

RECLAIMED ASPHALT PAVEMENT (RAP)

SAFETY DATA SHEET

OSHA HCS (29 CFR 1910.1200)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Identifier	Reclaimed Asphalt Pavement (RAP)
Chemical Name	Mixture
CAS No.	Mixture
Trade Name(s)	Reclaimed Asphalt Pavement, RAP, Millings, Recycled Asphalt Pavement

Relevant identified uses of the substance or mixture and uses advised against

Identified Use(s)	RAP is used as an aggregate substitute and asphalt cement supplement in hot mix asphalt. Used as a granular base, fill material and other construction 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

Issue Date: March 27, 2017

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



GHS08

Danger

Signal Word(s)

Hazard Statement(s)

H350 – May cause cancer.

H372 – Causes damage to organs through prolonged and repeated exposure.

Precautionary Statement(s)

P201 – Obtain special instructions before use.

P202 – Do not handle until all safety precautions have been read and understood.

P260 – Do not breathe dust or vapors.

P264 – Wash hands, forearms, and other exposed areas thoroughly after handling.

P270 – Do not eat, drink, or smoke when using this product.

P280 – Wear protective gloves, protective clothing, and eye protection.

P308+P313 – If exposed or concerned: Get medical advice/attention.

P314 – Get medical advice/attention if you feel unwell.

P405 – Store locked up.

P501 – Dispose of contents/container in accordance with local, regional, national and international regulations.

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Other hazards

Dust from Reclaimed Asphalt Pavement (RAP) can cause irritation to eyes, nose, throat, lungs. Direct contact with the eyes can cause mechanical damage. Inhalation can aggravate pre-existing conditions, such as, bronchitis, COPD, emphysema, etc.

At elevated temperatures, RAP can cause thermal burns and release Hydrogen Sulfide (H₂S). Hydrogen Sulfide has a "rotten eggs" smell. Hydrogen sulfide is a fatal and highly flammable gas. Concentration of Hydrogen Sulfide in an enclosed area can result in an explosive atmospheric condition.

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.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Composition/information on ingredients	% wt.	CAS No.
Aggregate (crushed stone, sand, gravel, slag)	70 - 97	Various
Petroleum asphalt / bitumen [^]	3 - 7	8052-42-4
Quartz	1 - 3	14808-60-7
Polymers and Natural Rubbers	< 0.5	Various
Process oils (inherent in refined petroleum asphalt)	< 0.1	Various
Anti-strip or other amine-based additives	< 0.1	Various
Warm-mix additives	< 0.1	Various

[^]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

General

Never give anything by mouth to an unconscious person. Seek medical advice if you feel unwell.

Inhalation

Move the person to fresh air. If symptoms persist, obtain medical attention.

Skin Contact

Remove the contaminated clothing. Wash the area with large amounts of water. If irritation persists, obtain medical attention. If the material is heat, thermal burns are possible. Do not attempt to remove from skin after cooling. Seek medical attention.

