

DUNLOP ARDIT FLOOR LEVELLER

Chemwatch Material Safety Data Sheet
Issue Date: 30-Nov-2009
NC477ECP

CHEMWATCH 22-5921
Version No:2.0
CD 2009/3 Page 1 of 13

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

DUNLOP ARDIT FLOOR LEVELLER

STATEMENT OF HAZARDOUS NATURE

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

PRODUCT USE

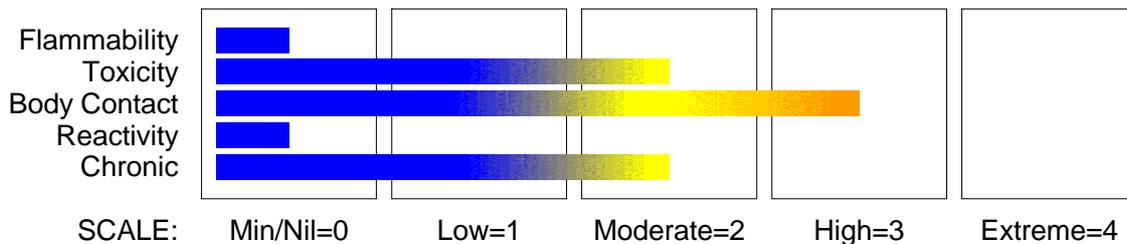
Levelling of uneven concrete surfaces prior to the application of floor coverings.

SUPPLIER

Company: Ardex NZ Pty Ltd
Address:
32 Lane Street
Woolston
Christchurch,
NZL
Telephone: +64 3384 3029
Fax: +64 3384 9779

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS



GHS Classification

Respiratory Sensitizer Category 1
Serious Eye Damage Category 1
Skin Corrosion/Irritation Category 1C
Skin Sensitizer Category 1

EMERGENCY OVERVIEW

HAZARD

DANGER

Determined by Chemwatch using GHS/HSNO criteria:

6.5A 6.5B 8.2C 8.3A

May cause allergic or asthmatic symptoms or breathing difficulties if inhaled

May cause allergic skin reaction

Causes severe skin burns and eye damage

Causes serious eye damage

PRECAUTIONARY STATEMENTS

continued...

DUNLOP ARDIT FLOOR LEVELLER

Chemwatch Material Safety Data Sheet

Issue Date: 30-Nov-2009

NC477ECP

CHEMWATCH 22-5921

Version No:2.0

CD 2009/3 Page 2 of 13

Section 2 - HAZARDS IDENTIFICATION

Prevention

Do not breathe dust/fume/gas/mist/vapours/spray.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

In case of inadequate ventilation wear respiratory protection.

Response

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN: Wash with plenty of soap and water.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

If skin irritation or rash occurs: Get medical advice/attention.

If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

Wash contaminated clothing before reuse.

Storage

Store locked up.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
graded sand	14808-60-7.	30-60
portland cement	65997-15-1	10-30
calcium carbonate	471-34-1	10-30
calcium aluminat cement	65997-16-2	10-30
calcium sulfate	7778-18-9	<10
additives, unregulated		<10

Section 4 - FIRST AID MEASURES

NEW ZEALAND POISONS INFORMATION CENTRE 0800 POISON (0800 764 766)

NZ EMERGENCY SERVICES: 111

SWALLOWED

- - For advice, contact a Poisons Information Centre or a doctor at once.
- Urgent hospital treatment is likely to be needed.
- 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.
- Transport to hospital or doctor without delay.

EYE

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

continued...

DUNLOP ARDIT FLOOR LEVELLER

Chemwatch Material Safety Data Sheet

Issue Date: 30-Nov-2009

NC477ECP

CHEMWATCH 22-5921

Version No:2.0

CD 2009/3 Page 3 of 13

Section 4 - FIRST AID MEASURES

- 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

■ If skin or hair contact occurs:

- Immediately flush body and clothes with large amounts of water, using safety shower if available.
- Quickly remove all contaminated clothing, including footwear.
- Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.
- Transport to hospital, or doctor.

INHALED

■ - If fumes or combustion products are inhaled remove from contaminated area.

- Lay patient down. Keep warm and rested.
- Prosthesis 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.

