

DENTSPLY DYCAL RADIOPAQUE CALCIUM HYDROXIDE COMPOSITION

ChemWatch Material Safety Data Sheet
Issue Date: Wed 28-Jul-2004

CHEMWATCH 4993-60
CD 2004/2 Page 1 of 9

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

DENTSPLY DYCAL RADIOPAQUE CALCIUM HYDROXIDE COMPOSITION

SYNONYMS

Part Number 623400 - 623452

PRODUCT USE

Medicine

SUPPLIER

Company: Dentsply (Australia) Pty Ltd

Address:

11-21 Gilby Road
Mount Waverley
VIC, 3149
AUS

Telephone: +61 03 9538 8240

Emergency Tel: 0413 830 239

Fax: 03 9538 8260

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

Irritating to eyes.

Ingestion may produce health damage*.

Cumulative effects may result following exposure*.

May produce skin discomfort*.

* (limited evidence)

SAFETY

Wear eye/face protection.

Take off immediately all contaminated clothing.

In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.

If you feel unwell contact Doctor or Poisons Information Centre. (Show the label

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DENTSPLY DYCAL RADIOPAQUE CALCIUM HYDROXIDE COMPOSITION

ChemWatch Material Safety Data Sheet
Issue Date: Wed 28-Jul-2004

CHEMWATCH 4993-60
CD 2004/2 Page 2 of 9

Section 2 - HAZARDS IDENTIFICATION ...

if possible).

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
disalicylate ester of 1,3 butylene glycol		<50
calcium tungstate(VI)	7790-75-2	<20
zinc oxide	1314-13-2	<15

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:

- 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

If skin or hair contact occurs:

- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

NOTES TO PHYSICIAN

Treat symptomatically.

Both dimercaptol and calcium disodium edetate are said to be effective in acute experimental tungsten poisonings.

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DENTSPLY DYCAL RADIOPAQUE CALCIUM HYDROXIDE COMPOSITION

ChemWatch Material Safety Data Sheet
Issue Date: Wed 28-Jul-2004

CHEMWATCH 4993-60
CD 2004/2 Page 3 of 9

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear 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)
metal oxides
other pyrolysis products typical of burning organic material
May emit poisonous fumes.
May emit corrosive fumes.

FIRE INCOMPATIBILITY

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

HAZCHEM

None

Personal Protective Equipment

Glasses:
Chemical goggles.
Full face- shield.

Gloves:
PVC chemical resistant type.

Respirator:
Particulate

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DENTSPLY DYCAL RADIOPAQUE CALCIUM HYDROXIDE COMPOSITION

ChemWatch Material Safety Data Sheet
Issue Date: Wed 28-Jul-2004

CHEMWATCH 4993-60
CD 2004/2 Page 4 of 9

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Wear impervious gloves and safety goggles.
- Trowel up/scrape up.
- Place spilled material in clean, dry, sealed container.
- Flush spill area with water.

MAJOR SPILLS

Minor hazard.

- Clear area of personnel.
- Alert Fire Brigade and tell them location and nature of hazard.
- Control personal contact by using protective equipment as required.
- Prevent spillage from entering drains or water ways.
- Contain spill with sand, earth or vermiculite.
- Collect recoverable product into labelled containers for recycling.
- Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal.
- Wash area and prevent runoff into drains or waterways.
- 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

- Limit all unnecessary personal contact.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- When handling DO NOT eat, drink or smoke.
- Always wash hands with soap and water after handling.
- Avoid physical damage to containers.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.

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
Avoid strong bases.

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DENTSPLY DYCAL RADIOPAQUE CALCIUM HYDROXIDE COMPOSITION

ChemWatch Material Safety Data Sheet
Issue Date: Wed 28-Jul-2004

CHEMWATCH 4993-60
CD 2004/2 Page 5 of 9

Section 7 - HANDLING AND STORAGE ...

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.
- DO NOT store above 50 deg. C.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

EXPOSURE STANDARDS FOR MIXTURE

"Worst Case" computer-aided prediction of spray/ mist or fume/ dust components and concentration:

Composite Exposure Standard for Mixture (TWA) :1.2727 mg/m³.

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.

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

Component	Breathing Zone (mg/m ³)	Mixture Conc (%)
calcium tungstate(VI)	0.7273	20.0
zinc oxide	0.5455	15.0

INGREDIENT DATA

CALCIUM TUNGSTATE(VI):

TLV TWA: 1 mg/m³ Soluble compounds as W [ACGIH]

TLV STEL: 3 mg/m³ Soluble compounds as W [ACGIH]

tungsten soluble compounds, as W (A.Wt: 183.85)

ES TWA: 1 mg/m³; STEL: 3 mg/m³

TLV TWA: 1 mg/m³; STEL: 3 mg/m³

OES TWA: 1 mg/m³; STEL: 3 mg/m³

Soluble tungsten products are those for which water solubility is listed as greater than 0.01 gm/100 cc water. The recommended TLV-TWA and STEL reflects the systemic toxicity of soluble compounds of tungsten. OSHA concluded that these limits would protect workers against anorexia, gastrointestinal distress, incoordination, trembling and dyspnoea.

