

SUD-CHEMIE BENTONIL HR

Chemwatch Independent Material Safety Data Sheet

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NC317ECP

CHEMWATCH 4695-31

Version No:2.0

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

SUD-CHEMIE BENTONIL HR

PRODUCT USE

Drilling aid.

SUPPLIER

Company: Sud- Chemie Australia Pty Ltd

Address:

12 Peachtree Road

Penrith

NSW 2750

AUS

Telephone: +61 2 47 321 421

Emergency Tel: +61 2 47 321 421 (9.00am to 5.00pm

Monday to Friday)

Fax: +61 2 47 321 678

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

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

POISONS SCHEDULE

None

RISK

None under normal operating conditions.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

| NAME | CAS RN | % |
|--|------------|------|
| bentonite sodium | 85049-30-5 | >60 |
| silica crystalline - quartz | 14808-60-7 | <2 |
| fine dust < 7.1 micron | | <5 |
| breathable content of crystalline silica | | <0.1 |

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

- Brush off dust.
- 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 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.

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

- - 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.

FIRE INCOMPATIBILITY

- None known.

HAZCHEM: None

PERSONAL PROTECTION

Glasses:

Chemical goggles.

Gloves:

When handling larger quantities:

PVC chemical resistant type.

Respirator:
Particulate

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- - Clean up all spills immediately.
 - Avoid contact with skin and eyes.
 - Wear impervious gloves and safety glasses.
 - Use dry clean up procedures and avoid generating dust.
 - Vacuum up (consider explosion-proof machines designed to be grounded during storage and use).
 - Do NOT use air hoses for cleaning
 - Place spilled material in clean, dry, sealable, labelled container.
- Slippery when wet.

MAJOR SPILLS

- - Clear area of personnel and move upwind.
 - Alert Fire Brigade and tell them location and nature of hazard.
 - Control personal contact by using protective equipment and dust respirator.
 - Prevent spillage from entering drains, sewers or water courses.
 - Avoid generating dust.
 - Sweep, shovel up. Recover product wherever possible.
 - Put residues in labelled plastic bags or other containers for disposal.
 - If contamination of drains or waterways occurs, advise emergency services.
- Slippery when wet.

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.
- 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.
- 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

- Multi-ply paper bag with sealed plastic liner or heavy gauge plastic bag.

NOTE: Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse. Check that all containers are clearly labelled and free from leaks. Packing as recommended by manufacturer.

STORAGE INCOMPATIBILITY

- None known.

STORAGE REQUIREMENTS

- - Keep dry.
- Store under cover.
- Protect containers against physical damage.
- Observe manufacturer's storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

| Source | Material | TWA mg/m ³ | Notes |
|------------------------------|---|-----------------------|------------------|
| 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) |

The following materials had no OELs on our records

- bentonite sodium: CAS:85049-30-5

EMERGENCY EXPOSURE LIMITS

| Material | Revised IDLH Value (mg/m ³) | Revised IDLH Value (ppm) |
|-----------------------------|---|--------------------------|
| silica crystalline - quartz | 50 | |

MATERIAL DATA

SUD-CHEMIE BENTONIL HR:
Not available

BENTONITE SODIUM:

particulate matter containing no asbestos and < 1% crystalline silica

TLV TWA: 2 mg/m³ respirable dust (as kaolin)

ES TWA: 10 mg/m³ inspirable dust (as kaolin)

■ The concentration of dust, for application of respirable dust limits, is to be determined from the fraction that penetrates a separator whose size collection efficiency is described by a cumulative log-normal 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.

SILICA CRYSTALLINE - QUARTZ:

■ The concentration of dust, for application of respirable dust limits, is to be determined from the fraction that penetrates a separator whose size collection efficiency is described by a cumulative log-normal 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.

Because the margin of safety of the quartz TLV is not known with certainty and given the associated link between silicosis and lung cancer it is recommended that quartz concentrations be maintained as far below the TLV as prudent practices will allow.

PERSONAL PROTECTION

EYE

- - Safety glasses with side shields; or as required,
- Chemical goggles.

HANDS/FEET

- Wear protective gloves, eg. PVC.

OTHER

- No special equipment needed when handling small quantities.

OTHERWISE:

- Overalls.
- Barrier cream.
- Eyewash unit.

RESPIRATOR

■

| Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator |
|-------------------|----------------------|----------------------|------------------------|
| 10 x ES | P1 Air-line* | - - | PAPR-P1 - |
| 50 x ES | Air-line** | P2 | PAPR-P2 |
| 100 x ES | - | P3 | - |
| | | Air-line* | - |
| 100+ x ES | - | Air-line** | PAPR-P3 |

* - Negative pressure demand ** - Continuous flow.

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. If risk of overexposure exists, wear SAA 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

Grey powder; insoluble in water.

