

Factory Address:

PT9749 (Plot 3), Persiaran Perindustrian Tungzen 47, Kawasan Perindustrian Tungzen,
31300 Kg. Kepayang, Perak, Malaysia.

SAFETY DATA SHEET

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name : Crumb Rubber Modified Bitumen (CRMB)
Synonyms : Bitumen, Asphalt
CAS NO : Not Applicable
Recommended use : Use for building road, industrial civil engineering materials and processes.
Supplier : K2 Bitumen Sdn. Bhd.
PT9749 (Plot 3), Persiaran Perindustrian Tungzen 47, Kawasan Perindustrian Tungzen, 31300 Kampung Kepayang, Perak, Malaysia.

SECTION 2: HAZARD IDENTIFICATION

a) Classification of the mixture

Classification according to Regulation CLP/GHS.

Physical Hazard:

Not classified as a hazardous chemical

Health Hazard:

Not classified as a hazardous chemical

Environmental Hazard:

Not classified as a hazardous chemical

b) Label Elements

No Hazard symbol/ Signal required.

c) Other Hazards which do not result in classification

- Not expected to be a health hazard at ambient temperature.
- Hot material may release hydrogen sulfide (H_2S), an extremely flammable and toxic gas and volatile organic compounds (VOCs) over the overhead space.
- Exposure to fume may cause irritation of eye, nose and throat.
- High concentration of H_2S may cause convulsion, coma and death.
- Contact with hot material can cause thermal burn which may result in permanent skin damage and blindness.



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SECTION 3: COMPOSITION AND INFORMATION OF THE INGREDIENTS OF THE HAZARDOUS CHEMICAL

Product Name: CRMB

Composition

Chemical Name	Cas No.	Composition (v/v %)
Bitumen	8052-42-4	> 80%
Crumb Rubber	NA	< 20%

SECTION 4: FIRST AID MEASURES

Inhalation :

- If symptoms of over exposure to chemical fume develop, remove to fresh air in a comfortable position for breathing.
- If unconscious/ not breathing, give artificial respiration. Keep affected person warm and rest.
- Get immediate medical attention.

Eyes :

- If contact with hot material, rinse cautiously with water for at least 15 minutes.
- Lifting eyelids to ensure complete flushing by water.
- Remove contact lenses if easy to do/ possible by lay the person flat on their back. Flush with water for at least 15 minutes.
- Get medical attention immediately.

Skin :

- If on expose on clothes, remove contaminated clothing if not adhering to the skin.
- If contact hot material, immediately immerse or place the affected skin under a running water for at least 15 minutes.
- May use cool pack/ ice in the event that water unavailable.
- Leave burn area uncovered.
- Do not attempt to remove solidified material on skin.
- Get medical attention if irritation develops or persists.

Ingestion :

- DO NOT induce vomiting.
- If victim is conscious and alert keep the affected person warm and at rest.
- Never give anything by mouth to an unconscious person.
- When vomiting spontaneously, incline the body to avoid aspiration into respiratory tract.
- Take victim immediately to hospital.
- Get medical attention immediately.



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General Advice:

- Move out of dangerous area.
- Show this safety data sheet to the doctor in attendance.
- Do not leave the victim unattended. Symptoms of poisoning may appear several hours later.

SECTION 5: FIRE-FIGHTING MEASURES**(a) Suitable extinguishing media**

- For small fire, Class B fire extinguisher media likes dry chemical powder, foam can be used
- For large fire, water spray, fog or foam can be used.

(b) Unsuitable extinguishing media

- Do not use high volume water jet.
- Water contact with hot bitumen can cause violent eruption.

(c) Specific hazards arising from the mixture

- This product is not a combustible liquid but will ignite and burn at temperature exceeding the flash point.
- On combustion, smoke carbon monoxide, toxic gas of incomplete combustion will release.

(d) Special protective equipment and precautions for fire-fighters.

- For large fire, a self-contained breathing apparatus (SCBA), coverall, heat resistant gloves, boots is recommended for indoor fires and any significant outdoor fires.
- Avoid using straight water stream.
- Avoid excessive water spray application.
- Use water spray to cool fully enclosed containers/ tanks.
- For small fire, respiratory and eye protection required for fire-fighter.

SECTION 6: ACCIDENT RELEASE MEASURES**(a) Personal precautions, protective equipment and emergency procedures**

- No action shall be taken involving any personal risk or without training/ suitable equipment.
- Remove all source of ignition.
- Keep unnecessary and unprotected personnel from entering the hazard area.
- Stay upwind.
- Do not touch or walk through spilled material.
- Shut off all ignition sources.



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- No flares and smoking in hazard area.
- Provide adequate ventilation.
- Wear appropriate personal protection equipment (eg. Respirator, chemical resistant gloves, apron, boots).