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Eye Contact	Flush eyes with water for at least 15 minutes while holding eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation develops and persists, get medical attention. If the material is heated, thermal burns are possible. Do not attempt to remove from eye after cooling. Seek medical attention.
Ingestion	Rinse mouth. Do not induce vomiting. Do not give anything by mouth to an unconscious person. Immediately contact a Poison Center or physician.
Most important symptoms and effects, both acute and delayed	<p>Inhalation: Exposure to fumes, vapors, or dust may cause irritation to the nose, throat, and respiratory system. Heating RAP can release fumes or vapors that can irritate the nose, throat, and respiratory system. Cutting, crushing, or grinding RAP will release dust. Breathing the dust can irritate and silicosis. Silicosis is caused by the inhalation of respirable silica. Acute and chronic exposure to respirable silica can cause silicosis. Heating RAP may cause the release of Hydrogen Sulfide gas. Hydrogen Sulfide exposure can result in severe injury or death.</p> <p>Skin Contact: RAP dust can cause skin irritation, including dry skin, discomfort, and dermatitis. When subjected to high heat, RAP can cause severe burns.</p> <p>Eye Contact: Eye contact with dust can cause immediate and delayed symptoms. Including eye irritation and possible irreparable mechanical damage to the eye. First Aid and medical assistance are needed to prevent permanent damage.</p> <p>Ingestion: Do not ingest RAP. Ingestion of small quantities of RAP is not known to be harmful. Ingestion of large quantities of RAP can cause intestinal distress.</p> <p>Chronic Symptoms: Exposure to emissions from asphalt containing material are suspected of causing cancer. If dust is generated, repeated exposure to the dust may cause skin irritation, respiratory irritation or lung disease.</p>
Indication of any immediate medical attention and special treatment needed	If medical assistance is needed, have the SDS and other product information on hand. If burned by hot RAP, cool the area immediately with large amounts of cool water. Do not attempt to remove solidified product from the skin, eyes or other body parts. Seek medical attention immediately.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media	
-Suitable Extinguishing Media	Using extinguishing media appropriate for the surrounding material.
-Unsuitable Extinguishing Media	Do not use water if the material is molten. Water contacting molten material can result in the violent release of steam.
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. Avoid inhalation of dust.
Environmental precautions	Prevent entry into sewers and public waters.
Methods and material for containment and cleaning up	Avoid cleanup procedures that can result in dust. If the product is heated, let the product cool and solidify before attempting clean up.
Reference to other sections	See Section 8 for PPE requirements. See Section 13 for Disposal Considerations.

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Additional Information

None.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of dust. When heated, the product may release Hydrogen Sulfide. Contact with heated product can result in thermal burns. Refer to Section 4 for First Aid Measures.

Conditions for safe storage, including any incompatibilities

- Storage temperature
- Incompatible materials

Store at temperatures not exceeding the product's flash point. Strong oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational Exposure Limits

SUBSTANCE.	CAS No.	(8hr TWA)		(STEL)		Note:
		PEL (OSHA) *	TLV (ACGIH)	PEL (OSHA)	TLV (ACGIH)	
Asphalt fume	-----	-----	0.5 mg/m ³ ⁽¹⁾	-----	-----	See below
Crystalline Silica (respirable particulate)	-----	$\frac{10 \text{ mg/m}^3}{\% \text{SiO}_2 + 2}$	0.025 mg/m ³ ^	-----	-----	See below
Hydrogen sulfide	7783-06-4	-----	1 ppm	20 ppm ceiling	5 ppm	50 ppm peak

⁽¹⁾Inhalable benzene-soluble fraction; ^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

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.

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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, Slight odor
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. May release Hydrogen Sulfide when heated.
Chemical stability	Stable.
Possibility of hazardous reactions	May react violently with: Strong oxidizing agents
Conditions to avoid	Incompatible materials. Open Flame.
Incompatible materials	Oxidizers
Hazardous decomposition product(s)	Combustion causes toxic fumes. Combustion products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides. Hydrogen Sulfide.

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/m ³
Irritation/Corrosivity	May cause irritation to skin, eyes and respiratory system.
Sensitization	Not to be expected
Repeated dose toxicity	NOAEL(rat): 28 mg/m ³ LOAEL (rat): 149 mg/m ³
Carcinogenicity	Not to be expected during typical construction activities.

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NTP No.	IARC 2B*	ACGIH No.	OSHA No.
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Mutagenicity Not to be expected.

Reproductive toxicity Not to be expected.

Other information Heating of this product may release Hydrogen Sulfide. Hydrogen Sulfide exposure can cause serious injury or death.

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)

Long Term No data

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).

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):

Chemical Name	CAS No.	Typical %wt.	RQ (Pounds)
None	----	---	---

SARA 311/312 - Hazard Categories: None

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

SARA 313 - Toxic Chemicals (40 CFR 372):

Chemical Name	CAS No.	Typical %wt.
None	----	---

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

Chemical Name	CAS No.	Typical %wt.	TPQ (pounds)
None	----	---	---

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SECTION 16: OTHER INFORMATION

Additional Information

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

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