Safety Data Sheet Hot Mix Asphalt

Section 1. Identification

GHS product identifier: Hot Mix Asphalt
Other means of identification: Asphalt, Blacktop, Asphaltic Concrete, Tarmac
Relevant identified uses of the substance or mixture and uses advised against: Hot Mix Asphalt is utilized for construction purposes such as paving roads, driveways, parking lots and other surfaces.

Supplier's details: 300 E. John Carpenter Freeway, Suite 1645
Irving, TX 75062
(972) 653-5500

Emergency telephone number (24 hours): **CHEMTREC: (800) 424-9300**

Section 2. Hazards Identification

OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture:
CARCINOGENICITY – Category 1A; H350
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) – Category 3; H335
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) – Category 1; H372
SKIN CORROSION/IRRITATION – Category 2; H315
SERIOUS EYE DAMAGE/EYE IRRITATION – Category 1; H318

GHS label elements

Hazard pictograms:

Signal word: Danger
Hazard statements:
Causes severe eye damage
May cause cancer by inhalation
Causes damage to organs (lungs/respiratory system) through prolonged or repeated exposure (inhalation)

Precautionary statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Use only outdoors in a well ventilated area. Wash any exposed body parts thoroughly after handling. Use personal protective equipment as required. Wear protective gloves/protective clothing/eye protection/face protection.

Response: If exposed or concerned: Immediately get medical advice/attention if you feel unwell or irritation or rash occurs. If on skin: Wash with plenty of water. Remove/take off immediately all contaminated clothing and wash it before reuse. Rinse cautiously with water for several minutes. If in eyes: Rinse cautionslyy with water for several minutes. Remove contact lenses, if present and easy to do.If inhaled: Remove person to fresh air and keep comfortable for breathing. If swallowed: Rinse mouth. Do not induce vomiting.

Storage: Restrict or control access (store locked up). Engulfment hazard: Store in a will ventilated area. Keep container tightly closed.

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazards not otherwise classified (HNOC): None known

Supplemental Information:

This product is a mixture or liquid asphalt and aggregates. Aggregates may contain variable degrees of Respirable Crystalline Silica (RCS) which may cause cancer. Repeated inhalation of respirable crystalline silica (quartz) may cause lung cancer according to IARC and NTP; ACGIH states that it is a suspected cause of cancer. Other forms of RCS (e.g., tridymite and cristobalite) may also be present or formed under certain industrial processes. Release of silica should only occur if product is hammered, ground, or otherwise broken/damaged.

Section 3. Composition/information on ingredients

CAS number/other identifiers

Substance/mixture: Hot Mix Asphalt

Ingredient name	%	CAS number
Aggregate	90 – 95	Varies
Asphalt Cement	< 10	8052-42-4
The structure of Hot Mix Asphalt may contain the following in some concentration ranges:		
Crystalline Silica (Quartz)	> 1	14808-60-7
Hydrogen Sulfide	> 1	7783-06-4
Additives	< 1	Mixture

Any concentration shown as a range is to protect confidentiality or is due to process variation. 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. These materials are mined from the earth. Trace amounts of additional elements might be detected during chemical analysis of these materials.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye Contact: If hot product splashes into eyes or hardened dust gets into the eyes, immediately flush with plenty of water for at least 15 minutes. Hold eyelids apart. Remove contacts is present and easy to do. Occasionally lift the eyelid(s) to ensure thorough rinsing. Beyond flushing, do not attempt to remove material from the eye(s). Get medical attention if irritation, pain swelling or any other eye issue develops or persists.

Inhalation: Move to fresh air. Call a physician if symptoms develop or persist. Dust in throat and nasal passages should clear spontaneously. Administer oxygen and assist ventilation as required.

