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

**Product Identifier**

- **Product name**: Dycal Radiopaque Calcium Hydroxide - Catalyst
- **Synonyms**: DYCAl Radiopaque Calcium Hydroxide Composition - Catalyst Paste.
- **Proper shipping name**: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains zinc oxide)
- **Other means of identification**: Not Available

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

- **Relevant identified uses**: For dental use only.

**Details of the supplier of the safety data sheet**

- **Registered company name**: Dentsply Sirona Pty Ltd
- **Address**: 11-21 Gilby Road Mount Waverley VIC 3149 Australia
- **Telephone**: 1300 55 29 29
- **Fax**: 1300 55 31 31
- **Website**: www.dentsply.com.au
- **Email**: clientservices@dentsplysirona.com

**Emergency telephone number**

- **Association / Organisation**: Not Available
- **Emergency telephone numbers**: 1300 55 29 29
- **Other emergency telephone numbers**: Not Available

---

**SECTION 2 HAZARDS IDENTIFICATION**

**Hazardous Chemical. Dangerous Goods.** According to the WHS Regulations and the ADG Code.

**Chemwatch Hazard Alert Code**: 3

**Dentsply Sirona Pty Ltd Chemwatch Hazard Alert Code: 3**

**Dycal Radiopaque Calcium Hydroxide - Catalyst**

**Chemwatch**: 4993-60

**Version No**: 6.1.1.1

**Safety Data Sheet according to WHS and ADG requirements**

**Issue Date**: 27/06/2017

**Print Date**: 04/01/2018

**S.GHS.AUS.EN**

**Chemwatch Hazard Alert Code**: 3

**Dycal Radiopaque Calcium Hydroxide - Catalyst**

**Chemwatch**: 4993-60

**Version No**: 6.1.1.1

**Safety Data Sheet according to WHS and ADG requirements**

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**Emergency telephone number**

- **Association / Organisation**: Not Available
- **Emergency telephone numbers**: 1300 55 29 29
- **Other emergency telephone numbers**: Not Available

**SECTION 2 HAZARDS IDENTIFICATION**

**Classification of the substance or mixture**

<table>
<thead>
<tr>
<th>CHEMWATCH HAZARD RATINGS</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Toxicity</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Reactivity</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Chronic</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Poisons Schedule**: Not Applicable

**Classification [1]**

- Skin Corrosion/Irritation Category 1A, Serious Eye Damage Category 1, Carcinogenicity Category 1A, Acute Aquatic Hazard Category 2, Chronic Aquatic Hazard Category 2


**Label elements**

- **Hazard pictogram(s)**
  - [Pictogram Image]

- **SIGNAL WORD**: DANGER

**Hazard statement(s)**

- **H314**: Causes severe skin burns and eye damage.
- **H350**: May cause cancer.
- **H411**: Toxic to aquatic life with long lasting effects.

**Precautionary statement(s)**

**Prevention**

**Continued...**
Obtain special instructions before use.

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

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

Use personal protective equipment as required.

---

### Precautionary statement(s) Response

- **P301+P330+P331** IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- **P303+P361+P353** IF ON SKIN (or hair): Remove/T ake off immediately all contaminated clothing. Rinse skin with water/shower.
- **P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- **P308+P313** IF exposed or concerned: Get medical advice/attention.

### Precautionary statement(s) Storage

- **P405** Store locked up.

### Precautionary statement(s) Disposal

- **P501** Dispose of contents/container in accordance with local regulations.

---

### SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

#### Substances

See section below for composition of Mixtures

#### Mixtures

<table>
<thead>
<tr>
<th>CAS No</th>
<th>% [weight]</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1305-62-0</td>
<td>&lt;55</td>
<td>calcium hydroxide</td>
</tr>
<tr>
<td>1314-13-2</td>
<td>&lt;15</td>
<td>zinc oxide</td>
</tr>
<tr>
<td>13463-67-7</td>
<td>&lt;10</td>
<td>titanium dioxide</td>
</tr>
</tbody>
</table>

---

### SECTION 4 FIRST AID MEASURES

#### Description of first aid measures

**Eye Contact**
- If this product comes in contact with the eyes:
  - Immediately hold eyelids apart and flush the eye continuously with running water.
  - Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
  - Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
  - Transport to hospital or doctor without delay.
  - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

**Skin Contact**
- If skin 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.

**Inhalation**
- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor.

**Ingestion**
- 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.

### Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
- 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.
- Alkalies 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.

* Catharsis and emesis are absolutely contra-indicated.
* Activated charcoal does not absorb alkali.

---

Continued...
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 FIREFIGHTING MEASURES

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

Special hazards arising from the substrate or mixture

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

Advice for firefighters

Fire Fighting
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves in the event of a fire.
- Prevent, by any means available, spillage from entering drains or water courses.
- Use fire fighting procedures suitable for surrounding area.

