Safety Data Sheet

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name **ASPHALT**

Synonyms AC ● ASPHALTIC CONCRETE ● BITUMINOUS CONCRETE ● BTB ● COLOURED ASPHALT, CRUMB RUBBER ASPHALT, RAILPAVE, STONE MASTIC, AND AEROPAVE, DENSE GRADED ASPHALT, OPEN GRADED ASPHALT, HOT MIX ● DGA ● DURAPAVE ● EME ● HOT MIXED ASPHALT ● INNOVO ● LO-NOISE ASPHALT ● NOVACHIP ● OGA ● PORTMIX ● SMA ● WARM MIX ASPHALT ● WARMPAVE

1.2 Uses and uses advised against

Uses ROAD MAKING MATERIALS

Road, industrial and airport pavements and surfacings.

1.3 Details of the supplier of the product

Supplier name **BORAL AUSTRALIA**

Address Triniti T2, Level 3, 39 Delhi Road, North Ryde, NSW, 2113, AUSTRALIA

Telephone (02) 9220 6300

Website http://www.boral.com.au

1.4 Emergency telephone numbers

Emergency 13 11 26 (Poisons Information Centre)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

Physical Hazards

Not classified as a Physical Hazard

Health Hazards

Skin Corrosion/Irritation: Category 3

Environmental Hazards

Not classified as an Environmental Hazard

2.2 GHS Label elements

Signal word **WARNING**

Pictograms

Hazard statements

H316 Causes mild skin irritation.

Prevention statements

P262 Do not get in eyes, on skin, or on clothing.

Response statements

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

Storage statements

P403 Store in a well-ventilated place.

Disposal statements

P501 Dispose of contents/container in accordance with relevant regulations.

2.3 Other hazards

This material is applied at elevated temperatures (typically 110°C to 175°C) with a special purpose paving machine or by hand spreading. Contact with hot material can result in burns. The cured, inert semi solid material is considered non hazardous.

Please see package labelling or manufacturer's literature for more detail on usage, handling, storage and disposal under different applications.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
POLYMER(S)	-	-	<8%
MINERAL AGGREGATE(S)	-	-	88 to 96%
ASPHALT	8052-42-4	232-490-9	3 to 8%
HYDRATED LIME	-	-	<5%
ADDITIVE(S)	-	-	<0.1%

Ingredient Notes Note: Mineral aggregates may contain >1% quartz.

1. Depending upon the source material, it may contain quartz (crystalline silica). Due to the product form (wet-mix coated with bitumen), over exposure via inhalation is not anticipated unless dust is generated via cutting, core sampling or profiling operations etc.
2. Although rare, it may contain trace amounts (<0.01%) of naturally occurring respirable Elongated Mineral Particulates. The levels detected are determined to be well below the threshold level for exposure by inhalation.
3. Crystaline Silica Content of asphalt mixture >1%, over exposure via inhalation is not anticipated unless dust is generated via cutting, grinding, machining, profiling operations etc.

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye If contact with hot material occurs, flush gently with cold running water. Adhered material should only be removed under the medical direction. Seek immediate medical advice.

Inhalation If inhaled, remove from contaminated area. To protect rescuer, use a Type A (Organic vapour) respirator or an Air-line respirator (in poorly ventilated areas). Apply artificial respiration if not breathing.

Skin If contact with hot material occurs, drench area immediately with cold water, do not attempt to remove material adhered to the skin. Seek immediate medical attention.

Ingestion For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Ingestion is considered unlikely due to product form.

First aid facilities Eye wash facilities and safety shower are recommended.

4.2 Most important symptoms and effects, both acute and delayed

Avoid contact with hot material, as burns may result. Bitumens, occupational exposure to straight-run bitumens and their emissions during road paving, are classified as possibly carcinogenic to humans (IARC Group 2B). Irritating to the eyes and skin. Due to the product form (wet-mix coated with bitumen), over exposure via inhalation is not anticipated with normal use.

Dust that is generated via cutting, core sampling or profiling operations. Chronic over exposure to quartz dust may result in silicosis (lung disease). Principal symptoms of silicosis are coughing and breathlessness. Crystalline silica is classified as carcinogenic to humans (IARC Group 1).

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.

