

PERFORMANCE GRADE ASPHALT BINDER 58-28; 64-22; E-BASE; AC-20; VTB; PDA; 46-34

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 05/09/2018 Date of Issue: 04/13/2016

Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: PERFORMANCE GRADE ASPHALT BINDER 58-28; 64-22; E-BASE; AC-20; VTB; PDA; 46-34

Product Code: Group 6; Group 9

1.2. Intended Use of the Product

Use of the substance/mixture: Highway overlay

1.3. Name, Address, and Telephone of the Responsible Party

Company, Manufacturer

Coastal Energy Corporation

65793 Willow Springs, MO

T 417-469-2777

www.coastal-fmc.com

1.4. Emergency Telephone Number

Emergency Number : 1-800-424-9300 CHEMTREC

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US classification

Carc. 2 H351

Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



GHS08

Signal Word (GHS-US)

: Warning

Hazard Statements (GHS-US)

: H351 - Suspected of causing cancer.

Precautionary Statements (GHS-US)

: P201 - Obtain special instructions before use.

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

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

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

P405 - Store locked up.

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

2.3. Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. May defat skin and cause contact dermatitis. Contains a small amount of hydrogen sulfide. Hydrogen sulfide is a fatal and highly flammable gas with a rotten egg odor that quickly causes odor fatigue. Heating of this product and storage under elevated temperatures or over long periods of time may release higher amounts of hydrogen sulfide. Hydrogen sulfide is also an asphyxiant. If stored under heat for extended periods or significantly agitated, this material might evolve or release hydrogen sulfide, a flammable gas, which can raise and widen this material's actual flammability limits and significantly lower its auto-ignition temperature. Hydrogen sulfide is a toxic gas that can be fatal. Product may contain low levels of polynuclear aromatic hydrocarbons (PNAs). Evidence from animal studies indicates that prolonged exposure to various PNAs can cause cancer of the lungs, skin and other organs. This product may be corrosive to metals upon prolonged contact with molten form.

2.4. Unknown Acute Toxicity (GHS-US)

2.73 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Oral, Dermal, Inhalation (Dust/Mist))

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

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3.2. Mixture

Name	Product Identifier	%	GHS-US classification
Asphalt	(CAS No) 8052-42-4	96.8 - 99.2	Carc. 2, H351

Full text of H-phrases: see section 16

The specific chemical identity and/or exact percentage of composition has been withheld as a trade secret within the meaning of the OSHA Hazard Communication Standard [29 CFR 1910.1200].

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid Measures After Skin Contact: Rinse immediately with plenty of water. Remove contaminated clothing. Call a POISON CENTER or doctor/physician if you feel unwell. Wash contaminated clothing before reuse. Seek medical attention for thermal burns. Do not attempt to forcibly remove material from skin after cooling. Removal of solidified molten material from skin requires medical assistance.

First-aid Measures After Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Obtain medical attention if irritation persists. Removal of solidified molten material from the eyes requires medical assistance.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Seek medical attention if a large amount is swallowed.

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

Symptoms/Injuries: Suspected of causing cancer. During processing, inhalation of fumes may cause dizziness and/or irritation to the eyes, nose, and throat. Hot molten product will cause thermal burns to the skin.

Symptoms/Injuries After Inhalation: Inhalation of fumes or vapors may cause respiratory irritation. WARNING: irritating and toxic hydrogen sulfide gas may be present. Greater than 15-20ppm continuous exposure can cause mucous membrane and respiratory tract irritation. 50-500 ppm can cause headache, nausea, and dizziness. Continued exposure at these levels can lead to loss of reasoning and balance, difficulty in breathing, fluid in the lungs, and possible loss of consciousness. Greater than 500ppm can cause rapid unconsciousness and death if not promptly revived.

Symptoms/Injuries After Skin Contact: May cause skin irritation. Prolonged or repeated contact with the skin may cause dermatitis. Risk of thermal burns on contact with molten product.

Symptoms/Injuries After Eye Contact: May cause eye irritation. Risk of thermal burns on contact with molten product.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects. May cause nausea, vomiting, and diarrhea.