For acute or short-term repeated exposures to highly alkaline materials:

- Respiratory stress is uncommon but present occasionally because of soft tissue edema.
 - Unless endotracheal intubation can be accomplished under direct vision, cricothyroidotomy or tracheotomy may be necessary.
 - Oxygen is given as indicated.
 - The presence of shock suggests perforation and mandates an intravenous line and fluid administration.
 - Damage due to alkaline corrosives occurs by liquefaction necrosis whereby the saponification of fats and solubilisation of proteins allow deep penetration into the tissue.
- Alkalis continue to cause damage after exposure.

INGESTION:

- Milk and water are the preferred diluents

No more than 2 glasses of water should be given to an adult.

- Neutralising agents should never be given since exothermic heat reaction may compound injury.

* Catharsis and emesis are absolutely contra-indicated.

* Activated charcoal does not absorb alkali.

* Gastric lavage should not be used.

Supportive care involves the following:

- Withhold oral feedings initially.
- If endoscopy confirms transmucosal injury start steroids only within the first 48 hours.
- Carefully evaluate the amount of tissue necrosis before assessing the need for surgical intervention.
- Patients should be instructed to seek medical attention whenever they develop difficulty in swallowing (dysphagia).

SKIN AND EYE:

- Injury should be irrigated for 20-30 minutes.

Eye injuries require saline. [Ellenhorn & Barceloux: Medical Toxicology].

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.

continued...

DUNLOP ARDIT FLOOR LEVELLER

Chemwatch Material Safety Data Sheet

Issue Date: 30-Nov-2009

NC477ECP

CHEMWATCH 22-5921

Version No:2.0

CD 2009/3 Page 4 of 13

Section 5 - FIRE FIGHTING MEASURES

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: metal oxides.
May emit poisonous fumes.
May emit corrosive fumes.

FIRE INCOMPATIBILITY

- None known.

Personal Protective Equipment

Gas tight chemical resistant suit.

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- - Remove all ignition sources.
- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Control personal contact by using protective equipment.
- Use dry clean up procedures and avoid generating dust.
- Place in a suitable, labelled container for waste disposal.

MAJOR SPILLS

- Moderate hazard.
- CAUTION: Advise personnel in area.
- Alert Emergency Services and tell them location and nature of hazard.
- Control personal contact by wearing protective clothing.
- Prevent, by any means available, spillage from entering drains or water courses.
- Recover product wherever possible.
- IF DRY: Use dry clean up procedures and avoid generating dust. Collect residues and place in sealed plastic bags or other containers for disposal. IF WET: Vacuum/shovel up and place in labelled containers for disposal.
- ALWAYS: Wash area down with large amounts of water and prevent runoff into drains.
- 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

- - 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.

continued...

DUNLOP ARDIT FLOOR LEVELLER

Chemwatch Material Safety Data Sheet

Issue Date: 30-Nov-2009

NC477ECP

CHEMWATCH 22-5921

Version No:2.0

CD 2009/3 Page 5 of 13

Section 7 - HANDLING AND STORAGE

- 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 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.
- Check all containers are clearly labelled and free from leaks.

STORAGE INCOMPATIBILITY

- None known.

STORAGE REQUIREMENTS

- - Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry area protected from environmental extremes.
- 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

For major quantities:

- Consider storage in bunded areas - ensure storage areas are isolated from sources of community water (including stormwater, ground water, lakes and streams).
- Ensure that accidental discharge to air or water is the subject of a contingency disaster management plan; this may require consultation with local authorities.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA mg/m ³	Notes
New Zealand Workplace Exposure Standards (WES)	portland cement (Portland cement)	10	(d)
New Zealand Workplace Exposure Standards (WES)	calcium carbonate (Calcium carbonate)	10	(d)
New Zealand Workplace Exposure Standards (WES)	calcium sulfate (Calcium sulphate)	10	(d)

The following materials had no OELs on our records

- graded sand: CAS:14808- 60- 7
- calcium aluminate cement: CAS:65997- 16- 2 CAS:12042- 68- 1

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (mg/m ³)	Revised IDLH Value (ppm)
graded sand	50	
portland cement	5, 000	

continued...

DUNLOP ARDIT FLOOR LEVELLER

Chemwatch Material Safety Data Sheet
Issue Date: 30-Nov-2009
NC477ECP

CHEMWATCH 22-5921
Version No:2.0
CD 2009/3 Page 6 of 13

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

MATERIAL DATA

DUNLOP ARDIT FLOOR LEVELLER:
Not available

GRADED SAND:

NOTE: This product contains negligible amount of respirable dust.