Skin Contact: If molten product contacts the skin, quickly remove contaminated clothing and cool immediately by immersing the contacted skin in cool water to limit tissue damage and skin damage. For extensive burns cover with sterile bandage. Molten product may adhere strongly to skin and attempted removal may cause severe distress and further tissue damage. Do not use solvents to remove product from the skin. For product dust that is not hot, wash off with soap and water. Get medical attention if irritation develops and persists.

Ingestion: Ingestion of hot and cold material can have varying effects. Rinse mouth and drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.

Most important symptoms/effects, acute and delayed

Direct contact can product thermal burns. If ingested, Hot Mix Asphalt may be absorbed by the gastrointestinal tract with possible systemic effects (gastrointestinal irritation, vomiting, diarrhea, and CNS depression) and possible aspiration into the lungs. Inhaling dust may cause discomfort in the chest, shortness of breath, and coughing. Prolonged inhalation may cause chronic health effects. This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica liberated from this product can cause silicosis, and may cause cancer. Inhalation of vapor when product is heated can cause headache, nausea and respiratory tract irritation, and nervousness due to the formation of hydrogen sulfide gas. Inhalation of hydrogen sulfide gas can cause upper respiratory tract irritation and, if exposure if prolonged at levels above the occupational exposure limits, pulmonary edema and even coma or death.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician: Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

Specific treatments: Not Applicable

Protection of first-aiders: Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

General information: Pre-existing medical conditions that may be aggravated by exposure include disorders of the eye, skin and lung (including asthma and other breathing disorders). If addicted to tobacco, smoking will impair the ability of the lungs to clear themselves of dust.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media:	Not flammable. Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media:	None known.
Specific hazards arising from the chemical:	No unusual fire or explosion hazards noted. Not a combustible dust.
Hazardous thermal decomposition Products:	High heating of product may produce hydrogen sulfide.
Special protective equipment for fire-fighters:	Use protective equipment appropriate for surrounding materials. Avoid breathing gas vapor, fumes or decomposition products. Wear a SCBA.
General fire hazards:	Contact with powerful oxidizing agents may cause fire and/or explosions (see section 10 of SDS).

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

If hot product is spilled, evacuate unnecessary personnel, remove all heat and ignition sources and provide explosion proof ventilation. Use water spray to reduce vapors. Wear appropriate protective equipment and clothing during clean-up of materials that contain or may liberate dust

Methods and materials for containment, cleaning up and Environmental precautions

Spilled material, where dust is generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust. Do not dry sweep or use compressed air for clean-up. Wetting of spilled material and/or use of respiratory protective equipment may be necessary.
Avoid discharge of fine particulate matter into drains or water courses. Do not dry sweep broken, dusty material. Use water spray to minimize dust or vacuum with HEPA filters.

Section 7. Handling and storage

Precautions for safe handling

Protective measures:	Do not handle until all safety precautions have been read and understood. Contact with hot product can cause severe burns. Keep ignition sources away from product and do not breathe vapors when opening hatches and dome covers. Keep formation of airborne dusts to a minimum if sawing, grinding or crushing. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment.
Advice on general occupational hygiene:	Observe good industrial hygiene practices. Promptly remove dusty clothing and launder before reuse.
Conditions for safe storage, including any incompatibilities:	Avoid dust formation or accumulation.

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
Particulates not otherwise classified (CAS SEQ250)	**ACGIH TLV (United States, Canada)** TWA: 3 mg/m³. Form: Respirable particles TWA: 10 mg/m³. Form: Inhalable particles **OSHA PEL (United States)** PEL: 5 mg/m³. Form: Respirable fraction PEL: 15 mg/m³. Form: Total dust **MSHA PEL (United States)** PEL: 5 mg/m³. Form: Respirable fraction PEL: 10 mg/m³. Form: Total dust

