

DENTSPLY DYRACT SEAL

ChemWatch Material Safety Data Sheet
Issue Date: Wed 22-Sep-2004

CHEMWATCH 4613-47
CD 2004/3 Page 1 of 10

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

DENTSPLY DYRACT SEAL

SYNONYMS

! 04/00

PRODUCT USE

Light cured pit and fissure sealant for dental use.

SUPPLIER

Company: Dentsply (Australia) Pty Ltd (ABN: 15 004 290 322)

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, respiratory system and skin.
Cumulative effects may result following exposure*.
Limited evidence of a carcinogenic effect*.
Possible skin sensitiser*.
* (limited evidence)

SAFETY

Avoid contact with skin.
Wear eye/face protection.
In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.

continued...

DENTSPLY DYRACT SEAL

ChemWatch Material Safety Data Sheet
Issue Date: Wed 22-Sep-2004

CHEMWATCH 4613-47
CD 2004/3 Page 2 of 10

Section 2 - HAZARDS IDENTIFICATION ...

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
methacrylate		>60
silica amorphous	7631-86-9	10-30

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:

- Remove all contaminated clothing, including footwear
- Remove adhering sticky material using a waterless hand cleaner
- Flush skin and hair with soap and running water, repeating as required .
- In event of visible or subsequent irritation seek medical attention.

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.

continued...

DENTSPLY DYRACT SEAL

ChemWatch Material Safety Data Sheet
Issue Date: Wed 22-Sep-2004

CHEMWATCH 4613-47
CD 2004/3 Page 3 of 10

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)

sulfur oxides (SO_x)

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

HAZCHEM

None

Personal Protective Equipment

PERSONAL PROTECTION EQUIPMENT

Gas tight chemical resistant suit.

Limit exposure duration to 1 BA set - 30 mins.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

continued...

DENTSPLY DYRACT SEAL

ChemWatch Material Safety Data Sheet
Issue Date: Wed 22-Sep-2004

CHEMWATCH 4613-47
CD 2004/3 Page 4 of 10

Section 6 - ACCIDENTAL RELEASE MEASURES ...

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

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

continued...

DENTSPLY DYRACT SEAL

ChemWatch Material Safety Data Sheet
Issue Date: Wed 22-Sep-2004

CHEMWATCH 4613-47
CD 2004/3 Page 5 of 10

Section 7 - HANDLING AND STORAGE ...

STORAGE INCOMPATIBILITY

Avoid reaction with oxidising agents
Exposure to light, free radical initiators, iron, rust and strong bases, and storage beyond expiration date, may initiate polymerisation.

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

EXPOSURE STANDARDS FOR MIXTURE

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

Composite Exposure Standard for Mixture (TWA) :2 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 (%)
silica amorphous	2.0000	30.0

INGREDIENT DATA

SILICA AMORPHOUS:

containing no asbestos and <1% crystalline silica

TLV TWA: 10 mg/m³ total dust

TLV TWA: 2 mg/m³ respirable dust (fumed silica)

ES TWA: 2 mg/m³ respirable dust (fumed silica)

OES TWA: 6 mg/m³ total inhalable dust

OES TWA: 2.4 mg/m³ respirable dust

IDLH Level: 3000 mg/m³

PERSONAL PROTECTION

continued...

DENTSPLY DYRACT SEAL

ChemWatch Material Safety Data Sheet
Issue Date: Wed 22-Sep-2004

CHEMWATCH 4613-47
CD 2004/3 Page 6 of 10

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ...

EYE

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them. DO NOT wear contact lenses.

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.

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**

* - 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 special circumstances. If risk of overexposure exists, wear approved respirator. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection. Provide adequate ventilation in warehouses and enclosed storage

continued...

DENTSPLY DYRACT SEAL

ChemWatch Material Safety Data Sheet
Issue Date: Wed 22-Sep-2004

CHEMWATCH 4613-47
CD 2004/3 Page 7 of 10

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ...

areas.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Yellow paste with a characteristic odour; does not mix with water.

PHYSICAL PROPERTIES

Does not mix with water.

Molecular Weight: Not Applicable
Melting Range (°C): Not Available
Solubility in water (g/L): Immiscible
pH (1% solution): Not Applicable
Volatile Component (%vol): 0
Relative Vapour Density (air=1): Not Available
Lower Explosive Limit (%): Not Applicable
Autoignition Temp (°C): >370
State: Non Slump Paste

Boiling Range (°C): >999
Specific Gravity (water=1): Not Available
pH (as supplied): Not Applicable
Vapour Pressure (kPa): Not Available
Evaporation Rate: Not Available
Flash Point (°C): Not Applicable
Upper Explosive Limit (%): Not Applicable
Decomposition Temp (°C): 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.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

(No Oral LD50, any animal species) 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.

continued...

DENTSPLY DYRACT SEAL

ChemWatch Material Safety Data Sheet
Issue Date: Wed 22-Sep-2004

CHEMWATCH 4613-47
CD 2004/3 Page 8 of 10

Section 11 - TOXICOLOGICAL INFORMATION ...

EYE

This material can cause eye irritation and damage in some persons.

SKIN

This material can cause inflammation of the skin on contact in some persons.

The material may accentuate any pre-existing dermatitis condition. 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.

INHALED

The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.

CHRONIC HEALTH EFFECTS

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 mucous production. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. 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. The cured solid material is inert and represents a low order of hazard.

Dentsply Dytract Seal

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

SILICA AMORPHOUS:

TOXICITY

Oral (rat) LD50: 3160 mg/kg

Dermal (rabbit) LD50: >5000 mg/kg *

Inhalation (rat) LC50: >0.139 mg/l/14h *

IRRITATION

Skin (rabbit): non-irritating *

Eye (rabbit): non-irritating *

* [Grace]

Reports indicate high/prolonged exposures to amorphous silicas induced lung fibrosis in experimental animals; in some experiments these effects were reversible. [PATTYS]

The substance is classified by IARC as Group 3:

NOT classifiable as to its carcinogenicity to humans.

continued...

DENTSPLY DYRACT SEAL

ChemWatch Material Safety Data Sheet
Issue Date: Wed 22-Sep-2004

CHEMWATCH 4613-47
CD 2004/3 Page 9 of 10

Section 11 - TOXICOLOGICAL INFORMATION ...

Evidence of carcinogenicity may be inadequate or limited in animal testing.

Section 12 - ECOLOGICAL INFORMATION

DO NOT discharge into sewer or waterways.

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: None

Packing Group: None

Labels Required:

Additional Shipping Information:

International Transport Regulations:

IMO: None

HAZCHEM

None

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE

None

REGULATIONS

The following substances are found on/in Australian Inventory of Chemical Substances (AICS):

silica amorphous (CAS: 7631-86-9)

silica amorphous (CAS: 7631-86-9)

The following substances are found on/in silica amorphous (CAS: 112945-52-5) is found on the following regulatory lists::

silica amorphous (CAS: 7631-86-9)

The following substances are found on/in Australian Inventory of Chemical Substances

continued...

DENTSPLY DYRACT SEAL

ChemWatch Material Safety Data Sheet

Issue Date: Wed 22-Sep-2004

CHEMWATCH 4613-47

CD 2004/3 Page 10 of 10

Section 15 - REGULATORY INFORMATION ...

(AICS):

silica amorphous (CAS: 7631-86-9)

Section 16 - OTHER INFORMATION

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: Wed 22-Sep-2004

Print Date: Wed 29-Sep-2004