



# Reclaimed Asphalt Pavement (RAP) **Draft**

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
Product name : Reclaimed Asphalt Pavement (RAP)

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Construction Material

#### 1.3. Details of the supplier of the safety data sheet

Colas Solutions, Inc.  
7374 Main Street  
Cincinnati, OH 45244  
Customer Service: 1-888-369-3163

#### 1.4. Emergency telephone number

Emergency number : 3E Company 1-800-451-8346

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (GHS-US)

Not classified as dangerous for supply/use

#### 2.2. Label elements

##### GHS-US labeling

Hazard Symbol: None  
Signal Word: None

Hazard Statements: Direct contact with reclaimed asphalt pavement at conventional asphalt application temperatures (between 230 and 325°F) will cause burns.  
Molten material can cause severe burns.  
Dusts and fumes may cause eye irritation.  
Dusts and fumes may cause upper respiratory irritation (nose & throat)

Precautionary Statements: 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.

#### 2.3. Other hazards

Other hazards not contributing to the classification : Skin contact may increase susceptibility to sunburn.

#### 2.4. Unknown acute toxicity (GHS US)

None of the ingredients are of unknown toxicity

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable – the product is a mixture

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### 3.2. Mixture

#### Reclaimed Asphalt Pavement (RAP)<sup>1</sup>

Name	Product identifier/CAS No.	Typical %	Classification (GHS-US)
Aggregate (crushed stone, sand, gravel, slag)	Various	>90	Not classified
Asphalt <sup>2</sup>	(CAS No) 8052-42-4	<10	Not classified

<sup>1</sup>Contains <0.1% airborne crystalline silica (inherent in aggregate) and <0.1% hydrogen sulfide gas

<sup>2</sup>Contains <0.05% of 3-7 ring Polycyclic Aromatic Hydrocarbons (PAHs)

Milling, cutting, grinding or chipping of asphalt pavements may generate airborne crystalline silica from the aggregate.

Transportation and production facility storage of asphalt products in heated containers may generate hydrogen sulfide gas in the vapor space

Airborne crystalline silica and hydrogen sulfide gas will not be released during typical road paving operations

Please see Section 8 of SDS for more details.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : If exposed or concerned: Get medical advice/attention. Never give anything by mouth to an unconscious person.

First-aid measures after skin contact : Hot Material: Remove contaminated clothing, if possible, and immediately flush with cool water for at least 15 minutes. Iced water or cold packs may be applied to burned area. Cold Material: Clean exposed skin with soap or mild detergent and large amounts of water until all traces are removed from the skin.

#### DO NOT DELAY

**DO NOT ATTEMPT TO REMOVE THE ASPHALT** with products containing solvents or ammonia. Natural separation will occur in about 48-72 hours. If necessary, for early removal, soak bandage in mineral oil and place over affected area for 2 to 3 hours.

**USE ANY AVAILABLE WATER THAT IS COOLER THAN BODY TEMPERATURE TO COOL THE ASPHALT AND AFFECTED PARTS OF THE BODY IMMEDIATELY.**

Methods of cooling (in order of preference):

- Submerge affected area in ice water;
- Completely submerge affected area in tap water; and
- Place affected area under running water.

Once the asphalt is being cooled with water, then call a physician. Do not attempt to remove solidified product because removal may cause further tissue injury. Leave cooled asphalt on affected area.

- Do not use solvents or thinners to remove product from skin.
- Do not apply ice directly to affected area.
- Seek medical attention for extensive burns.

**For Minor Asphalt Cement Burns:** Follow the above procedure to treat minor burns. Medical treatment should be sought if there is injury to the head, face, or extremities; injury when large amounts of asphalt cement are involved or in the evidence of nausea or faintness.

First-aid measures after inhalation : Remove person to fresh air. Get prompt medical attention if breathing is difficult.

First-aid measures after eye contact : Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Get immediate medical attention.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.

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### 4.3. Indication of any immediate medical attention and special treatment needed

- Treatment for Shock : In the event shock occurs, do the following:
- Keep victim lying down and quiet
  - Keep victim covered with a blanket to keep body temperature at normal 98.6°F
  - Keep victim's head lower than feet to promote blood supply to head and chest

\*\*\*Note to Physicians\*\*\* : Cooled asphalt may adhere so tenaciously to the skin that attempted removal may cause severe distress to patient. Covering the affected area using commercially available preparations containing the emulsifying agent polysorbate or an antibiotic cream in a polysorbate base is the most effective method to dissolve the solidified asphalt. Asphalt can also be slowly dissolved with vegetable oil, baby oil or mineral oil.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide.  
Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

- Unusual fire and explosion hazards : Do not heat above the flash point of the asphalt cement component (425°F).

### 5.3. Advice for firefighters

- Firefighting instructions : Caution is recommended in the use of water in closed containers since the resulting steam pressure can cause violent eruptions. Follow established confined entry procedures/precautions (NFPA 1500 / OSHA 29 CFR 1910.146).  
Protection during firefighting : Do not enter fire area without proper protective equipment, including NIOSH approved positive-pressure breathing apparatus with full face mask and full protective equipment.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. Avoid contact with skin and eyes.  
Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Allow product to cool/solidify and sweep or shovel into suitable containers. Recover as much material as possible for re-use/reclamation.