Fire/Explosion Hazard
- Non combustible.
- Not considered a significant fire risk, however containers may burn.
- May emit poisonous fumes.
- May emit corrosive fumes.

HAZCHEM 8Z

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
See section 8

Environmental precautions
See section 12

Methods and material for containment and cleaning up

Minor Spills
- Environmental hazard - contain spillage.
- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Wear impervious gloves and safety goggles.
- Trowel up/scrape up.

Major Spills
- 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.
- Environmental hazard - contain spillage.

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe 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.

Other information
- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.

Conditions for safe storage, including any incompatibilities

Suitable container
- DO NOT use aluminium or galvanised containers
- Polyethylene or polypropylene container.
- Packing as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

Storage incompatibility
- Reacts with aluminium / zinc producing flammable, explosive hydrogen gas
- Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.
- Avoid contact with copper, aluminium and their alloys.
- Avoid reaction with oxidising agents.
SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

<table>
<thead>
<tr>
<th>Source</th>
<th>Ingredient</th>
<th>Material name</th>
<th>TWA</th>
<th>STEL</th>
<th>Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia Exposure Standards</td>
<td>calcium hydroxide</td>
<td>Calcium hydroxide</td>
<td>5 mg/m³</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Australia Exposure Standards</td>
<td>zinc oxide</td>
<td>Zinc oxide</td>
<td>10 mg/m³</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Australia Exposure Standards</td>
<td>zinc oxide (fume)</td>
<td>Zinc oxide (fume)</td>
<td>5 mg/m³</td>
<td>10 mg/m³ / ppm</td>
<td>Not Available</td>
</tr>
<tr>
<td>Australia Exposure Standards</td>
<td>titanium dioxide</td>
<td>Titanium dioxide</td>
<td>10 mg/m³</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
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</table>

EMERGENCY LIMITS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Material name</th>
<th>TEEL-1</th>
<th>TEEL-2</th>
<th>TEEL-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>calcium hydroxide</td>
<td>Calcium hydroxide</td>
<td>1 mg/m³</td>
<td>240 mg/m³</td>
<td>1,500 mg/m³</td>
</tr>
<tr>
<td>zinc oxide</td>
<td>Zinc oxide</td>
<td>10 mg/m³</td>
<td>15 mg/m³</td>
<td>2,500 mg/m³</td>
</tr>
<tr>
<td>titanium dioxide</td>
<td>Titanium oxide; (Titanium dioxide)</td>
<td>30 mg/m³</td>
<td>330 mg/m³</td>
<td>2,000 mg/m³</td>
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</table>

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Original IDLH</th>
<th>Revised IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>calcium hydroxide</td>
<td>Not Available</td>
<td></td>
</tr>
<tr>
<td>zinc oxide</td>
<td>500 mg/m³</td>
<td>Not Available</td>
</tr>
<tr>
<td>titanium dioxide</td>
<td>5000 mg/m³</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

Exposure controls

Appropriate engineering controls
Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:

- Process controls which involve changing the way a job activity or process is done to reduce the risk.
- Enclosure and/or isolation of emission source which keeps a selected hazard “physically” away from the worker and ventilation that strategically “adds” and “removes” air in the work environment.

Personal protection

- 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 lenses or restrictions on use, should be created for each workplace or task.

Skin protection
See Hand protection below

Hands/feet protection

- Wear chemical protective gloves, e.g. PVC.
- Wear safety footwear or safety gumboots, e.g. Rubber

NOTE:
- The material may produce skin sensitisation in predisposed individuals. Care must be taken when removing gloves and other protective equipment, to avoid all possible skin contact.
- Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

Body protection
See Other protection below

Other protection

- Overalls.
- PVC, apron.
- Barrier cream.

Thermal hazards
Not Available

Recommended material(s)

GLOVE SELECTION INDEX
Glove selection is based on a modified presentation of the: "Forsberg Clothing Performance Index".
The effect(s) of the following substance(s) are taken into account in the computer-generated selection: Dycal Radiopaque Calcium Hydroxide - Catalyst

<table>
<thead>
<tr>
<th>Material</th>
<th>CPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>NATURAL RUBBER</td>
<td>C</td>
</tr>
<tr>
<td>NATURAL+NEOPRENE</td>
<td>C</td>
</tr>
</tbody>
</table>

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation.

Respiratory protection
Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content. The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.

