



SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name : SOL BentoGel API
Product Name : Bentonite Powder API
Application : Viscosifiers
Supplier : MPL PRODUCTS
Address : 26 Baddesley Way, Canning Vale, Western Australia, Australia-6155
Tel/Fax. : +61 421837661
Email : info@mplproducts.com.au
Website : www.mplproducts.com.au

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%
Bentonite	1302-78-9	>95

SECTION 3 - HAZARD IDENTIFICATION

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

POISONS SCHEDULE :None

RISKSAFETY

Inhalation may produce health damage*.

Cumulative effects may result following exposure*.

May produce discomfort of the eyes*.

* (limited evidence).

Do not breathe dust.

Wear eye/face protection.

Use only in well-ventilated areas.

Keep the container in a well-ventilated place.

Take off immediately all contaminated clothing.

In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.

SECTION 4 - FIRST AID MEASUREMENT

SWALLOWED

- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness, i.e. becoming unconscious.
- Provide water to rinse mouth, then provide liquid slowly and as much as the casualty can comfortably drink.
- Seek medical advice.

Registered office: 26 Baddesley Way, Canning Vale, WA – 6155

Web: mplproducts.com.au Email: info@mplproducts.com.au Contact: +61 421837661



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 the event of irritation.

INHALED

- If dust is inhaled, remove it from the contaminated area.
- Encourage patients to blow their nose to ensure clear breathing passages.
- Ask the patient to rinse mouth with water but to not drink water.
- Seek immediate medical attention.

NOTES TO PHYSICIAN

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. A prime symptom is breathlessness. Lung shadows show on X-ray.

SECTION 5 – FIRE FIGHT MEASURES

EXTINGUISHING MEDIA

- There is no restriction on the type of extinguisher which may be used.

FIRE FIGHTING

Alert Fire Brigade and tell them location and nature of hazard.

- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water courses. Use firefighting procedures suitable for the surrounding area.

FIRE/EXPLOSION HAZARD

- Non-combustible.,
- Not considered a significant fire risk, however containers may burn.

FIRE INCOMPATIBILITY :None known.

HAZCHEM: None

Personal Protective Equipment : Breathing apparatus.



SECTION 6 – ACCIDENTAL RELEASE MEASURE

EMERGENCY PROCEDURES

MINOR SPILLS

Clean up all spills immediately.

If exposure to workplace dust is not controlled, respiratory protection is required, wear SAA approved dust respirator.

Use dry clean up procedures and avoid generating dust. Place in a clean drum then flush the area with water.

MAJOR SPILLS

Clear area of personnel and move upwind. If exposure to workplace dust is not controlled, respiratory protection is required, wear SAA approved dust respirator. Prevent, by any means available, spillage from entering drains or water courses.

Use dry clean up procedures and avoid generating dust. Recover uncontaminated product in clean, dry, labelled containers. Collect recoverable products into labelled containers for recycling.

EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing life-threatening health effects is: bentonite 50 mg/m³

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is: bentonite 50 mg/m³

other than mild, transient adverse effects without perceiving a clearly defined odour is: bentonite 30 mg/m³

The threshold concentration below which most people will experience no appreciable risk of health effects: bentonite 10 mg/m³

SECTION 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

Avoid generating and breathing dust.

- 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.
- The atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

Registered office: 26 Baddesley Way, Canning Vale, WA – 6155

Web: mplproducts.com.au Email: info@mplproducts.com.au Contact: +61 421837661



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 collapsing. 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

MATERIAL DATA

Not available. Refer to individual constituents.

INGREDIENT DATA

BENTONITE:

It is the goal of the ACGIH (and other Agencies) to recommend TLVs (or their equivalent) for all substances for which there is evidence of health effects at airborne concentrations encountered in the workplace. At this time no TLV has been established, even though this material may produce adverse health effects (as evidenced in animal experiments or clinical experience). Airborne concentrations must be maintained as low as is practically possible and occupational exposure must be kept to a minimum.

NOTE: The ACGIH occupational exposure standard for Particles Not Otherwise Specified (P.N.O.S) does NOT apply. Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations. Present day expectations require that nearly every individual should be protected against even minor sensory irritation and exposure standards are established using uncertainty factors or safety factors of 5 to 10 or more. On occasion animal no -observable-effect-levels (NOEL) are used to determine these limits where human results are unavailable. An additional approach, typically used by the TLV committee (USA) in determining respiratory standards for this group of chemicals, has been to assign ceiling values (TLV C) to rapidly acting irritants and to assign short-term exposure limits (TLV STELs) when the weight of evidence from irritation, bioaccumulation and other endpoints combine to warrant such a limit. In contrast the MAK Commission (Germany) uses a five -category system based on intensive odour,

Registered office: 26 Baddesley Way, Canning Vale, WA – 6155

Web: mplproducts.com.au Email: info@mplproducts.com.au Contact: +61 421837661



local irritation, and elimination half-life. However, this system is being replaced to be consistent with the European Union (EU) Scientific Committee for Occupational Exposure Limits (SCOEL); this is more closely allied to that of the USA.

OSHA (USA) concluded that exposure to sensory irritants can:

- cause inflammation
- cause increased susceptibility to other irritants and infectious agents
- lead to permanent injury or dysfunction
- permit greater absorption of hazardous substances and
- acclimate the worker to the irritant warning properties of these substances thus increasing the risk of overexposure. The concentration of respirable dust for application of this limit is to be determined from the fraction that penetrates a separator whose size collection efficiency is described by a cumulative lognormal function with a median aerodynamic diameter of $4.0 \mu\text{m}$ (+-) $0.3 \mu\text{m}$ and with a geometric standard deviation of $1.5 \mu\text{m}$ (+-) $0.1 \mu\text{m}$, i.e..generally less than $5 \mu\text{m}$.

