

Non-hazardous material safety data sheet for

Sodium Bentonite

SODIUM BENTONITE #009710
9/13/13 PAGE 1 of 6

SECTION 1: Identification of the substance/mixture of the company/undertaking

1.1 Product identifier

| | |
|----------------------------|--|
| Product name: | Sodium Bentonite |
| Synonyms / trade names: | Wyoming bentonite, MVP200, Sodium fine |
| REACH registration number: | Exempt |
| CAS number: | 1302-78-9 |
| EC number: | 215-108-5 |

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Rheology modifier, binding agent, adsorbent, filler

1.3 Details of the supplier of the safety data sheet

LKAB Minerals Ltd, Flixborough Industrial Estate, Flixborough, North
Lincolnshire DN15 8SF UK
sds@lkabminerals.com

1.4 Emergency telephone number of supplier

| | |
|--|------------------------------------|
| LKAB Minerals AB (Sweden) | +46 771 760 400 |
| LKAB Minerals Asia Pacific Ltd (Hong Kong) | +852 2827 3000 |
| LKAB Minerals BV (Netherlands) | +31 168 388500 |
| LKAB Minerals Inc (USA) | +1 513 322 5530 |
| LKAB Minerals GmbH (Germany) | +49 201 45060 |
| LKAB Minerals Ltd (United Kingdom) | +44 1724 277411 or +44 1332 673131 |
| LKAB Minerals Oy (Finland) | +358 17 2660160 |
| LKAB Minerals Tianjin (China) | +86 22 2435 1706 |

Hours of operation: 09.00 – 16.00 (local business hours)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

| | |
|--------------------------------|--|
| Classification (EC 1272/2008): | Physical and chemical hazards: not classified Human health: not classified Environment: not classified |
| Classification (67/548/EEC): | Not classified |

The full text for all R-phrases and hazard statements are displayed in section 16.

2.2 Label elements

| | |
|---|------------------------|
| EC No: | 215-108-5 |
| Label in accordance with (EC) No. 1272/2008 | No pictogram required. |

2.3 Other hazards

This product does not contain any PBT or vPvB substances.

SECTION 3: Composition/information on ingredients

3.1 Substances

| Product / ingredient name | % | CAS No | EC No | Classification | |
|---------------------------|---|--------|-------|----------------|-------------------------------------|
| | | | | 67/548/EEC | Regulation (EC) No. 1272/2008 [CLP] |
| | | | | | |

The full text for all R phrases and hazard statements are displayed in section 16.

REACH Registration number: Exempt

SECTION 4: First aid measures

4.1 Description of first aid measures

| | |
|---------------|---|
| Inhalation: | Move the exposed person to fresh air at once. Get medical attention if any discomfort continues. |
| Ingestion: | Rinse mouth thoroughly. Get medical attention if any discomfort continues. |
| Skin contact: | Wash skin with soap and water. Get medical attention if irritation persists after washing. |
| Eye contact: | Make sure to remove any contact lenses from the eyes before rinsing. Rinse eye with water immediately. Get medical attention if any discomfort continues. |

4.2 Most important symptoms and effects, both acute and delayed

| | |
|---------------|-----------------------------|
| Inhalation: | No specific symptoms noted. |
| Ingestion: | No specific symptoms noted. |
| Skin contact: | No specific symptoms noted. |
| Eye contact: | No specific symptoms noted. |

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically

SECTION 5: Fire fighting measures

| | |
|---|--|
| 5.1 Extinguishing media | This product is not flammable. Use fire extinguishing media appropriate for surrounding materials. |
| 5.2 Special hazards arising from the substance or mixture | |
| Hazardous combustion products: | None under normal conditions |
| 5.3 Advice for firefighters | |
| Special fire fighting procedures: | No specific fire fighting procedures given |

SECTION 6: Accidental release measures

| | |
|---|--|
| 6.1 Personal precautions, protective equipment and emergency procedures | Follow precautions for safe handling described in this safety data sheet |
| 6.2 Environmental precautions | The product should not be dumped in nature but collected and delivered according to agreement with the local authorities. |
| 6.3 Methods and material for containment and cleaning up | Avoid dust formation. Remove spillage with vacuum cleaner. If not possible, collect spillage with shovel, broom or the like. Transfer to a container for disposal. |
| 6.4 Reference to other sections | For personal protection see section 8. For waste disposal see section 13. |

SECTION 7: Handling and storage

| | |
|-----------------------------------|--|
| 7.1 Precautions for safe handling | Avoid handling which leads to dust formation. Avoid inhalation of high |
|-----------------------------------|--|

7.2 Conditions for safe storage, including any incompatibilities

Store in tightly closed original container in a dry, cool and well-ventilated place.
Keep in original container.

