

BENTONIL HDG

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Substance key: SC0000107567

Revision Date: 18.11.2014

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Section 1 Identification of the Material and Supplier

Product (Material) Name:
BENTONIL HDG

Material number: 250933

Recommended use:

Type of use : Additiv for drilling and supporting fluids

Supplier name/address/telephone no.:

Clariant (Singapore) Pte. Ltd.

1 International Business Park #08-01-04 The Synergy
Singapore 609917, Singapore
Telephone no. : +65 6563 0288

Information about the substance/preparation

Product Safety : Telephone: +61 3 8562 3300
Facsimile: +61 3 8562 3333

Emergency telephone number : 1800 643 555 (24h)

Section 2 Hazards Identification

Hazard Classification

Not classified as hazardous according to the criteria of ASCC.

Not classified as dangerous goods according to the Australian Code for Transport of Dangerous Goods.

Section 3 Composition/Information on ingredients

Chemical characterization

Bentonite, modified

Bentonite is a UVCB substance, sub-type 4.

Chemical identity of ingredients:

Bentonite

Concentration : > 99.2 %

CAS number : 1302-78-9

Section 4 First aid measures

Description of Necessary First Aid Measures

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General information

Get medical advice/ attention if you feel unwell.

After inhalation

If inhaled, remove to fresh air.

Get medical advice/ attention.

After contact with skin

In case of contact, immediately flush skin with soap and plenty of water.

After contact with eyes

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

After ingestion

If swallowed do not induce vomiting, seek medical advice and show safety datasheet or label

Clean mouth with water and drink afterwards plenty of water.

Medical Attention and Special Treatment:

Treatment

Treat symptomatically.

Aggravated Medical Conditions Caused by Exposure:

Symptoms

No symptoms known currently.

Section 5 Fire fighting measures

Suitable extinguishing media

The product itself does not burn.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Water spray jet

Dry powder

Foam

Carbon dioxide (CO₂)

Extinguishing media that must not be used for safety reasons

no restrictions

Hazards from combustion products:

The product is not flammable.

Does not sustain combustion.

No hazardous decomposition products are known.

Special protective precautions and equipment for fire fighters:

In the event of fire, wear self-contained breathing apparatus.

Special sliding risk through leaking of spilled product in connection with water.

Section 6 Accidental release measures

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Emergency procedures:

- Ensure adequate ventilation.
- Avoid dust formation.
- Evacuate personnel to safe areas.
- Avoid contact with skin, eyes and clothing.
- Wear personal protective equipment.
- Avoid breathing dust.
- Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust).
- Special sliding risk through leaking of spilled product in connection with water.
- No special environmental precautions required.

Methods and materials for containment and clean up:

- Pick up and transfer to properly labelled containers.
- If product is released from trucks in roads, place signposts and remove the spill using vacuum cleaning systems.

Further accidental release measures

- see point 8, 13
- Avoid dust formation; avoid dry sweeping
- Use vacuum suction unit, or shovel into bags.

Section 7 Handling and storage

Precautions for safe handling:

- Avoid dust formation.
- Provide sufficient air exchange and/or exhaust in work rooms.
- In case of insufficient ventilation, wear suitable respiratory equipment.
- For personal protection see section 8.
- Handle and open container with care.
- If you require advice on safe handling techniques or specific uses, please contact your supplier or check the further information referred to in section 16.

Conditions for safe storage, including any incompatibilities

- Minimize airborne dust generation and prevent wind dispersal during loading and unloading.
- Keep containers closed and store packaged products so as to prevent accidental bursting.
- No conditions to be specially mentioned.

Section 8 Exposure controls/personal protection

National exposure standards:

- No Exposure Standard allocated.
- No Biological Limit allocated.

Personal protective equipment

Hygiene measures

- Wash hands before breaks and at the end of workday.

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Respiratory protection :	Local ventilation to keep levels below established threshold values is recommended. In case of prolonged exposure to airborne dust concentrations, a suitable particle filter mask that complies with the requirements of national legislation is recommended, depending on the expected exposure levels.
Hand protection :	Use a high fat protective cream after cleaning skin. Wear suitable gloves.
Eye protection :	Do not wear contact lenses. Safety glasses with side-shields Ensure that eyewash stations and safety showers are close to the workstation location.
Body protection :	Long sleeved clothing
Engineering controls:	Use ventilation adequate to keep exposures below recommended exposure limits. See the safety datasheet.

Section 9 Physical and chemical properties

Form :	powder
State of matter :	solid
Colour :	bright to earthy
Odour :	none
Bulk density :	500 - 1,100 kg/m ³ For detail information please refer to our physical & chemical data sheet.
pH value :	6 - 11 (20 °C) Method : Aqueous suspension For detail information please refer to our physical & chemical data sheet.
Thermal decomposition :	No decomposition if used as directed.

Section 10 Stability and reactivity**Chemical stability:**

The product is chemically stable.

Hazardous reactions

None known.

Hazardous decomposition products

Not relevant

Conditions to avoid

Forms slippery/greasy layers with water.

Materials to avoid

inert, not reactive

Avoid storing together with materials that may be affected by dust.

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Section 11 Toxicological information

Acute oral toxicity :	LD50 > 2,000 mg/kg (Rat) Method : OECD Test Guideline 420
Acute inhalation toxicity :	no data available
Acute dermal toxicity :	no data available, Bentonite is almost insoluble and has a low absorption through the skin.
Irritant effect on skin :	No skin irritation (Rabbit) Method : OECD Test Guideline 404
Irritant effect on eyes :	No eye irritation (Rabbit) Method : OECD Test Guideline 405
Sensitization :	no data available, Bentonite is considered not to be a skin sensitizer based on experience in handling and low absorption through the skin.

