

MATERIAL SAFETY DATA SHEET

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1. PRODUCT AND COMPANY IDENTIFICATION

Company: Kingfield Construction Products

Address: 20 N 4th St, Suite 300

Minneapolis, MN 55401 USA

Name of section: Product SDS

Prepared by: Daniel Hammill

Phone number: +1.612.225.5167

Fax number: +1.612.225.5167

E-mail: info@kingfieldcp.com

Emergency phone number: +1.612.225.5167

Product Name: Bentotak AB

Reference Number (MSDS No.) S-6002

Recommended use of the product and restriction on use:

Water-Sealing Joint Material

2. HAZARDS IDENTIFICATION

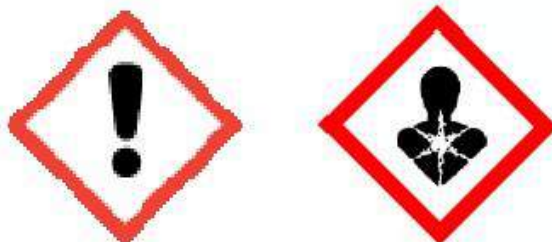
GHS CLASSIFICATION

PHYSICAL HAZARDS	
Explosives	Not applicable
Flammable gases	Not applicable
Flammable aerosols	Not applicable
Oxidizing gases	Not applicable
Gases under pressure	Not applicable
Flammable liquids	Not applicable
Flammable solids	Not classified
Self-reactive substances and mixtures	Not applicable
Pyrophoric liquids	Not applicable

Pyrophoric solids	Not classified
Self-heating substances and mixtures	Not classified
Substances and mixtures which, in contact with water, emit flammable gases	Not classified
Oxidizing liquids	Not applicable
Oxidizing solids	Classification not possible
Organic peroxide	Not applicable
Corrosive to metals	Classification not possible

HEALTH HAZARDS	
Acute toxicity (oral)	Classification not possible
Acute toxicity (skin)	Classification not possible
Acute toxicity (inhalation: gas)	Not applicable
Acute toxicity (inhalation: vapor)	Not applicable
Acute toxicity (inhalation: dust)	Category 4
Acute toxicity (inhalation: mist)	Not applicable
Skin corrosion/irritation	Category 3
Serious eye damages /eye irritation	Category 2B
Respiratory sensitization	Classification not possible
Skin sensitization	Classification not possible
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 1A
Reproductive toxicity	Classification not possible
Specific target organ/systemic toxicity (single exposure)	Category 1 (Respiratory system)
Specific target organ/ systemic toxicity (repeated exposure)	Category 1 (Respiratory system, kidney)
Aspiration hazard	Classification not possible

ENVIRONMENTAL HAZARDS	
Aquatic toxicity (acute)	Not classified
Aquatic toxicity (chronic)	Classification not possible

LABELLING:**SIGNAL WORD: DANGER HAZARD****STATEMENTS:**

- May cause damage to respiratory system or kidney through long-term or repeated exposure.

PRECAUTIONARY STATEMENTS:

[Safety measures]

- Obtain the material safety data sheet (MSDS) before using.
- Do not handle until all safety precautions have been read and understood.
- Wear personal protective equipment and use ventilators, as required, to avoid exposure.
- Wash hands thoroughly after handling.

[First-aid procedures]

- If exposed, or possibly exposed, get medical attention.
- If you feel unwell, get medical attention.

[Storage]

- Store in a dry place to avoid getting wet or provide sufficient water protection.

[Disposal]

- Have contents/containers disposed by a waste disposer authorized by the prefectural governor.

3.COMPOSITION/INFORMATION ON INGREDIENTS Substance/Mixture : Mixture

Chemical name : Rubberized petroleum asphalt
 Ingredients : The material of which the base is impregnated with a rubberized asphalt composition

Chemical formula or structural formula : Unidentifiable

CAS No. : Not disclosed

Chemical name : Bentonite
 Ingredients : Clay mineral mainly composed of montmorillonite and also typically including quartz, cristobalite, zeolite, feldspar

Chemical formula or structural formula : $\text{Si}_8(\text{Al}_{3.34}\text{Mg}_{0.66})\text{Na}_{0.66}\text{O}_{20}(\text{OH})_4$

CAS No. : 1302-78-9

Chemical name : Sodium Carbonate

Common name : Sodium Carbonate (Soda Ash)

Chemical formula or structural formula : Na_2CO_3

CAS No. : 479-19-8

4. FIRST-AID MEASURES

- Eye contact : Do not rub. Rinse with plenty of clean running water. (Remove contact lenses, if possible.) If eye irritation occurs, get medical attention immediately.
- Skin contact : Wash the affected area with plenty of water and soap. If skin irritation occurs, get medical attention immediately.
- Inhalation : Transfer the victim immediately to open air and place in a position comfortable for breathing. If symptoms persist, get medical attention.
- Ingestion : Wash the mouth well with clean water. Get medical attention.