Continued...
SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White, odourless, alkaline paste; not soluble in water.</td>
</tr>
<tr>
<td>Physical state</td>
<td>Non Slip Paste</td>
</tr>
<tr>
<td>Odour</td>
<td>Not Available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>11.5</td>
</tr>
<tr>
<td>pH (as supplied)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Melting point / freezing point (°C)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Initial boiling point and boiling range (°C)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Flash point (°C)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not Available</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Upper Explosive Limit (%)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Lower Explosive Limit (%)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Vapour pressure (kPa)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Solubility in water (g/L)</td>
<td>Immiscible</td>
</tr>
<tr>
<td>Vapour density (Air = 1)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Relative density (Water = 1)</td>
<td>1.8</td>
</tr>
<tr>
<td>Partition coefficient n-octanol / water</td>
<td>Not Available</td>
</tr>
<tr>
<td>Auto-ignition temperature (°C)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not Available</td>
</tr>
<tr>
<td>Viscosity (cSt)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Molecular weight (g/mol)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Surface Tension (dyn/cm or mN/m)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Gas group</td>
<td>Not Available</td>
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<tr>
<td>pH as a solution (1%)</td>
<td>Not Available</td>
</tr>
<tr>
<td>VOC g/L</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

SECTION 10 STABILITY AND REACTIVITY

Reactivity: See section 7

Chemical stability: Unstable in the presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

Possibility of hazardous reactions: See section 7

Conditions to avoid: See section 7

Incompatible materials: See section 7

Hazardous decomposition products: See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

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

Ingestion: The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion. Accidental ingestion of the material may be damaging to the health of the individual.

Skin Contact: The material can produce chemical burns following direct contact with the skin. In the presence of moisture calcium hydroxide (slaked lime) is a caustic irritant and can be damaging to human tissue. Skin contact may result in severe burns and blistering, depending on duration of contact. Reactions may not occur on exposure but response may be delayed with symptoms only appearing many hours later.
- Open cuts, abraded or irritated skin should not be exposed to this material.
- Entry into the blood-stream, through, for example, cuts, abrasions or lesions, 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.

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.
- Eye contact with calcium hydroxide may result in severe irritation and pain. The material may induce ulcerations of the eyeball surface.

Chronic: Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue.
- Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.
- 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.
- Long term exposure to calcium hydroxide may result in narrowing of the gut, with difficulty in swallowing. This may happen after weeks, months or years of exposure.
- Welding or flame cutting of metals with zinc or zinc dust coatings may result in inhalation of zinc oxide fume; high concentrations of zinc oxide fume may result in "metal fume fever", also known as "grass chills", an industrial disease of short duration. [I.L.O] Symptoms include malaise, fever, weakness, nausea and may appear quickly if operations occur in enclosed or poorly ventilated areas.
- There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.

Dycal Radiopaque Calcium Hydroxide - Catalyst

<table>
<thead>
<tr>
<th>TOXICITY</th>
<th>IRRITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Substance</td>
<td>TOXICITY</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>calcium hydroxide</td>
<td>Dermal (rabbit) LD50: 2500 mg/kg [1]</td>
</tr>
<tr>
<td></td>
<td>Oral (rat) LD50: 7340 mg/kg [2]</td>
</tr>
<tr>
<td>zinc oxide</td>
<td>Oral (rat) LD50: &gt;5000 mg/kg [1]</td>
</tr>
<tr>
<td></td>
<td>Skin (rabbit): 500 mg/24 h - mild</td>
</tr>
<tr>
<td>titanium dioxide</td>
<td>Inhalation (rat) LC50: &gt;2.28 mg/l4 h [1]</td>
</tr>
<tr>
<td></td>
<td>Oral (rat) LD50: &gt;2000 mg/kg [1]</td>
</tr>
</tbody>
</table>

**Legend:**
- Data available but does not fill the criteria for classification
- Data available to make classification
- Data Not Available to make classification

**TITANIUM DIOXIDE**

The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. Exposure to titanium dioxide is via inhalation, swallowing or skin contact. When inhaled, it may deposit in lung tissue and lymph nodes causing dysfunction of the lungs and immune system. Absorption by the stomach and intestines depends on the size of the particle. If penetrated only the outermost layer of the skin, suggesting that healthy skin may be an effective barrier.

**WARNING:** This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.

**Dycal Radiopaque Calcium Hydroxide - Catalyst & CALCIUM HYDROXIDE**

The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

**Dycal Radiopaque Calcium Hydroxide - Catalyst & CALCIUM HYDROXIDE**

Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia.

**ZINC OXIDE & TITANIUM DIOXIDE**

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.