Asphalt Cement (CAS # 8052-42-4)	**ACGIH TLV (United States, Canada)** TWA: 0.5 mg/m³. Form: as benzene-soluble aerosol
Crystalline Silica (Quartz) (CAS 14808-60-7)	**ACGIH TLV (United States)** TWA: 0.025 mg/m³. Form: Respirable fraction **OSHA PEL (United States)** TWA: 0.05 mg/m³. Form: Respirable **MSHA PEL (United States)** TWA: 10/(%SiO2 + 2) in mg/m^3 **Provincial Exposure Limits (Canada, various)** ▪ **Alberta (OHS Code)** 0.025 mg/m³ 8 hour TWA ▪ **British Columbia (WorkSafeBC OHS Regulation)** 0.025 mg/m³ 8 hour TWA ▪ **British Columbia (Health, Safety & Reclamation Code, Mines Act)** 0.1 mg/m³ 8 hour TWA ▪ **Manitoba (Workplace Safety and Health Regulation)** 0.025 mg/m³ 8 hour TWA ▪ **New Brunswick** 0.025 mg/m³ 8 hour TWA ▪ **Newfoundland** 0.025 mg/m³ 8 hour TWA ▪ **Nova Scotia** 0.025 mg/m³ 8 hour TWA ▪ **Ontario (O. Reg 490/09; and O. Reg. 833)** 0.1 mg/m³ 8 hour TWA ▪ **Prince Edward Island** 0.025 mg/m³ 8 hour TWA ▪ **Quebec (Regulation Respecting OHS, Chapter S-2.1, r. 13)** 0.1 mg/m³ 8 hour TWA ▪ **Saskatchewan (OHS Regulations)** 0.05 mg/m³ 8 hour TWA
Hydrogen Sulfide	**OSHA PEL (United States)** C: 20 ppm (Ceiling) **ACGIH TLV (United States, Canada)** TWA: 1 ppm STEL: 5 ppm

Appropriate engineering controls: Good general ventilation (typically 10 air changes per hour indoors) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits when sawing, cutting, crushing, drilling or otherwise damaging products. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Exposure guidelines: OSHA PELs, MSHA PELs, and ACGIH TLVs are 8-hr TWA values. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled. Terms including “Particulates Not Otherwise Classified,” “Particulates Not Otherwise Regulated,” Particulates Not Otherwise Specified,” and “Inert or Nuisance Due” are often used interchangeably; however, the user should review each agency’s terminology for differences in meanings.

Individual protection measures

Hygiene measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Hand & Body protection: Use heat insulated gloves and clothing. Use appropriate protective gloves if manually handling cooled product.

Other skin protection: Use personal protective equipment as required.

Respiratory protection: If vapors from heated product exceed appropriate exposure limits use appropriate NIOSH approved respiratory protection. When handling or performing work that produces dust or respirable crystalline silica in excess of applicable exposure limits, wear a NIOSH-approved respirator that is properly fitted and is in good condition. Respirators must be used in accordance with all applicable workplace regulations. Supplied air respirators should be used if it is expected the hydrogen sulfide is present, or when entering confined or enclosed spaces where hydrogen

	sulfide may be present.
Thermal hazards:	Wear appropriate thermal protective clothing if necessary.

Section 9. Physical and chemical properties

Appearance

Physical State:	Combination of aggregates, filler and binder – semi solid.	**Lower and Upper explosive flammable limits**	Not applicable
Color:	Various colors, black	**Vapor pressure:**	Not applicable
Odor:	Not applicable	**Vapor density:**	> 5 (air = 1)
Odor threshold:	Not applicable	**Relative density:**	Not available
pH:	Not available	**Solubility:**	Not available
Melting point:	~ 200 *F	**Solubility in water:**	Negligible
Boiling point:	< 878 *F	**Partition coefficient: n-octanol/water:**	Not applicable
Flash point:	> 400 *F	**Auto-ignition temperature:**	905 *F
Burning time:	Not applicable	**Decomposition temperature:**	> 220 *C
Burning rate:	Not applicable	**SADT:**	Not available
Evaporation Rate:	Not applicable	**Viscosity:**	Not applicable
Flammability (solid, gas):	Not applicable		

