

DENTSPLY JELTRATE ALGINATE IMPRESSION MATERIAL

Chemwatch Independent Material Safety Data Sheet

Issue Date: 6-Sep-2010

C9317TC

CHEMWATCH 4993-56

Version No:5

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

DENTSPLY JELTRATE ALGINATE IMPRESSION MATERIAL

PRODUCT USE

Dental alginate impression material.

SUPPLIER

Company: DENTSPLY (AUSTRALIA) PTY LTD

Address:

11 - 21 Gilby Road

Mount Waverley

VIC 3149

AUSTRALIA

Telephone: 1300 55 29 29

Emergency Tel: 1300 55 29 29 (Hours of operation:

Monday - Friday 9:00 am - 5:00 pm EST; General

information only)

Fax: +61 3 9538 8260

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to NOHSC Criteria, and ADG Code.

POISONS SCHEDULE

None

RISK

- Irritating to eyes and respiratory system.
- Harmful: danger of serious damage to health by prolonged exposure through inhalation.

SAFETY

- Do not breathe dust.
- Avoid contact with eyes.
- Wear suitable protective clothing.
- Use only in well ventilated areas.
- Keep container in a well ventilated place.
- To clean the floor and all objects contaminated by this material use water and detergent.
- Keep away from food drink and animal feeding stuffs.
- In case of contact with eyes rinse with plenty of water and contact Doctor or Poisons Information Centre.
- If swallowed IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
diatomaceous earth, flux- calcined	68855-54-9	<35
cristobalite	14464-46-1	<26
calcium sulfate	7778-18-9	<20
magnesium oxide	1309-48-4.	<7
silica crystalline - quartz	14808-60-7	<3
tetrasodium pyrophosphate	7722-88-5	<3
regular set product contains colourant: Yellow Iron Oxide	None	notspec
fast set product contains colourant: D&C Red No.30 Aluminium Lake	1342-90-1	notspec

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.

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Section 4 - FIRST AID MEASURES

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.
- Seek medical attention without delay; 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 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.
- 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.

NOTES TO PHYSICIAN

- Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

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

FIRE FIGHTING

- When silica dust is dispersed in air, firefighters should wear inhalation protection as hazardous substances from the fire may be adsorbed on the silica particles.

When heated to extreme temperatures, (>1700 deg.C) amorphous silica can fuse.

- 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.

FIRE/EXPLOSION HAZARD

- Solid which exhibits difficult combustion or is difficult to ignite.
- Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion.
- Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited; once initiated larger particles up to 1400 microns diameter will contribute to the propagation of an explosion.
- A dust explosion may release of large quantities of gaseous products; this in turn creates a subsequent pressure rise of explosive force capable of damaging plant and buildings and injuring people.

Combustion products include: carbon monoxide (CO), carbon dioxide (CO₂), sulfur oxides (SO_x), silicon dioxide (SiO₂), 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.

HAZCHEM

None

PERSONAL PROTECTION

Glasses:
Chemical goggles.

Respirator:
Type AX- P Filter of sufficient capacity

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Clean up waste regularly and abnormal spills immediately.
- Avoid breathing dust and contact with skin and eyes.
- Wear protective clothing, gloves, safety glasses and dust respirator.
- Use dry clean up procedures and avoid generating dust.

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.

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Section 6 - ACCIDENTAL RELEASE MEASURES

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.
- Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.
- Do NOT cut, drill, grind or weld such containers.
 - In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.

SUITABLE CONTAINER

- Polyethylene or polypropylene container.
- Check all containers are clearly labelled and free from leaks.

STORAGE INCOMPATIBILITY

- Calcium sulfate:
 - reacts violently with reducing agents, acrolein, alcohols, chlorine trifluoride, diazomethane, ethers, fluorine, hydrazine, hydrazinium perchlorate, hydrogen peroxide, finely divided aluminium or magnesium, peroxyfuroic acid, red phosphorus, sodium acetylide
 - sensitises most organic azides which are unstable shock- and heat- sensitive explosives
 - may form explosive materials with 1,3-di(5-tetrazolyl)triazene
 - is incompatible with glycidol, isopropyl chlorocarbonate, nitrosyl perchlorate, sodium borohydride.
- Silicas:
- react with hydrofluoric acid to produce silicon tetrafluoride gas
 - react with xenon hexafluoride to produce explosive xenon trioxide
 - reacts exothermically with oxygen difluoride, and explosively with chlorine trifluoride (these halogenated materials are not commonplace industrial materials) and other fluorine-containing compounds
 - may react with fluorine, chlorates.
 - Avoid reaction with oxidising agents.

