WHMIS (Pictograms)	WHMIS (Classification)	Protective clothing	TDG (pictograms)
	**Not controlled**		*See Section 14*

Section 1. Chemical Product and Company Identification

Product Name	**INDUSTRIAL ASPHALT BUR TYPE I, II, III, IV**	**Validated on 10/30/2007.**

Synonym	**Type I BUR Type II BUR, Type III BUR, Type IV BUR.**		
Manufacturer	**Bitumar Inc.** **11650 Metropolitain East** **Montreal, QC H1B 1A5** **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

			Exposure Limits (ACGIH)		
Name	**CAS#**	**% (W/W)**	**TLV-TWA(8 h)**	**STEL**	**CEILING**
Oxidized asphalt NOTE: During storage or transit of hot asphalt, hydrogen sulphide may be generated.	64742-93-4	100	0.5 mg/m^3 (asphalt (bitumen) fume, as benzene soluble aerosol)	Not established	Not established

Manufacturer Recommendation	Not applicable
Other Exposure Limits	Consult local, state, provincial or territory authorities for acceptable exposure limits.

Section 3. Hazards Identification.

Potential Health effects	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, unconciousness and possibly death. 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 edema 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. For more information, refer to Section 11.

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 circumferential 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.

Section 5.	*Fire-fighting Measures*		
Flammability	Nonflammable, but will burn on prolonged exposure to flame or high temperature.	**Flammable Limits**	Not available
Flash Points	>260°C (5OO°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. Various Substances
Products of Combustion	Carbon oxides (CO, CO2), nitrogen oxides (NOx), sulphur oxides (SOx), sulphur compounds (H2S), 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, autoignition or explosion. SMALL FIRE: use DRY chemicals, foam, water spray or CO2. 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 of mist filter (R, or P series) may be permissible 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 permissible 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.

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 H2S 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 alkalies. 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 COx, NOx, SOx, H2S, 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, unconciousness 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 edema 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:	This product is not expected to be a reproductive hazard, based on the available data and the known hazards of the components.
Teratogenicity/Embryotoxicity:	This product is not expected to be a teratogen or an embryotoxin, based on the available data and the known hazards of the components.
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):	This product is not known to contain any chemicals at reportable quantities that are listed as group 1 , 2A or 2B carcinogens by IARC.
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):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by OSHA.
Other Considerations	No additional remark.

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	For US Shipments Only: 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.

Section 15. Regulatory Information

Other 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. All components of this product are on the European Inventory of Existing Commercial Chemical Substances (EINECS). 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. Please contact Product Safety for more information.		
DSD/DPD (Europe)	Not evaluated.	**HCS (USA)**	Does not meet the definitions of a health or physical hazard according to the OSHA -Hazard Communication Standard. (United States)
ADR (Europe) (Pictograms)	**NOT EVALUATED FOR EUROPEAN TRANSPORT** **NON EVALUE POUR LE TRANSPORT EUROPEEN.**	**DOT (U.S.A) (Pictograms)**	

HMIS (U.S.A.)			NFPA(U.S.A.)	Rating	
	Health Hazard	1	Specific hazard: 1 / Fire hazard: 1 / Reactivity: 0		0 Insignificant
	Fire Hazard	1			1 Slight
	Reactivity	0			2 Moderate
	Personal Protection	B			3 High
					4 Extreme

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
BODS - 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
CODS - Chemical Oxygen Demand in 5 days
CPR - Controlled Products Regulations
DOT - Department of Transport
DSCL - Dangerous Substances Classification and Labeling (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

For Copy of MSDS

The Canadian Controlled Products Regulations (CPR) (Under the Hazardous Products Act, part of the WHMIS legislation) only apply to WHMIS Controlled (i.e., hazardous) products. Therefore, the CPR and the 3-year update rule specified therein do not apply to WHMIS Non-Controlled products. Although this is true, customarily Bitumar Inc. reviews and updates Non-Controlled product MSDS if a customer requests such an update. These Non-Controlled product updates are given a lower priority than Controlled products but are handled as soon as practicable. If you would like to verify if the MSDS you have is the most current, or you require any further information, please contact:

Ontario/Central/Quebec & Eastern Canada, telephone: 514-645-4561; fax: 514-645-6978

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

For Product Safety Information: (514) 645-4561

Prepared by: Bitumar Inc.

Data entry by Bitumar Inc.

APPENDIX

How to Avoid Building Odor Complaints

Hot Applied Roofing Applications

- Effective communication with building occupants before & during project.
- Control kettle temperature to reduce risk of kettle fires and fume emissions. Operate kettles at the lowest possible temperature that allows proper application. **Avoid heating asphalt within 25°F of actual flash point.**
- Kettles should have tight fitting lids and be used in well-ventilated areas.
- Locate kettle down wind from building air intakes, doors or other openings
- Pre-plan the job with contractors, building owners/operators & facility maintenance or engineering.
- **Evaluate need for controls to reduce potential for fumes to enter air intakes or building entryways, such as:**
  - Use portable fans or other engineering controls to direct fumes away from operating air intakes or building openings
  - Ventilation System Modifications
  - Consider blocking air or sealing off intakes when feasible.
  - Alter the building ventilation system to create positive pressure
  - Consider shut down of some or all air handlers for critical times
  - Use of alternate work schedules (after hours or during minimized occupancy times) to mop near air intakes or building openings