Remarks

Refer to Section 2 and Section 3 for the toxicological data of the components.

Specific symptoms in animal studies (likely route of exposure):In case of ingestion:

No acute or long term effects were seen in animal studies following oral exposure.

In case of skin contact:

No acute effects were seen in an animal study following acute dermal exposure.

Bentonite is not a skin irritant

In case of inhalation:

No acute effects were seen in an animal study following acute inhalation exposure.

Bentonite contains crystalline silica, which is a known cause of silicosis, a progressive, sometimes fatal lung disease. In a 1997 monograph (Volume 68, "Silica, Some Silicates, Coal Dust and Para-aramid Fibrils"), the International Agency for Research on cancer (IARC) has classified "inhaled crystalline silica from occupational sources" in Group 1 as a substance "carcinogenic to humans". In making the overall evaluation, the IARC Working Group noted that carcinogenicity in humans was not detected in all industrial circumstances studied. Crystalline silica has also been classified by the German MAK Commission as a human carcinogen (Category A1).

Although bentonite contains quartz, an intratracheal study (Creutzenberg 2008) on the read across substance bentonite demonstrated significant differences in toxicity following administration of equivalent doses of quartz as either bentonite (15.2 mg of bentonite with 60% quartz) or reference quartz (10.5 mg of 87% quartz). The reference-quartz caused significant, self-perpetuating lung toxicity while bentonite demonstrated significantly less toxicity and partial recovery during the study period. The main effect of bentonite was slight fibrosis and inflammation of the lung. The study demonstrated that a simple bridging of toxicity data from quartz to bentonite is not appropriate.

Occupational exposure to respirable dust should be monitored and controlled
Information refers to the main component.

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Section 12 Ecological information

Biodegradability :	The methods for determining biodegradability are not applicable to inorganic substances.
Fish toxicity :	LC50 16 g/l (96 h, Oncorhynchus mykiss (rainbow trout)) LC50 2.8 - 3.2 g/l (24 h, Marine water fish)
Daphnia toxicity :	EC50 > 100 mg/l (48 h, Daphnia magna (Water flea)) Method : OECD Test Guideline 202 EC50 24.8 mg/l (96 h, Pandalus danae) EC50 81.6 mg/l (96 h, Metacarcinus magister)
Algae toxicity :	EC50 > 100 mg/l (72 h, Desmodesmus subspicatus (Scenedesmus subspicatus))
Toxicity to microorganisms :	(Phaseolus vulgaris) No effect on the growth was observed. (Zea mays) No effect on the growth was observed.
Transport between environm. compartments :	(Soil) Bentonite is almost insoluble and thus presents a low mobility in most soils.
Bioaccumulation:	Not relevant for inorganic substances

Additional ecotoxicological remarks

Ecological data given refer to the main component.

According to experience and to the information currently available, the product has no harmful effects on the environment if used correctly as intended.

Section 13 Disposal considerations**Disposal methods****Product**

Can be disposed of as solid waste in a suitable installation subject to the Environmental Protection (Duty of Care) Regulations.

Avoid dust formation.

Where possible recycling is preferred to disposal or incineration.

Uncleaned packaging

No specific requirements.

Section 14 Transport information

ADG	not restricted
IATA	not restricted
IMDG	not restricted

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Section 15 Regulatory information

Regulatory information (Australia)

Poison schedule (SUSMP): None allocated

All components of this product are listed on the Australian Inventory of Chemical Substances (AICS).

Section 16 Other information

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Additional information

Social Dialogue on Respirable Crystalline Silica:

A multi-sectoral social dialogue agreement on Workers Health Protection through the Good Handling and Use of Crystalline Silica and Products Containing it was signed on 25 April 2006. This autonomous agreement, which receives the European Commission's financial support, is based on a Good Practices Guide. The requirements of the Agreement came into force on 25 October 2006. The Agreement was published in the Official Journal of the European Union (2006/C 279/02). The text of the Agreement and its annexes, including the Good Practices Guide, are available from <http://www.nepsi.eu> and provide useful information and guidance for the handling of products containing respirable crystalline silica. Literature references are available on request from EUROSIL, the European Association of Industrial Silica Producers.

Prolonged and/or massive exposure to respirable crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystal

In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However it pointed out that not all industrial circumstances, nor all crystalline silica types, were to be incriminated. (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.)

In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003.

So there is a body of evidence supporting the fact that increased cancer risk would be limited to people already suffering from silicosis. Worker protection against silicosis should be assured by respecting the existing regulatory occupational exposure limits and implementing additional risk management measures where required (see section 16 below).

This safety data sheet (SDS) is based on the legal provisions of the REACH Regulation (EC 1907/2006; article 31 and Annex II), as amended. Its contents are intended as a guide to the appropriate precautionary handling of the material. It is the responsibility of recipients of this SDS to ensure that the information contained therein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product.

Information and instructions provided in this SDS are based on the current state of scientific and technical knowledge at the date of issue indicated. It should not be construed as any guarantee of technical performance, suitability for particular applications, and does not establish a legally valid contractual relationship. This version of the SDS supersedes all previous versions.

Literature references:

Creutzenberg O, Hansen T, Ernst H & Muhle H (2008) Toxicity of a quartz with occulated surfaces in a 90 day intratracheal instillation study in rats; Inhalation toxicology. 20: 995-1008
National Code of Practice for the Preparation of Material Safety Data Sheets, 2nd Edition [NOHSC:2011(2003)]
Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004)]

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace, including in conjunction with other products.

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If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.