



Material Safety Data Sheet

Industrial & Roofing Asphalts

Section 1. Chemical Product and Company Identification			
Product Name	INDUSTRIAL ASPHALT BUR TYPE I, II, III, IV		Validated on Jan 16, 2012
Synonym	Type 1 BUR, Type 2 BUR, Type 3 BUR, Type 4 BUR & Coating		
Manufacturer	Bitumar Inc. 11155 Ste-Catherine East Montréal-est, QC H1B 0A4 Canada Ph: 514-645-4561	Bitumar (Hamilton) Inc. 400 Eastport Blvd. Hamilton, ON L8H 7S4 Canada Ph: 905-549-4561	Bitumar USA Inc. 6000 Pennington Ave. Baltimore, MD 21226 USA Ph: 410-354-9550
In case of emergency	Canutec Transportation: 613-996-6666 Poison Control Centre: Consult local telephone directory for emergency number(s).		
Material Uses	These products are primarily used for roofing applications. However, there are a number of other industrial applications		

Section 2. Composition and Information on Ingredients					
Name	CAS#	% (W/W)	Exposure Limits (ACGIH)		
			TLV-TWA(8 h)	STEL	CEILING
Oxidized asphalt	64742-93-4	60 – 100	0.5 mg/m ³ asphalt fume, as benzene soluble aerosol		
Sulphur (Note 1)	7704-34-9	1 – 5	10 ppm (hydrogen sulphide)	15 ppm (hydrogen sulphide)	Not established
Asphalt Extender	129893-17-0	0.1 – 13			
Note 1: Sulphur and its derivatives are intrinsic to base asphalt. During storage or transit of hot asphalt, hydrogen sulphide may be generated.					
Other Exposure Limits	Consult local, state, provincial or territory authorities for acceptable exposure limits.				

Section 3. Hazards Identification.	
Potential Health effects	<p>This product has a low vapour pressure and is not expected to present an inhalation hazard at ambient conditions. Heating to high temperatures or mechanical actions, may produce vapours or fumes. Inhalation of vapours or fumes can cause respiratory tract irritation and CNS depression with symptoms of nausea, headaches, vomiting, dizziness, fatigue, light-headedness, reduced coordination, unconsciousness and possibly death.</p> <p>Hot asphalt burns skin and eyes. At higher concentrations (above 10 ppm), hydrogen sulphide is extremely toxic by inhalation, may cause respiratory-tract irritation and respiratory failure, coma and death. Pulmonary oedema can occur up to 24 hours after hydrogen sulphide exposure. While hydrogen sulphide emits a strong odour of rotten eggs, detection by smell is not reliable as a warning for exposure to this substance, as it may deaden the sense of smell quickly. Refer to Section 11</p>

Section 4. First Aid Measures	
Eye Contact	IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open, Seek medical attention.
Skin Contact	For hot asphalt splash, cool affected body part with water immersion or shower. Do not attempt removal of asphalt but split longitudinally if asphalt covers limb circumferentially to avoid tourniquet effect. No attempt should be made to remove firmly adhering bitumen from the skin. Once the bitumen has cooled, it will do no further harm and in fact provide a sterile covering over a burnt area. As healing takes place, the bitumen plaque will detach itself, usually after a few days. For skin soiling without underlying burn, cleanse with mineral oil followed by soap and water. Use olive oil in vicinity of eyes.
Inhalation	Evacuate the victim to a safe area as soon as possible. If the victim is not breathing, perform artificial respiration. Allow the victim to rest in a well ventilated area. Seek medical attention.
Ingestion	DO NOT induce vomiting because of danger of aspirating liquid into lungs. Seek medical attention.



