

Warm Mix

SECTION 1. IDENTIFICATION

| | |
|---|---|
| Product Identifier | Warm Mix |
| Other Means of Identification | (i) Asphalt Cement; (ii) Bituminous material; (iii) Asphalt Flux;(iv) Paving Asphalt; (v) Bitumen; (vi) Pen Graded AC's (3GR) by Grade: 30/40, 60/70, 80/100, 85/100, 100/120, 100/150, 120/150c, 150/200, (vii) Graded (PG) Asphalt Cement 3G, 3GR, 3GV by grade PG 46-34, PG 46-40, PG 52-28, PG 52-34, PG 52-40, PG 58-22, PG 58-28, PG 58-34, PG 58-40, PG 64-22, PG 64-28, PG 64-34, PG 70-28, PG 70-34, PG 58-25HDR, PG 64-34HDR, PG 58-34HDR |
| Recommended Use | Asphalt for warm mix asphalt purposes. |
| Restrictions on Use | None known. |
| Manufacturer/Supplier Identifier | McAsphalt Industries Ltd, 8800 Sheppard Ave East, Toronto, Ontario, M1B 5R4, 416-281-8181 |
| Emergency Phone No. | CANUTEC, (613) 996 - 6666, 24 hours McAsphalt Industries Ltd., 1 - (800) - 268 - 4238, 8AM-5PM Monday to Friday |
| SDS No. | 0171 |

SECTION 2. HAZARD IDENTIFICATION

Classification

Carcinogenicity - Category 2

Label Elements



Warning

May be harmful if swallowed, in contact with skin or if inhaled.

IF exposed or concerned: Get medical advice/attention.

Suspected of causing cancer.

Other Hazards

Health Hazards Not Otherwise Classified (HHNOC).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No. | % | Other Identifiers | Other Names |
|------------------------|-----------|----------|-------------------|-------------|
| Asphalt (Bitumen) fume | 8052-42-4 | 99 - 100 | | |
| Hydrogen sulfide | 7783-06-4 | 0-1 | | |

Notes

Antistripping additive added in quantities < 1% when indicated. Heated product may evolve vapours irritating to the nose, throat and lungs. See section 8 for further information.

NOTE: During storage or transit of hot asphalt, hydrogen sulphide may be generated. There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are

classified as hazardous to health or the environment and hence require reporting in this section. Trimethylbenzene is an in-situ component of Stoddard solvent

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Move to fresh air. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor. Loosen tight clothing such as collar, tie, belt or waist band. Get medical attention immediately. If breathing has stopped, trained personnel should begin rescue breathing.

Skin Contact

For hot asphalt splash, cool affected body part with water immersion or shower. Do not attempt to remove asphalt from the skin. Once the bitumen has cooled, it will do no further harm and in fact provide a sterile covering over a burnt area. As healing takes place, the bitumen plaque, the bitumen plaque will detach itself, usually after a few days. For skin soiling without underlying burn, cleanse with mineral oil followed by soap and water. Use olive oil in vicinity of eyes.

Eye Contact

If a contact lens is present, DO NOT delay flushing or attempt to remove the lens. Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes, while holding the eyelid(s) open.

Ingestion

Rinse mouth with water. Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting.

Most Important Symptoms and Effects, Acute and Delayed

Inhalation of this product may cause respiratory tract irritation and Central Nervous System (CNS) Depression, symptoms of which may include weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe overexposure; coma and death. At higher concentrations (above 10 ppm), hydrogen sulphide is extremely toxic by inhalation, may cause respiratory-tract irritation and respiratory failure, coma and death. Pulmonary edema can occur up to 24 hours after hydrogen sulphide exposure. While hydrogen sulphide emits a strong odour of rotten eggs, detection by smell is not sufficient as a warning property for exposure to this substance, as it may deaden the sense of smell quickly.

Immediate Medical Attention and Special Treatment

Special Instructions

No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Medical Conditions Aggravated by Exposure

Repeated or prolonged contact with spray or mist may produce chronic eye irritation and severe skin irritation. Repeated skin exposure can produce local skin destruction or dermatitis see toxicological information (Section 11).

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agents compatible with product and suitable for surrounding fire. Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Product

Flammability of the product: Will burn on prolonged exposure to flame or high temperature.

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Low fire hazard. This material must be heated before ignition will occur. Hydrogen sulphide may be released if the product is overheated and may accumulate in the tank

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headspace or any other confined space.

Carbon oxides (CO, CO₂), smoke and irritating vapours as products of incomplete combustion. Hydrogen sulphide, smoke, fume, aldehydes, sulphur oxides, incomplete combustion products, oxides of carbon.

Special Protective Equipment and Precautions for Fire-fighters

Evacuate area. Dike and recover contaminated water for appropriate disposal. Use water spray to dilute spills to non-flammable mixtures.