**Acute Toxicity**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Carcinogenicity</th>
<th>Reproductivity</th>
<th>Aspiration Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Irritation/Corrosion</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Serious Eye Damage/Irritation</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Respiratory or Skin sensitisation</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**SECTION 12 ECOLOGICAL INFORMATION**

**Toxicity**

<table>
<thead>
<tr>
<th>Substance</th>
<th>ENDPOINT</th>
<th>TEST DURATION (HR)</th>
<th>SPECIES</th>
<th>VALUE</th>
<th>SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>calcium hydroxide</td>
<td>LC50</td>
<td>96</td>
<td>Fish</td>
<td>160mg/L</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>NOEC</td>
<td>48</td>
<td>Crustacea</td>
<td>33.3mg/L</td>
<td>2</td>
</tr>
<tr>
<td>zinc oxide</td>
<td>LC50</td>
<td>96</td>
<td>Fish</td>
<td>0.439mg/L</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>EC50</td>
<td>48</td>
<td>Crustacea</td>
<td>0.105mg/L</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>EC50</td>
<td>72</td>
<td>Algae or other aquatic plants</td>
<td>0.042mg/L</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>BCF</td>
<td>336</td>
<td>Fish</td>
<td>4376.673mg/L</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>NOEC</td>
<td>72</td>
<td>Algae or other aquatic plants</td>
<td>0.009mg/L</td>
<td>2</td>
</tr>
<tr>
<td>titanium dioxide</td>
<td>LC50</td>
<td>96</td>
<td>Fish</td>
<td>155mg/L</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>EC50</td>
<td>48</td>
<td>Crustacea</td>
<td>&gt;10mg/L</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>EC50</td>
<td>72</td>
<td>Algae or other aquatic plants</td>
<td>5.83mg/L</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>EC20</td>
<td>72</td>
<td>Algae or other aquatic plants</td>
<td>1.81mg/L</td>
<td>4</td>
</tr>
</tbody>
</table>

Continued...
**Dycal Radiopaque Calcium Hydroxide - Catalyst**

**SECTION 13 DISPOSAL CONSIDERATIONS**

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

**SECTION 14 TRANSPORT INFORMATION**

**Labels Required**

- Marine Pollutant
- HAZCHEM •3Z

**Land transport (ADG)**

- **UN number**: 3082
- **UN proper shipping name**: ENVIROMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains zinc oxide)
- **Transport hazard class(es)**
  - Class: 9
  - Subrisk: Not Applicable
- **Packing group**: III
- **Environmental hazard**: Environmentally hazardous
- **Special precautions for user**
  - Special provisions: 274 331 335 375 AU01
  - Limited quantity: 5 L

Environmental Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to this Code when transported by road or rail in:
- (a) packagings;
- (b) IBCs; or
- (c) any other receptacle not exceeding 500 kg(L).
- Australian Special Provisions (SP AU01) - ADG Code 7th Ed.
### Section 15 Regulatory Information

**Safety, health and environmental regulations / legislation specific for the substance or mixture**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Regulatory Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Hydroxide (1305-62-0)</td>
<td>Australia Exposure Standards, Australia Hazardous Substances Information System - Consolidated Lists, Australia Inventory of Chemical Substances (AICS)</td>
</tr>
<tr>
<td>Zinc Oxide (1314-13-2)</td>
<td>Australia Exposure Standards, Australia Hazardous Substances Information System - Consolidated Lists, Australia Inventory of Chemical Substances (AICS)</td>
</tr>
<tr>
<td>Titanium Dioxide (13463-67-7)</td>
<td>Australia Exposure Standards, Australia Inventory of Chemical Substances (AICS), International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>National Inventory</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia - AICS</td>
<td>Y</td>
</tr>
<tr>
<td>Canada - DSL</td>
<td>Y</td>
</tr>
<tr>
<td>Canada - NDSL</td>
<td>N (calcium hydroxide)</td>
</tr>
<tr>
<td>China - IECSC</td>
<td>Y</td>
</tr>
<tr>
<td>Europe - EINEC / ELINCS / NLP</td>
<td>Y</td>
</tr>
<tr>
<td>Japan - ENCS</td>
<td>Y</td>
</tr>
<tr>
<td>Korea - KECI</td>
<td>Y</td>
</tr>
<tr>
<td>New Zealand - NZIoC</td>
<td>Y</td>
</tr>
<tr>
<td>Philippines - PICCS</td>
<td>Y</td>
</tr>
<tr>
<td>USA - TSCA</td>
<td>Y</td>
</tr>
</tbody>
</table>

**Legend:**

- **Y** = All ingredients are on the inventory
- **N** = Not determined or one or more ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets)
Ingredients with multiple cas numbers

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS No</th>
</tr>
</thead>
<tbody>
<tr>
<td>calcium hydroxide</td>
<td>1305-62-0, 1332-69-0</td>
</tr>
<tr>
<td>zinc oxide</td>
<td>1314-13-2, 175449-32-8</td>
</tr>
</tbody>
</table>

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

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

Definitions and abbreviations

PC – TWA: Permissible Concentration-Time Weighted Average
PC – STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit
IDLH: Immediately Dangerous to Life or Health Concentrations
OSF: Odour Safety Factor
NOAEL: No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index

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