Chronic Symptoms: Suspected of causing cancer. Repeated or prolonged skin contact may cause dermatitis and defatting. Product may contain polynuclear aromatic hydrocarbons (PNAs). Evidence from animal studies indicates that prolonged exposure to various PNAs can cause cancer of the lungs, skin and other organs.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If burned by hot product, cool affected area immediately with cool water. Do not attempt to remove solidified material from skin. Seek medical attention immediately. If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Alcohol-resistant foam. Carbon dioxide (CO₂). Earth, sand, dry chemical powder or foam.

Unsuitable Extinguishing Media: Do not use water when molten material is involved, contact of hot product with water will result in a violent expansion as the water turns to steam causing explosion with massive force. Reacts violently on contact with water. A heavy water stream may spread burning liquid.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but may burn at high temperatures. Poisonous gases may be produced in fire. May give off SO₃, SO₂, and hydrogen sulfide.

Explosion Hazard: Product is not explosive. Contains Sulfur, may release small amounts of hydrogen sulfide. Hydrogen sulfide is a highly flammable, explosive gas under certain conditions, is a toxic gas, and may be fatal. Gas can accumulate in the headspace of closed containers, use caution when opening sealed containers. Heating the product or containers can cause thermal decomposition of the product and release hydrogen sulfide.

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Reactivity: May react with strong oxidizers, increasing risk of fire or explosion.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. Do not breathe fumes from fires or vapors from decomposition. Remove containers from fire area if this can be done without risk. Do not allow run-off from firefighting to enter drains or water sources.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other Information: Do not add water to molten material as this may cause spattering. If stored under heat for extended periods or significantly agitated, this material might evolve or release hydrogen sulfide, a flammable gas, which can raise and widen this material's actual flammability limits and significantly lower its auto-ignition temperature. Hydrogen sulfide is a toxic gas that can be fatal. It also has a rotten egg smell that causes odor fatigue very quickly and shouldn't be used as an indicator for the presence of gas.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid all contact with skin, eyes, or clothing. Avoid breathing (dust, vapor, mist, fumes).

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area. Eliminate ignition sources. Stop leak if safe to do so. If possible, stop flow of product.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Where possible allow molten material to solidify naturally.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Eliminate all ignition sources. Cool molten material to limit spreading. Allow liquid material to solidify before cleaning up. Take up mechanically (sweeping, shoveling) and collect in suitable container for disposal. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal.

6.4. Reference to Other Sections

See Heading 8. Exposure controls and personal protection. See Section 13, Disposal Considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Precautions for Safe Handling: Do not handle until all safety precautions have been read and understood. Protect skin and eyes from contact with molten material. Do NOT breathe (dust, vapor, mist, fumes).

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Incompatible Products: Strong acids. Strong bases. Strong oxidizers. Chlorine. Nitrates. Permanganates. Chromates. Metal salts.

Special Rules on Packaging: Storage containers should be dry and free of water, prior to loading hot asphalt. Dangerous over pressuring or splattering of hot asphalt can result from water infiltration.

7.3. Specific End Use(s)

Highway overlay

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

Asphalt (8052-42-4)		
USA ACGIH	ACGIH TWA (mg/m ³)	0.5 mg/m ³ (fume, inhalable fraction)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen fume, coal tar-free

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USA ACGIH	Biological Exposure Indices (BEI)	(Medium: urine - Time: end of shift at end of workweek - Parameter: 1-Hydroxypyrene with hydrolysis (nonquantitative))
USA NIOSH	NIOSH REL (ceiling) (mg/m ³)	5 mg/m ³ (fume)

8.2. Exposure Controls

Appropriate Engineering Controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed. Ensure adequate ventilation, especially in confined areas. Explosion-proof general and local exhaust ventilation. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Have written confined space and tank entry procedures. Never allow tank entry without checking OXYGEN AND VAPOR levels. Use safety harness and safety line on person entering a tank. Stand-by person required with protective equipment available. Gas detectors should be used when flammable gases or vapors may be released.

Personal Protective Equipment

: Protective goggles. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing

: With molten material wear thermally protective clothing. Chemically resistant materials and fabrics.

