COLD MIX ASPHALT
SAFETY DATA SHEET
OSHA HCS (29 CFR 1910.1200)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier
Cold Mix Asphalt
Chemical Name
Mixture
CAS No.
Mixture
Trade Name(s)
Cold Mix Asphalt

Relevant identified uses of the substance or mixture and uses advised against
Identified Use(s)
Repairing asphalt pavement, driveways, parking lots and other surface, base or sub-base
pavement applications.
Uses Advised Against
None.

Details of the supplier of the safety data sheet

Manufacturer information:

Company: APAC – Kansas Inc., Shears Division
Address: 1600 N. Lorraine, STE One
Telephone: (620) 662-3307
Website: http://www.apac-kansas.com/
Emergency phone number: Alex Blecha (620) 200-6928

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture
OSHA HCS (29 CFR 1910.1200) / GHS Classification
Not classified as dangerous for supply/use.

Label elements
Hazard Symbol
None
Signal Word(s)
None
Hazard Statement(s)
None
Precautionary Statement(s)
None

Other hazards
May cause eye irritation.
Fumes may cause upper respiratory irritation (nose & throat).
Skin contact may increase susceptibility to sunburn.
Poisonous hydrogen sulfide gas can accumulate in the head-space of
containers of certain asphalt products.
Mechanical disruption (e.g., milling, cutting, chipping) of cured asphalt
pavement may release crystalline silica dust from the aggregate.

Additional Information
Avoid breathing dust/fume/gas/mist/vapors/spray.
As necessary, Wear protective gloves/protective clothing/eye
protection/face protection.
Wash hands and exposed skin after use.
COLD MIX ASPHALT

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Composition/information on ingredients</th>
<th>% wt.</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate (crushed stone, sand, gravel, slag)</td>
<td>88 - 92</td>
<td>Various</td>
</tr>
<tr>
<td>Petroleum asphalt / bitumen^</td>
<td>4.1 - 8.0</td>
<td>8052-42-4</td>
</tr>
<tr>
<td>Water</td>
<td>1.7 - 6.0</td>
<td>7732-18-5</td>
</tr>
<tr>
<td>Quartz</td>
<td>0.1 – 2.9</td>
<td>14808-60-7</td>
</tr>
</tbody>
</table>

^Contains: <0.05% of 3 - 7 ring Polycyclic Aromatic Hydrocarbons (PAHs).

Other Substances in the product which may present a health or environmental hazard, or which have been assigned occupational exposure limits, are detailed below. Please see Section 8 of SDS for more details.

- Contains: <0.1% airborne crystalline silica (inherent in aggregate) and <0.1% hydrogen sulfide.
- Hydrogen sulfide gas can accumulate in the head space of containers of certain asphalt products.
- Heated product releases asphalt fume.

Additional Information - None

SECTION 4: FIRST AID MEASURES

Description of first aid measures

Inhalation

Not normally required. Move person to fresh air. Apply artificial respiration if necessary. If symptoms persist, obtain medical attention.

Skin Contact

Can cause skin irritation. Symptoms may include redness and burning of skin, and other skin damage. Exposure to sunlight after or during contact with this material may produce a skin reaction. The effect on the skin is similar in appearance to sunburn and is temporary. Repeated or prolonged contact with this material in sunlight may cause more serious skin disorders. Additional symptoms of skin contact may include: abnormal coloring of the skin. This material is unlikely to pass into the body through the skin.

Eye Contact

Flush eyes with water for at least 15 minutes while holding eyelids open. Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of the eyes.

Ingestion

Not normally required. Do not induce vomiting. Do not give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

Most important symptoms and effects, both acute and delayed

None known

Indication of any immediate medical attention and special treatment needed

None known
COLD MIX ASPHALT

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media
- Suitable Extinguishing Media
  Extinguish with carbon dioxide, dry chemical, foam or waterspray.
- Unsuitable Extinguishing Media
  None anticipated.

