

# Dentsply Neacid

Hazard Alert Code:  
HIGH

Chemwatch Material Safety Data Sheet

Version No: 6

Chemwatch 4613-90

Issue Date: 20-Jul-2011

X9317SP

## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT NAME

Dentsply Neacid

### SYNONYMS

"Material no. : 5325220001"

### PROPER SHIPPING NAME

SULPHAMIC ACID

### PRODUCT USE

For dental use only

### SUPPLIER

Company: Dentsply (AUSTRALIA) Pty Ltd

Address:

11-21 Gilby Road

Mount Waverley

VIC, 3149

Australia

Telephone: +61 3 9538 8240

Telephone: 1300 552 929

Emergency Tel: **1300 552 929 (Hrs. Mon.-Fri. 9am-5p)**

Fax: +61 3 9538 8260

Website: www.dentsply.com.au

## Section 2 - HAZARDS IDENTIFICATION

### STATEMENT OF HAZARDOUS NATURE

**HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.**

### CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability:	0	
Toxicity:	0	
Body Contact:	3	
Reactivity:	0	
Chronic:	2	

Min/Nil=0  
Low=1  
Moderate=2  
High=3  
Extreme=4



### POISONS SCHEDULE

S6

### RISK

- Irritating to eyes and skin.
- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- Cumulative effects may result following exposure\*.
- May produce discomfort of the respiratory system\*.

\* (limited evidence).

### SAFETY

- Do not breathe dust.
- Avoid contact with skin.
- Avoid contact with eyes.
- Wear suitable gloves.
- Wear eye/ face protection.
- To clean the floor and all objects contaminated by this material, use water and detergent.
- In case of contact with eyes, rinse with plenty of water

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and contact Doctor or Poisons Information Centre.

- If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre (show this container or label).

- This material and its container must be disposed of as hazardous waste.

## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
sulfamic acid	5329-14-6	70-80

## 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.
  - 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 contact occurs:
  - Immediately remove all contaminated clothing, including footwear.
  - Flush skin and hair with running water (and soap if available).
  - Seek medical attention in event of irritation.

### INHALED

- If dust is inhaled, remove from contaminated area.
- Encourage patient to blow nose to ensure clear passage of breathing.
- If irritation or discomfort persists seek medical attention.
- Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema.
- Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs).
- As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested.
- Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered.

### NOTES TO PHYSICIAN

Treat symptomatically.

For acute or short term repeated exposures to strong acids:

- Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.
- Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling
- Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.
- Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the dessicating action of the acid on proteins in specific tissues.

## Section 5 - FIRE FIGHTING MEASURES

### EXTINGUISHING MEDIA

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

**FIRE FIGHTING**

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Use fire fighting procedures suitable for surrounding area.

**FIRE/EXPLOSION HAZARD**

- Non combustible.
- Not considered to be a significant fire risk.
- Acids may react with metals to produce hydrogen, a highly flammable and explosive gas.
- Heating may cause expansion or decomposition leading to violent rupture of containers.

Decomposition may produce toxic fumes of: hydrogen chloride, nitrogen oxides (NOx), sulfur oxides (SOx).

**FIRE INCOMPATIBILITY**

None known.

**HAZCHEM**

2X

**Section 6 - ACCIDENTAL RELEASE MEASURES****MINOR SPILLS**

- Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.
- Check regularly for spills and leaks.
- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Control personal contact with the substance, by using protective equipment.

**MAJOR SPILLS**

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.

**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.
- Avoid contact with moisture.

**SUITABLE CONTAINER**

- DO NOT use aluminium or galvanised containers
- Check regularly for spills and leaks
- Glass container is suitable for laboratory quantities
- Lined metal can, lined metal pail/ can.
- Plastic pail.
- Polyliner drum.
- Packing as recommended by manufacturer.

For low viscosity materials

- Drums and jerricans must be of the non-removable head type.
- Where a can is to be used as an inner package, the can must have a screwed enclosure.

