

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention or advice.
Ingestion	Rinse mouth. DO NOT induce vomiting. Get medical attention immediately. If ingestion of a large amount does occur, call a poison control center immediately.
Most important symptoms/effects, acute and delayed	Potential for severe thermal burns.

5. Fire-fighting measures

Suitable extinguishing media	Extinguish with foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards arising from the chemical	Irritating and toxic gases or fumes may be released during a fire.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.
Fire fighting equipment/instructions	ALWAYS stay away from tanks engulfed in flame. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do so without risk. In the event of fire, cool tanks with water spray. Use of foam or water may cause frothing.
Specific methods	In the event of fire and/or explosion do not breathe fumes. In the event of fire, cool tanks with water spray.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Methods and materials for containment and cleaning up	Dike far ahead of spill for later disposal. Ventilate area and avoid breathing vapors or mist. For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways. Allow spilled material to solidify and scrape up with shovels into a suitable container for recycle or disposal.
Environmental precautions	Not available.

7. Handling and storage

Precautions for safe handling	Avoid contact with molten material. Hydrogen sulfide, a very highly toxic gas, may be present with this material. Keep face clear of tank and/or tank car openings. Do not add water to hot product. This may result in frothing of the mixture causing hot asphalt to overflow the container
Conditions for safe storage, including any incompatibilities	Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a well-ventilated place. It is recommended that the storage temperature never exceed 350°F.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
HYDROGEN SULFIDE (CAS 7783-06-4)	Ceiling	20 ppm

US. ACGIH Threshold Limit Values

Material	Type	Value	Form
Performance Grade Asphalt	TWA	0.5 mg/m3	Inhalable fume.
Components	Type	Value	Form
ASPHALT (CAS 8052-42-4)	TWA	0.5 mg/m3	Inhalable fume.
HYDROGEN SULFIDE (CAS 7783-06-4)	STEL	5 ppm	
	TWA	1 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Material	Type	Value	Form
Performance Grade Asphalt	Ceiling	5 mg/m ³	Fume.
Components	Type	Value	Form
ASPHALT (CAS 8052-42-4)	Ceiling	5 mg/m ³	Fume.
HYDROGEN SULFIDE (CAS 7783-06-4)	Ceiling	15 mg/m ³	
		10 ppm	

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Safety glasses. Wear face shield if there is risk of splashes.
Skin protection	
Hand protection	Thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.
Other	Normal work clothing (long sleeved shirts and long pants) is recommended. Wear 100% cotton clothing.
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Thermal hazards	During product use, there is a risk of thermal burns.
General hygiene considerations	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.

9. Physical and chemical properties

Appearance	Brown to black in color.
Physical state	Liquid.
Form	Semi-solid at ambient temperature
Color	Black.
Odor	Tar-like
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	> 700 °F (> 371.11 °C)
Flash point	> 446.0 °F (> 230.0 °C) Open Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	< 1 mm Hg at 70°F
Vapor density	> 5
Relative density	0.96 - 1.06
Solubility(ies)	
Solubility (water)	Insoluble

Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	> 700 °F (> 371.11 °C)
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Specific gravity	1.01

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport
Chemical stability	Stable under normal temperature conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Do not overheat product.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Upon decomposition, this product may yield sulfur dioxide, carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Hydrogen sulfide.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system.
Skin contact	Molten material will produce thermal burns.
Eye contact	Molten material will produce thermal burns.
Ingestion	Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics Not available.

Information on toxicological effects

Acute toxicity	Not available.
Skin corrosion/irritation	Not available.
Serious eye damage/eye irritation	Not available.

Respiratory or skin sensitization

Respiratory sensitization	Not available.
Skin sensitization	Not available.

Germ cell mutagenicity Not available.

Carcinogenicity

IARC: occupational exposures to straight-run bitumens and their emissions during road paving are "possibly carcinogenic to humans" (Group 2B). Contains polycyclic aromatic compounds (PACs). Prolonged and/or repeated skin contact with certain PACs has been shown to cause skin cancer. Prolonged and/or repeated exposures by inhalation of certain PACs may also cause cancer of the lung and of other sites of the body.

