



MACPATCH

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name MACPATCH
Product Identifier MACPATCH
Other Means of Identification Pounder Premium Patch
Manufacturer / Supplier McAsphalt Industries Ltd, 8800 Sheppard Ave East, Toronto, Ontario, M1B 5R4
Emergency Contact Information CANUTEC, (613) 996 - 6666, 24 hours
McAsphalt Industries Ltd., 1 - (800) - 268 - 4238, 8AM-5PM Monday to Friday
Use Asphalt, Cold Mix for Pot Hole Repair

2. HAZARDS IDENTIFICATION

Emergency Overview Dark black - brown oily liquid. Characteristic asphaltic odour or "rotten egg" odour if H2S present, but odour is an unreliable warning, since it may deaden the sense of smell. (Asphalt (Bitumen)) odour. COMBUSTIBLE LIQUID. May form flammable/explosive vapour -air mixtures.

Potential Health Effects

Route of Exposure Dermal contact. Eye contact, inhalation. Ingestion.
Inhalation Harmful. Can irritate the nose and throat. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest. A single exposure to a high concentration can cause a long-lasting condition like asthma. If this occurs, many things like other chemicals or cold temperatures can easily irritate the airways. Symptoms may include shortness of breath, tightness in the chest and wheezing.
Skin Contact Slightly irritating to the skin. Contact with hot material can cause thermal burns.
Eye Contact May cause mild irritation. Symptoms include sore, red eyes, and tearing.
Ingestion Harmful. Symptoms may include nausea, vomiting, stomach cramps and diarrhea.
Effects of Long-Term (Chronic) Exposure Effect(s) from long-term exposure are similar to effects described for short-term exposure.
Carcinogenicity An IARC working group has concluded that occupational exposures to straight-run bitumens and their emissions during road paving are 'possibly carcinogenic to humans' (Group 2B).
Teratogenicity / Embryotoxicity No known significant effects or critical hazards.
Reproductive Toxicity No known significant effects or critical hazards.
Mutagenicity No known significant effects or critical hazards.

Potential Environmental Effects

Marine Pollutant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration %	Other Identifiers
Asphalt (Bitumen) fume	8052-42-4	50-80	

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FUEL OIL NO. 2	68476-30-2	10-35	
Asphalt Additive	64754-94-5, 111-41-1	0-5	

Notes Antistripping additive added in quantities < 1% when indicated. Heated product may evolve vapors irritating to the nose, throat and lungs. See section 8 for further information. During storage or transit of hot asphalt, hydrogen sulphide may be generated.

4. FIRST AID MEASURES

First Aid Procedures

Inhalation	If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as collar, tie, belt or waistband. Get medical attention immediately. Move victim to fresh air. Keep at rest in a position comfortable for breathing.
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, 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.
Eye Contact	Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Get medical attention immediately.
Ingestion	Have victim rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
First Aid Comments	If exposed or concerned, see a doctor for medical advice.
Note to Physicians	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. FIRE FIGHTING MEASURES

Flammable Properties	Flammability of the product: Will burn on prolonged exposure to flame or high temperature.
Suitable Extinguishing Media	Large fire: Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.
Unsuitable Extinguishing Media	Do not spray water onto burning product as this may cause spattering and spreading of the flame.
Specific Hazards Arising from the Chemical	Hydrogen sulphide may be released if the product is overheated and may accumulate in the tank headspace or any other confined space. Carbon oxides (CO, CO ₂), smoke and irritating vapours as products of incomplete combustion.
Protective Equipment and Precautions for Firefighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece. Firefighters may enter the area if positive pressure SCBA and full Bunker Gear is worn. See Skin Protection in Section 8 (Exposure Controls/Personal Protection) for advice on suitable chemical protective materials.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
Environmental Precautions	Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

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Methods for Containment and Clean-up

Note: see section 1 for emergency contact information.

Other Information

Contact supplier, local fire and emergency services for help. Report spills to local health, safety and environmental authorities, as required.