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## STORAGE INCOMPATIBILITY

Sulfamic acid:

- reacts violently with chlorine, nitric acid, fuming nitric acid, strong bases, chlorine, hypochlorous acid, strong oxidising agents, sulfides, cyanides or when heated with nitrates, nitrites
- is strongly acidic in aqueous solution
- hydrolyses to ammonium bisulfate at elevated temperatures
- is incompatible with alkylene oxides, aliphatic amines, alkanolamines, amides, ammonia, epichlorohydrin, organic anhydrides, isocyanates, metal nitrates/ nitrites, oxidisers, vinyl acetate, common metals and their alloys, water
- Avoid reaction with oxidising agents
- Avoid strong bases.

Avoid halogens

## 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.

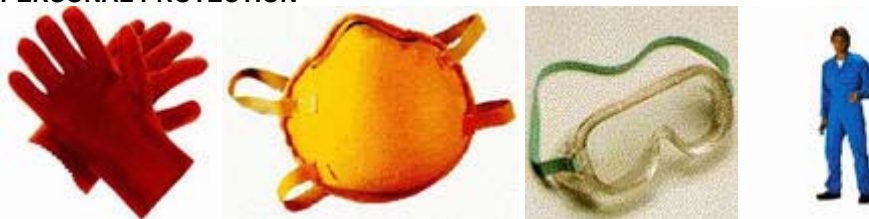
## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE CONTROLS

The following materials had no OELs on our records

- sulfamic acid: CAS:5329-14-6

### PERSONAL PROTECTION



### RESPIRATOR

- Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

### EYE

- Safety glasses with side shields.
- Chemical goggles.
- 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], [AS/NZS 1336 or national equivalent]

### HANDS/FEET

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

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and

has to be observed when making a final choice.

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

### OTHER

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- Overalls.
- PVC Apron.
- PVC protective suit may be required if exposure severe.
- Eyewash unit.

## 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.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

### APPEARANCE

White powder with a sour odour; partly mixes with water.

### PHYSICAL PROPERTIES

Corrosive.

Acid.

State	Divided Solid	Molecular Weight	Not Applicable
Melting Range (°C)	Not Available	Viscosity	Not Applicable
Boiling Range (°C)	Not Applicable	Solubility in water (g/L)	Partly Miscible
Flash Point (°C)	Not Applicable	pH (1% solution)	<1 (260 g/l)
Decomposition Temp (°C)	205	pH (as supplied)	Not Applicable
Autoignition Temp (°C)	Not Available	Vapour Pressure (kPa)	Not Applicable
Upper Explosive Limit (%)	Not Applicable	Specific Gravity (water=1)	2.1
Lower Explosive Limit (%)	Not Applicable	Relative Vapour Density (air=1)	Not Applicable
Volatile Component (%vol)	Negligible	Evaporation Rate	Not Applicable

## Section 10 - CHEMICAL STABILITY

### CONDITIONS CONTRIBUTING TO INSTABILITY

- Contact with alkaline material liberates heat

For incompatible materials - refer to Section 7 - Handling and Storage.

## Section 11 - TOXICOLOGICAL INFORMATION

### POTENTIAL HEALTH EFFECTS

#### ACUTE HEALTH EFFECTS

##### SWALLOWED

■ Ingestion of sulfamic acid precipitates vomiting, diarrhoea, reduced blood pressure and breathing difficulty from swelling of the voice box. It may cause lesion of the stomach at a concentration of more than 10%. Fever following initial recovery may indicate inflammation of the chest and abdominal cavities usually from perforation of gullet and stomach.

##### EYE

■ There is evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Severe inflammation may be expected with pain. There may be damage to the cornea. Unless treatment is prompt and adequate there may be permanent loss of vision. Conjunctivitis can occur following repeated exposure.

Direct eye contact with acid corrosives may produce pain, tears, sensitivity to light and burns. Mild burns of the epithelia generally recover rapidly and completely. Severe burns produce long-lasting and possibly irreversible damage. The appearance of the burn may not be apparent for several weeks after the initial

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contact. The cornea may ultimately become deeply opaque resulting in blindness.