Fire-fighters should enter area wearing specialized protective equipment. (Bunker Gear will not provide adequate protection.) chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

No action shall be taken involving any personal risk or without suitable training. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and Materials for Containment and Cleaning Up

Small spills or leaks: stop or reduce leak if safe to do so. Ventilate the area to prevent the gas from accumulating, especially in confined spaces. Contain and soak up spill with absorbent that does not react with spilled product. Contain spill using non-combustible material such as vermiculite, earth or sand. Do NOT use combustible materials such as sawdust. Place used absorbent into suitable, covered, labelled containers for disposal.

Large spills or leaks: dike spilled product to prevent runoff. Knock down gas with fog or fine water spray. Do not direct water at spill or source. Dike and recover contaminated water for appropriate disposal. Let product solidify. If possible, turn leaking container so that gas escapes rather than liquefied gas. Do not return spilled product to its original container. Store recovered product in suitable containers that are: review Section 13 (Disposal Considerations) of this safety data sheet. Contact emergency services and manufacturer/supplier for advice.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

During storage, transit and cooling of asphalt, solvent vapour and hydrogen sulphide may accumulate in enclosed spaces such as tank cars. Open tank car hatches with caution. Maintain same precautions when gauging and sampling. Do not get in eyes, on skin or on clothing. Do not swallow.

Conditions for Safe Storage

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials(see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

| Chemical Name | ACGIH TLV® | | OSHA PEL | | AIHA WEEL | |
|------------------------|-------------------------------------|-------|-----------------|---------|-----------|-----|
| | TWA | STEL | TWA | Ceiling | 8-hr TWA | TWA |
| Asphalt (Bitumen) fume | 0.5 mg/m ³ (l) A4 BEI | | Not established | | | |
| Hydrogen sulfide | 1 ppm | 5 ppm | | | | |

Appropriate Engineering Controls

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General ventilation is usually adequate. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Individual Protection Measures

Eye/Face Protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots. In case of an emergency (e.g. an uncontrolled release).

Chemical-resistant, imperious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. nitrile rubber. Leather or Aluminize Gloves.

Respiratory Protection

If a risk assessment indicates that it is necessary (i.e. H₂S concentration is above the exposure limit), use a properly fitted, air-purifying or air-fed respirator complying with an approved. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: organic vapour filter cartridge or canister with a dust, fume or mist filter (R, or P series) may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

| | |
|--|---|
| Appearance | Dark black Semi-solid. |
| Odour | Characteristic asphaltic odour or "rotten egg" odour if H ₂ S present, but odour is an unreliable warning, since it may deaden the sense of smell. |
| Odour Threshold | Not available |
| pH | Not available |
| Melting Point/Freezing Point | Not available (melting); Not available (freezing) |
| Initial Boiling Point/Range | > 300 °C (572 °F) (estimated) |
| Flash Point | > 230 °C (446 °F) (open cup) |
| Evaporation Rate | Not available |
| Flammability (solid, gas) | Not available |
| Upper/Lower Flammability or Explosive Limit | Not available (upper); Not available (lower) |
| Vapour Pressure | Not available |
| Vapour Density (air = 1) | Not available |
| Relative Density (water = 1) | 1.027 at 15 °C |
| Solubility | Insoluble in water; Soluble in all proportions in common organic solvents. |
| Partition Coefficient, n-Octanol/Water (Log Kow) | Not available |
| Auto-ignition Temperature | 400 °C (752 °F) |
| Decomposition Temperature | Not available |
| Viscosity | Not available (kinematic); Not available (dynamic) |
| Other Information | |
| Physical State | Liquid |

SECTION 10. STABILITY AND REACTIVITY

Reactivity

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Reactive with oxidizing agents.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

Contact between heated Asphalt and water can cause a violent eruption.

Conditions to Avoid

Under normal conditions of storage and use, hazardous polymerisation will not occur.

Incompatible Materials

Reactive with oxidizing agents.

Hazardous Decomposition Products

May release COx, NOx, SOx, POx, H2S, hydrocarbons, smoke and irritating vapours when heated to decomposition.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

See toxicological information (Section 11) skin contact; eye contact; inhalation.

Acute Toxicity

| Chemical Name | LC50 | LD50 (oral) | LD50 (dermal) |
|------------------------|---|--------------------|-----------------------|
| Asphalt (Bitumen) fume | | > 5000 mg/kg (rat) | > 2000 mg/kg (rabbit) |
| Hydrogen sulfide | ~ 444 ppm (rat) (4-hour exposure) (gas) | | |

Skin Corrosion/Irritation

Slightly irritating to the skin. Contact with hot material can cause thermal burns.

Serious Eye Damage/Irritation

Irritating to eyes. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Hot liquid product may cause serious thermal burns on direct contact. Hydrogen sulphide may cause eye irritation at 1 - 20 ppm and acute conjunctivitis at higher concentrations. Above 50 ppm H2S, eye irritation may include symptoms of redness, sever swelling, tearing, sensitivity to light and the appearance of 'Halos' around lights.