Hand Protection

: If material is hot, wear thermally resistant protective gloves. Wear chemically resistant protective gloves.

Eye Protection

: Chemical safety goggles. Face shield if splashing occurs.

Skin and Body Protection

: Wear suitable protective clothing.

Respiratory Protection

: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal Hazard Protection

: When working with hot material, use suitable thermally protective clothing.

Other Information

: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Black
Odor	: Petroleum
Odor Threshold	: No data available
pH	: No data available
Evaporation Rate	: No data available
Melting Point	: No data available
Freezing Point	: No data available
Boiling Point	: > 400 °C (> 752 °F)
Flash Point	: > 425 °F (> 218.33 °C)
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor Pressure	: No data available
Relative Vapor Density at 20 °C	: No data available
Relative Density	: No data available
Solubility	: Negligible.
Partition Coefficient: N-Octanol/Water	: No data available

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Viscosity : No data available
Explosive Properties : Risk of explosion if heated under confinement.

9.2. Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

- 10.1. **Reactivity:** May react with strong oxidizers, increasing risk of fire or explosion.
10.2. **Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).
10.3. **Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
10.4. **Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, and incompatible materials.
10.5. **Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Nitrates. Chlorine. Permanganates. Chromates. Metal salts.
10.6. **Hazardous Decomposition Products:** Thermal decomposition generates : Corrosive vapors. Carbon oxides (CO, CO₂). Sulfur oxides. Nitrogen oxides. Hydrocarbons. Oxides of phosphorus. Hydrogen sulfide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

Asphalt (8052-42-4)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
LC50 Inhalation Rat	> 94.4 mg/m ³

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Suspected of causing cancer.

Asphalt (8052-42-4)	
IARC group	2B
National Toxicology Program (NTP) Status	Twelfth Report - Items under consideration.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Inhalation of fumes or vapors may cause respiratory irritation. WARNING: irritating and toxic hydrogen sulfide gas may be present. Greater than 15-20ppm continuous exposure can cause mucous membrane and respiratory tract irritation. 50-500 ppm can cause headache, nausea, and dizziness. Continued exposure at these levels can lead to loss of reasoning and balance, difficulty in breathing, fluid in the lungs, and possible loss of consciousness. Greater than 500ppm can cause rapid unconsciousness and death if not promptly revived.

Symptoms/Injuries After Skin Contact: May cause skin irritation. Prolonged or repeated contact with the skin may cause dermatitis. Risk of thermal burns on contact with molten product.

Symptoms/Injuries After Eye Contact: May cause eye irritation. Risk of thermal burns on contact with molten product.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects. May cause nausea, vomiting, and diarrhea.

Chronic Symptoms: Suspected of causing cancer. Repeated or prolonged skin contact may cause dermatitis and defatting. Product may contain polynuclear aromatic hydrocarbons (PNAs). Evidence from animal studies indicates that prolonged exposure to various PNAs can cause cancer of the lungs, skin and other organs.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Not classified.

12.2. Persistence and Degradability

PERFORMANCE GRADE ASPHALT BINDER 58-28; 64-22; E-BASE; AC-20; VTB; PDA; 46-34	
Persistence and Degradability	Not established.

PERFORMANCE GRADE ASPHALT BINDER 58-28; 64-22; E-BASE; AC-20; VTB; PDA; 46-34

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12.3. Bioaccumulative Potential

PERFORMANCE GRADE ASPHALT BINDER 58-28; 64-22; E-BASE; AC-20; VTB; PDA; 46-34	
Bioaccumulative Potential	Not established.
Asphalt (8052-42-4)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	> 6

12.4. Mobility in Soil No additional information available

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

Additional Information: Recycle the material as far as possible. Container may remain hazardous when empty. Continue to observe all precautions.