## SKIN

■ The material may cause severe inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.

Exposure to sulfamic acid can cause dose and duration dependent injury to the skin including burns.

Open cuts, abraded or irritated skin should not be exposed to this material.

Solution of material in moisture on the skin, or perspiration, may markedly increase skin corrosion and accelerate tissue destruction.

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

■ Inhalation of sulfamic acid may cause bloody sputum, difficulty in breathing, low blood pressure, headache, dizziness, bluish skin colouration and lung congestion.

Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result

in excessive exposures.

Corrosive acids can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage. There may be dizziness, headache, nausea and weakness. Swelling of the lungs can occur, either immediately or after a delay; symptoms of this include chest tightness, shortness of breath, frothy phlegm and cyanosis. Lack of oxygen can cause death hours after onset.

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

## CHRONIC HEALTH EFFECTS

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

Repeated or prolonged exposure to acids may result in the erosion of teeth, swelling and/or ulceration of mouth lining. Irritation of airways to lung, with cough, and inflammation of lung tissue often occurs. Chronic exposure may inflame the skin or conjunctiva.

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.

## TOXICITY AND IRRITATION

■ for acid mists, aerosols, vapours

Data from assays for genotoxic activity in vitro suggest that eukaryotic cells are susceptible to genetic damage when the pH falls to about 6.5. Cells from the respiratory tract have not been examined in this respect.

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 severe 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. Repeated exposures may produce severe ulceration.

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.

## CARCINOGEN

Acid mists, strong inorganic	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	1
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## Section 12 - ECOLOGICAL INFORMATION

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
This material and its container must be disposed of as hazardous waste.

### Ecotoxicity

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Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
sulfamic acid	HIGH	No Data Available	LOW	HIGH

## Section 13 - DISPOSAL CONSIDERATIONS

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- 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.

- 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.
- Treat and neutralise at an approved treatment plant. Treatment should involve: Mixing or slurring in water; Neutralisation with soda-lime or soda-ash followed 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 with 5% aqueous sodium hydroxide or soda ash, followed by water. Observe all label safeguards until containers are cleaned and destroyed.

## Section 14 - TRANSPORTATION INFORMATION



Labels Required: CORROSIVE

**HAZCHEM:**

2X (ADG7)

**Land Transport UNDG:**

Class or division:	8	Subsidiary risk:	None
UN No.:	2967	UN packing group:	III

Shipping Name: SULPHAMIC ACID

**Air Transport IATA:**

ICAO/IATA Class:	8	ICAO/IATA Subrisk:	None
UN/ID Number:	2967	Packing Group:	III
Special provisions:	A803		

Cargo Only

Packing Instructions:	864	Maximum Qty/Pack:	100 kg
Passenger and Cargo		Passenger and Cargo	

Packing Instructions:	860	Maximum Qty/Pack:	25 kg
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Passenger and Cargo		Passenger and Cargo	
Limited Quantity		Limited Quantity	

Packing Instructions:	Y845	Maximum Qty/Pack:	5 kg
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Shipping name: SULPHAMIC ACID

**Maritime Transport IMDG:**

IMDG Class:	8	IMDG Subrisk:	None
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UN Number:	2967	Packing Group:	III
EMS Number:	F-A,S-B	Special provisions:	None
Limited Quantities:	5 kg		
Shipping name:	SULPHAMIC ACID		

## Section 15 - REGULATORY INFORMATION

### POISONS SCHEDULE

S6

### REGULATIONS

#### Regulations for ingredients

**sulfamic acid (CAS: 5329-14-6) is found on the following regulatory lists;**

"Australia Hazardous Substances", "Australia Inventory of Chemical Substances (AICS)", "Australia National Pollutant Inventory", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD List of High Production Volume (HPV) Chemicals"

**No data for Dentsply Neacid (CW: 4613-90)**

## Section 16 - OTHER INFORMATION

■ 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](http://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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