LD50: 2500 mg/kg	Skin (rabbit): 490 mg Open SEVERE
Dermal (rabbit) LD50: 805 mg/kg	Skin (rabbit): 5 mg/24 SEVERE
	Eye (rabbit); 49 mg - SEVERE
	Eye (rabbit): 20 mg/24 h - Moderate

» 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. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.
Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of

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minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.
The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.
Handling ethyleneamine products is complicated by their tendency to react with other chemicals, such as carbon dioxide in the air, which results in the formation of solid carbamates. Because of their ability to produce chemical burns, skin rashes, and asthma-like symptoms, ethyleneamines also require substantial care in handling. Higher molecular weight ethyleneamines are often handled at elevated temperatures further increasing the possibility of vapor exposure to these compounds.
Because of the fragility of eye tissue, almost any eye contact with any ethyleneamine may cause irreparable damage, even blindness. A single, short exposure to ethyleneamines, may cause severe skin burns, while a single, prolonged exposure may result in the material being absorbed through the skin in harmful amounts. Exposures have caused allergic skin reactions in some individuals. Single dose oral toxicity of ethyleneamines is low. The oral LD50 for rats is in the range of 1000 to 4500 mg/kg for the ethyleneamines.
In general, the low-molecular weight polyamines have been positive in the Ames assay, increase sister chromatid exchange in Chinese hamster ovary (CHO) cells, and are positive for unscheduled DNA synthesis although they are negative in the mouse micronucleus assay. It is believed that the positive results are based on its ability to chelate copper.
Triethylenetetramine (TETA) is a severe irritant to skin and eyes and induces skin sensitisation.
TETA is of moderate acute toxicity: LD50(oral, rat) > 2000 mg/kg bw, LD50(dermal, rabbit) = 550 - 805 mg/kg bw. Acute exposure to saturated vapour via inhalation was tolerated without impairment. Exposure to aerosol leads to reversible irritations of the mucous membranes in the respiratory tract.
Following repeated oral dosing via drinking water only in mice but not in rats at concentration of 3000 ppm there were signs of impairment. The NOAEL is 600 ppm [92 mg/kg bw (oral, 90 days)]. Lifelong dermal application to mice (1.2 mg/mouse) did not result in tumour formation.
There are differing results of the genetic toxicity for TETA. The positive results of the in vitro tests may be the result of a direct genetic action as well as a result of an interference with essential metal ions. Due to this uncertainty of the in vitro tests, the genetic toxicity of TETA has to be assessed on the basis of in vivo tests.
The in vivo micronucleus tests (i.p. and oral) and the SLRL test showed negative results.
There are no human data on reproductive toxicity (fertility assessment). The analogue diethylenetriamine had no effects on reproduction. TETA shows developmental toxicity in animal studies if the chelating property of the substance is effective. The NOEL is 830 mg/kg bw (oral).
Experience with female patients suffering from Wilson´s disease demonstrated that no miscarriages and no foetal abnormalities occur during treatment with TETA..
In rats, there are several studies concerning developmental toxicity. The oral treatment of rats with 75, 375 and 750 mg/kg resulted in no effects on dams and fetuses, except slight increased fetal body weight. After oral treatment of rats with 830 or 1670 mg/kg bw only in the highest dose group increased foetal abnormalities in 27/44 fetus (69,2 %) were recorded, when simultaneously the copper content of the feed was reduced. Copper supplementation in the feed reduced significant the fetal abnormalities of the highest dose group to 3/51 (6,5 % foetus. These findings suggest that the developmental toxicity is produced as a secondary consequence of the chelating properties of TETA.
For alkyl polyamines:
The alkyl polyamines cluster consists of organic compounds containing two terminal

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primary amine groups and at least one secondary amine group.Typically these substances are derivatives of ethylenediamine, propylenediamine or hexanediamine. The molecular weight range for the entire cluster is relatively narrow, ranging from 103 to 232
Acute toxicity of the alkyl polyamines cluster is low to moderate via oral exposure and a moderate to high via dermal exposure. Cluster members have been shown to be eye irritants, skin irritants, and skin sensitisers in experimental animals. Repeated exposure in rats via the oral route indicates a range of toxicity from low to high hazard. Most cluster members gave positive results in tests for potential genotoxicity.
Limited carcinogenicity studies on several members of the cluster showed no evidence of carcinogenicity. Unlike aromatic amines, aliphatic amines are not expected to be potential carcinogens because they are not expected to undergo metabolic activation, nor would activated intermediates be stable enough to reach target macromolecules.
Polyamines potentiate NMDA induced whole-cell currents in cultured striatal neurons.
Exposure to the material for prolonged periods may cause physical defects in the developing embryo (teratogenesis).