Section 10. Stability and reactivity

Reactivity:	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical Stability:	Material is stable under normal conditions
Possibility of hazardous reactions:	No dangerous reaction known under conditions of normal use.
Conditions to avoid:	Avoid high temperatures, open flames, sparks, welding, smoking and other sources of ignition. May readily ignite when mixed with naptha and other volatile solvents.
Incompatible materials:	Crystalline silica may react violently with strong oxidizing agents, causing fire and explosions.
Hazardous decomposition products:	Thermal decomposition my release carbon monoxide, corban dioxide, hydrogen sulfide, nitrogen dioxide, ozone and other organic and inorganic compounds. Silica dissolves in hydrofluoric acid producing a corrosive gas-silicon tetrafluoride.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity:	Detailed below.
Irritation/Corrosion:	**Skin:** Direct contact with hot material may cause burns. May cause irritation through mechanical abrasion. **Eyes:** Direct contact with eyes may cause irritation through mechanical abrasion. Hot material may cause burns. **Inhalation:** Repeated inhalation of respirable crystalline silica (quartz) may cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is irreversible and may be fatal. Silicosis increases the risk of contracting pulmonary tuberculosis. Some studies suggest that repeated inhalation of respirable crystalline silica may cause other adverse health effects including lung and kidney cancer. **Ingestion:** Not likely due to product form. However ingestion of large amounts of product may cause gastrointestinal irritation and blockage.
Mutagenicity:	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Aspiration Hazard:	If ingested, may be an aspiration hazard.
Reproductive toxicity:	Not expected to be a reproductive hazard.
Symptoms related to physical, chemical and toxicological characteristics:	Dust: discomfort in the chest. Shortness of breath. Coughing.
Carcinogenicity:	Respirable crystalline silica has been classified by IARC and NTP as a known human carcinogen, and classified by ACGIH as a suspected human carcinogen.

Product/ingredient name	OSHA	IARC	ACGIH	NTP
Crystalline Silica (Quartz) (CAS 14808-60-7)	Listed	1 Carcinogenic to humans	A2	Known to be human Carcinogen
Asphalt (CAS 8052-42-4) as benzene-soluble aerosol	Not listed	-	A4	-
Hydrogen Sulfide	-	-	Not listed	Not classifiable as a human Carcinogen

Specific target organ toxicity (acute exposure)

Name	Category	Route of Exposure	Target Organs
Crystalline Silica (Quartz) CAS 14808-60-7)	-	Inhalation	Not reported to have effects
Asphalt (CAS 8052-42-4) as benzene-soluble aerosol	-	Inhalation, ingestion, skin/eye contacted	Lungs: Shortness of breath, Eye/Skin: Burns by hot product, Ingestion: stomach obstruction
Hydrogen Sulfide	-	Inhalation	Upper respiratory tract and Central Nervous System

Specific target organ toxicity (chronic exposure)

Name	Category	Route of Exposure	Target Organs
Crystalline Silica (Quartz) CAS 14808-60-7)	-	Inhalation	May cause damage to organs (lung through prolonged or repeated exposure.
Asphalt (CAS 8052-42-4) as benzene-soluble aerosol	-	Inhalation, ingestion, skin/eye contact	Not reported to have effects
Hydrogen Sulfide	-	Inhalation	Central Nervous System

Potential chronic health effects: General: Prolonged inhalation of respirable crystalline silica may be harmful. May cause damage to organs (lungs) through prolonged or repeated exposure. There are reports in the literature suggesting that excessive crystalline silica exposure may be associated with autoimmune disorders and other adverse health effects involving the kidney. In particular, the incidence of scleroderma (thickening of the skin caused by swelling and the thickening of fibrous tissue) appears to be higher in silicotic individuals. To date, the evidence does not conclusively determine a causal relationship between silica exposure and these adverse health effects.