PERSONAL PROTECTION

EYE

- 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 lenses 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].
- Safety glasses with side shields.

HANDS/FEET

PVC gloves.

OTHER

No special equipment needed when handling small quantities.

OTHERWISE:

- Overalls.
- Barrier cream.
- Eyewash unit

ENGINEERING CONTROLS

Use in a well-ventilated area.

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.

Registered office: 26 Baddesley Way, Canning Vale, WA – 6155

Web: mplproducts.com.au Email: info@mplproducts.com.au Contact: +61 421837661



- Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.
- If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered. Such protection might consist of:
 - (a): particle dust respirators, if necessary, combined with an absorption cartridge;
 - (b): filter respirators with absorption cartridge or canister of the right type;
 - (c): fresh-air hoods or masks
- Build-up of electrostatic charge on the dust particle, may be prevented by bonding and grounding.
- Powder handling equipment

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Light pink, off white impalpable powder with no distinct odour. Insoluble in water and common organic solvents. Forms colloidal suspension in water, with strongly thixotropic properties. Sodium bentonite has high swelling capacity in water.

Particle size (Australian red): 90% is 75 micron. Bulk density (Australian red): 0.75 g/cm³. Extremely slippery when wet.

PHYSICAL PROPERTIES

Solid.

Does not mix with water.

Sinks in water.

Molecular Weight: Not applicable.

Melting Range (°C): 1337

Solubility in water (g/L)

pH (1% solution): Not applicable.

Volatile Component (%vol): Not applicable

Relative Vapour Density (air=1): Not applicable.

Lower Explosive Limit (%): Not applicable

Autoignition Temp (°C): Not applicable.

State: Divided solid

Boiling Range (°C): Not applicable.

Specific Gravity (water=1): 2.6 approx

Immiscible pH (as supplied): Not applicable

Vapour Pressure (kPa): Not applicable.

Evaporation Rate: Not applicable

Flash Point (°C): Not applicable

Upper Explosive Limit (%): Not applicable

Decomposition Temp (°C): Not available.

Viscosity: Not available

SECTION 10 – CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

Product is considered stable.

Hazardous polymerisation will not occur.

SECTION 11 – TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Registered office: 26 Baddesley Way, Canning Vale, WA – 6155

Web: mplproducts.com.au Email: info@mplproducts.com.au Contact: +61 421837661



Considered an unlikely route of entry in commercial/industrial environments. The solid/dust is slightly discomforting to the gastro-intestinal tract.

EYE

The dust may produce eye discomfort and abrasive eye inflammation.

SKIN

The material may be abrasive to the skin.

INHALED

The dust is discomforting to the upper respiratory tract. Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulates are inhaled. Effects on lungs are significantly enhanced in the presence of respirable particles. Overexposure to respirable dust may produce wheezing, coughing and breathing difficulties leading to or symptomatic of impaired respiratory function.

CHRONIC HEALTH EFFECTS

Principal routes of exposure are by accidental skin and eye contact and inhalation of generated dust. Chronic dust inhalation has been associated with lung disease. (Source: NIOSHTIC). Symptoms are those of nodular fibrosis and respiratory impairment is characterised by obstruction and restriction of lung function. (Source: Occupational Diseases) Clays may contain a significant level of respirable crystalline silicas.

TOXICITY AND IRRITATION

Not available. Refer to individual constituents.

BENTONITE:

Intravenous (Rat) LD50: 35 mg/kg

Intravenous (Dog) LD: 10 mg/kg

No significant acute toxicological data identified in literature search.

SECTION 12 – ECOLOGICAL INFORMATION

No data for BENTONITE

Refer to data for ingredients, which follows:

BENTONITE:

DO NOT discharge into sewer or waterways.

SECTION 13 – DISPOSAL CONSIDERATION

Recycle wherever possible.

Bury residue in an authorised landfill.

Recycle containers if possible, or dispose of in an authorised landfill.



SECTION 14 – TRANSPORTATION INFORMATION

HAZCHEM: None

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

SECTION – 15 REGULATORY INFORMATION

Bentonite (CAS: 1302-78-9) 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 bentonite (CAS: 11004-12-9) is found on the following regulatory lists.

Australia Inventory of Chemical

Substances (AICS) No data available for bentonite as CAS: 10043-07-9, CAS: 115628-71-2,

CAS: 37320-72-2, CAS: 52623-66-2, CAS: 850872-77-4, CAS: 135945-01-6, CAS: 12199-69-8,

CAS: 12198-92-4.

SECTION 16 – OTHER INFORMATION

THE INFORMATION CONTAINED HEREIN IS BELIEVED TO BE ACCURATE AND IS OFFERED IN GOOD FAITH FOR THE USER'S CONSIDERATION AND INCESTICATION. USERS OF THIS MATERIAL SHOULD SATISFY THEMSELVES BY INDEPENDENT INVESTIGATION OF CURRENT SCIENTIFIC AND MEDICAL INFORMATION THAT IS MATERIAL MAY BE SAFELY HANDLED.

This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any other processes. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy themselves as to the suitability and completeness of such information for their own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer a warranty against patent infringement.

MPL PRODUCTS reserves the right to refuse shipment of this material to any consumer who fails to demonstrate the ability to consistently handle and use it safely and in compliance with all applicable laws, rules and regulations. Such a demonstration may require on-site inspection of any or all storage, processing, packaging, and other handling systems that come in contact with it.

Customers are responsible for compliance with local, state, and federal regulations that may be pertinent in the storage, application, and disposal of this product.

Registered office: 26 Baddesley Way, Canning Vale, WA – 6155

Web: mplproducts.com.au Email: info@mplproducts.com.au Contact: +61 421837661