

SAFETY DATA SHEET



Unmodified Asphalt

Section 1. Identification

GHS product identifier	Unmodified Asphalt
Chemical name	Asphalt
Other means of identification	Applicable to asphalts in paving applications only. For Industrial Asphalt applications, refer to SDS: 0000002908
Product code	0000002973
SDS #	0000002973
<u>Relevant identified uses of the substance or mixture and uses advised against</u>	
Use of the substance/mixture	Paving applications For specific application advice see appropriate Technical Data Sheet or consult our company representative.
Manufacturer	BP Products North America Inc. 150 West Warrenville Road Naperville, Illinois 60563-8460 USA
Supplier	BP Products North America Inc. 150 West Warrenville Road Naperville, Illinois 60563-8460 USA
EMERGENCY HEALTH INFORMATION:	1 (800) 447-8735 Outside the US: +1 703-527-3887 (CHEMTREC)
EMERGENCY TELEPHONE NUMBER	1 (613) 996-6666 CANUTEC (Canada)

Section 2. Hazard identification

Classification of the substance or mixture	Not classified.
<u>GHS label elements</u>	
Signal word	No signal word.
Hazard statements	No known significant effects or critical hazards.
<u>Precautionary statements</u>	
Prevention	Not applicable.
Response	Not applicable.
Storage	Not applicable.
Disposal	Not applicable.
Other hazards which do not result in classification	Will cause burns if hot material contacts eyes. Will cause burns if hot material contacts skin. This product can be delivered, stored and used at temperatures above 100°C. This material can contain hydrogen sulfide (H ₂ S), a very toxic and extremely flammable gas. Mild irritation of the respiratory tract and eyes at high exposure concentrations

Section 3. Composition/information on ingredients

Substance/mixture

Mixture

Ingredient name	CAS number	% (w/w)
Asphalt	8052-42-4	80 - 100 **
Hydrogen Sulfide	7783-06-4	0.1 - 1 **

** Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact

Hot product - Flood with water to dissipate heat. In the event of any product remaining, do not try to remove it other than by continued irrigation with water. Obtain medical attention immediately.

Cold product - Wash eye thoroughly with copious quantities of water, ensuring eyelids are held open. Obtain medical advice if any pain or redness develops or persists.

Skin contact

Hot Product - Flood skin with cold water to dissipate heat, cover with clean cotton or gauze, obtain medical advice immediately.

Cold Product - Wash contaminated skin with soap and water. Remove contaminated clothing and wash underlying skin as soon as reasonably practicable.

Inhalation

If inhaled, remove to fresh air. Get medical attention if symptoms occur.

EXPOSURE TO HYDROGEN SULFIDE (H₂S):

Casualties suffering ill effects as a result of exposure to hydrogen sulfide should be immediately removed to fresh air and medical assistance obtained without delay. Unconscious casualties must be placed in the recovery position. Monitor breathing and pulse rate and if breathing has failed, or is deemed inadequate, respiration must be assisted, preferably by the mouth to mouth method. Administer external cardiac massage if necessary. Seek medical attention immediately.

Ingestion

Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training.

Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician

Treatment should in general be symptomatic and directed to relieving any effects.

Inhalation of hydrogen sulfide may cause central respiratory depression leading to coma and death. It is irritant to the respiratory tract causing chemical pneumonitis and pulmonary edema. The onset of pulmonary edema may be delayed for 24 to 48 hours. Treat with oxygen and ventilate as appropriate. Administer broncho-dilators if indicated and consider administration of corticosteroids. Keep casualty under surveillance for 48 hours in case pulmonary edema develops.

Where skin burns occur the area should be immediately immersed in cold water until the product is thoroughly cooled. Do not attempt to remove the product from the skin as it provides an air-tight sterile covering over the burn which will eventually fall away with the scab as the burn heals. If for any reason the product must be removed, this can be done using a slightly warmed medicinal liquid paraffin. Kerosene and other solvents should never be used. All burns should receive medical attention. It should be noted that the product contracts on cooling and

Section 4. First-aid measures

where a limb is encased care should be taken to avoid the development of a tourniquet effect.