Special hazards arising from the substance or mixture
Combustion causes toxic fumes. Combustion products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides

Advice for fire-fighters
A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Avoid contact with skin and eyes.

Environmental precautions
Do not wash cold patch asphalt down sewage and drainage systems or into bodies of water.

Methods and material for containment and cleaning up
Dispose of contaminated material as a solid waste.

Reference to other sections
None

Additional Information
None

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes.

Conditions for safe storage, including any incompatibilities
- Storage temperature
  Store at temperatures not exceeding the product’s flash point.
- Incompatible materials
  Strong oxidizing agents, heat and open flames.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational Exposure Limits

<table>
<thead>
<tr>
<th>SUBSTANCE.</th>
<th>CAS No.</th>
<th>(8hr TWA)</th>
<th>(STEL)</th>
<th>Note:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>PEL (OSHA) *</td>
<td>TLV (ACGIH)</td>
<td>PEL (OSHA)</td>
</tr>
<tr>
<td>Asphalt fume</td>
<td>-------</td>
<td>------</td>
<td>-----</td>
<td>0.5 mg/m³ (I)</td>
</tr>
<tr>
<td>Crystalline Silica (respirable particulate)</td>
<td>-------</td>
<td>10 mg/m³ %SiO₂ + 2</td>
<td>0.025 mg/m³ ^</td>
<td>------</td>
</tr>
<tr>
<td>Hydrogen sulfide</td>
<td>7783-06-4</td>
<td>------</td>
<td>1 ppm</td>
<td>20 ppm ceiling</td>
</tr>
</tbody>
</table>

(1) Inhalable benzene-soluble fraction; (I) Suspected Human Carcinogen; *Refer to OSHA 29 CFR 1910.1000 & 29 CFR 1926.55; 8hr TWA = 8 hour time-weighted average; STEL = Short Term Exposure Limit.

Recommended monitoring method
NIOSH 5042 (Asphalt Fume), NIOSH 7500 (Crystalline Silica), Electrochemical sensor (hydrogen sulfide).

Exposure controls

Appropriate engineering controls
Use only outdoors or in a well-ventilated area.

Personal protection equipment

Eye/face protection
The following to be used as necessary: Safety Glasses
COLD MIX ASPHALT

Skin protection (Hand protection/ Other)

The following to be used as necessary: Leather or thick textile gloves.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Use NIOSH approved respiratory protection. Air-purifying respirator with combination organic vapor cartridge / particulate filter may be sufficient. Check with protective equipment manufacturer's data.

Thermal hazards

Use gloves with insulation for thermal protection, when needed.

Environmental Exposure Controls

Do not discharge waste and/or cleaning water via public sewer system. Ensure waste is collected and contained.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

- **Appearance**: Solid
- **Color**: Dark brown / Black
- **Odor**: Asphalt / Bitumen
- **Odor Threshold (ppm)**: Not available.
- **pH (Value)**: Not available.
- **Melting Point (°C) / Freezing Point (°C)**: Not available.
- **Boiling point/boiling range (°C)**: > 371 (>700 °F)
- **Flash Point (°C)**: > 232 (> 450 °F)
- **Evaporation Rate**: Not available.
- **Flammability (solid, gas)**: Not applicable.
- **Explosive Limit Ranges**: Not applicable.
- **Vapor pressure (Pascal)**: Not determined.
- **Vapor Density (Air=1)**: Not determined.
- **Density (g/ml)**: 2.2 - 2.7
- **Solubility (Water)**: Negligible
- **Solubility (Other)**: Not known
- **Partition Coefficient (n-Octanol/water)**: Not available.
- **Auto Ignition Point (°C)**: Not available.
- **Decomposition Temperature (°C)**: Not available.
- **Kinematic Viscosity (cSt) @ 40°C**: Not available
- **Explosive properties**: Not explosive.
- **Oxidizing properties**: Not oxidizing.