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Section 5 Fire-fighting Measures			
Flammability	Non-flammable, but will burn on prolonged exposure to flame or high temperature.	Flammable Limits	Not available
Flash Points	>260°C (500°F) (Cleveland open cup)	Auto-Ignition Temperature	>370 °C (> 698°F)
Fire Hazards	Low fire hazard. This material must be heated before ignition will occur. Hydrogen sulphide may be released if the product is overheated and may accumulate in the tank headspace or any other confined space.	Explosion hazards	Do not cut, weld, heat, drill or pressurize empty container. Containers may explode in heat of fire.
Products of Combustion	Carbon oxides (CO, CO ₂), nitrogen oxides (NO _x), sulphur oxides (SO _x), sulphur compounds (H ₂ S), smoke and irritating fumes as products of incomplete combustion.		
Fire Fighting Media and Instructions	NAERG96, GUIDE 171, Substances (low to moderate hazard). If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (0.5 mile) in all directions; also, consider initial evacuation for 800 meters (0.5 mile) in all directions. Shut off fuel to fire if it is possible to do so without hazard. If this is impossible, withdraw from area and let fire burn out under controlled conditions. Withdraw immediately in case of rising sound from venting safety device or any discolouration of tank due to fire. Cool containing vessels with water spray in order to prevent pressure build-up, auto-ignition or explosion. SMALL FIRE: use DRY chemicals, foam, water spray or CO ₂ . LARGE FIRE: use water spray, fog or foam. For small outdoor fires, portable fire extinguishers may be used, and self contained breathing apparatus (SCBA) may not be required. For all indoor fires and any significant outdoor fires, SCBA is required. Respiratory and eye protection are required for fire fighting personnel.		
Section 6. Accidental Release Measures			
Material Release or Spill	Consult current National Emergency Response Guide Book (NAERG) for appropriate spill measures if necessary. Avoid contact with spilled material. Avoid breathing vapours or fumes of material. Ensure clean up personnel wear appropriate personal protective equipment. Avoid contaminating sewers, streams, rivers and other water courses with spilled material. Notify appropriate authorities immediately.		
Section 7. Handling and Storage			
Handling	Asphalt may be transported hot. Avoid skin contact. Avoid eye contact. Avoid inhalation of product vapours or fumes. Ensure all equipment is grounded/bonded. During storage, transit and cooling of asphalt, hydrogen sulphide may accumulate in enclosed spaces such as tank cars. Open tank car hatches with caution. Maintain same precautions when gauging and sampling. Empty containers may contain product residue. Do not reuse containers without commercial cleaning and/or reconditioning. Personnel who handle this material should practice good personal hygiene during and after handling to help prevent accidental ingestion of this product. Wear proper personal protective equipment (See Section 8).		
Storage	To maintain pumping ability, asphalt is kept heated to a suitable temperature; normally well above room temperature but below the flash point. Store in dry, well-ventilated area. Clear roof vents periodically to prevent accumulation of asphalt deposits from vapour accumulation. Store away from incompatible and reactive materials (See section 5 and 10). Ensure the storage containers are grounded/bonded.		
Section 8. Exposure Controls/Personal Protection			
Engineering control	For normal application, special ventilation is not necessary. If user's operations generate vapours or fumes, use ventilation to keep exposure to airborne contaminants below the exposure limit. Make-up air should always be supplied to balance air removed by exhaust ventilation. Ensure that eyewash station and safety shower are close to work-station.		
Personal protection	The selection of personal protective equipment varies, depending upon conditions of use.		
Eyes	As a minimum, safety glasses with side shields should be worn when handling this material.		
Body	If this material may come in contact with the body during handling and use, we recommend wearing appropriate protective clothing to prevent contact with the skin. (Contact your PPE provider for more information.)		
Respiratory	A minimum of NIOSH-approved air-purifying respirator with an organic vapour cartridge or canister with a dust, fume or mist filter (R, or P series) may be allowable under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. A NIOSH-approved positive-pressure, air-supplied respirator or self-contained breathing apparatus may be required under certain circumstances where airborne concentrations are expected to exceed exposure limits		
Hands	If this material may come in contact with the hands during handling and use, we recommend wearing gloves of the following material(s): nitrile, leather. Consult your PPE provider for breakthrough times and the specific glove that is best for you based on your use patterns. It should be realized that eventually any material regardless of their imperviousness, will get permeated by chemicals. Therefore, protective gloves should be regularly checked for		

	wear and tear. At the first signs of hardening and cracks, they should be changed. When handling hot product ensure gloves are heat resistant and insulated.
Feet	Wear appropriate footwear to prevent product from coming in contact with feet and skin.



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Section 9. Physical and Chemical Properties			
Physical State and Appearance	Viscous semi-solid.	Viscosity	100-4000 cSt @ 175°C (347°F) depending on grade
Colour	Black	Pour Point	Not available
Odour	Characteristic asphaltic odour or "rotten egg" odour if H ₂ S present, but odour is an unreliable warning, since it may deaden the sense of smell.	Softening Point	57-107°C (135-225°F) depending on grade.
Odour Threshold	Not available	Dropping Point	Not available
Boiling Point	470 °C (878°F)	Penetration	12-60 (100g/5s/0.1mm) depending on grade
Density	> 1 (Water = 1)	Oil / Water Dist. Coefficient	Not available
Vapour Density	Not available	Ionicity (in water)	Not available
Vapour Pressure	Not available	Dispersion Properties	Not available
Volatility	Non-volatile at ambient temperature and pressure.	Solubility	Insoluble in cold water, alcohol, acids and alkalis. Soluble in oil turpentine, petroleum, carbon disulphide, chloroform, ether, and acetone.

Section 10. Stability and Reactivity			
Corrosivity	Non corrosive.		
Stability	The product is stable under normal handling and storage conditions.	Hazardous Polymerization	Will not occur under normal working conditions.
Incompatible Substances Conditions to Avoid	Reactive with oxidizing agents and fluorine	Decomposition Products	May release CO _x , NO _x , SO _x , H ₂ S, hydrocarbons, smoke and irritating fumes when heated to decomposition.