7. HANDLING AND STORAGE

Storage

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials(see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Asphalt (Bitumen) fume	0.5 mg/m3 (l) A4 BEI		Not established			
FUEL OIL NO. 2	100 mg/m3					

Exposure Guideline Comments

Consult local authorities for provincial or state exposure limits. ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold Limit Value. TWA = Time-Weighted Average. STEL = Short-term Exposure Limit. C = Ceiling limit. A1 = Confirmed human carcinogen. A2 = Suspected human carcinogen. A3 = Animal carcinogen. A4 = Not classifiable as a human carcinogen. A5 = Not suspected as a human carcinogen.

Engineering Controls

If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal Protective Equipment (PPE)

Eye/Face Protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin Protection

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. 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. Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Suitable materials are: nitrile rubber.

Respiratory Protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: organic vapour filter cartridge or canister with a dust, fume or 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.

General Hygiene Considerations

It is good practice to: avoid breathing product; avoid skin and eye contact and wash hands after handling. Do NOT smoke in work areas. Do NOT eat, drink or store food in work areas. Remove contaminated clothing and protective equipment before entering eating areas or

leaving work area. Wash hands thoroughly after handling this product and before eating, using the washroom or leaving work area. Properly dispose of any contaminated items, including shoes, that cannot be decontaminated. DO NOT re-use. See Section 13 (Disposal Considerations) of this MSDS.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Dark black - brown oily liquid.
Particle Size	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. (Asphalt (Bitumen))
Odour Threshold	Not available
Boiling Point	> 160 °C (320 °F) (estimated)
Freezing Point	Not available
Relative Density (water = 1)	0.94 - 1.00 at 15 °C
Solubility in Water	Insoluble
Solubility in Other Liquids	Not available
pH	7.5 - 9.0 (estimated)
Partition Coefficient, n-Octanol/Water	Not available
Viscosity-Kinematic	Not available
Surface Tension	Not available
Vapour Pressure	Not available
Vapour Pressure at 50 deg C	Not available
Saturated Vapour Concentration	Not available
Vapour Density (air = 1)	3 - 4
Evaporation Rate	Not available
Flash Point	> 80 °C (176 °F) (open cup)
Lower Flammable/Explosive Limit	0.7%
Upper Flammable/Explosive Limit	6.5%
Auto-ignition Temperature	Not available
Electrical Conductivity	Not available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal storage conditions.
Conditions to Avoid	Under normal conditions of storage and use, hazardous polymerisation will not occur. Exposure to heat.
Incompatible Materials	Reactive with oxidising agents acids. Bases. Oxidizers. Not corrosive to metals.
Hazardous Decomposition Products	May release CO _x , NO _x , SO _x , PO _x , H ₂ S, hydrocarbons, smoke and irritating vapours when heated to decomposition.
Possibility of Hazardous Reactions	Contact between heated Asphalt and water can cause a violent eruption. May release CO _x , NO _x , SO _x , PO _x , H ₂ S, hydrocarbons, smoke and irritating vapours when heated to decomposition.

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11. TOXICOLOGICAL INFORMATION

LC50/LD50 Values

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Asphalt (Bitumen) fume		> 5000 mg/kg (rat)	> 2000 mg/kg (rabbit)
FUEL OIL NO. 2		~ 12000 mg/kg (rat)	
Asphalt Additive		> 2000 mg/kg (rat)	3266 mg/kg (rabbit)

Skin Irritation/Corrosion

Irritating to skin. Signs/symptoms may include localized redness, swelling, and itching. Hot liquid product may cause serious thermal burns on direct contact. Asphalt fumes can increase susceptibility to sunburn.

Eye Irritation/Corrosion

Irritating to eyes. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Hot liquid product may cause serious thermal burns on direct contact. Hydrogen sulphide may cause eye irritation at 1 - 20 ppm and acute conjunctivitis at higher concentrations. Above 50 ppm H₂S, eye irritation may include symptoms of redness, sever swelling, tearing, sensitivity to light and the appearance of 'Halos' around lights.