5. FIRE-FIGHTING MEASURES

Extinguishing method : In case of fire in vicinity, transfer the container immediately to a safe place.

- : In case of local fire, spray water or use appropriate extinguishing agent for initial fire fighting.
- : Isolate combustion source from the origin of fire, and extinguish the fire by using appropriate extinguishing agent.
- : If the container cannot be removed, spray water around it to cool it and to avoid its destruction.
- : Fire fighting should be done from the upwind, as much as possible.
- : Take appropriate measures to avoid a release of substance which may cause environmental impact due to fire-fighting water spray, etc.

Specific hazards during a : Hazardous gases, such as carbon monoxide, are contained in fire combustion gas. Avoid inhaling smoke during the fire-fighting operation.

Suitable extinguishing : Water, foam, powder, CO₂, etc. media

Protection of fire-fighters : During fire-fighting, wear appropriate protective equipment (gloves, protective goggles and gas mask). Combustion gas contains hazardous gas such as carbon monoxide. Avoid inhaling smoke during the fire-fighting operation.

6.ACCIDENTAL RELEASE MEASURES

[Personal precautions, protective equipment and emergency procedures]

: Wear dust mask, protective gloves, protective glasses, etc. during work.

: In a case of exposure to water, the floor will become slippery. Be careful not to fall on the floor.

[Environmental precautions]

: To recover the spill, sweep up or use vacuum cleaner, etc. to avoid scattering the spill then collect it in an empty container.

: After recovery, wash the spilled area with plenty of water.

: Take steps not to let the spilled product or cleaning water reach a river or pond to prevent any effect on the environment.

7.HANDLING AND STORAGE

[Handling] : Wear appropriate protective equipment (dust mask, protective gloves, protective glasses, etc.) to avoid inhalation or contact. After handling, wash hands, face, etc. with plenty of clean water.

: The material becomes swollen and slippery, if in contact with water. Be careful not to fall on the floor

: Avoid falling, dropping, dragging, or other rough handling of containers.

: Used empty containers are to be stored at a designated area.

[Storage] : Designate a storage area, isolate from other materials, and store this material in a sealed package once the container is opened.

: Take necessary measures to avoid exposure to water, and check for any spills periodically.

: Store this material indoors, avoiding humid areas.

: Avoid contact and storage at the same place with strong acids, strong alkalis, halides, and oxidizing substances.

8.EXPOSURE CONTROLS/PERSONAL PROTECTION

Allowable : Japan Society for Occupational Health (2010): Mineral oil mist: 3mg/m₃

Concentration ACGIH (2010): Mineral oil mist: 5mg/m₃

Facility and : To prevent the contamination of workplace air by dust, it is recommended to equipment
install local dust collector, to air-tighten the facilities, or to provide general measures ventilation properly.

: Provide eye wash station and body shower, if necessary, and indicate the

location clearly.

[Personal protection equipment]

Respiratory system protection : Protective dust mask

Hand protection : Protective gloves

Eye protection : Ordinary-glasses-type equipment with side shields or goggles-type
equipment

Skin and body protection : Protective clothing with long-sleeves and safety boots.

9.PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Tape-type

Odor : Odor of petroleum

Color : Black

Specific gravity : Approximately 1.4 (20°C)

Boiling point : No data

Flash point : > 240°C(COC)

Solubility : Insoluble in water

Self-ignition : No data

temperature

Explosibility : Not available

10.STABILITY AND REACTIVITY

Stability and reactivity : Stable for normal handling

Possibility of hazardous : Cation exchange property reactions

Condition to be avoided : Daylight, heat, humidity

11.TOXICOLOGICAL INFORMATION

This product contains 15% \pm 5% of crystalline silica (CAS No. 14808-60-7, No.14464-46-1). Long-term exposure to such substances as exceeds the tolerated concentration in the form of dust may cause a hazardous effect on respiratory system.