Section 11. Toxicological Information	
Routes of Entry	Skin contact, eye contact, inhalation and ingestion.
Acute Lethality	Based on toxicity of components. Hydrogen sulphide - Acute inhalation toxicity (LC50): 250-354 ppm/4h (rat & mouse).
Chronic or Other Toxic Effects	
Dermal Route	Prolonged or repeated contact with skin may cause dermatitis or warty skin growths (keratosis). Contact with hot material can cause thermal burns.
Inhalation Route:	This product has a low vapour pressure and is not expected to present an inhalation hazard at ambient conditions. Heating of this product to high temperatures or mechanical actions, may produce vapours or fumes. Inhalation of vapours or fumes can cause respiratory tract irritation and CNS depression with symptoms of nausea, headaches, vomiting, dizziness, fatigue, light-headedness, reduced coordination, unconsciousness and possibly death. At higher concentrations (above 10 ppm), hydrogen sulphide is extremely toxic by inhalation, may cause respiratory-tract irritation and respiratory failure, coma and death. Pulmonary oedema can occur up to 24 hours after hydrogen sulphide exposure. While hydrogen sulphide emits a strong odour of rotten eggs, detection by smell is not sufficient as a warning property for exposure to this substance, as it may deaden the sense of smell quickly.
Oral Route	Relatively non-toxic via ingestion
Eye Irritation Inflammation	Vapours or fumes from the hot asphalt can cause irritation of the surface of the eyes as well as limbal pigmentation of the cornea. Contact with hot material can cause thermal burns.
Immunotoxicity	Not available
Skin Sensitization	This product is not expected to be a skin sensitizer, based on the available data and the known hazards of the components.
Respiratory Tract Sensitization	This product is not expected to be a respiratory tract sensitizer, based on the available data and the known hazards of the components.

Mutagenic: Reproductive	This product is not expected to be a mutagen, based on the available data and the known hazards of the components.
Toxicity	Acute dermal toxicity LD50 – Oxidized asphalt
Teratogenicity/Embryotoxicity:	This product is not expected to be a teratogen or an embryo toxin, based on the available data and the known hazards of the components.



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Section 11. Toxicological Information(Cont'd)	
Carcinogenicity (ACGIH):	This product is not known to contain any chemicals at reportable quantities that are listed as A1 or A2 carcinogens by ACGIH.
Carcinogenicity (IARC):	Occupational exposures to oxidized bitumens and their emissions during roofing are 'probably carcinogenic to humans' (Group 2A)
Carcinogenicity (NTP):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by NTP.
Carcinogenicity (IRIS):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by IRIS.
Carcinogenicity (OSHA)	Based on IARC Oct 18, 2011 announcement, occupational exposures to oxidized bitumens and their emissions during roofing are 'probably carcinogenic to humans' (Group 2A)
Other Considerations	IARC Announcement will soon be followed by release of monograph



Warning
Suspected of causing cancer



Warning
Suspected of causing cancer

Section 12. Ecological Information			
Environmental Fate	Not available	Persistence/Bioaccumulation	Not available
BOD5 and COD	Not available	Products of Biodegradation	Not available
Additional Remarks	No additional remark		

Section 13. Disposal Considerations	
US EPA Waste Number & Description :	
A: General product information	Material, if discarded, is not a characteristic hazardous waste under RCRA.
B: Component waste Numbers	No EPA waste number are applicable for this product's components
Disposal instructions	Dispose of waste material according to local, Federal, Provincial and state Environmental Regulations


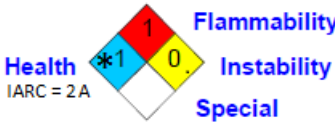
Section 14. Transport Information		
TDG Classification	Canada	Not controlled in Canada
	USA	ELEVATED TEMPERATURE LIQUID, N.O.S., at or above 100°C and below its flash point, 9, UN3257, PGIII (CL-TDG)
Special Provisions for Transport	See Transportation of Dangerous Goods Regulations.	