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.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA mg/m ³	Notes
Australia Exposure Standards	diatomaceous earth, flux-calcined (Silica - Amorphous Fumed silica (respirable dust))	2	(see Chapter 14)
Australia Exposure Standards	cristobalite (Silica - Crystalline Cristobalite)	0.1	(see Chapter 14)
Australia Exposure Standards	calcium sulfate (Calcium sulphate (a))	10	(see Chapter 14)
Australia Exposure Standards	magnesium oxide (Magnesium oxide (fume))	10	
Australia Exposure Standards	silica crystalline - quartz (Silica - Crystalline Quartz)	0.1	(see Chapter 14)
Australia Exposure Standards	silica crystalline - quartz (Silica - Amorphous Fumed silica (respirable dust))	2	(see Chapter 14)
Australia Exposure Standards	tetrasodium pyrophosphate (Tetrasodium pyrophosphate)	5	

The following materials had no OELs on our records

- D&C Red No.30 Aluminium Lake:

CAS:1342- 90- 1

PERSONAL PROTECTION

RESPIRATOR

Type AX-P Filter of sufficient capacity

EYE

- Safety glasses with side shields.
- Chemical goggles.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

- 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

- Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity.

Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.

- polychloroprene
- nitrile rubber
- butyl rubber
- fluorocautchouc.

OTHER

- Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.

- Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory. These may be government mandated or vendor recommended.
- Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.

ENGINEERING CONTROLS

- Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Dry fluffy, may be coloured pale yellow or pink, powder with a spearmint odour; partly mixes with water.

PHYSICAL PROPERTIES

State	Divided Solid	Molecular Weight	Not Applicable
Melting Range (°C)	Not Applicable	Viscosity	Not Available
Boiling Range (°C)	Not Applicable	Solubility in water (g/L)	Partly Miscible
Flash Point (°C)	Not Applicable	pH (1% solution)	Not Available
Decomposition Temp (°C)	Not Applicable	pH (as supplied)	Not Available
Autoignition Temp (°C)	Not Applicable	Vapour Pressure (kPa)	Not Applicable
Upper Explosive Limit (%)	Not Applicable	Specific Gravity (water=1)	0.3
Lower Explosive Limit (%)	Not Applicable	Relative Vapour Density (air=1)	Not Applicable
Volatile Component (%vol)	Not Available	Evaporation Rate	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

- Irritating to eyes and respiratory system.

CHRONIC HEALTH EFFECTS

- Harmful: danger of serious damage to health by prolonged exposure through inhalation.

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Section 11 - TOXICOLOGICAL INFORMATION

TOXICITY AND IRRITATION

TETRASODIUM PYROPHOSPHATE:

CALCIUM SULFATE:

■ 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.

CRISTOBALITE:

CALCIUM SULFATE:

MAGNESIUM OXIDE:

SILICA CRYSTALLINE - QUARTZ:

TETRASODIUM PYROPHOSPHATE:

DIATOMACEOUS EARTH, FLUX-CALCINED:

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

SILICA CRYSTALLINE - QUARTZ:

CRISTOBALITE:

■ **WARNING:** For inhalation exposure ONLY: This substance has been classified by the IARC as Group 1: CARCINOGENIC TO HUMANS

The International Agency for Research on Cancer (IARC) has classified occupational exposures to respirable (<5 µm) crystalline silica as being carcinogenic to humans. This classification is based on what IARC considered sufficient evidence from epidemiological studies of humans for the carcinogenicity of inhaled silica in the forms of quartz and cristobalite.

■ 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. No significant acute toxicological data identified in literature search.

For silica amorphous:

When experimental animals inhale synthetic amorphous silica (SAS) dust, it dissolves in the lung fluid and is rapidly eliminated. If swallowed, the vast majority of SAS is excreted in the faeces and there is little accumulation in the body.

DIATOMACEOUS EARTH, FLUX-CALCINED:

■ For silica amorphous:

When experimental animals inhale synthetic amorphous silica (SAS) dust, it dissolves in the lung fluid and is rapidly eliminated. If swallowed, the vast majority of SAS is excreted in the faeces and there is little accumulation in the body.

CRISTOBALITE:

sil

Inhalation (human) TClO: 16 mppcf*/8H/17.9y-l * Millions of particles per cubic foot

CALCIUM SULFATE:

■ Gypsum (calcium sulfate dihydrate) is a skin, eye, mucous membrane, and respiratory system irritant. Early studies of gypsum miners did not relate pneumoconiosis with chronic exposure to gypsum.