Ecology – Waste Materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Proper Shipping Name : ELEVATED TEMPERATURE LIQUID, N.O.S. at or above 100 C and below its flash point (Asphalt)
 Hazard Class : 9
 Identification Number : UN3257
 Label Codes : 9
 Packing Group : III
 ERG Number : 128



14.2. In Accordance with IMDG

Proper Shipping Name : ELEVATED TEMPERATURE LIQUID, N.O.S. at or above 100 C and below its flash point (Asphalt)
 Hazard Class : 9
 Identification Number : UN3257
 Packing Group : III
 Label Codes : 9
 EmS-No. (Fire) : F-A
 EmS-No. (Spillage) : S-P



14.3. In Accordance with IATA

Proper Shipping Name : ELEVATED TEMPERATURE LIQUID, N.O.S. at or above 100 C and below its flash point (Asphalt)
 Packing Group : III
 Identification Number : UN3257
 Hazard Class : 9
 Label Codes : 9
 ERG Code (IATA) : 9L



SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

PERFORMANCE GRADE ASPHALT BINDER 58-28; 64-22; E-BASE; AC-20; VTB; PDA; 46-34	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard
Asphalt (8052-42-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2 US State Regulations

PERFORMANCE GRADE ASPHALT BINDER 58-28; 64-22; E-BASE; AC-20; VTB; PDA; 46-34	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.
U.S. - California - Proposition 65 - Developmental Toxicity	WARNING: This product contains chemicals known to the State of California to cause birth defects.
U.S. - California - Proposition 65 - Reproductive	WARNING: This product contains chemicals known to the State of

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Toxicity - Female	California to cause (Female) reproductive harm.
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	WARNING: This product contains chemicals known to the State of California to cause (Male) reproductive harm.

Asphalt (8052-42-4)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

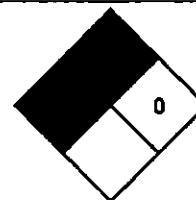
SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 05/09/2018
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Carc. 2	Carcinogenicity Category 2
H351	Suspected of causing cancer

NFPA Health Hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.
NFPA Fire Hazard : 1 - Must be preheated before ignition can occur.
NFPA Reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating
Health : 2 Moderate Hazard - Temporary or minor injury may occur
Flammability : 1 Slight Hazard
Physical : 0 Minimal Hazard

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)

PERFORMANCE GRADE ASPHALT BINDER 64-22H; 64-22V; 70-22; 76-22; 76-22E; 70-28; 76-28

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Revision Date: 04/25/2018 Date of Issue: 02/26/2016

Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: PERFORMANCE GRADE ASPHALT BINDER 64-22H; 64-22V; 70-22; 76-22; 76-22E; 70-28; 76-28

Product Code: Group 1, 2, 3, 4, 5

1.2. Intended Use of the Product

Use of the substance/mixture: Highway overlay

1.3. Name, Address, and Telephone of the Responsible Party

Company, Manufacturer

Coastal Energy Corporation

65793 Willow Springs, MO

T 417-469-2777

www.coastal-fmc.com

1.4. Emergency Telephone Number

Emergency Number : 1-800-424-9300 CHEMTREC

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US classification

Carc. 2 H351

Full text of hazard classes and H-statements : see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



GHS08

Signal Word (GHS-US)

: Warning

Hazard Statements (GHS-US)

: H351 - Suspected of causing cancer.

Precautionary Statements (GHS-US)

: P201 - Obtain special instructions before use.

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

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

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

P405 - Store locked up.

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

2.3. Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. May defat skin and cause contact dermatitis. Contains a small amount of hydrogen sulfide. Hydrogen sulfide is a fatal and highly flammable gas with a rotten egg odor that quickly causes odor fatigue. Heating of this product and storage under elevated temperatures or over long periods of time may release higher amounts of hydrogen sulfide. Hydrogen sulfide is also an asphyxiant. If stored under heat for extended periods or significantly agitated, this material might evolve or release hydrogen sulfide, a flammable gas, which can raise and widen this material's actual flammability limits and significantly lower its auto-ignition temperature. Hydrogen sulfide is a toxic gas that can be fatal. Product may contain low levels of polynuclear aromatic hydrocarbons (PNAs). Evidence from animal studies indicates that prolonged exposure to various PNAs can cause cancer of the lungs, skin and other organs.