PORTLAND CEMENT:

■ Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations. Present day expectations require that nearly every individual should be protected against even minor sensory irritation and exposure standards are established using uncertainty factors or safety factors of 5 to 10 or more. On occasion animal no-observable-effect-levels (NOEL) are used to determine these limits where human results are unavailable. An additional approach, typically used by the TLV committee (USA) in determining respiratory standards for this group of chemicals, has been to assign ceiling values (TLV C) to rapidly acting irritants and to assign short-term exposure limits (TLV STELs) when the weight of evidence from irritation, bioaccumulation and other endpoints combine to warrant such a limit. In contrast the MAK Commission (Germany) uses a five-category system based on intensive odour, local irritation, and elimination half-life. However this system is being replaced to be consistent with the European Union (EU) Scientific Committee for Occupational Exposure Limits (SCOEL); this is more closely allied to that of the USA.

OSHA (USA) concluded that exposure to sensory irritants can:

- cause inflammation
- cause increased susceptibility to other irritants and infectious agents
- lead to permanent injury or dysfunction
- permit greater absorption of hazardous substances and
- acclimate the worker to the irritant warning properties of these substances thus increasing the risk of overexposure.

Portland cement is considered to be a nuisance dust that does not cause fibrosis and has little potential to induce adverse effects on the lung.

CALCIUM CARBONATE:

■ For calcium carbonate:

The TLV-TWA is thought to be protective against the significant risk of physical irritation associated with exposure.

CALCIUM ALUMINATE CEMENT:

■ It is the goal of the ACGIH (and other Agencies) to recommend TLVs (or their equivalent) for all substances for which there is evidence of health effects at airborne concentrations encountered in the workplace.

At this time no TLV has been established, even though this material may produce adverse health effects (as evidenced in animal experiments or clinical experience). Airborne concentrations must be maintained as low as is practically possible and occupational exposure must be kept to a minimum.

NOTE: The ACGIH occupational exposure standard for Particles Not Otherwise Specified (P.N.O.S) does NOT apply.

Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations. Present day expectations require that nearly every individual should be protected against even minor sensory irritation and exposure standards are established using uncertainty factors or safety factors of 5 to 10 or more. On occasion animal no-observable-effect-levels (NOEL) are used to determine these limits where human results are unavailable. An additional approach, typically used by the TLV committee (USA) in determining respiratory standards for this group of chemicals, has been to assign ceiling values (TLV C) to rapidly acting irritants and to assign short-term exposure limits (TLV STELs) when the weight of evidence from irritation, bioaccumulation and other endpoints combine to warrant such a limit. In contrast the MAK Commission (Germany) uses a five-category system based on intensive odour, local irritation, and elimination half-life. However this system is being replaced to be consistent with the European Union (EU) Scientific Committee for Occupational Exposure Limits (SCOEL); this

continued...

DUNLOP ARDIT FLOOR LEVELLER

Chemwatch Material Safety Data Sheet

Issue Date: 30-Nov-2009

NC477ECP

CHEMWATCH 22-5921

Version No:2.0

CD 2009/3 Page 7 of 13

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

is more closely allied to that of the USA.

OSHA (USA) concluded that exposure to sensory irritants can:

- cause inflammation
- cause increased susceptibility to other irritants and infectious agents
- lead to permanent injury or dysfunction
- permit greater absorption of hazardous substances and
- acclimate the worker to the irritant warning properties of these substances thus increasing the risk of overexposure.

CALCIUM SULFATE:

The TLV-TWA is thought to be protective against the significant risks of eye, skin and other physical irritation.

PERSONAL PROTECTION

EYE

- - Chemical goggles.
- Full face shield may be required for supplementary but never for primary protection of eyes
- 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].

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.
- 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

Protection Factor	Half- Face Respirator	Full- Face Respirator	Powered Air Respirator
10 x ES	P1 Air- line*	- -	PAPR- P1 -
50 x ES	Air- line**	P2	PAPR- P2
100 x ES	-	P3	-
		Air- line*	-
100+ x ES	-	Air- line**	PAPR- P3

* - Negative pressure demand

** - Continuous flow.

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.

continued...

DUNLOP ARDIT FLOOR LEVELLER

Chemwatch Material Safety Data Sheet

Issue Date: 30-Nov-2009

NC477ECP

CHEMWATCH 22-5921

Version No:2.0

CD 2009/3 Page 8 of 13

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

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 powder; insoluble in water.