Section 12. Ecological Information

Ecotoxicity

Not expected to be harmful to aquatic organisms. Discharging dust and fines into waters may increase total suspended particulate (TSP) levels that can be harmful to certain aquatic organisms.

Persistence and degradability: Not applicable.
Bioaccumulative potential: Not applicable.
Mobility in soil: Not applicable.
Other adverse effects: No other adverse environmental effects are anticipated from this component.

Section 13. Disposal considerations

Disposal methods: Do not allow fine particulate matter to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with fine particulates. Dispose of contents in accordance with local/regional/national/international regulations.

Hazardous waste code: Not reported.

Waste from residues/unused products: Dispose of in accordance with local regulations.

Contaminated packaging: Not applicable

Section 14. Transportation information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	Elevated Temperature	-	-
Transport hazard class(es)	Material	-	-
Packing group	-	-	-
Environmental hazards	-	-	-
Canada TDG	-	-	-
Additional information	HOT		

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Section 15. Regulatory Information

U.S. Federal regulations:

OSHA Hazard Communication Standard, 29 CFR 1910.1200 This product is a “Hazardous Chemical” as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200

TSCA Section 12(b) Export Notification (40 CFR 707, Subpart. D): Not regulated

CERCLA Hazardous Substance List (40 CFR 302.4): Releases may be regulated

Clean Air Act Section 112 (b): Hazardous Air Pollutants (HAPs): Not regulated

Clean Air Act Section 112 (r) Accidental Release Prevention (40 CFR 68.130): Not regulated

Canada Federal regulations: Listed on DSL or exempt

NSNR Status:

SARA 311/312

Classification: Immediate & Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire Hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Crystalline Silica (Quartz) CAS 14808-60-7	>1	No	No	No	No	Yes

SARA 313 (TRI)

	Product name	CAS number	%
Form R-Report requirements	Crystalline Silica (Quartz)	14808-60-7	Not regulated

State regulations

Massachusetts RTK: Listed
New Jersey RTK: Listed
Pennsylvania RTK: Listed
Rhode Island RTK: Not regulated.

California Prop. 65

WARNING: This product contains crystalline silica and chemicals (trace metals) known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Crystalline Silica (Quartz) CAS 14808-60-7	Yes	No	No	No

International regulations

Ingredient name	CAS #	TSCA	Canada	WHMIS	EEC
Crystalline Silica (Quartz)	14808-60-7	Yes	DSL	D2A	EINECS

WHMIS Classification: D2A “Materials Causing Other Toxic Effects”

Section 16. Other Information

Date of issue: Jan 01 2023
Replaces: Jan 01 2022
Revised Section(s):

Notice to reader

While the information provided in this safety data sheet is believed to provide a useful summary of the hazards of hot mix asphalt as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with hot mix asphalt to produce hot mix asphalt products. Users should review other relevant material safety data sheets before working with this hot mix asphalt or working on hot mix asphalt products.

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Abbreviations

ACGIH — American Conference of Governmental Industrial Hygienists
CAS — Chemical Abstract Service
CERCLA — Comprehensive Emergency Response and Comprehensive Liability Act
CFR — Code of Federal Regulations
DOT — Department of Transportation
GHS — Globally Harmonized System
HEPA — High Efficiency Particulate Air
IATA — International Air Transport Association
IARC — International Agency for Research on Cancer
IMDG — International Maritime Dangerous Goods
NIOSH — National Institute of Occupational Safety and Health
NOEC — No Observed Effect Concentration
NTP — National Toxicology Program

OSHA — Occupational Safety and Health Administration
PEL — Permissible Exposure Limit
REL — Recommended Exposure Limit
RQ — Reportable Quantity
SARA — Superfund Amendments and Reauthorization Act
SDS — Safety Data Sheet
TLV — Threshold Limit Value
TPQ — Threshold Planning Quantity
TSCA — Toxic Substances Control Act
TWA — Time-Weighted Average
UN — United Nations