2.4. Unknown Acute Toxicity (GHS-US)

6.73 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Oral, Dermal, Inhalation (Dust/Mist))

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	%	GHS-US classification
Asphalt	(CAS No) 8052-42-4	93.27 - 99.7	Carc. 2, H351

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Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid Measures After Skin Contact: Rinse immediately with plenty of water. Remove contaminated clothing. Call a POISON CENTER or doctor/physician if you feel unwell. Wash contaminated clothing before reuse. Seek medical attention for thermal burns. Do not attempt to forcibly remove material from skin after cooling. Removal of solidified molten material from skin requires medical assistance.

First-aid Measures After Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Obtain medical attention if irritation persists. Removal of solidified molten material from the eyes requires medical assistance.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Seek medical attention if a large amount is swallowed.

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

Symptoms/Injuries: Suspected of causing cancer. During processing, inhalation of fumes may cause dizziness and/or irritation to the eyes, nose, and throat. Hot molten product will cause thermal burns to the skin.

Symptoms/Injuries After Inhalation: Inhalation of fumes or vapors may cause respiratory irritation. WARNING: irritating and toxic hydrogen sulfide gas may be present. Greater than 15-20ppm continuous exposure can cause mucous membrane and respiratory tract irritation. 50-500 ppm can cause headache, nausea, and dizziness. Continued exposure at these levels can lead to loss of reasoning and balance, difficulty in breathing, fluid in the lungs, and possible loss of consciousness. Greater than 500ppm can cause rapid unconsciousness and death if not promptly revived.

Symptoms/Injuries After Skin Contact: May cause skin irritation. Prolonged or repeated contact with the skin may cause dermatitis. Risk of thermal burns on contact with molten product.

Symptoms/Injuries After Eye Contact: May cause eye irritation. Risk of thermal burns on contact with molten product.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects. May cause nausea, vomiting, and diarrhea.

Chronic Symptoms: Suspected of causing cancer. Repeated or prolonged skin contact may cause dermatitis and defatting. Product may contain polynuclear aromatic hydrocarbons (PNAs). Evidence from animal studies indicates that prolonged exposure to various PNAs can cause cancer of the lungs, skin and other organs.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If burned by hot product, cool affected area immediately with cool water. Do not attempt to remove solidified material from skin. Seek medical attention immediately. If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Alcohol-resistant foam. Carbon dioxide (CO₂). Earth, sand, dry chemical powder.

Unsuitable Extinguishing Media: Do not use water when molten material is involved, contact of hot product with water will result in a violent expansion as the water turns to steam causing explosion with massive force. Reacts violently on contact with water. A heavy water stream may spread burning liquid.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but may burn at high temperatures. Poisonous gases may be produced in fire. May give off SO₃, SO₂, and hydrogen sulfide.

Explosion Hazard: Product is not explosive. Contains Sulfur, may release small amounts of hydrogen sulfide. Hydrogen sulfide is a highly flammable, explosive gas under certain conditions, is a toxic gas, and may be fatal. Gas can accumulate in the headspace of closed containers, use caution when opening sealed containers. Heating the product or containers can cause thermal decomposition of the product and release hydrogen sulfide.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. Do not breathe fumes from fires or vapors from decomposition. Remove containers from fire area if this can be done without risk. Do not allow run-off from firefighting to enter drains or water sources.

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Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other Information: Do not add water to molten material as this may cause spattering. If stored under heat for extended periods or significantly agitated, this material might evolve or release hydrogen sulfide, a flammable gas, which can raise and widen this material's actual flammability limits and significantly lower its auto-ignition temperature. Hydrogen sulfide is a toxic gas that can be fatal. It also has a rotten egg smell that causes odor fatigue very quickly and shouldn't be used as an indicator for the presence of gas.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid all contact with skin, eyes, or clothing. Avoid breathing (dust, vapor, mist, fumes).

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area. Eliminate ignition sources. Stop leak if safe to do so. If possible, stop flow of product.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Where possible allow molten material to solidify naturally.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Eliminate all ignition sources. Cool molten material to limit spreading. Allow liquid material to solidify before cleaning up. Take up mechanically (sweeping, shoveling) and collect in suitable container for disposal. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal.