MAGNESIUM OXIDE:

TOXICITY

Inhalation (human) TClO: 400 mg/m³

IRRITATION

Nil Reported

SILICA CRYSTALLINE - QUARTZ:

TOXICITY

Inhalation (human) LClO: 0.3 mg/m³/10Y

Inhalation (human) TClO: 16 mppcf*/8H/17.9Y

Inhalation (rat) TClO: 50 mg/m³/6H/71W

sil

IRRITATION

Nil Reported

TETRASODIUM PYROPHOSPHATE:

TOXICITY

Oral (rat) LD50: 4000 mg/kg

IRRITATION

Nil Reported

CARCINOGEN

Silica, amorphous

International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs

Group

3

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

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Section 12 - ECOLOGICAL INFORMATION

No data

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
diatomaceous earth, flux-calcined	LOW		LOW	HIGH
calcium sulfate	HIGH		LOW	HIGH
silica crystalline - quartz	LOW		LOW	HIGH
tetrasodium pyrophosphate	HIGH		LOW	HIGH

Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible.
- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- Dispose of by: burial in a 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 (ADG7)

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: ADG7, UN, IATA, IMDG

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE

None

REGULATIONS

Regulations for ingredients

diatomaceous earth, flux-calcined (CAS: 68855-54-9) is found on the following regulatory lists;

"Australia Inventory of Chemical Substances (AICS)", "OECD Representative List of High Production Volume (HPV) Chemicals"

cristobalite (CAS: 14464-46-1) is found on the following regulatory lists;

"Australia Exposure Standards", "Australia Hazardous Substances", "Australia High Volume Industrial Chemical List (HVICL)", "Australia Inventory of Chemical Substances (AICS)", "OECD Representative List of High Production Volume (HPV) Chemicals"

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

"Australia Exposure Standards", "Australia High Volume Industrial Chemical List (HVICL)", "Australia Inventory of Chemical Substances (AICS)", "Australia Therapeutic Goods Administration (TGA) Substances that may be used as active ingredients in Listed medicines", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals"

magnesium oxide (CAS: 1309-48-4) is found on the following regulatory lists;

"Australia Exposure Standards", "Australia Hazardous Substances", "Australia High Volume Industrial Chemical List (HVICL)", "Australia Inventory of Chemical Substances (AICS)", "Australia National Pollutant Inventory", "Australia Therapeutic Goods Administration (TGA) Substances that may be used as active ingredients in Listed medicines", "CODEX General Standard for Food Additives (GSFA) - Additives Permitted for Use in Food in General, Unless Otherwise Specified, in Accordance with GMP", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals"

silica crystalline - quartz (CAS: 14808-60-7, 122304-48-7, 122304-49-8, 12425-26-2, 1317-79-9,

70594-95-5, 87347-84-0) is found on the following regulatory lists;

"Australia - New South Wales Hazardous Substances Prohibited for Specific Uses", "Australia - New South Wales Hazardous Substances Requiring Health Surveillance", "Australia - South Australia Hazardous Substances Requiring Health Surveillance", "Australia - Tasmania Hazardous Substances Prohibited for Specified Uses", "Australia - Tasmania Hazardous Substances Requiring Health Surveillance", "Australia - Western Australia Hazardous Substances Requiring Health Surveillance", "Australia Exposure Standards", "Australia Hazardous Substances", "Australia High Volume Industrial Chemical List (HVICL)", "Australia Inventory of Chemical Substances (AICS)", "Australia Occupational Health and Safety (Commonwealth Employment) (National Standards) Regulations 1994 - Hazardous Substances Requiring Health Surveillance", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "OECD Representative List of High Production Volume (HPV) Chemicals"

SODIUM ACID PYROPHOSPHATE (CAS: 7722-88-5, 13472-36-1) is found on the following regulatory lists;

"Australia Exposure Standards", "Australia Hazardous Substances", "Australia High Volume Industrial Chemical List (HVICL)", "Australia Inventory of Chemical Substances (AICS)", "OECD Representative List of High Production Volume (HPV) Chemicals"

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Section 15 - REGULATORY INFORMATION

No data for Dentsply Jeltrate Alginate Impression Material (CW: 4993-56)

No data for Yellow Iron Oxide (CW: 22-9551)

No data for D&C Red No.30 Aluminium Lake (CAS: , 1342-90-1)

Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
calcium sulfate	7778- 18- 9, 10101- 41- 4
silica crystalline -	14808- 60- 7, 122304- 48- 7, 122304- 49- 8, 12425- 26- 2, 1317- 79- 9,
quartz	70594- 95- 5, 87347- 84- 0
tetrasodium	7722- 88- 5, 13472- 36- 1
pyrophosphate	

■ 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.

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This is the end of the MSDS.