Specific treatments

No specific treatment.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use water fog, foam, dry chemicals, or carbon dioxide.

Unsuitable extinguishing media

Do not use water jet.

Specific hazards arising from the chemical

Avoid spraying directly into storage containers because of the danger of boil-over. Boil-over is the rapid increase in volume caused by the presence of water in hot product and the subsequent overflow from a tank. Do not allow hot molten product to come into contact with water or other liquids. In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products

Combustion products may include the following:
carbon oxides (CO, CO₂) (carbon monoxide, carbon dioxide)

Special protective actions for fire-fighters

No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.

Special protective equipment for fire-fighters

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Immediately contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling. This material can contain hydrogen sulfide (H₂S), a very toxic and extremely flammable gas.

For emergency responders

Entry into a confined space or poorly ventilated area contaminated with vapor, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained positive pressure breathing apparatus (SCBA).

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Depending upon its temperature the product may be liquid, semi-solid or solid. Protect drains from spills and prevent entry of product, since this may result in blockage on cooling. Should blockage occur, notify the appropriate authority immediately.

In case of spillages in the water, the product will cool down rapidly and become solid. The solid product is denser than water and will slowly sink to the bottom, and usually no intervention will be feasible.

If possible, contain the product. Collect the product and contaminated materials with mechanical means. Transfer recovered product and other materials to suitable tanks or containers and store/dispose of according to relevant regulations.

Methods and materials for containment and cleaning up

Small spill

Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

Large spill

Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Dike spill area and do not allow product to reach sewage system and surface or ground water. Depending upon its temperature the product may be liquid, semi-solid or solid. Protect drains from spills and prevent entry of product, since this may result in blockage on cooling. Should blockage occur, notify the appropriate authority immediately. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Contact with hot product may cause burns. Avoid contact with skin. Avoid contact with eyes. If splashing is likely to occur wear a full face visor or chemical goggles as appropriate. Do not spray onto wet road surfaces or when rain is forecast as any resultant run-off could contaminate ditches and drains.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

When product is heated to high temperatures, vapor, mists or fumes will be given off and may condense, contaminating the skin or clothing of operatives. Prolonged or repeated contact with this condensate may give rise to dermatitis. Regular periodic self inspection of the skin is recommended, especially those areas subject to contamination. In the event of any localised changes in appearance or texture of the skin being noticed, medical advice should be sought without delay.

Do not use steam or compressed air to empty pipelines and hoses. Clean, dry and heat resistant hoses should be used. Do not use solvents to clear obstructions from pipelines. Gentle heat can be used to clear obstructions.

This product can be delivered, stored and used at temperatures above 100°C. For quality, technical, and health, safety and environmental reasons, product should not be overheated during handling and storage. Our company representative will provide advice on storage and application temperatures, which are grade specific. Operating temperatures should be kept as low as possible to minimise fume generation. We recommend however that, as a general rule, product temperature should be kept in the range 130°C to 200°C and never exceed the industry recommended maximum safe working temperature of 230°C. At temperatures above 230°C, significant decomposition can occur, with an increased risk of generating flammable/hazardous atmospheres. If exposure to product fume generated at temperatures above 200°C cannot be precluded, skin and inhalation exposure should be avoided by ensuring adequate workplace ventilation and if necessary the use of appropriate personal protective equipment.

When product is stored for a long period of time, deposits may form on the walls and roofs of storage tanks. These deposits (carbonaceous materials, iron sulphide) may be pyrophoric and auto-ignite when they come into contact with oxygen in the air, for example, when product is removed from the tank. The control of oxygen concentration in the vapour space of the tank will help to prevent the formation of pyrophoric deposits.

Tanks containing product can be heated by heater tubes. Care should be taken when product is being pumped from a tank to avoid the risk of fire or explosion caused by exposing hot heater tubes. Unless the heat has been switched off for a period of time to allow sufficient cooling to occur, precautions should be taken to prevent the level of product above the heater tubes dropping below 150 mm.