6.4. Reference to Other Sections

See Heading 8. Exposure controls and personal protection. See Section 13, Disposal Considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Precautions for Safe Handling: Do not handle until all safety precautions have been read and understood. Protect skin and eyes from contact with molten material. Do NOT breathe (dust, vapor, mist, fumes).

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Incompatible Products: Strong acids. Strong bases. Strong oxidizers. Chlorine. Nitrates. Permanganates. Chromates.

Maximum Storage Period: Precautions to be taken when handling and storing hot asphalt: Keep all containers in upright position. Store in dry, well ventilated area away from moisture, heat, ignition, and strong oxidizers. Do not allow smoking in areas of use or dispensing. Motors, fans, switches, etc. in area of use or dispensing should be explosion proof. Ground containers when filling. Prevent all static and electric sparks.

Special Rules on Packaging: Storage containers should be dry and free of water, prior to loading hot asphalt. Dangerous over pressuring or splattering of hot asphalt can result from water infiltration.

7.3. Specific End Use(s)

Highway overlay

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

Asphalt (8052-42-4)		
USA ACGIH	ACGIH TWA (mg/m ³)	0.5 mg/m ³ (fume, inhalable fraction)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen fume, coal tar-free
USA ACGIH	Biological Exposure Indices (BEI)	(Medium: urine - Time: end of shift at end of workweek - Parameter: 1-Hydroxypyrene with hydrolysis (nonquantitative))

PERFORMANCE GRADE ASPHALT BINDER 64-22H; 64-22V; 70-22; 76-22; 76-22E; 70-28; 76-28

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USA NIOSH	NIOSH REL (ceiling) (mg/m ³)	5 mg/m ³ (fume)
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8.2. Exposure Controls

Appropriate Engineering Controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed. Ensure adequate ventilation, especially in confined areas. Explosion-proof general and local exhaust ventilation. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Have written confined space and tank entry procedures. Never allow tank entry without checking OXYGEN AND VAPOR levels. Use safety harness and safety line on person entering a tank. Stand-by person required with protective equipment available. Gas detectors should be used when flammable gases or vapors may be released.

Personal Protective Equipment

: Safety glasses. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing

: With molten material wear thermally protective clothing.

Hand Protection

: If material is hot, wear thermally resistant protective gloves.

Eye Protection

: Safety glasses with side shields, or goggles, are recommended.

Skin and Body Protection

: Wear suitable protective clothing.

Respiratory Protection

: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal Hazard Protection

: When working with hot material, use suitable thermally protective clothing.

Other Information

: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Black
Odor	: Petroleum
Odor Threshold	: No data available
pH	: No data available
Evaporation Rate	: No data available
Melting Point	: No data available
Freezing Point	: No data available
Boiling Point	: > 400 °C (752 °F)
Flash Point	: > 230 °C (446 °F)
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor Pressure	: No data available
Relative Vapor Density at 20 °C	: No data available
Relative Density	: No data available
Solubility	: Negligible.
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available

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9.2. Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

- 10.1. **Reactivity:** May react with strong oxidizers, increasing risk of fire or explosion.
- 10.2. **Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).
- 10.3. **Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. **Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, and incompatible materials.
- 10.5. **Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Nitrates. Chlorine. Permanganates. Chromates.
- 10.6. **Hazardous Decomposition Products:** Thermal decomposition generates : Carbon oxides (CO, CO₂). Sulfur oxides. Nitrogen oxides. Hydrocarbons. Hydrogen sulfide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

Asphalt (8052-42-4)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
LC50 Inhalation Rat	> 94.4 mg/m ³

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Suspected of causing cancer.

Asphalt (8052-42-4)	
IARC group	2B
National Toxicology Program (NTP) Status	Twelfth Report - Items under consideration.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Inhalation of fumes or vapors may cause respiratory irritation. WARNING: irritating and toxic hydrogen sulfide gas may be present. Greater than 15-20ppm continuous exposure can cause mucous membrane and respiratory tract irritation. 50-500 ppm can cause headache, nausea, and dizziness. Continued exposure at these levels can lead to loss of reasoning and balance, difficulty in breathing, fluid in the lungs, and possible loss of consciousness. Greater than 500ppm can cause rapid unconsciousness and death if not promptly revived.

