



SDS – Asphalt Products – Road Dense Graded Asphalt

SECTION 1 IDENTIFICATION OF PRODUCT & SUPPLIER

Synonyms	Asphaltic Concrete (AC), Bituminous Concrete, Roadways Asphalt, Warm Mix Asphalt (WMA), Hot Mix Asphalt (HMA)
Appearance	Black aggregate
Odour	Characteristic oily odour
Use(s)	Road making and maintenance
Stock No.	None allocated
Poison Schedule	None allocated
Supplier Name	Field Services Group - Asphalt and Aggregates Branch
Address	228 Curtin Avenue West, Eagle Farm, QLD, 4009
Telephone	07 3403 1044 (Mon – Fri 8:00 am – 5:00 pm)
Website	www.brisbane.qld.gov.au
Emergency Telephone	07 3403 8888 (Brisbane City Council 24 hour service)

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

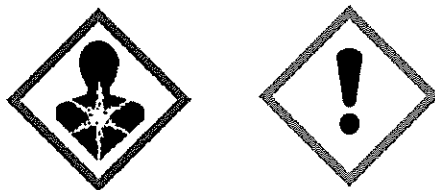
2.1 GHS Classification Mutagen: Category 2
Skin Irritation: Category 2

2.2 Label elements

Signal Word

WARNING

Pictogram(s)



Hazard statement(s)

H320	Causes eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defect.



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Prevention statement (s)	P201	Obtain special instructions before use.
	P202	Do not handle until all safety precautions have been read and understood. Water will boil off into steam and can be added to asphalt via the rolling or warm mix process.
	P262	Do not get in eyes, on skin, or on clothing.
	P264	Wash hands & exposed skin thoroughly after handling.
	P271	Use only outdoors or in a well-ventilated area.
Response statement(s)	P280	Wear protective clothing, heat resistant gloves and eye protection.
	P285	In case of inadequate ventilation wear respiratory protection as per Section 8.2.
	P308 + P313	If exposed or concerned: Seek medical advice.
	P332 + P313	If skin irritation occurs: Seek medical advice
	Storage statement(s)	P403
Disposal statement(s)	P501	Dispose of contents / container in accordance with relevant regulations.

2.3 Other hazards

This product is usually applied at elevated temperatures (ranging from 135°C to 175°C) by paving machinery or by hand spreading using a shovel. Contact with the hot material is likely to result in burns. Once cured, the inert semi-solid material is considered non-hazardous.

SECTION 3 COMPOSITION AND INFORMATION ON INGREDIENTS

Ingredients	%	CAS Nos
Hornfels / Greenstone / aggregates / stone / crusher dust / rock flour	84 - 89	None assigned
Sand	5 - 12	14808-60-7
Binders (residual bitumen binder)	3 - 6	8052-42-4
Filler	0 - 2	None assigned

SECTION 4 FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	If excess exposure occurs leave exposure area immediately and remove affected person to fresh air. If irritation persists seek immediate medical attention.
Skin	Major burns – Do not attempt to remove any binder from the skin. Cool affected areas immediately with cool water and seek immediate medical attention. Refer to Australian & New Zealand Burns Card (ANZBA) Bitumen Burns Card for reference. Minor burns – Seek medical attention. Seek medical attention if rash or discomfort occurs. Do not use any solvents to remove asphalt from skin.



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Eye contact	Flush eyes immediately with cool running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower eyelids. Adhered bituminous material should <u>only</u> be removed under medical direction. Seek immediate medical attention.
Ingestion	Ingestion is considered unlikely. If swallowed DO NOT induce vomiting. If vomiting occurs, lean person forward or place on left side (head down position, if possible) to maintain open airway. Observe person carefully. Seek immediate medical attention.
First aid facilities	Eye wash and shower facilities should be available.

4.2 Most important symptoms and effects, both acute and delayed

Contact with the hot product may cause burns.

Inhalation of vapours may cause irritation of the eyes and respiratory tract.

Occupational exposures to straight-run bitumen and their emissions during road paving are *possibly carcinogenic to humans (IARC Group 2B)*.

Once cured, the inert semi-solid material is considered non-hazardous.

4.3 Immediate medical attention and special treatment needed

Burns caused by bitumen require special medical treatment. Consultation with a burns specialist experienced in bitumen burns is advisable in the first instance.

Major burn – **Do not attempt to remove any binder from the skin.** Cool affected areas immediately with cool water and seek immediate medical attention.

Minor burn – Seek medical attention: Seek medical attention if rash or discomfort occurs. Do not use any solvents to remove asphalt from skin.

SECTION 5 FIRE FIGHTING MEASURES

5.1 Extinguishing media

Considered non-flammable.

In case of fire use dry powder, foam or water fog.

Water will boil off into steam and can be added to asphalt via the rolling or warm mix process.

5.2 Special hazards arising from the substance or mixture

Combustible: May evolve toxic gases (e.g. hydrogen sulphide) if heated to decomposition.

Incompatible with oxidising agents (e.g. peroxides) and acids (e.g. hydrochloric acid).