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Section 15. Regulatory Information				
USA Regulation	SARA 302 AND 304: This product contain hydrogen sulphide (CAS # 7783-06-4) an "extremely hazardous substances" listed pursuant to Title III of SARA Section 302 or Section 304			
	SARA 311 AND 312: These products pose the following health hazard(s) as defined in 40 CFR Part 370 and are subject to the requirements of sections 311 and 312 of Title III of SARA: Immediate (Acute) Health Hazard Delayed (Chronic) Health Hazard Hot Product: Fire Hazard			
	SECTION 313: These products do not contain "toxic" chemical(s) subject to the requirements of section 313 of Title III of SARA and 40 CFR Part 372.			
	CALIFORNIA: These products may contain detectable amounts of lead CAS 7439-92-1, nickel CAS 7440-02-0, benzo(a)anthracene CAS 56-55-3, benzo(k)fluoranthene CAS 207-08-9, benzo(a)pyrene CAS 50-32-8, benzo(b)fluoranthene CAS 205-99-2, chrysene CAS 218-01-9, dibenz(a,h)anthracene CAS 53-70-3, and indeno(1,2,3-cd)pyrene CAS 193-39-5. WARNING: These chemicals are known to the State of California to cause cancer. These products may contain detectable amounts of lead CAS 7439-92-1. WARNING: This chemical is known to the State of California to cause birth defects or other reproductive harm.			
CANADIAN REGULATIONS	This product is acceptable for use under the provisions of WHMIS-CPR. All components of this formulation are listed on the CEPA-DSL (Domestic Substances List). All components of this formulation are listed on the US EPA-TSCA Inventory. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR. WHMIS: Class D2B - Irritating to eyes and skin. As a hot product: Class B2 - Flammable Liquid			
CEPA CANADIAN EPA:	All the components of these products are listed on, or are automatically included as "substance occurring in nature" on, or are exempted from the requirements to be listed on, the Canadian Domestic Substances List (DSL).			
ADR (Europe)	NOT EVALUATED FOR EUROPEAN TRANSPORT	DOT (U.S.A)	 (Pictograms)	
HMIS (USA)	Health Hazard	1		Rating : 0 Insignificant 1 Slight 2 Moderate 3 High 4 Extreme
	Fire Hazard 1	1		
	Reactivity 0	0		
	Personal Protection	B		



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Section 16. Other Information

References

Available upon request.

Glossary

ACGIH - American Conference of Governmental Industrial Hygienists
 ADR - Agreement on Dangerous goods by Road (Europe)
 ASTM - American Society for Testing and Materials
 BOD5 - Biological Oxygen Demand in 5 days
 CAN/CGA B149.2 Propane Installation Code
 CAS - Chemical Abstract Services
 CEPA - Canadian Environmental Protection Act
 CERCLA - Comprehensive Environmental Response, Compensation and Liability Act
 CFR - Code of Federal Regulations
 CHIP - Chemicals Hazard Information and Packaging Approved Supply List
 CNS - Central Nervous System
 COD5 - Chemical Oxygen Demand in 5 days
 CPR - Controlled Products Regulations
 DOT - Department of Transport
 DSCL - Dangerous Substances Classification and Labelling (Europe)
 DSD/DPD - Dangerous Substances or Dangerous Preparations Directives (Europe)
 DSL - Domestic Substance List
 EEC/EU - European Economic Community/European Union
 EINECS - European Inventory of Existing Commercial Chemical Substances
 EPA - Environmental Protection Agency
 EPCRA - Emergency Planning and Community Right to Know Act
 FDA - Food and Drug Administration
 FIFRA - Federal Insecticide, Fungicide and Rodenticide Act
 HCS - Hazard Communication Standard
 HMIS - Hazardous Material Information System
 IARC - International Agency for Research on Cancer

IRIS - Integrated Risk Information System
 LD50/LC50 - Lethal Dose/Concentration kill 50%
 LDLo/LCLo - Lowest Published Lethal Dose/Concentration
 NAERG'96 - North American Emergency Response Guide Book (1996)
 NFPA - National Fire Prevention Association
 NIOSH - National Institute for Occupational Safety & Health
 NPRI - National Pollutant Release Inventory
 NSNR - New Substances Notification Regulations (Canada)
 NTP - National Toxicology Program
 OSHA - Occupational Safety & Health Administration
 PEL - Permissible Exposure Limit
 RCRA - Resource Conservation and Recovery Act
 RTECS - Registry of Toxic Effects of Chemical Substances
 SARA - Superfund Amendments and Reorganization Act
 SD - Single Dose
 STEL - Short Term Exposure Limit (15 minutes)
 TDG - Transportation Dangerous Goods (Canada)
 TDLo/TCLo - Lowest Published Toxic Dose/Concentration
 TLm - Median Tolerance Limit
 TLV-TWA - Threshold Limit Value-Time Weighted Average
 TSCA - Toxic Substances Control Act
 USEPA - United States Environmental Protection Agency
 USP - United States Pharmacopoeia
 WHMIS - Workplace Hazardous Material Information System

Bitumar Inc. customarily reviews and updates MSDS at least once every 3 years in accordance with the Canadian Controlled Products Regulations (CPR).

If you would like to verify if the MSDS you have is the most current, or you require any further information, please contact:

For Canada: 514-645-4561; Fax: 514-645-6978.

For the USA: 410-354-9550. Fax: 410-354-9552.

For other Product Safety Information: (514) 645-4561

Or visit our website: www.bitumar.com

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