Symptoms/Injuries After Skin Contact: May cause skin irritation. Prolonged or repeated contact with the skin may cause dermatitis. Risk of thermal burns on contact with molten product.

Symptoms/Injuries After Eye Contact: May cause eye irritation. Risk of thermal burns on contact with molten product.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects. May cause nausea, vomiting, and diarrhea.

Chronic Symptoms: Suspected of causing cancer. Repeated or prolonged skin contact may cause dermatitis and defatting.

Product may contain polynuclear aromatic hydrocarbons (PNAs). Evidence from animal studies indicates that prolonged exposure to various PNAs can cause cancer of the lungs, skin and other organs.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Not classified.

12.2. Persistence and Degradability

PERFORMANCE GRADE ASPHALT BINDER 64-22H; 64-22V; 70-22; 76-22; 76-22E; 70-28; 76-28	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

PERFORMANCE GRADE ASPHALT BINDER 64-22H; 64-22V; 70-22; 76-22; 76-22E; 70-28; 76-28	
Bioaccumulative Potential	Not established.

PERFORMANCE GRADE ASPHALT BINDER 64-22H; 64-22V; 70-22; 76-22; 76-22E; 70-28; 76-28

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Asphalt (8052-42-4)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	> 6

12.4. Mobility in Soil No additional information available

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

Additional Information: Recycle the material as far as possible. Container may remain hazardous when empty. Continue to observe all precautions.

Ecology – Waste Materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Proper Shipping Name : ELEVATED TEMPERATURE LIQUID, N.O.S. at or above 100 C and below its flash point (Asphalt)
 Hazard Class : 9
 Identification Number : UN3257
 Label Codes : 9
 Packing Group : III
 ERG Number : 128



14.2. In Accordance with IMDG

Proper Shipping Name : ELEVATED TEMPERATURE LIQUID, N.O.S. at or above 100 C and below its flash point (Asphalt)
 Hazard Class : 9
 Identification Number : UN3257
 Packing Group : III
 Label Codes : 9
 EmS-No. (Fire) : F-A
 EmS-No. (Spillage) : S-P



14.3. In Accordance with IATA

Proper Shipping Name : ELEVATED TEMPERATURE LIQUID, N.O.S. at or above 100 C and below its flash point (Asphalt)
 Packing Group : III
 Identification Number : UN3257
 Hazard Class : 9
 Label Codes : 9
 ERG Code (IATA) : 9L



SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

PERFORMANCE GRADE ASPHALT BINDER 64-22H; 64-22V; 70-22; 76-22; 76-22E; 70-28; 76-28	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard
Asphalt (8052-42-4)	
Listed on the United States TSCA (Toxic Substances Control Act) Inventory	

15.2 US State Regulations

PERFORMANCE GRADE ASPHALT BINDER 64-22H; 64-22V; 70-22; 76-22; 76-22E; 70-28; 76-28	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.
U.S. - California - Proposition 65 - Developmental Toxicity	WARNING: This product contains chemicals known to the State of California to cause birth defects.
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	WARNING: This product contains chemicals known to the State of California to cause (Female) reproductive harm.
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	WARNING: This product contains chemicals known to the State of California to cause (Male) reproductive harm.

PERFORMANCE GRADE ASPHALT BINDER 64-22H; 64-22V; 70-22; 76-22; 76-22E; 70-28; 76-28

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Asphalt (8052-42-4)

U.S. - Massachusetts - Right To Know List
 U.S. - New Jersey - Right to Know Hazardous Substance List
 U.S. - Pennsylvania - RTK (Right to Know) List

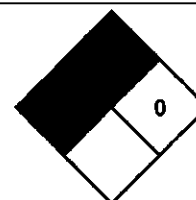
SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 04/25/2018
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Carc. 2	Carcinogenicity Category 2
H351	Suspected of causing cancer

NFPA Health Hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.
NFPA Fire Hazard : 1 - Must be preheated before ignition can occur.
NFPA Reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating
Health : 2 Moderate Hazard - Temporary or minor injury may occur
Flammability : 1 Slight Hazard
Physical : 0 Minimal Hazard

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)