Section 12 - ECOLOGICAL INFORMATION

» DO NOT discharge into sewer or waterways.
Refer to data for ingredients, which follows:

TRIETHYLENETETRAMINE:
» Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
» 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 alkyl polyamines:
All members of this cluster are miscible or soluble in water. The estimated value of log Kows-range from 3.67 to 1.8 is consistent with the available experimental water solubilities. Vapour pressures range from 1.1x 10-6 hPa to 0.31 hPa. Estimated and experimental pKbs are in a relatively narrow range of 9.68 to 10.7.
Environmental fate:
Members of this cluster are expected to have varying degrees of mobility in the soil. Low vapor pressure and Henry's Law Constants suggest that these compounds are not expected to be in the vapor phase. Modeling suggests that all members of this cluster are likely to react rapidly with photochemically produced hydroxyl radials with half-lives on the order of an hour, but with little material in the vapor phase, it is not expected to be a predominant removal pathway for these chemicals. Experimental data and results from estimation models indicate that all members of this cluster have the potential to biodegrade aerobically under environmental conditions. Fugacity models indicate that the members of this cluster are likely to partition predominately to soil and water. All chemicals in this cluster are expected to have low environmental persistence. Measured and estimated bioconcentration factors for members of this cluster indicate a low potential for bioaccumulation.
Ecotoxicity:
Evaluation of the available experimental and estimated aquatic toxicity data indicate acute toxicity to fish is low. Daphnia aquatic toxicity is generally low. Algae appear to be the most sensitive organism with several members of the cluster having measured or estimated toxicity values indicative of moderate toxicity. Chronic toxicity for all cluster members is estimated; it is generally low for fish and algae, but high for daphnia.
» For ethyleneamines:
Adsorption of the ethyleneamines correlates closely with both the cation exchange capacity (CEC) and organic content of the soil. Soils with increased CEC and organic content exhibited higher affinities for these amines. This dependence of adsorption on CEC and organic content is most likely due to the strong electrostatic interaction between the positively charged amine and the negatively charged soil surface.
» for triethylenetetramine (TETA):
Environmental fate:
TETA is completely miscible with water forming an alkaline solution (pH 10 at 10 g/l). The technical product has a vapour pressure of ca. 1 Pa at 20 C. The calculated Log Pow (unprotonated form) amounts to ca. -1.4 and

continued...

indicates a low potential for bioaccumulation. There are no measured Koc -values available. For ethylenediamine (CAS Nr. 107- 15-3) and diethylenetriamine (CAS Nr. 111-40- 0), Koc -values of 4766 and 19111 were measured respectively. The high adsorption is most likely due to electrostatic interaction. A comparable Koc can be expected for TETA, which would suggest a high potential for geoaccumulation.
TETA is not readily biodegradable (0% after 20 days, OECD GL 301 D; same result with adapted inoculum). Also, in a test on inherent biodegradability with industrial sludge,
TETA was not degraded (0 % DOC removal after 28 days, OECD GL 302 B). TETA has therefore to be regarded as non-biodegradable. Adsorption onto sewage sludge was not observed. In a test on hydrolysis, TETA was not found to have undergone hydrolysis after 36 days.
Direct photolysis of TETA in the hydrosphere is not to be expected (molar extinction coefficient < 10 l / (mol.cm) at > 240 nm). The half - life due to photooxidative degradation by OH-radicals in the atmosphere is estimated to be 1.7 hours. As TETA does have a low tendency to pass from water to air, this does not represent a significant removal process from the environment.
Based upon the physical-chemical and biodegradation properties of TETA, no elimination in waste water treatment plants is assumed.
Ecotoxicity:
Fish LC50 (96 h): Poecilia reticulata 570 mg/l
Other test results with Leuciscus idus and Pimephales promelas, which could not be validated, are in the same order of magnitude.
Daphnia magna EC50 (48 h): 31.1 - 33.9 mg/l (immobilisation several tests); (21 d) >3.2- <10 mg/l; NOEC 1 mg/l (immobilisation of parental organisms was the most sensitive effect parameter).
Concentrations of 293 - 7313 mg/l had no teratogenic effects on sea-urchin (Paracen trotus lividus) eggs. The larvae were most sensitive and showed delay of development at 293 mg/l
Algal Scenedesmus subspicatus EBC50 (72 h) 2.5 mg/l; EBC10 0.67 mg/l;EuC50 >= 100 mg/l; EuC10 0.95 mg/l Effect: growth inhibition (B = biomass; u = growth rate)
Algal Selenastrum capricornutum EC50 (72 h) 20 mg/l Effect: growth inhibition (biomass) ; NOEC < 2.5 mg/l; EC50 (96 h) 3,7 mg/l
Microorganisms Pseudomonas fluorescens EC0 (24 h): 500 mg/l Effect: growth inhibition (biomass)
Bird acute LD50 (18 h): redwinged blackberry >101 mg/kg.
» Prevent, by any means available, spillage from entering drains or water courses.