(b) Environmental precautions;

- Avoid dispersal of spilled material and run off and contact with soil, waterways, drain and sewers.
- Inform the relevant authorities if the product has caused environmental pollution (Sewer, waterways, soil or air)

(c) Methods and material for containment and cleaning.Large spill:

- Stop leak if without risk.
- Approach release from upwind.
- Prevent entry into sewers, water courses, basements or confined space. Contain and collect spillage with non-combustible, absorbent material (likes sand, rags, absorbent) and place in container for disposal according to local regulations. (See Section 13).
- Contaminated absorbent material may pose the same hazard as the spilled product.
- Use spark proof tools equipment.

Small spill:

- Stop leak if without risk.
- Use spark proof tools equipment to collect spillage and place in an appropriate waste disposal container for disposal according to local regulations. (See Section 13).

SECTION 7: HANDLING AND STORAGE

(a) Precautions for safe handling;

- Avoid contact with eyes.
- Avoid prolonged or repeated breathing of vapor.
- Avoid prolonged or repeated contact with skin.
- Wear appropriate personal protective equipment (see Section 8).
- Standard procedures for opening or entering tanks, vessels or other containers must strictly be followed to avoid inhalation of toxic gas.
- Use only in a well-ventilated area.
- Use grounding and bonding connection when transferring material to prevent static discharge, fire or explosion.
- Use spark proof tools and explosion proof equipment.
- Prohibited eating, drinking and smoking in area where this material is handled, stored and processed.
- Remove contaminated protective equipment before entering eating areas.
- Wash thoroughly after handling.



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(b) Conditions for safe storage, including any incompatibilities.

- Store in well-ventilated area.
- Keep away from heat, sparks, and flame.
- Keep container tightly closed and sealed until ready for use.
- Use appropriate containment to avoid environmental contamination.
- No smoking.
- Do not store in unstable container.
- Do not add or allow water to mix with hot bitumen.
- Do not pressurize, cut, heat, or weld container.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION**(a) Control parameters**

Component	CAS No	Value type (from the exposure)	Permissible Exposure Limit	Basis
Bitumen	8052-42-4	TWA (Fumes)	5 mg/m ³	PEL
		TWA (Fume, Inhalable fraction)	0.5mg/m ³ (as benzene soluble aerosol)	ACGIH
Hydrogen Sulfide	7783-06-4	TWA (Fume) STEL	1 ppm 5 ppm	ACGIH

(b) Appropriate engineering controls;**Engineering Controls:**

- Control airborne concentrations below the exposure limits.
- Use in well ventilated area.
- Local exhaust ventilation may be necessary if inhalation risk exist and exceeding permissible exposure limit.
- Lethal concentrations may exist in areas with poor ventilation. Provide ventilation in confined space. Use explosion proof ventilation equipment

(c) Individual protection measures, such as personal protective equipment.**Respiratory Protection:**

- When respiratory protection is required for high airborne concentrations or concentrations are unknown and in confined space, use approved air-purifying respirator equipped with organic vapor cartridges or canisters.
- For emergency and other conditions where exposure limit maybe greatly exceeded, use an approved positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply.



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Skin Protection:

- Wear heat resistance gloves or insulated gloves when handling hot material.
- Wear chemical resistant gloves (eg. Nitrile) when handling cold material.

Eye Protection:

- Use chemical goggles with side shields or face shield.
- If vapor exposure causes eye discomfort, use a full-face or supplied-air respirator to prevent other exposure.

Hygiene measures:

- Wash hands before breaks and at the end of workday.
- When using do not eat or drink.
- When using do not smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

(a) Appearance	: Semi-solid at room temperature; Liquid at temperature > 70°C
(b) Colour	: Black or dark brown
(c) Odour	: Tar
(d) Odour threshold	: No available data
(e) pH	: Not applicable
(f) Melting point/freezing point	: > 45°C (ASTM D36)
(g) Initial boiling point and boiling range;	: > 530°C
(h) Flash point	: Min 240°C (open-cup)
(i) Evaporation rate	: No available data
(j) Flammability (solid, gas)	: Not applicable
(k) Upper Flammability limit	: No available data
(l) lower Flammability Limit	: No available data
(m) Vapour pressure	: No available data
(n) Vapour density	: No available data
(o) Density	: 1.01~1.05 @ 15°C (ASTM D70)
(p) Solubility(ies)	: Insoluble in water : Soluble in Trichloroethylene, Toluene, Xylene
(q) Partition coefficient : noctanol/water	: No available data
(r) Auto-ignition temperature	: No available data
(s) Decomposition temperature	: No available data
(t) Viscosity	: 1.5~4.0 Pa-s at 177°C,

No additional information available.



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SECTION 10: STABILITY AND REACTIVITY

- (a) Reactivity : Hazardous polymerisation does not occur.
(b) Chemical stability : Stable under normal conditions.
(c) Possibility of hazardous reactions : No dangerous reaction known under condition of normal use
(d) Condition to avoid : Sources of heat or ignition
(e) Incompatible materials : Strong oxidizing agents
(f) Hazardous decomposition products: Fumes, smoke, carbon monoxide

SECTION 11: TOXICOLOGICAL INFORMATION

- (a) Acute toxicity : No known toxicity data is available for this product.
Based on available data, the classification criteria are not met. Inhalation may cause headache, nausea and respiratory tract irritation. Once cured, the inert solid material is considered non-hazardous. Hot material may release toxic hydrogen sulfide gas that quickly fatigues the sense of smell.