7.3 Specific end use(s)

The identified uses for this product are detailed in section 1.2

SECTION 8: Exposure controls / personal protection
8.1 Control parameters

| Country | Name | STD | TWA -8Hrs | STEL - 15Min | Notes |
|----------------|-----------|------------------|-------------------------|--------------|-------------------|
| Austria | Quartz | | 0.15 mg/m ³ | | A |
| Belgium | Quartz | GVB / VLEP / AGW | 0.1 mg/m ³ | | |
| China | Bentonite | | 6.0 mg/m ³ | | |
| | Quartz | | 0.5 mg/m ³ | | |
| Czech Republic | Bentonite | PEL | 6.0 mg/m ³ | | |
| | Quartz | | 0.1 mg/m ³ | | |
| Denmark | Quartz | GRV | 0.3 mg/m ³ | | K ⁽¹⁾ |
| Estonia | Quartz | | 0.1 mg/m ³ | | |
| Finland | Quartz | HTP | 0.2 mg/m ³ | | |
| France | Quartz | VLEP | 0.1 mg/m ³ | | |
| Hungary | Quartz | MKBS | 0.15 mg/m ³ | | |
| Italy | Quartz | ACGIH | 0.025 mg/m ³ | | A2 ⁽¹⁾ |
| Japan | Bentonite | | 0.5 mg/m ³ | | |
| | Quartz | | 0.03 mg/m ³ | | 1 |
| Netherlands | Quartz | MAC | 0.075 mg/m ³ | | |
| Portugal | Quartz | VLE | 0.025 mg/m ³ | | A2 ⁽²⁾ |
| Spain | Quartz | VLA | 0.01mg/m ³ | | |
| Sweden | Quartz | AFS | 0.1 mg/m ³ | | K ⁽²⁾ |
| UK | Quartz | WEL | 0.1 mg/m ³ | | |

A = Aveolengängiger Anteil

GVB = Grenswaarden voor blootstelling aan chemische agentia

VLEP = Valeurs limites d'exposition professionnelle

AGW = Arbeitsplatzgrenzwert

PEL = Příпустné expoziční limity

GRV = Grænseværdier for stoffer og materialer

K⁽¹⁾ = betyder, at stoffet er optaget på listen over stoffer, der anses for at være kræftfremkaldende

HTP = Haitallisiksi tunnetut pitoisuudet

OTE = Οριακή Τιμή Έκθεσης

MKBS = Munkahelyek kémiai biztonságáról szóló

ACGIH = American Conference of Governmental industrial Hygienists

A2⁽¹⁾ = Carcinogeno sospetto per l'uomo

1 = ヒトに対して発がん性のある物質

MAC = Maximaal Aanvaarde Concentraties

NDS = Najwyższe Dopuszczalne Stężenie

VLE = Valor limite de exposição

A2⁽²⁾ = Agente carcinogénico suspeito no Homem

VLA = Valor límite Ambiental

AFS = Arbetsmiljöverkets Författningssamling

K⁽²⁾ = Ämnet är cancerframkallande

WEL = Workplace exposure limit

NOTE: To request language / country specific SDS please e-mail sds@lkabminerals.com

Ingredient comments:

Dust contains respirable crystalline silica. Prolonged and/or massive inhalation of respirable crystalline silica dust may cause lung fibrosis, commonly referred to as silicosis. Principal symptoms of silicosis are cough and breathlessness. Occupational exposure to respirable dust should be monitored and controlled. The product should be handled using methods and techniques that minimise or eliminate dust generation. The product contains less than 1% w/w RCS (respirable crystalline silica) as determined by the SWERF method. The respirable crystalline silica content can be measured using the "Size-Weighted Respirable Fraction – SWERF" method. All details about the SWERF method is available at www.crystallinesilica.eu

8.2 Exposure controls
Protective equipment

Engineering measures:

Provide adequate ventilation. Observe occupational exposure limits and minimise the risk of inhalation of dust.