5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use water-fog to cool intact containers and nearby storage areas.

5.4 Hazchem code

None allocated

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes. Wear personal protective equipment (PPE) as detailed in Section 8.

Contact emergency services where appropriate. Ensure all personnel not wearing appropriate PPE are excluded from the area of concern.



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6.2 Environmental precautions

Prevent spillage and water run-off from entering drains, sewers and watercourses. Clean up spills immediately. Absorb small spills of excess bitumen with sand, vermiculite or similar and dispose of to an approved landfill site. If contamination of drains, sewers and watercourses has occurred, immediately contact local emergency services.

6.3 Methods and materials for containment and cleaning up

If spilt, recover product whenever possible. Contain spillage then cover / absorb spill with non-combustible absorbent material such as vermiculite, sand or similar. Collect and place in suitable containers for disposal to an approved landfill site.

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

SECTION 7 HANDLING AND STORAGE

7.1 Precautions for safe handling

Before use, carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and minimise inhalation. Observe good personal hygiene, including washing hands before eating, drinking, smoking or going to the toilet. Prohibit eating, drinking and smoking in containment areas. Limit unnecessary contact and wear appropriate personal protective equipment where risk of exposure exists.

7.2 Conditions for safe storage, including any incompatibilities

Store in a well-ventilated area removed from oxidising agents, acids and foodstuffs. Ensure storage vessels are adequately labelled, protected from physical damage and kept closed when not in use. Large storage areas should have appropriate ventilation systems.

7.3 Specific end use(s)

No information provided.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 Exposure control measures

Exposure Standards

Substance	Reference	TWA
Bitumen fumes	Safe Work Australia	5.0 mg/m ³
Bitumen fumes	NIOSH	5.0 mg/m ³

Biological Limits

No biological limit values have been determined for this product.

8.2 Exposure controls – Engineering controls

Use only in well ventilated areas. Where an inhalation risk exists, mechanical ventilation is recommended. Provide mechanical ventilation if used in confined or semi-confined spaces.

Personal Protective Equipment (PPE)

Eye / Face Splash proof chemical goggles or face shield should be worn. Final choice of appropriate eye and face protection will vary according to individual facial characteristics. Selection, use and maintenance of eye protection should be in accordance with Australian Standard AS/NZS 1336 'Recommended practices for occupational eye protection'.



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- Hand** Major risk of skin burns when heated – appropriate heat resistant gloves and protective clothing should be worn when handling hot asphalt. Wash hands and other exposed skin regularly with water. Wash hands before eating, drinking or smoking and before going to the toilet.
- Body** Wear loose, comfortable, long sleeved shirt and full-length trousers in good condition, shirt neck closed and sleeves rolled down, gloves and industrial heat proof safety footwear. Protective clothing should be regularly laundered.
- Respiratory** Where an inhalation risk exists (i.e. when heated) wear Type A-Class P1 (Organic vapour, particulate) respirator or Powered Air Purifying Respirator (PAPR) fitted with Type A-Class P1 (Organic vapour, particulate) filters. Selection, use and maintenance of respiratory protection should be in accordance with Australian Standard AS/NZS 1715 'Selection, use and maintenance of respiratory protective devices'.



SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Black aggregate	Upper Explosion Limit	Non-flammable
Odour	Characteristic odour	Lower Explosion Limit	Non-flammable
Odour Threshold	Not available	Vapour Pressure	Not available
pH	Not available	Vapour Density	Not available
Specific Gravity	Approx. 1.6 – 2.6	Solubility	Insoluble in water
Melting Point	Not available	Partition Coefficient	Not available
Flash point	Not available	Auto-ignition Temperature	Not available
Evaporation Rate	Not available	Decomposition Temperature	Approx. 260°C
Flammability	Non-flammable	Viscosity	Not available
Explosive Properties	Not available	Oxidising Properties	Not available

9.2 Other information

Expected temperature when cured	Ambient to 20°C above ambient
Maximum temperature when used	175°C

SECTION 10 STABILITY AND REACTIVITY

10.1 Reactivity

Product is non-reactive with the exception incompatibilities listed below.

10.2 Chemical stability

Product is stable under recommended conditions of storage. Asphalt is an inert material.

10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

10.4 Conditions to avoid

Not expected to have a high risk of flammability given the low percentage of bitumen used in the product.



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10.5 Incompatible materials

Avoid contact with incompatible substances (strong oxidising agents and acids). Refer to Section 5.

10.6 Hazardous decomposition products

May evolve toxic gases (hydrogen sulphide) when heated to decomposition (approximately 260°C).

SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity	No known acute toxicity data is available for this product. Inhalation may cause respiratory irritation, nausea, headaches and dizziness. Once cured, the inert solid material is non-hazardous.
Skin	Skin contact with heated product may result in burns. Contact may result in irritation, redness, rash and dermatitis. Exposure to bitumen fumes may cause photosensitisation.
Eye	Irritant. Contact may result in irritation, lacrimation, pain and redness.
Respiratory	Primary route of exposure is by inhalation of fumes if product is heated. Fumes are unlikely to be hazardous when used in open air situations. May cause respiratory irritation, nausea, headaches and dizziness.
Mutagenicity	In studies of pavers, bitumen emissions produced higher levels of mutagenic urine, increased DNA damage and chromosomal aberrations in human lymphocytes compared with control populations (<i>IARC Monograph Volume 103</i>).
Carcinogenicity	Occupational exposures to straight-run bitumen and their emissions during road paving are <i>possibly carcinogenic to humans (IARC Group 2B)</i> .
Reproductive toxicity	Insufficient data available to classify as a reproductive toxin.
Specific Target Organ Toxicity (STOT) – single exposure	Not classified as causing organ damage from a single exposure. However, inhalation of bitumen fumes may cause respiratory irritation, nausea, headaches and dizziness. This product may release trace quantities of hydrogen sulphide within storage facilities.
Specific Target Organ Toxicity (STOT) – repeated exposure	Not classified as causing organ damage from repeated exposure.
Aspiration hazard	Not expected to present an aspiration hazard.
Toxicity data	BITUMEN (8052-42-4) TDLo (Intramuscular): 5400 mg/kg/24 weeks-intermittent (rat) TDLo (Skin): 130 g/kg/81 weeks-intermittent (mouse)



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SECTION 12 ECOLOGICAL INFORMATION

12.1 Ecotoxicity

There is currently insufficient data to classify the ecotoxicity of this product. Generally considered non-hazardous to the environment however avoid excessive spillage or storm run-off into waterways and drains.

12.2 Persistence and degradability

Asphalts are non-volatile materials that will sink in water and form a solid layer on the surface of the ground. Biodegradation is likely to be slow.

12.3 Bio-accumulative potential

Not expected to bio-accumulate through food chains in the environment.

12.4 Mobility in soil

Emulsifies in water; Spillages are unlikely to penetrate the soil.

12.5 Results of PBT and vPvB assessment

No information provided

12.6 Other adverse effects

No information provided

SECTION 13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal

For small amounts absorb with non-combustible absorbent material such as vermiculite, sand or similar. Collect and place in suitable containers for disposal to an approved landfill site. Prevent contamination of drains and waterways. Ensure that appropriate control measures are employed when handling and disposing of the product.

Legislation

Consult local council and government regulations relating to the safe disposal of product.

SECTION 14 TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	Land Transport (ADG)	Sea Transport (IMDG/IMO)	Air Transport (IATA/ICAO)
14.1 UN Number	3257	None allocated	None allocated
14.2 UN proper shipping name	None allocated	None allocated	None allocated
14.3 Transport hazard classes			
DG Class	Class 9	None allocated	None allocated
Subsidiary risk(s)	None allocated	None allocated	None allocated
14.4 Packing group	None allocated	None allocated	None allocated
14.5 Environmental hazards		None allocated	
14.6 Special precautions for user	Refer Section 7		
Hazchem Code	None allocated		



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SECTION 15 REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Poison schedule		A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
Classifications		Carcinogenicity Bitumen: Occupational exposures to straight-run bitumen and their emissions during road paving are <i>possibly carcinogenic to humans (IARC Group 2B)</i> .
Risk phrases	R36 R37 R38	Irritating to eyes Irritating to respiratory system Irritating to skin
Safety phrases	S13 S23 S36/S39 S46 S51	Keep away from food, drink and animal feeding stuffs In case of insufficient ventilation, wear suitable respiratory protection Wear suitable protective clothing, eye and face protection If swallowed, contact a doctor or Poisons Information Centre immediately and show container or label Use only in well-ventilated areas
Inventory Listing(s)		Australian Inventory of Chemical Substances (AICS) All components are listed on AICS or are exempt

SECTION 16 OTHER INFORMATION

Additional information HEALTH EFFECTS FROM EXPOSURE
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment use; and method of application. Users of this product should assess the risks and apply control methods where appropriate.

PERSONAL PROTECTIVE EQUIPMENT

The recommendations for protective equipment contained in this report are provided as a guide only. Factors such as method of product application, working environment, quantity of product used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment.

ABBREVIATIONS

ACGIH – American Conference of Industrial Hygienists
ADG – Australian Dangerous Goods
AICS – Australian Inventory of Chemical Substances
GHS – Global Harmonised System
IARC – International Agency for Research on Cancer
IATA – International Air Transport Association
ICAO – International Civil Aviation Authority
LD50 – Lethal Dose, 50% / Median Lethal Concentration
IMDG – International Maritime Dangerous Goods Code
IMO – International Maritime Organisation
PBT – Persistent Bio-accumulative Toxic
TDLo – Toxic Dose, Low (minimal toxic dose)
TWA – Time Weighted Average
vPvB – very Persistent, very Bio-accumulative



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Report status

While Simtars has taken all due care to include accurate and current information in this report, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Simtars accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this report.

Revision History

Version number: 2

Prepared to meet requirements of *Safe Work Australia* and the *Global Harmonised System of Classification and Labelling of Chemicals (GHS)*

Date of Issue

May 2016

Review Date

May 2021