Acute toxicity:

Oral : Rat LD₅₀ 5,000 mg /kg)

Oral : Rabbit LD₅₀ 2,000 mg / kg)

Skin : No data

Inhalation (dust) : No data

Skin corrosion/irritation :No irritation is recorded in the result of Draize Test.

Serious eye damage/Eye irritation :No irritation is recorded in the result of Draize Test.

The gas generated from melted asphalt irritates respiratory organs and mucous membranes of eyes.

Respiratory or dermal sensitization: : No data

Germ cell mutagenicity : Not classified

Carcinogenicity : International Agency for Research on Cancer (IARC) shows that crystalline Silica is in "Group 1: Carcinogenic to Human in Carcinogenic Risk Classification". Recommendation of Japan Society for Occupation Health has classified it in Group 1, Category 1A.

IARC (International Agency for Research on Cancer) classifies

"Bitumen (Asphalt) "as IARC Group 3 (Not classifiable as to its

carcinogenicity to humans).

Reproductive toxicity : No data Specific target
: No data

organ/systemic toxicity

(single exposure)

Specific target : In a Priority 1 Document, it is reported that repeated exposure may organ/systemic toxicity affect the respiratory system and kidney, and the product is (repeated exposure) classified in Category 1 (respiratory system and kidney)

In an inhalation test of asphalt fume (mice, 6-7 hours/day, 5 days/week for 21 months), bronchitis with tracheal invasion, pneumonia, abscess, loss of cilia, epithelial atrophy, and skin hypertrophy were found.

Aspiration respiratory : No data system toxicity

12.ECOLOGICAL INFORMATION

Biodegradability : Substance which is difficult to be biodegraded.

Bioaccumulation : Since the log Kow is 6 or higher for all the structural components of asphalt, the components are judged to have bio accumulation potential. Actually, however, the components are extremely insoluble to water. It is difficult to consider such a high-molecular-weight substances are taken into the body of underwater life.

Ichthyotoxicity (acute) : No data

13.DISPOSAL CONSIDERATIONS

: A small quantity is to be disposed of as general waste.

: A large quantity is to be disposed of by a waste treatment company.

: In case of empty containers, remove all the contents in advance.

14.TRANSPORT INFORMATION

[International regulations]

Sea : Non-hazardous product

Air : Non-hazardous product

[Domestic regulations]

Land : Not applicable

Sea : Non-hazardous product

Air : Non-hazardous product

Security measures : Make sure that there is no spill from the container. Do not tumble, drop, or break the container when loading. Take necessary measures to prevent collapsing of cargo during transit.

: Avoid exposure to water.

15.REGULATORY INFORMATION

- : Industrial Safety and Health Act, Article 57-2, Order for Enforcement of the Act, Article 18-2, Appendix 9: Hazardous Substance of which name should be notified.
- : Fire Service Act (Hazardous material Category 4, Class IV
Petroleum, Hazardous materials Class III)
- : Law Relating to the Prevention of Marine Pollution and Marine
Disasters (Oil Discharge Regulations)
- : Sewerage Act (Mineral Oil Discharge Regulations)
- : Water Pollution Control Act (Oil Discharge Regulations) : Wastes
Management and Public Cleaning Act

16.OTHER INFORMATION

- Kagakudaijiten, Kyoritsu Shuppan Co., Ltd. (1993)
- IARC68 (1997)
- IARC Monographs programme on the Evaluation of Carcinogenic Risk Humans (1987)
- Council Directive 67/548/EEC Annex I “List of Dangerous Substances”
- Nendo Handobukku, Gihodo Shuppan Co., Ltd. (2009)
- 15509 no kagakushohin, The Chemical Daily Co., Ltd. (2009)
- Kosanbutsu no tsisiki to torihiki, Research Institute of Economy, Trade and Industry (1979)
- Japan Society for Industrial Health, Recommendation 2011
- Registry of Toxic Effects of Chemical Substances
- Sangyo tyudoku binran, Ishiyaku Publishers, Inc. (1990)
- Toxic Properties of Polymers and Additives
- STN: Material Safety Data Sheets OHS
- Existing Chemical Substances Safety Check Data

[Others]

This Material Safety Data Sheet gives a brief summary of items to be paid attention to for proper use of our product, subject to normal handling.

All specifications contained herein are reference information to assure safe handling of the product, and do not give a guarantee of any kind.

In case of unusual handling, it is the user's responsibility to take safety measures appropriate to the application and use in advance.