Loose Bulk Density: 1.3 approx.

PHYSICAL PROPERTIES

Does not mix with water.

Sinks in water.

Alkaline.

Molecular Weight: Not Applicable

Specific Gravity (water=1): 2.6 approx.

pH (1% solution): Not Available

Evaporation Rate: Not Applicable

Lower Explosive Limit (%): Not Applicable

Decomposition Temp (°C): Not Available

Boiling Range (°C): Not Applicable

Solubility in water (g/L): Immiscible

Vapour Pressure (kPa): Not Applicable

Relative Vapour Density (air=1): Not Applicable

Upper Explosive Limit (%): Not Applicable

State: Divided Solid

Melting Range (°C): Not Available

pH (as supplied): Not Available

Volatile Component (%vol): Not Applicable

Flash Point (°C): Not Applicable

Autoignition Temp (°C): Not Available

Viscosity: Not Applicable

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 can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.

continued...

DUNLOP ARDIT FLOOR LEVELLER

Chemwatch Material Safety Data Sheet

Issue Date: 30-Nov-2009

NC477ECP

CHEMWATCH 22-5921

Version No:2.0

CD 2009/3 Page 9 of 13

Section 11 - TOXICOLOGICAL INFORMATION

EYE

- The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.
- If applied to the eyes, this material causes severe eye damage.

SKIN

- The material can produce chemical burns following direct contact with the skin.
- 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

- If inhaled, this material can irritate the throat and lungs of some persons.
- Inhalation of dusts, generated by the material during the course of normal handling, may be damaging to the health of the individual.
- Effects on lungs are significantly enhanced in the presence of respirable particles.

CHRONIC HEALTH EFFECTS

- Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung. Prime symptom is breathlessness; lung shadows show on X-ray.

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.

Respiratory sensitisation may result in allergic/asthma like responses; from coughing and minor breathing difficulties to bronchitis with wheezing, gasping.

TOXICITY AND IRRITATION

- Not available. Refer to individual constituents.

GRADED SAND:

- unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.
- No data of toxicological significance identified in literature search.

PORTLAND CEMENT:

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

CALCIUM CARBONATE:

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

TOXICITY

Oral (Rat) LD50: 6450 mg/kg

- Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may

IRRITATION

Skin (rabbit): 500 mg/24h- Moderate

Eye (rabbit): 0.75 mg/24h - SEVERE

continued...

DUNLOP ARDIT FLOOR LEVELLER

Chemwatch Material Safety Data Sheet

Issue Date: 30-Nov-2009

NC477ECP

CHEMWATCH 22-5921

Version No:2.0

CD 2009/3 Page 10 of 13

Section 11 - TOXICOLOGICAL INFORMATION

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 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 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.

No evidence of carcinogenic properties. No evidence of mutagenic or teratogenic effects.

CALCIUM ALUMINATE CEMENT:

■ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

■ 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 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. No data of toxicological significance identified in literature search.

CALCIUM SULFATE:

■ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

for dihydrate

[RTEC NO.: EW 4150000]

Inhalation (human) TCl_o: 194000 mg/m³/10Y Nil reported
-Intermittent

CARCINOGEN

Silica, crystalline (inhaled in the form of quartz or cristobalite from occupational sources)	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	1
---	---	-------	---

Section 12 - ECOLOGICAL INFORMATION

Refer to data for ingredients, which follows:

CALCIUM CARBONATE:

continued...

DUNLOP ARDIT FLOOR LEVELLER

Chemwatch Material Safety Data Sheet

Issue Date: 30-Nov-2009

NC477ECP

CHEMWATCH 22-5921

Version No:2.0

CD 2009/3 Page 11 of 13

Section 12 - ECOLOGICAL INFORMATION

CALCIUM ALUMINATE CEMENT:

■ Metal-containing inorganic substances generally have negligible vapour pressure and are not expected to partition to air. Once released to surface waters and moist soils their fate depends on solubility and dissociation in water. Environmental processes (such as oxidation and the presence of acids or bases) may transform insoluble metals to more soluble ionic forms. Microbiological processes may also transform insoluble metals to more soluble forms. Such ionic species may bind to dissolved ligands or sorb to solid particles in aquatic or aqueous media. A significant proportion of dissolved/ sorbed metals will end up in sediments through the settling of suspended particles. The remaining metal ions can then be taken up by aquatic organisms.