Bitumen (Cas No.: 8052-42-4)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 99.4 mg/m ³ / 4hr
Hydrogen Sulfide (Cas No.: 7783-06-4)	
LD50 oral rat	No available data
LD50 dermal rabbit	No available data
LC50 inhalation rat (mg/l)	444 ppm/ 4hr

- (b) Skin corrosion or irritation : Contact with hot material can result in skin burn.
Exposure to bitumen fume (Asphalt) may cause photosensitization and dermatitis.
(c) Serious eye damage or eye irritation: Contact with hot material can result in eye burn.
Exposure to bitumen fume (Asphalt) may cause Irritation, redness or pain.
(d) Respiratory sensitization : Not known to be a respiratory sensitizer
(e) Skin sensitization : Not known to be a skin sensitizer
(f) Germ cell mutagenicity : Insufficient data available to classify as a mutagen.
(g) Carcinogenicity : Insufficient data to classify as carcinogen. (It contains low concentration of polycyclic Aromatic Compounds that not considered to be bioavailable)
(h) Reproductive toxicity : Insufficient data available to classify as a reproductive

toxin.



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(i) Specific target organ toxicity (STOT)

- single exposure : Inhalation of bitumen fume may cause headache, nausea and respiratory tract irritation. May release trace quantities of hydrogen sulfide within storage facilities.

(j) Specific target organ toxicity (STOT)

- repeated exposure : Not classified as causing organ effects from repeated exposure.

(k) Aspiration hazard

- : Not expected to present an aspiration hazard.

SECTION 12: ECOLOGICAL INFORMATION

(a) Ecotoxicity (aquatic and terrestrial, where available):

Insufficient data available to classify the ecotoxicity of this products. The bulk of the bitumen dispersed in asphalt is fairly inert when set and should not present an environmental hazard under normal condition.

(b) Persistence and degradability:

Expected to be biodegradable slowly.

(c) Bio accumulative potential:

Not expected to bio-accumulate through food chains in the environment.

(d) Mobility in soil:

Not likely to move rapidly with surface or groundwater flows because of its low water solubility.

(e) Other adverse effects:

Not known

SECTION 13: DISPOSAL INFORMATION

Waste treatment methods:

- Do not dispose of waste into sewer.
- Prevent contamination of drain and waterways as aquatic life may be threatened and environmental damage may result.
- Do not burn or use a cutting torch on the empty drum.
- Disposal apply not only to the chemical product (residual waste) but also to any contaminated containers or packaging.
- Send to a license waste management company.



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Legislation:

- Dispose of in accordance with relevant local legislation.

SECTION 14: TRANSPORTATION INFORMATION

International Regulation

- (a) UN number : 3257
- (b) UN proper shipping name : Elevated temperature liquid, N.O.S
- (c) Transport hazard class(es) : 9



EmS Code : F-A, S-P

- (d) Packing group, if applicable : III
- (e) Marine pollutant : Yes



- (f) Transport in bulk (according to Annex II of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78) and the International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (IBC Code)):

Not applicable for product as supplied.

- (g) Special precautions which a user needs to be aware of, or needs to comply with, in connection either within or outside their premises:

Refer to Section 7, Handling and Storage



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SECTION 15: REGULATORY INFORMATION

Safety, health, and environmental regulations specific for the hazardous chemical

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.

Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

The component of this product was reported I the following inventories:

- TSCA : On the inventory or in compliance with the inventory.
- AICS : On the inventory or in compliance with the inventory.
- NZIoC : On the inventory or in compliance with the inventory.
- KECI : On the inventory or in compliance with the inventory.
- PICCS : On the inventory or in compliance with the inventory.
- IECSC : On the inventory or in compliance with the inventory.
- TCSI : On the inventory or in compliance with the inventory.

Inventories:

AICS (Australia), IECSC (China), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines),
TSCA (USA), TCSI (Taiwan)



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SECTION 16: OTHER INFORMATION

- (a) Date of SDS prepared : 08-12-2021
- (b) Revision date : 04-04-2026
- (c) Uses and Restrictions : This product must not be used in application other than those recommended in Section 1 without first seeking the advice of the supplier.
- (d) SDS Distribution : The information in this document should be made available to all who may handle the product.
- (e) Key/legend to the abbreviations and acronyms used in the SDS

GHS : Globally Harmonized System
GLP : Good Laboratory Practice
IARC : International Agency for Research On Cancer
ICOP : Industry Code of Practice on Chemicals Classification and Hazard Communication
N.O.S : Not Otherwise Specified
STEL : Short Term Exposure Limit
TWA : Time Weighted Average
UN : United Nations

Disclaimer

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