This material can contain hydrogen sulfide (H₂S), a very toxic and extremely flammable gas. Vapors containing hydrogen sulfide may accumulate during storage or transport and may also be vented during filling of tanks. Hydrogen sulfide has a typical "bad egg" smell but at high concentrations the sense of smell is rapidly lost,

Section 7. Handling and storage

therefore do not rely on sense of smell for detecting hydrogen sulfide. Use specially designed measuring instruments for determining its concentration. Entry into a confined space or poorly ventilated area contaminated with vapor, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Asphalt	<p>CA Alberta Provincial (Canada). Skin sensitizer. 8 hrs OEL: 5 mg/m³ 8 hours. Issued/Revised: 4/2004 Form: Fume</p> <p>CA Ontario Provincial (Canada). TWA: 0.5 mg/m³, (as benzene soluble aerosol) 8 hours. Issued/Revised: 6/2015 Form: Inhalable fraction.</p> <p>CA British Columbia Provincial (Canada). TWA: 0.5 mg/m³, (as benzene-soluble aerosol) 8 hours. Issued/Revised: 8/2004 Form: Inhalable fume</p> <p>CA Saskatchewan Provincial (Canada). STEL: 1.5 mg/m³, (measured as benzene soluble aerosol) 15 minutes. Issued/Revised: 8/2007 Form: Inhalable fume TWA: 0.5 mg/m³, (measured as benzene soluble aerosol) 8 hours. Issued/Revised: 8/2007 Form: Inhalable fume</p> <p>CA Quebec Provincial (Canada). TWA/EV: 5 mg/m³ 8 hours. Issued/Revised: 1/2000 Form: fume</p>
Hydrogen Sulfide	<p>CA Ontario Provincial (Canada). STEL: 15 ppm 15 minutes. Issued/Revised: 6/2015 TWA: 10 ppm 8 hours. Issued/Revised: 6/2015</p> <p>CA Quebec Provincial (Canada). STEV: 21 mg/m³ 15 minutes. Issued/Revised: 1/2000 STEV: 15 ppm 15 minutes. Issued/Revised: 1/2000 TWA/EV: 14 mg/m³ 8 hours. Issued/Revised: 1/2000 TWA/EV: 10 ppm 8 hours. Issued/Revised: 1/2000</p> <p>CA Alberta Provincial (Canada). C: 21 mg/m³ Issued/Revised: 7/2009 C: 15 ppm Issued/Revised: 7/2009 8 hrs OEL: 10 ppm 8 hours. Issued/Revised: 4/2004 8 hrs OEL: 14 mg/m³ 8 hours. Issued/Revised: 4/2004</p> <p>CA British Columbia Provincial (Canada). C: 10 ppm Issued/Revised: 8/2004</p> <p>CA Saskatchewan Provincial (Canada). STEL: 15 ppm 15 minutes. Issued/Revised: 8/2007 TWA: 10 ppm 8 hours. Issued/Revised: 8/2007</p>

Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.

Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.

Provide exhaust ventilation or other engineering controls to keep the relevant

Section 8. Exposure controls/personal protection

Environmental exposure controls

airborne concentrations below their respective occupational exposure limits. The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Hot material: to prevent thermal burns wear a helmet, full face visor and heat resistant neck flap / apron.

Cold material: wear safety glasses with side shields. Chemical splash goggles.

Skin protection

Hand protection

Hot material: to prevent thermal burns wear heat resistant and impervious gauntles/gloves.

Cold material: Wear chemical resistant gloves. Recommended: nitrile gloves.

Do not re-use gloves. Protective gloves must give suitable protection against mechanical risks (i.e. abrasion, blade cut and puncture). Protective gloves will deteriorate over time due to physical and chemical damage. Inspect and replace gloves on a regular basis. The frequency of replacement will depend upon the circumstances of use.

Body protection

Use of protective clothing is good industrial practice.

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Cold material:

Wear impervious coveralls covering the full body and limbs.

Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

Wear suitable protective clothing.

Footwear highly resistant to chemicals.