When released to dry soil most metals will exhibit limited mobility and remain in the upper layer; some will leach locally into ground water and/ or surface water ecosystems when soaked by rain or melt ice.

Environmental processes may also be important in changing solubilities.

Even though many metals show few toxic effects at physiological pHs, transformation may introduce new or magnified effects.

A metal ion is considered infinitely persistent because it cannot degrade further.

The current state of science does not allow for an unambiguous interpretation of various measures of bioaccumulation.

The counter-ion may also create health and environmental concerns once isolated from the metal. Under normal physiological conditions the counter-ion may be essentially insoluble and may not be bioavailable.

Environmental processes may enhance bioavailability.

DUNLOP ARDIT FLOOR LEVELLER:

CALCIUM ALUMINATE CEMENT:

CALCIUM CARBONATE:

PORTLAND CEMENT:

■ DO NOT discharge into sewer or waterways.

DUNLOP ARDIT FLOOR LEVELLER:

PORTLAND CEMENT:

CALCIUM CARBONATE:

CALCIUM ALUMINATE CEMENT:

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
Dunlop Ardit Floor Leveller		No data		
graded sand		No data		
portland cement		No data		
calcium carbonate		No data		
calcium aluminate cement		No data		
calcium sulfate	HIGH	No data	LOW	HIGH

Section 13 - DISPOSAL CONSIDERATIONS

■ - 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.

- Recycle wherever possible.

continued...

DUNLOP ARDIT FLOOR LEVELLER

Chemwatch Material Safety Data Sheet

Issue Date: 30-Nov-2009

NC477ECP

CHEMWATCH 22-5921

Version No:2.0

CD 2009/3 Page 12 of 13

Section 13 - DISPOSAL CONSIDERATIONS

- 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 land-fill specifically licenced to accept chemical and / or pharmaceutical wastes 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.

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM: None

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

Section 15 - REGULATORY INFORMATION

REGULATIONS

Regulations for ingredients

graded sand (CAS: 14808-60-7) is found on the following regulatory lists;

"International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Chemicals (single components)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data", "New Zealand Inventory of Chemicals (NZIoC)", "OECD Representative List of High Production Volume (HPV) Chemicals"

portland cement (CAS: 65997-15-1) is found on the following regulatory lists;

"New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Workplace Exposure Standards (WES)", "OECD Representative List of High Production Volume (HPV) Chemicals"

calcium carbonate (CAS: 471-34-1,13397-26-7,15634-14-7,1317-65-3) is found on the following regulatory lists;

"CODEX General Standard for Food Additives (GSFA) - Additives Permitted for Use in Food in General, Unless Otherwise Specified, in Accordance with GMP", "GESAMP/EHS Composite List of Hazard Profiles - Hazard evaluation of substances transported by ships", "IMO IBC Code Chapter 17: Summary of minimum requirements", "International Council of Chemical Associations (ICCA) - High Production Volume List", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Chemicals (single components)", "New Zealand Inventory of Chemicals (NZIoC)", "OECD Representative List of High Production Volume (HPV) Chemicals"

calcium aluminate cement (CAS: 65997-16-2,12042-68-1) is found on the following regulatory lists;

"New Zealand Inventory of Chemicals (NZIoC)"

calcium sulfate (CAS: 7778-18-9,10101-41-4) is found on the following regulatory lists;

"International Council of Chemical Associations (ICCA) - High Production Volume List", "New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Workplace Exposure Standards (WES)", "OECD Representative List of High Production Volume (HPV) Chemicals"

No data for Dunlop Ardit Floor Leveller (CW: 22-5921)

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

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
calcium carbonate	471- 34- 1, 13397- 26- 7, 15634- 14- 7, 1317- 65- 3
calcium aluminate cement	65997- 16- 2, 12042- 68- 1

continued...

DUNLOP ARDIT FLOOR LEVELLER

Chemwatch Material Safety Data Sheet

Issue Date: 30-Nov-2009

NC477ECP

CHEMWATCH 22-5921

Version No:2.0

CD 2009/3 Page 13 of 13

Section 16 - OTHER INFORMATION

calcium sulfate

7778- 18- 9, 10101- 41- 4

■ 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.

This document is copyright. Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH. TEL (+61 3) 9572 4700.

Issue Date: 30-Nov-2009

Print Date: 30-Nov-2009