Section 13 - DISPOSAL CONSIDERATIONS

• Recycle wherever possible.
• Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
• Dispose of by: Burial in a licenced land-fill or incineration in a licenced apparatus (after admixture with suitable combustible material).
• Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.
• 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 MSDS and observe all notices pertaining to the product.

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM: None (ADG7)

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

continued...

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE: None

REGULATIONS

Regulations for ingredients
Dunlop Damp-Proof Waterproofing Part A (CAS: None):
No regulations applicable

polyamide resin (CAS:Not avail):
No regulations applicable

triethylenetetramine (CAS: 112-24-3) is found on the following regulatory lists;
Australia Hazardous Substances
Australia Inventory of Chemical Substances (AICS)
Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Appendix E (Part 2)
Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Appendix F (Part 3)
Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 4
Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 5
GESAMP/EHS Composite List of Hazard Profiles - Hazard evaluation of substances transported by ships
IMO IBC Code Chapter 17: Summary of minimum requirements
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk
OECD Representative List of High Production Volume (HPV) Chemicals

No data available for polyamide resin as CAS: Not avail.

Section 16 - OTHER INFORMATION

REPRODUCTIVE HEALTH GUIDELINES

» Established occupational exposure limits frequently do not take into consideration reproductive end points that are clearly below the thresholds for other toxic effects. Occupational reproductive guidelines (ORGs) have been suggested as an additional standard. These have been established after a literature search for reproductive no-observed-adverse effect-level (NOAEL) and the lowest-observed-adverse-effect-level (LOAEL). In addition the US EPA's procedures for risk assessment for hazard identification and dose-response assessment as applied by NIOSH were used in the creation of such limits. Uncertainty factors (UFs) have also been incorporated.

Ingredient	ORG	UF	Endpoint	CR	Adeq TLV
triethylenetetramine	2.9 mg/m3	10	D	NA	-

» These exposure guidelines have been derived from a screening level of risk assessment and should not be construed as unequivocally safe limits. ORGS represent an 8-hour time-weighted average unless specified otherwise.
CR = Cancer Risk/10000; UF = Uncertainty factor:
TLV believed to be adequate to protect reproductive health:
LOD: Limit of detection
Toxic endpoints have also been identified as:
D = Developmental; R = Reproductive; TC = Transplacental carcinogen
Jankovic J., Drake F.: A Screening Method for Occupational Reproductive American Industrial Hygiene Association Journal 57: 641-649 (1996).

EXPOSURE STANDARD FOR MIXTURES

» "Worst Case" computer-aided prediction of vapour components/concentrations:
» Composite Exposure Standard for Mixture (TWA) (mg/m3): 6 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/m3)	Mixture Conc (%)
triethylenetetramine	1.00	6.0000	2.0

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» 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): 6 mg/m³

» 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.
A list of reference resources used to assist the committee may be found at:
www.chemwatch.net/references.

» The (M)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.

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This is the end of the MSDS.