When there is a risk of ignition wear inherently fire resistant protective clothes and gloves.

When there is a risk of ignition from static electricity, wear anti-static protective clothing. For greatest effectiveness against static electricity, overalls, boots and gloves should all be anti-static.

Chemical resistant boots.

When the risk of skin exposure is high (from experience this could apply to the following tasks: cleaning work, maintenance and service, filling and transfer, taking samples and cleaning up spillages) then a chemical protective suit and boots will be required.

Work clothing / overalls should be laundered on a regular basis. Laundering of contaminated work clothing should only be done by professional cleaners who have been told about the hazards of the contamination. Always keep contaminated work clothing away from uncontaminated work clothing and uncontaminated personal clothes.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 8. Exposure controls/personal protection

Respiratory protection

If there is a requirement for the use of a respiratory protective device, but the use of breathing apparatus (independent of ambient atmosphere) is not required, then a suitable filtering device must be worn.

The filter class must be suitable for the maximum contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product.

Suitable breathing apparatus (independent of ambient atmosphere) must be worn where there is a risk of hydrogen sulfide exposure limits being exceeded.

The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Thermal hazards

Hot material: Wear impervious and heat resistant coveralls covering the full body and limbs. Wear suitable protective clothing to protect against heat and brief contact with flame. Precautions are required to prevent protective clothing from accidentally trapping product against the skin. Trousers should be worn over protective boots. The sleeve cuffs of protective clothing should be worn over protective gloves / gauntlets.

Protection should be provided for exposed areas of the neck and head. As appropriate, a heat resistant and impervious hood, a neck cover / apron or a neck flap can be used to protect from burns. Hard hat. Heat resistant boots. Footwear highly resistant to chemicals.

Section 9. Physical and chemical properties

Appearance

Physical state

Viscous liquid.

Color

Brown. and Black. [Dark]

Odor

Amine. Characteristic. Petroleum

Odor threshold

Not available.

pH

Not available.

Melting point

Not available.

Boiling point

Not available.

Flash point

Open cup: >230°C (>446°F) [Cleveland. ASTM D-92]

Pour point

Not available.

Drop Point

Not available.

Evaporation rate

Not available.

Flammability (solid, gas)

Not applicable. Based on - Physical state

Lower and upper explosive (flammable) limits

Not available.

Vapor pressure

Not available.

Vapor density

Not available.

Density

1020 to 1040 kg/m³ (1.02 to 1.04 g/cm³) at Ambient temperature

Relative density

<1 at Handling Temperature; (>1 at Ambient temperature)

Solubility

Very slightly soluble in water

Partition coefficient: n-octanol/water

Not available.

Auto-ignition temperature

Not available.

Decomposition temperature

Not available.

Viscosity

Dynamic: 0.1 to 500 Pa·s (100 to 500000 cP) at 60°C

Aerosol product

Section 10. Stability and reactivity

Reactivity	No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	Avoid excessive heat.
Incompatible materials	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Test	Species	Result	Exposure	Remarks
Asphalt	LC50 Inhalation Dusts and mists	Rat	>94.4 mg/m ³	4 hours	Based on Oxidized Bitumen
	LD50 Dermal	Rabbit	>2000 mg/kg	-	Based on Vacuum residue
	LD50 Oral	Rat	>5000 mg/kg	-	Based on Vacuum residue

Conclusion/Summary Not classified. Based on available data, the classification criteria are not met.

Sensitization

Product/ingredient name	Route of exposure	Species	Result	Remarks
Asphalt	skin	Guinea pig	Not sensitizing	Based on Vacuum residue

Skin Not classified. Based on available data, the classification criteria are not met.

Respiratory Not available.

Mutagenicity

Product/ingredient name	Test	Experiment	Result	Remarks
Asphalt	Equivalent to OECD 474	Experiment: In vitro Subject: Mammalian-Animal Cell: Germ	Positive	Based on Oxidized Bitumen
	OECD 471	Experiment: In vitro Subject: Non-mammalian species	Positive	Based on Bitumen
	Equivalent to OECD 474	Experiment: In vivo Subject: Unspecified Cell: Germ	Negative	Based on Oxidized Bitumen
	not guideline	Experiment: In vivo Subject: Unspecified Cell: Germ	Negative	Based on Bitumen

Conclusion/Summary Not classified. Based on available data, the classification criteria are not met. Assessment was by using a weight of evidence approach.