Refer to the Australian Asphalt Pavement Association (AAPA) bitumen burns card for further information (http://www.aapa.asn.au).

Bitumen burns: If hot bitumen contacts the skin, flush immediately with water and make no attempt to remove it. Use wet, cold towels if face, neck, shoulder or back etc are burnt. Cool burn areas for 30 minutes and seek immediate medical attention. Where bitumen completely circles a limb, it may have a tourniquet effect and should be split longitudinally as it cools. If eye burns result flush with water for 15 minutes, pad and seek immediate medical attention.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media
In case of fire, use water fog, foam, dry chemical or carbon dioxide extinguisher or spray. Do not use water jets.

5.2 Special hazards arising from the substance or mixture
Combustible. May evolve toxic gases (carbon/ sulphur/ nitrogen oxides, hydrogen sulphide, hydrocarbons) when heated to decomposition.

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 waterfog to cool intact containers and nearby storage areas.

5.4 Hazchem code
None allocated.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Allow material to cool. Contact emergency services where appropriate.

6.2 Environmental precautions
Contain material and prevent product from entering drains and waterways. Collect and seal in properly labelled containers for disposal. If contamination of sewers or waterways has occurred, contact local emergency services.

6.3 Methods of cleaning up
Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal. Eliminate all sources of ignition.

6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

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 inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas. Fuming occurs at application temperatures but can be reduced if handled at temperatures below 150°C.

7.2 Conditions for safe storage, including any incompatibilities
Store in a well ventilated area removed from ignition sources, oxidising agents and foodstuffs. Keep storage vessels closed when not in use. Take precautionary measures against electrostatic discharges.

7.3 Specific end uses
This product contains more than 1% crystalline silica and is considered a Crystalline Silica Substance as specified in Occupational Health and Safety Amendment (Crystalline Silica) Regulations 2021, S.R. No. 137/2021.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters
Exposure standards Exposure to respirable crystalline silica dust may occur during cutting, core sampling and profiling.

Ingredient	Reference	TWA		STEL	
		ppm	mg/m³	ppm	mg/m³
Bitumen fume	SWA [AUS]	--	5	--	--
Quartz (respirable dust)	SWA [AUS]	--	0.05	--	--

Biological limits
No biological limit values have been entered for this product.

8.2 Exposure controls

Engineering controls Avoid inhalation by working upwind where possible. Use in well ventilated areas. Maintain vapour /fume levels below the recommended exposure standard. Avoid generating dust during any cutting, core-sampling or profiling activities (highly recommended to use suitable water suppression/extraction).

All work should be carried out in such a way as to minimise exposure to dust and repeated skin contact. Where dust could be generated whilst handling, use suitable suppression measures such as mechanical ventilation, water suppression or extraction in areas where dust could escape into the work environment. Maintain dust levels below the recommended exposure standard and where water suppression or extraction is not possible appropriate respiratory PPE must be used.

PPE

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Eye / Face Wear a face-shield or splash-proof goggles when handling hot material. Wear safety glasses when handling cold material.

Hands Wear heat resistant leather or insulated gloves when handling hot material. Wear chemical resistant gloves (ie. Nitrile) when handling cold material.

Body Avoid contact with skin and clothing. Wear impervious coveralls and heat resistant boots when handling hot material. When the risk of skin exposure is high, an impervious chemical suit may be required.

Respiratory Where an inhalation risk exists in enclosed or partly enclosed environments (ie. underground carparks, large tanks, tunnels etc or when cutting, core sampling or profiling operation without appropriate water suppression), wear a Type A-Class P1 (Organic gases/vapours and Particulate) respirator, dependent on a site specific risk assessment.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	BLACK HOT LOOSE COATED SOLID PARTICLES (IN USE); BLACK SOLID THERMOPLASTIC MATERIAL (WHEN CURED)
Odour	BITUMEN-LIKE ODOUR
Flammability	COMBUSTIBLE
Flash point	> 250°C
Boiling point	NOT RELEVANT
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	NOT AVAILABLE
Vapour density	NOT AVAILABLE
Relative density	NOT AVAILABLE
Solubility (water)	INSOLUBLE
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	> 300°C
Viscosity	NOT AVAILABLE
Explosive properties	NOT EXPLOSIVE
Oxidising properties	NON OXIDISING
Odour threshold	NOT AVAILABLE

9.2 Other information

Avg weight/m² when cured	2.5 T/m3
Expected temp. when cured	Between ambient and 20°C above ambient
Max temp. in use	180°C

10. STABILITY AND REACTIVITY

10.1 Reactivity
Carefully review all information provided in sections 10.2 to 10.6.

10.2 Chemical stability
Stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions
Polymerization is not expected to occur.