IARC Monographs. Overall Evaluation of Carcinogenicity

ASPHALT (CAS 8052-42-4) 2B Possibly carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Not available.
Specific target organ toxicity - single exposure	Not available.
Specific target organ toxicity - repeated exposure	Not available.
Aspiration hazard	Not available.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity This product has no known eco-toxicological effects.

Components	Species	Test Results
HYDROGEN SULFIDE (CAS 7783-06-4)		
Aquatic		
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>)
		0.009 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability Not available.

Bioaccumulative potential Not available.

Mobility in soil Not available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Allow molten resin to solidify before disposal. Dispose in accordance with all applicable regulations. When this product as supplied is to be discarded as waste, it does not meet the definition of a RCRA waste under 40 CFR 261.

Hazardous waste code Not applicable.

Waste from residues / unused products Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging No special precautions.

14. Transport information

DOT

UN number UN3257

UN proper shipping name Elevated temperature liquid, n.o.s., at or above 100 C and below its flash point (including molten metals, molten salts, etc.)

Transport hazard class(es)

Class 9

Subsidiary risk -

Label(s) 9

Packing group III

Special precautions for user Not available.

Special provisions IB1, T3, TP3, TP29

Packaging exceptions None

Packaging non bulk None

Packaging bulk 247

IATA

UN number UN3257

UN proper shipping name Elevated temperature liquid, n.o.s. at or above 100°C and below its flash point (including molten metals, molten salts, etc.)

Transport hazard class(es)

Class 9

Subsidiary risk -

Packing group Not available.

Environmental hazards No.

ERG Code 9L

Special precautions for user Not available.

Other information

Passenger and cargo aircraft Forbidden

Cargo aircraft only Forbidden

IMDG

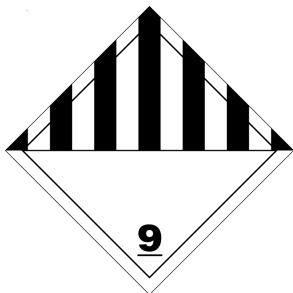
UN number UN3257

UN proper shipping name ELEVATED TEMPERATURE LIQUID, N.O.S. at or above 100°C and below its flashpoint (including molten metals, molten salts, etc.)

Transport hazard class(es)
Class 9
Subsidiary risk -
Packing group III
Environmental hazards
Marine pollutant No.
EmS F-A, S-P
Special precautions for user Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

DOT; IATA; IMDG



Further information Shipping Marking: HOT. Transport by air is forbidden when shipped above 212°F (100°C). If the product is shipped at temperatures below 212°F (100°C), it is not regulated for transport by ground, air or vessel.

15. Regulatory information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

HYDROGEN SULFIDE (CAS 7783-06-4) 100 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
HYDROGEN SULFIDE	7783-06-4	100	500		

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Carcinogenicity
Hazard not otherwise classified (HNOC)

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

HYDROGEN SULFIDE (CAS 7783-06-4)

Safe Drinking Water Act (SDWA) Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

HYDROGEN SULFIDE (CAS 7783-06-4)

High priority

US state regulations

WARNING: This product contains a chemical known to the State of California to cause cancer.

California Proposition 65

California Proposition 65 - CRT: Listed date/Carcinogenic substance

ASPHALT (CAS 8052-42-4)

Listed: January 1, 1990

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

ASPHALT (CAS 8052-42-4)

HYDROGEN SULFIDE (CAS 7783-06-4)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 11-03-2015

Revision date 10-24-2019

Version # 04

Further information HMIS® is a registered trade and service mark of the NPCA.

NFPA ratings
Health: 0
Flammability: 3
Instability: 0

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information

Product and Company Identification: Synonyms
Hazard(s) identification: Supplemental information
Physical & Chemical Properties: Multiple Properties