Section 11. Toxicological information

Carcinogenicity

Product/ingredient name	Species	Route	Exposure	Test	Result	Remarks
Asphalt	Rat	Inhalation	Negative - Inhalation - Unspecified	2 years	-	Based on Oxidized Bitumen
	Mouse	Dermal	Negative - Dermal - Unspecified	2 years	-	Based on Bitumen

Conclusion/Summary

Not classified. Based on available data, the classification criteria are not met.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Result	Exposure
Asphalt	-	-	Negative	Rat	Inhalation	50 days
	-	Negative	-	Rat	Inhalation	50 days

Conclusion/Summary

Development: Not classified. Based on available data, the classification criteria are not met.

Fertility: Not classified. Based on available data, the classification criteria are not met.

Effects on or via lactation: Not classified. Based on available data, the classification criteria are not met.

Information on the likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact

Will cause burns if hot material contacts eyes.

Skin contact

Will cause burns if hot material contacts skin.

Inhalation

No known significant effects or critical hazards.

Ingestion

No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

No specific data.

Inhalation

No specific data.

Skin contact

No specific data.

Ingestion

No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects

May be harmful by inhalation if exposure to vapor, mists or fumes resulting from thermal decomposition products occurs. Vapor, mist or fume may irritate the nose, mouth and respiratory tract. Vapor, mist or fume may cause eye irritation. Exposure to vapor, mist or fume may cause stinging, redness and watering of the eyes.

Potential delayed effects

Not available.

Long term exposure

Potential immediate effects

When product is heated to high temperatures, vapor, mists or fumes will be given off and may condense, contaminating the skin or clothing of operatives. Prolonged or repeated contact with this condensate may give rise to dermatitis.

Potential delayed effects

Vapor, mists or fumes may contain polycyclic aromatic hydrocarbons some of which are known to produce skin cancer.

Potential chronic health effects

General

No known significant effects or critical hazards.

Carcinogenicity

No known significant effects or critical hazards.

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Developmental effects

No known significant effects or critical hazards.

Section 11. Toxicological information

Fertility effects

No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Other information

Hydrogen sulfide (H₂S) gas may accumulate in storage tanks of bulk transport compartments containing this material. Contact with eyes causes painful conjunctivitis, sensitivity to light, tearing and clouding of vision. Inhalation of low concentrations causes a runny nose with a loss of sense of smell, labored breathing and shortness of breath. Direct contact with skin causes pain and redness. Other symptoms of exposure include profuse salivation, nausea, vomiting, diarrhea, giddiness, headache, dizziness, confusion, rapid breathing, rapid heart rate, sweating, weakness, sudden collapse, unconsciousness and death due to respiratory paralysis.

Cardiac neurological effects have also been reported. Prolonged breathing (greater than one hour) of concentrations of H₂S around 50 ppm can produce eye and respiratory tract irritation. Levels of 250 to 600 ppm will result in fluid in the lungs, and concentrations around 1,000 ppm will cause unconsciousness and death in a short period of time. Since the sense of smell rapidly becomes insensitive to this toxic, colorless gas, odor cannot be relied upon as an indicator of concentrations of the gas. Always exercise caution when working around closed containers.

The International Agency for Research on Cancer (IARC) has reviewed available data from epidemiology studies on paving workers and concluded that there is inadequate evidence in humans for the carcinogenicity of occupational exposures to bitumens and bitumen emissions (asphalt) during road paving. However, in their final hazard evaluation they also considered various mechanistic data on mutagenicity as well as other in vitro and in vivo findings and concluded that occupational exposure to straight-run asphalts and their emissions during road paving is "possibly carcinogenic to humans" (Group 2B).