Slightly irritating to the eyes.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

Inhalation of this product may cause respiratory tract irritation and Central Nervous System (CNS) Depression, symptoms of which may include weakness, dizziness, slurred speech, drowsiness, unconciousness and in cases of severe overexposure; coma and death. At higher concentrations (above 10 ppm), hydrogen sulphide is extremely toxic by inhalation, may cause respiratory-tract irritation and respiratory failure, coma and death. Pulmonary edema can occur up to 24 hours after hydrogen sulphide exposure. While hydrogen sulphide emits a strong odour of rotten eggs, detection by smell is not sufficient as a warning property for exposure to this substance, as it may deaden the sense of smell quickly.

Ingestion

No known significant effects or critical hazards.

Aspiration Hazard

Not known to be an aspiration hazard.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Effects similar to STOT (Specific Target Organ Toxicity) - Single Exposure, as described above.

No known significant effects or critical hazards.

Respiratory and/or Skin Sensitization

Not available.

Carcinogenicity

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| Chemical Name | IARC | ACGIH® | NTP | OSHA |
|------------------------|----------|--------|-----|------|
| Asphalt (Bitumen) fume | Group 2B | A4 | | |

IARC: The International Agency for Research on Cancer (IARC) has determined that occupational exposures to oxide asphalt and their emissions during roofing operations are "probably carcinogenic to humans" (Group A). IARC concluded that occupational exposures to hard asphalts and their emissions during mastic asphalt work are "possibly carcinogenic to humans" (Group 2B). IARC concluded that occupational exposure to straight-run asphalts and their emissions during paving operations are "possibly carcinogenic to humans" (Group 2B).

Reproductive Toxicity

Development of Offspring

Not available.

No known significant effects or critical hazards.

Sexual Function and Fertility

Not available.

No known significant effects or critical hazards.

Effects on or via Lactation

Not known to cause effects on or via lactation.

Germ Cell Mutagenicity

Not available.

No known significant effects or critical hazards.

No information was located for: STOT (Specific Target Organ Toxicity) - Single Exposure, Interactive Effects

SECTION 12. ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

Ecotoxicity

Marine Pollutant.

Persistence and Degradability

No information was located.

Bioaccumulative Potential

No information was located.

Mobility in Soil

Majority of components - Low water solubility

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Recycle and reuse product, if possible. Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction. The required hazard evaluation of the waste and compliance with the applicable hazardous waste laws are the responsibility of the user. Do NOT dump into any sewers, on the ground or into any body of water empty containers retain product residue. Follow label warnings even if container appears to be empty. Dispose of or recycle empty containers through an approved waste management facility. Do not reuse empty containers.

SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations.

| Regulation | UN No. | Proper Shipping Name | Transport Hazard Class(es) | Packing Group |
|------------|--------|---|----------------------------|---------------|
| US DOT | 3257 | Asphalt Cement (ELEVATED TEMPERATURE LIQUID, N.O.S., at or above 100 c and below its flash point, 9, UN3257, PGIII) | 9 | III |

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Special Precautions Please note: For US Shipments Only: ELEVATED TEMPERATURE LIQUID, N.O.S., at or above 100 c and below its flash point, 9, UN3257, PGIII PG* : Packing group

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

All components of this product are on the Domestic Substances List (DSL) or are exempt and are acceptable for use under the provision of CEPA.

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL or are not required to be listed.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.

Additional USA Regulatory Lists

HCS Classification : Not regulated.

Europe inventory

Not determined

SECTION 16. OTHER INFORMATION

NFPA Rating Health - 2 Flammability - 0 Instability - 0

SDS Prepared By EPC & Risk Management Department

Phone No. 1 (416) 281 - 8181

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Key to Abbreviations ACGIH® = American Conference of Governmental Industrial Hygienists
AIHA® = AIHA® Guideline Foundation HSDB® = Hazardous Substances Data Bank
IARC = International Agency for Research on Cancer
NFPA = National Fire Protection Association NIOSH = National Institute for Occupational Safety and Health
OSHA = US Occupational Safety and Health Administration
RTECS® = Registry of Toxic Effects of Chemical Substances

References CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).
HSDB® database. US National Library of Medicine. Available from Canadian Centre for Occupational Health and Safety (CCOHS). NIOSH Pocket Guide database. National Institute for Occupational Safety and Health. Available from Canadian Centre for Occupational Health and Safety (CCOHS). Registry of Toxic Effects of Chemical Substances (RTECS®) database. Dassault Systèmes/BIOVIA ("BIOVIA"). Available from Canadian Centre for Occupational Health and Safety (CCOHS).

Disclaimer To the best of our knowledge, the information herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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