ZINC OXIDE:

TLV TWA: 2 mg/m³ (Respirable fraction) (-) [ACGIH]

TLV STEL: 10 mg/m³ (Respirable fraction) (-) [ACGIH]

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DENTSPLY DYCAL RADIOPAQUE CALCIUM HYDROXIDE COMPOSITION

ChemWatch Material Safety Data Sheet
Issue Date: Wed 28-Jul-2004

CHEMWATCH 4993-60
CD 2004/2 Page 6 of 9

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ...

PEL Total particulate: 15mg/m³ [OSHA Z1]
PEL Respirable fraction : 5mg/m³ [OSHA Z1]
TLV TWA: 2 mg/m³; STEL: 10 mg/m³ respirable fraction
ES TWA: 10 mg/m³ inspirable dust
OES TWA: 5 mg/m³ respirable dust
as fume
ES-TWA: 5 mg/m³; STEL: 10 mg/m³
TLV-TWA: 5 mg/m³; STEL: 10 mg/m³
IDLH Level: 500 mg/m³

The concentration of respirable dust for application of this limit is to be determined from the fraction that penetrates a separator whose size collection efficiency is described by a cumulative lognormal function with a median aerodynamic diameter of 4.0 µm (+-) 0.3 µm and with a geometric standard deviation of 1.5 µm (+-) 0.1 µm, i.e..generally less than 5 µm.

PERSONAL PROTECTION

EYE

- Chemical goggles.
- Full face shield.
- Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them.

HANDS/FEET

Wear protective gloves, eg. PVC.

OTHER

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

RESPIRATOR

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

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

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DENTSPLY DYCAL RADIOPAQUE CALCIUM HYDROXIDE COMPOSITION

ChemWatch Material Safety Data Sheet
Issue Date: Wed 28-Jul-2004

CHEMWATCH 4993-60
CD 2004/2 Page 7 of 9

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ...

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

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

ENGINEERING CONTROLS

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

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Tan or dark beige coloured paste with a characteristic odour; does not

PHYSICAL PROPERTIES

Does not mix with water.
Sinks in water.

Molecular Weight: Not Applicable
Melting Range (°C): Not Applicable
Solubility in water (g/L): Immiscible
pH (1% solution): Not Available
Volatile Component (%vol): Not Available
Relative Vapour Density (air=1): Not Applicable
Lower Explosive Limit (%): Not Available
Autoignition Temp (°C): Not Available
State: Non Slump Paste

Boiling Range (°C): Not Applicable
Specific Gravity (water=1): 2.0
pH (as supplied): Not Available
Vapour Pressure (kPa): Not Applicable
Evaporation Rate: Not Available
Flash Point (°C): Not Applicable
Upper Explosive Limit (%): Not Available
Decomposition Temp (°C): Not Available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

Product is considered stable and hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

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DENTSPLY DYCAL RADIOPAQUE CALCIUM HYDROXIDE COMPOSITION

ChemWatch Material Safety Data Sheet
Issue Date: Wed 28-Jul-2004

CHEMWATCH 4993-60
CD 2004/2 Page 8 of 9

Section 11 - TOXICOLOGICAL INFORMATION ...

SWALLOWED

Considered an unlikely route of entry in commercial/industrial environments. If swallowed, the liquid can produce stomach upset, nausea, pain and vomiting. Vomit entering the lungs may cause chemical pneumonitis (inflammation of lungs) which can cause death.

EYE

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

SKIN

There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons.
Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.
Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

CHRONIC HEALTH EFFECTS

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

Dentsply Dycal Radiopaque Calcium Hydroxide Composition

Not available. Refer to individual constituents.
unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances

CALCIUM TUNGSTATE(VI):

No significant acute toxicological data identified in literature search.

ZINC OXIDE:

IRRITATION

Skin (rabbit): 500 mg/24h mild

Eye (rabbit): 500 mg/24h mild

TOXICITY

Oral (human) LDLo: 500 mg/kg

Inhalation (human) TLo: 600 mg/m³

Oral (mouse) LD50: 7950 mg/kg

Section 12 - ECOLOGICAL INFORMATION

DO NOT discharge into sewer or waterways.

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DENTSPLY DYCAL RADIOPAQUE CALCIUM HYDROXIDE COMPOSITION

ChemWatch Material Safety Data Sheet
Issue Date: Wed 28-Jul-2004

CHEMWATCH 4993-60
CD 2004/2 Page 9 of 9

Section 13 - DISPOSAL CONSIDERATIONS

- Consult manufacturer for recycling options and recycle where possible .
 - Consult State Land Waste Management Authority for disposal.
 - Incinerate residue at an approved site.
 - Recycle containers if possible, or dispose of in an authorised landfill.
- Puncture containers to prevent re-use and bury at an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION

Shipping Name:
None
Dangerous Goods Class: None
UN/NA Number: None
ADR Number:
Packing Group: None
Labels Required:
Additional Shipping Information:
International Transport Regulations:
IMO: None

HAZCHEM

None

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE

None

Section 16 - OTHER INFORMATION

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