### 6.4. Reference to other sections

See Section 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Avoid contact with skin and eyes. Minimize dust exposure.  
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : If possible store in original, closed container in a well-ventilated area.  
Incompatible materials : Strong oxidizing agents.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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SUBSTANCE	CAS No.	(8hr TWA)		(STEL)		Note:
		PEL (OSHA)	TLV (ACGIH)	PEL (OSHA)	TLV (ACGIH)	
Asphalt fume	-----	-----	0.5 mg/m <sup>3</sup> <sup>(1)</sup>	-----	-----	See below
Crystalline Silica (respirable particulate)	-----	0.05 mg/m <sup>3</sup> ^*	0.025 mg/m <sup>3</sup> ^	-----	-----	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 1910.1053 & 29 CFR 1926.1153; 8hr TWA = 8-hour time-weighted average; STEL = Short Term Exposure Limit.

Recommended monitoring method : NIOSH 5042 (Asphalt Fume), Appendix A to 29 CFR 1910.1053 (Crystalline Silica), Electrochemical sensor (Hydrogen Sulfide)

### 8.2. Exposure controls

- Appropriate engineering controls : Use only outdoors or in a well-ventilated area. A fresh water supply should be available for first aid and washing facilities should be readily available. A safe oil-dissolving skin cleanser and cold packs should be available.
- Hand protection : Wear gloves that protect against thermal burns when handling hot material. Otherwise use leather or thick textile gloves as necessary.
- Eye protection : Safety glasses as necessary.
- Skin and body protection : Non-synthetic long pants and appropriate boots should be used to prevent burns. When the handling of Reclaimed Asphalt Pavement increases the likelihood of burns to the hands, arms or face then non-synthetic long-sleeved shirts and/or a face shield may be required.
- Respiratory protection : Not typically required. In those cases where exposures exceed occupational control limits a NIOSH approved respirator is recommended. Air-purifying respirator with combination organic vapor cartridge / particulate filter may be sufficient. Check with protective equipment manufacturer's data.
- Environmental exposure controls : Avoid release to the environment. Do not discharge waste and/or cleaning water via public sewer system. Ensure waste is collected and contained.
- Other information : Do not eat, drink or smoke during use. Hands and/or face should be washed before and after breaks and at the end of each shift.
- Follow all engineering and respiratory protection controls required by 29 CFR 1910.1053 and 29 CFR 1926.1153, as applicable, if airborne crystalline silica is generated.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

- Physical state : Solid
- Appearance : Various solid shapes and sizes
- Color : Black
- Odor : Asphalt / Bitumen
- Odor threshold : No data available
- pH : No data available
- Melting point : No data available
- Freezing point : No data available
- Boiling point : Not applicable
- Flash point : >232°C (>450°F)
- Relative evaporation rate (butyl acetate=1) : No data available
- Flammability (solid, gas) : Not applicable
- Explosion limits : Not applicable
- Explosive properties : Not explosive
- Oxidizing properties : Not oxidizing
- Vapor pressure : Not determined
- Relative density : 2.0 to 3.0
- Relative vapor density at 20 °C : Not determined

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Solubility	: Negligible in water
Log Pow	: No data available
Log Kow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal storage and handling conditions.

### 10.3. Possibility of hazardous reactions

May react violently with strong oxidizing agents.

### 10.4. Conditions to avoid

Incompatible materials

### 10.5. Incompatible materials

Oxidizers

### 10.6. Hazardous decomposition products

Combustion causes toxic fumes. Combustion products include carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Exposure routes	: Inhalation, Skin Contact, Eye Contact
Acute toxicity	: Not classified

Asphalt (8052-42-4)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation, fume	>94.4 mg/m <sup>3</sup>

Skin corrosion/irritation	: May cause irritation
Serious eye damage/irritation	: May cause irritation
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

Asphalt (8052-42-4)	
NTP	No
IARC	2B*
ACGIH	No
OSHA	No

\*IARC (2013, volume 103) has concluded that there is *inadequate evidence* in humans for the carcinogenicity of occupational exposures to bitumen emissions during road paving and in experimental animals for the carcinogenicity of straight-run bitumens and fume condensates from straight-run bitumens.

Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified

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Asphalt (8052-42-4)	
NOAEL rat	28 mg/m <sup>3</sup>
LOAEL rat	149 mg/m <sup>3</sup>

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : No additional information available.

## SECTION 12: Ecological information

### 12.1. Toxicity

Asphalt (8052-42-4)	
LL50 (48 hour) Fish	>1000 mg/l
LL50 (48 hour) Aquatic invertebrates	>1000 mg/l
EL50 (48 hour) Aquatic plants	>1000 mg/l

### 12.2. Persistence and degradability

Reclaimed Asphalt Pavement (RAP)	
Persistence and degradability	This product is poorly biodegradable.

### 12.3. Bioaccumulative potential

Reclaimed Asphalt Pavement (RAP)	
Bioaccumulative potential	This product has low potential for bioaccumulation.

### 12.4. Mobility in soil

The product has low mobility in soil.

### 12.5. Other adverse effects

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local, state and federal regulations. Consult an accredited waste disposal contractor or the local authority for advice.

Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT  
Not regulated

### Additional information

#### ADR

No additional information available

#### Transport by sea

No additional information available

#### Air transport

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### TSCA (Toxic Substances Control Act) Inventory Status

All components are listed or are polymer exempt.

#### SARA 311/312 Hazard Categories

None

#### SARA 302 Extremely Hazardous Substances (40 CFR 355)

None

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### 15.2. International regulations

#### CANADA


No additional information available

#### EU-Regulations

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

No additional information available

### 15.3. US State regulations

California Proposition 65:  **WARNING:** This product can expose you to crystalline silica (airborne particles of respirable size), which is known to the State of California to cause cancer. For more information, go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

## SECTION 16: Other information

Other information : None.

SDS US (GHS HazCom 2012)

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