Section 12. Ecological information

Toxicity

No testing has been performed by the manufacturer.

Product/ingredient name	Species	Test/Result	Exposure	Effects	Remarks
Asphalt	Micro-organism	LL50 >1000 mg/l Nominal Fresh water	40 hours	growth inhibition	Based on Oxidized Bitumen
	Micro-organism	NOEL >1000 mg/l Nominal Fresh water	40 hours	growth inhibition	Based on Oxidized Bitumen
	Algae	Acute EL50 >1000 mg/l Nominal Fresh water	72 hours	(growth rate)	Based on Oxidized Bitumen
	Daphnia	Acute LL50 >1000 mg/l Nominal Fresh water	48 hours	Mobility	Based on Oxidized Bitumen
	Fish	Acute LL50 >1000 mg/l Nominal Fresh water	96 hours	Mortality	Based on Oxidized Bitumen
	Fish	Chronic LL50	28 days	Mortality	Based on

Section 12. Ecological information

	>1000 mg/l Nominal Fresh water			Oxidized Bitumen
Daphnia	Chronic NOEL >1000 mg/l Nominal Fresh water	21 days	Reproduction	Based on Oxidized Bitumen
Fish	Chronic NOEL >1000 mg/l Nominal Fresh water	28 days	Mortality	Based on Oxidized Bitumen

Conclusion/Summary Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

**Soil/water partition
coefficient (K_{oc})**

Not available.

Mobility

Spillages are unlikely to penetrate the soil.

Other ecological information

Density (g/cm³): ~1

This product has a density close to that of water. Spills are unlikely to form a distinct film on the water surface, and may become dispersed as globules if mixed or agitated.

Density (g/cm³): >1

If released to water the product will sink.

Density (g/cm³): <1

Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN3257	Not regulated.	UN3257	UN3257
UN proper shipping name	Elevated temperature liquid, n.o.s. (Asphalt) RQ	-	Elevated temperature liquid, n.o.s. (Asphalt)	Elevated temperature liquid, n.o.s. (Asphalt)
Transport hazard class(es)	9 	-	9 	9 
Packing group	III	-	III	III
Environmental hazards	No.	No.	No.	No.
Additional information	<p>Reportable quantity 100 lbs / 45.4 kg [11.644 gal / 44.078 L]. The classification of the product is due solely to the presence of one or more US DOT-listed 'Hazardous substances' that are subject to reportable quantity requirements and only applies to shipments of packages greater than, or equal to, the product reportable quantity. Package sizes less than the product reportable quantity are not regulated as hazardous materials.</p> <p>Quantity limitation Passenger aircraft/ rail: Forbidden. Cargo aircraft: Forbidden.</p>		<p>Emergency schedules F-A, S-P</p>	<p>Quantity limitation Passenger and Cargo Aircraft: Forbidden. Cargo Aircraft Only: Forbidden. Limited Quantities - Passenger Aircraft: Forbidden.</p> <p>Remarks Note: Not regulated temperature < 100°C (212°F)</p>

Special precautions for user Not available.

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

Section 15. Regulatory information

Other regulations

Australia inventory (AICS)	All components are listed or exempted.
Canada inventory	All components are listed or exempted.
China inventory (IECSC)	All components are listed or exempted.
Japan inventory (ENCS)	All components are listed or exempted.
Korea inventory (KECI)	All components are listed or exempted.
Philippines inventory (PICCS)	All components are listed or exempted.
Taiwan Chemical Substances Inventory (TCSI)	All components are listed or exempted.
United States inventory (TSCA 8b)	All components are active or exempted.
REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.

Section 16. Other information

History

Date of issue/Date of revision	10/9/2019
Date of previous issue	02/04/2019.
Version	6
Prepared by	Product Stewardship

Key to abbreviations

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS Number = Chemical Abstracts Service Registry Number
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
HPR = Hazardous Products Regulations
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006]
UN = United Nations
Varies = may contain one or more of the following 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1

References

Not available.

Indicates information that has changed from previously issued version.

Notice to reader

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Section 16. Other information

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