Respiratory equipment:

No specific recommendation made, but respiratory protection must be used if the general level exceeds the recommended occupational exposure limit. Wear dust masks in dusty areas.

Hand protection:

No specific hand protection noted, but gloves may still be advisable.

Eye protection:

Wear dust resistant safety goggles where this is a danger of eye contact.

Other protection:

Provide eyewash station.

Hygiene measures:

Wash hands at the end of each work shift and before eating, smoking and using the toilet.

SECTION 9: Physical and chemical properties
9.1 Information on basic and physical and chemical properties

| | |
|---------------------|-----------------------|
| Appearance: | Granular powder, dust |
| Colour: | Grey, green |
| Odour: | Odourless |
| Solubility: | Insoluble in water |
| Melting point (°C): | >450 |
| Relative density: | 2.7 |
| pH-Value: | 9 - 10 |

9.2 Other information

Not relevant

SECTION 10: Stability and reactivity
10.1 Reactivity

No specific reactivity hazards associated with this product.

10.2 Chemical stability

Stable under normal temperature conditions.

10.3 Possibility of hazardous reactions

Not relevant

10.4 Conditions to avoid

No specific conditions are likely to result in a hazardous situation

10.5 Incompatible materials
Materials to avoid:

No specific, or groups of materials, are likely to react to produce a hazardous situation.

10.6 Hazardous decomposition products

None under normal circumstances

SECTION 11: Toxicological information

11.1 Information on toxicological effects

| | |
|-----------------------------------|--|
| Other health effects: | This substance has no evidence of carcinogenic properties. |
| Acute toxicity | |
| Acute toxicity (Oral LD50): | Not relevant |
| Acute toxicity (Dermal LD50): | Not relevant |
| Acute toxicity (Inhalation LC50): | Not relevant |
| Inhalation: | Dust in high concentrations may irritate the respiratory system. |
| Ingestion: | May cause discomfort if swallowed. |
| Skin contact: | Powder may irritate skin. |
| Eye contact: | Particles in the eyes may cause irritation and smarting. |

SECTION 12: Ecological information

| | |
|---|---|
| Ecotoxicity: | Not regarded as dangerous for the environment. |
| 12.1 Acute fish toxicity: | Not considered toxic to fish. |
| 12.2 Persistence and degradability | |
| Degradability: | The product is not readily biodegradable. |
| 12.3 Bioaccumulative potential: | The product is not bioaccumulating. |
| 12.4 Mobility in soil: | Not relevant, due to the form of the product. |
| 12.5 Results of PBT and vPvB assessment: | This product does not contain any PBT or vPvB substances. |
| 12.6 Other adverse effects: | None known |

SECTION 13: Disposal considerations

| | |
|--------------------------------------|---|
| 13.1 Waste treatment methods: | Dispose of waste and residues in accordance with local authority requirements |
|--------------------------------------|---|

SECTION 14: Transport considerations

| | |
|---|---|
| Road transport notes: | Not classified |
| Rail transport notes: | Not classified |
| Sea transport notes: | Not classified |
| Air transport notes: | Not classified |
| 14.1 UN Number: | The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID). |
| 14.2 UN proper shipping name: | Not classified for transportation. |
| 14.3 Transport and hazard class(es): | Not classified for transportation. |

14.5 Environmental hazards

Environmentally hazardous substances / marine pollutant: no

14.6 Special precautions for user:

Not classified for transportation.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture**

Approved code of practice:

Classification and labelling of substances and preparations dangerous for supply. Safety data sheets for substances and preparations.

Guidance notes:

Workplace Exposure Limits EH40.

EU Legislation:

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulations (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.

15.2 Chemical Safety Assessment:

Not applicable. No chemical safety assessment has been carried out.

SECTION 16: Other information

| | |
|-----------------------|---------------------|
| Revision date: | 13/09/2013 |
| Revision: | 2 |
| Document no: | 12-01INT,13-09 |
| Risk phrases in full: | NC – not classified |

Disclaimer:

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However no warranty guarantee or representation is made to its accuracy, reliability of completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.