Other information

- Not available.

SECTION 10: STABILITY AND REACTIVITY

- **Reactivity**: Stable under normal conditions.
- **Chemical stability**: Stable.
- **Possibility of hazardous reactions**: May react violently with: Strong oxidizing agents
- **Conditions to avoid**: Incompatible materials
- **Incompatible materials**: Oxidizers
- **Hazardous decomposition product(s)**: Combustion causes toxic fumes. Combustion products: Carbonmonoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides
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SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes: Inhalation, Skin Contact, Eye Contact

Information on toxicological effects

| Acute toxicity         | LD50 (rat): >5000 mg/kg bw |
|                       | LD50 (dermal): >2000 mg/kg bw |
|                       | LC50 (inhalation, fume): >94.4 mg/m³ |

Irritation/Corrosivity

May cause irritation to skin, eyes and respiratory system.

Sensitization

Not to be expected

Repeated dose toxicity

NOAEL (rat): 28 mg/m³

LOAEL (rat): 149 mg/m³

Carcinogenicity

Not to be expected at typical road paving temperatures.

<table>
<thead>
<tr>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>2B*</td>
<td>No.</td>
<td>No.</td>
</tr>
</tbody>
</table>

Mutagenicity

Not to be expected.

Reproductive toxicity

Not to be expected.

Other information

*IARC (2013, volume 103) identifies that "occupational exposures to straight-run bitumens and their emissions during road paving are possibly carcinogenic to humans (Group 2B)." However, classification as a carcinogen under OSHA 29 CFR 1910.1200 is not warranted given the absence of positive cancer findings in human epidemiological studies and in cancer studies with laboratory animals when exposed dermally or by inhalation to asphalt products or fume condensates that are typical of road paving applications. IARC (2013, volume 103) also identifies that "occupational exposures to oxidized bitumens and their emissions during roofing are probably carcinogenic to humans (Group 2A)." Roofing shingle are sometimes recycled into road paving asphalt mix. Emissions from oxidized bitumen, e.g., from shingles, at road paving temperatures are not expected to be qualitatively different than emissions from straight-run bitumens, and therefore would not warrant a carcinogen classification under OSHA 29 CFR 1910.1200.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Short term

LL50 (48 hour): >1000 mg/l (Fish)

LL50 (48 hour): >1000 mg/L (Aquatic Invertebrates)

EL50 (48 hour): >1000 mg/L (Aquatic Plants)

Persistence and degradability

The product is poorly biodegradable.

Bioaccumulative potential

The product has low potential for bioaccumulation.

Mobility in soil

The product has low mobility in soil.

Results of PBT and vPvB assessment

Not classified as PBT or vPvB.

Other adverse effects

None known.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal should be in accordance with local, state or national legislation. Consult an accredited waste disposal contractor or the local authority for advice.

Additional Information

None known.

SECTION 14: TRANSPORT INFORMATION

Ground or Water Domestic Voyage (DOT):

Not regulated when transported below 240°C (464 °F).
COLD MIX ASPHALT

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture:

TSCA (Toxic Substance Control Act) - Inventory Status: All components listed or polymer exempt.

RCRA Hazardous Waste Number (40 CFR 261.33): None

US RCRA Hazard Class: Not applicable.

Designated Hazardous Substances and Reportable Quantities (40 CFR 302.4):

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Typical %wt.</th>
<th>RQ (Pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SARA 311/312 - Hazard Categories: None

- Fire
- Sudden Release
- Reactivity
- Immediate (acute)
- Chronic (delayed)

SARA 313 - Toxic Chemicals (40 CFR 372):

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Typical %wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SARA 302 - Extremely Hazardous Substances (40 CFR 355):

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Typical %wt.</th>
<th>TPQ (pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

SECTION 16: OTHER INFORMATION

Additional Information

The following sections contain revisions or new statements: 1-16.

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