10.4 Conditions to avoid
Avoid heat, sparks, open flames and other ignition sources.

10.5 Incompatible materials
Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid). Do not allow hot material to contact liquids or water.

10.6 Hazardous decomposition products
May evolve toxic gases (carbon/ sulphur/ nitrogen oxides, hydrogen sulphide, hydrocarbons) when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity	No known toxicity data is available for this product. Based on available data, the classification criteria are not met. Inhalation may cause headache, nausea and respiratory tract irritation. Once cured, the inert solid material is considered non hazardous.
Skin	Contact with hot material may cause skin burns. Exposure to asphalt fumes may cause dermatitis and photosensitisation. Once cured, the inert semi solid material is considered non hazardous.
Eye	Contact with hot material may cause eye burns. Exposure to asphalt fumes may cause irritation, redness or pain. Once cured, the inert semi solid material is unlikely to penetrate the eye and considered non hazardous.
Sensitisation	Not classified as causing skin or respiratory sensitisation.
Mutagenicity	Insufficient data available to classify as a mutagen.
Carcinogenicity	Bitumens, occupational exposure to straight-run bitumens and their emissions during road paving, are classified as possibly carcinogenic to humans (IARC Group 2B).
Reproductive	Insufficient data available to classify as a reproductive toxin.
STOT - single exposure	Not classified as causing organ damage from single exposure. However, inhalation of bitumen fumes may cause headache, nausea and respiratory tract irritation. This material may release trace quantities of hydrogen sulphide within storage facilities.
STOT - repeated exposure	Not classified as causing organ damage from repeated exposure.
Aspiration	Not expected to present an aspiration hazard.

12. ECOLOGICAL INFORMATION

12.1 Toxicity
The bulk of the bitumen dispersed in asphalt is fairly inert when set, and should not present an environmental hazard under normal conditions.

12.2 Persistence and degradability
This product is not readily biodegradable.

12.3 Bioaccumulative potential
This product is not expected to bioaccumulate through food chains in the environment.

12.4 Mobility in soil
Spillages are unlikely to penetrate the soil.

12.5 Other adverse effects
Avoid contamination of drains and waterways.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal For small amounts dispose of to an approved landfill site. Contact the manufacturer for additional information if larger amounts are involved. Prevent contamination of drains and waterways as aquatic life may be threatened and environmental damage may result.

Legislation Dispose of in accordance with relevant local legislation.

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	None allocated.	None allocated.	None allocated.
14.2 Proper Shipping Name	None allocated.	None allocated.	None allocated.
14.3 Transport hazard class	None allocated.	None allocated.	None allocated.
14.4 Packing Group	None allocated.	None allocated.	None allocated.

14.5 Environmental hazards

No information provided.

14.6 Special precautions for user

Hazchem code None allocated.

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 Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

Inventory listings **AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)**
All components are listed on AIIC, or are exempt.

16. OTHER INFORMATION

Additional information

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT 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 SDS.

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[End of SDS]

Revision Information

Revision History

Revision	Date	Description
5	25/08/2023	Addition of synonyms
4	11/01/2023	Full SDS Review
3.2	27/06/2022	Standard SDS Review
3.1	04/11/2021	Standard SDS Review
3	07/06/2018	Standard SDS Review
2	31/08/2012	Standard SDS Review
1	10/07/2008	Initial SDS Creation

Review Team

SME Reviewers	Subject Matter
National Technical Manager - Asphalt	Quality
H&S Business Partner - Asphalt	Health & Safety
Environmental Sustainability Manager	Environment & Community
Mobile Asset Manager - Asphalt	Transport & Dangerous Goods
National Health & Hygiene Manager	Health & Hygiene
National Technical Manager - Asphalt	**Product Custodian**