PHYSICAL PROPERTIES

Does not mix with water.

| | | |
|--|---|---|
| Molecular Weight: Not Applicable | Boiling Range (°C): Not Applicable | Melting Range (°C): Not Available |
| Specific Gravity (water=1): 2.6 g/cm ³ bulk density | Solubility in water (g/L): Immiscible | pH (as supplied): Not Applicable |
| pH (1% solution): 9-10.5 5% slurry | Vapour Pressure (kPa): Not Applicable | Volatile Component (%vol): Not Applicable |
| Evaporation Rate: Not Applicable | Relative Vapour Density (air=1): Not Applicable | Flash Point (°C): Not Applicable |
| Lower Explosive Limit (%): Not Applicable | Upper Explosive Limit (%): Not Applicable | Autoignition Temp (°C): Not Applicable |
| Decomposition Temp (°C): Not Available | State: Divided Solid | Viscosity: Not Applicable |

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Product is considered stable and 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

SWALLOWED

- Not normally a hazard due to the physical form of product. The material is a physical irritant to the gastro-intestinal tract.

EYE

- Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result. The material may produce foreign body irritation in certain individuals.

SKIN

- The material is not thought to be a skin irritant (as classified by EC Directives using animal models). Abrasive damage however, may result from prolonged exposures. Good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

INHALED

- Generated dust may be discomforting. 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.

CHRONIC HEALTH EFFECTS

- 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

- Not available. Refer to individual constituents.

BENTONITE SODIUM:

- No significant acute toxicological data identified in literature search.

SILICA CRYSTALLINE - QUARTZ:

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

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

IRRITATION

Nil Reported

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

Intermittent; focal fibrosis,
(pneumoconiosis), cough, dyspnoea
Intermittent; liver - tumours.

* Millions of particles per cubic foot (based on impinger samples counted by light field techniques).

NOTE : the physical nature of quartz in the product determines whether it is likely to present a chronic health problem. To be a hazard the material must enter the breathing zone as respirable particles.

CARCINOGEN

| | | | |
|---|---|-------|---|
| 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 | 1 |
| Silica, amorphous | International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs | Group | 3 |

Section 12 - ECOLOGICAL INFORMATION

Refer to data for ingredients, which follows:

SUD-CHEMIE BENTONIL HR:

SILICA CRYSTALLINE - QUARTZ:

- DO NOT discharge into sewer or waterways.

SUD-CHEMIE BENTONIL HR:

SILICA CRYSTALLINE - QUARTZ:

■ For silica:

The literature on the fate of silica in the environment concerns dissolved silica in the aquatic environment, irrespective of its origin (man-made or natural), or structure (crystalline or amorphous). Indeed, once released and dissolved into the environment no distinction can be made between the initial forms of silica. At normal environmental pH, dissolved silica exists exclusively as monosilicic acid [Si(OH)₄]. At pH 9.4 the solubility of amorphous silica is about 120 mg SiO₂/l . Quartz has a solubility of only 6 mg/l, but its rate of dissolution is so slow at ordinary temperature and pressure that the solubility of amorphous silica represents the upper limit of dissolved silica concentration in natural waters Moreover, silicic acid is the bioavailable form for aquatic organisms and it plays an important role in the biogeochemical cycle of Si, particularly in the oceans.

Ecotoxicity:

Fish LC₅₀ (96 h): Brachydanio rerio >10000 mg/l; zebra fish >10000 mg/l
Daphnia magna EC₅₀ (24 h): >1000 mg/l; LC₅₀ 924 h): >10000 mg/l.

Ecotoxicity

| Ingredient | Persistence: Water/Soil | Persistence: Air | Bioaccumulation | Mobility |
|--|----------------------------|------------------|-----------------|----------|
| Sud-Chemie Bentonil HR bentonite | | No data | | |
| sodium silica | | No data | | |
| crystalline - quartz | LOW | No data | LOW | HIGH |

Section 13 - DISPOSAL CONSIDERATIONS

- - Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Management Authority for disposal.
- Bury residue in an authorised landfill.
- Recycle containers if possible, or dispose of in an authorised landfill.

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

bentonite sodium (CAS: 85049-30-5) is found on the following regulatory lists;

"Australia High Volume Industrial Chemical List (HVICL)", "Australia Inventory of Chemical Substances (AICS)", "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 Hazardous Substances Requiring Health Surveillance", "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"

No data for Sud-Chemie Bentonil HR (CW: 4695-31)

Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

| Ingredient Name | CAS |
|-----------------------------|---|
| silica crystalline - quartz | 14808-60-7, 122304-48-7, 122304-49-8, 12425-26-2, 1317-79-9, 70594-95-5, 87347-84-0 |

EXPOSURE STANDARD FOR MIXTURES

- "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 (ppm) | Breathing zone (mg/m ³) |
|------------------|----------------------|-------------------------------------|
| Mixture Conc (%) | bentonite sodium | 2.0000 |
| 100.0 | | |

- 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. Risks may be determined by reference to Exposures Scenarios.

Scale of use, frequency of use and current or available engineering controls must be considered.

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This is the end of the MSDS.