Effects of Short-Term (Acute) Exposure

Inhalation

May be harmful based on information for closely related materials. Yes, caution in confined spaces.

Skin Absorption

May be harmful based on information for closely related materials. Skin to darken.

Ingestion

Harmful based on information for closely related materials. Irritation of the mouth, throat and stomach.

Effects of Long-Term (Chronic) Exposure

Harmful based on limited evidence. Asphalt: May contain low levels of polycyclic aromatic compounds (PACs), some of which are suspected of causing cancer under conditions of poor industrial hygiene and prolonged repeated contact. These PACs may also be inhaled. Inhalation studies at high concentrations of fumes resulted in bronchitis, pneumonitis, fibrosis and cell damage. Avoid contact with the asphalt and inhalation of vapour or aerosol from it.

Respiratory and/or Skin Sensitization

No information was located.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Asphalt (Bitumen) fume	Group 2B	A4		
FUEL OIL NO. 2	Group 3	A3	Not Listed	
Asphalt Additive	Not evaluated	Not designated	Not Listed	Not Listed

IARC: 8052-42-4 Group 2B - Possibly carcinogenic to humans. Occupational exposure to straight-run bitumens and their fume condensates during road paving.

Key to Abbreviations

ACGIH® = American Conference of Governmental Industrial Hygienists. A3 = Animal carcinogen. IARC = International Agency for Research on Cancer. Group 2B = Possibly carcinogenic to humans. Group 3 = Not classifiable as to its carcinogenicity to humans. ACGIH® = American Conference of Governmental Industrial Hygienists. A4 = Not classifiable as a human carcinogen.

Teratogenicity / Embryotoxicity

No information was located.

Reproductive Toxicity

No information was located.

Mutagenicity

No information was located.

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Toxicologically Synergistic Materials

No information was located.

12. ECOLOGICAL INFORMATION

General Comments	No known significant effects or critical hazards.
Ecotoxicity	Marine Pollutant.
Persistence and Degradability	Not available.
Bioaccumulation / Accumulation	(Asphalt (Bitumen)) this product and its byproducts are not known to bioaccumulate.
Mobility	Studies are not available.
Other Adverse Effects	There is no information available.

13. DISPOSAL CONSIDERATIONS

Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction. Recycle and reuse product, if possible. The required hazard evaluation of the waste and compliance with the applicable hazardous waste laws are the responsibility of the user. Store product for disposal as described under Storage in Section 7 of this MSDS. Empty containers retain product residue. Follow label warnings even if container appears to be empty. The container for this product can present explosion or fire hazards, even when emptied. Do not cut, puncture, or weld on or near this container. Do not reuse empty containers. Dispose of or recycle empty containers through an approved waste management facility.

14. TRANSPORT INFORMATION

Shipping Information

Regulation	UN No.	Shipping Name	Class	Packing Group
Canadian TDG	3256	Perma patch, liquid asphalt (Elevated temperature liquid, flammable, n.o.s., with a flash point above 60.5 c, at or above its flashpoint)	3	III
US DOT	3256	Perma patch, liquid asphalt (Elevated temperature liquid, flammable, n.o.s., with flash point above 37.8 c, at or above its flash point)	3	III

Other Transport Information

Special Shipping Information	Not applicable
Environmental Hazards	Potential Marine Pollutant (FUEL OIL NO. 2)

15. REGULATORY INFORMATION

Canada

WHMIS Classification

B3 - Combustible Liquid; D2B - Toxic (Skin irritant; Eye irritant; Skin sensitization)

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

The components of this product are in compliance with the chemical notification requirements of the NSN Regulation under CEPA, 1999. All ingredients are listed on the DSL/NDSL.

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USA

US OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200 (1994)).

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are listed on the TSCA Inventory. The components of this product are in compliance with the chemical notification requirements of TSCA.

16. OTHER INFORMATION

NFPA Rating **Health - 2** **Flammability - 2** **Instability - 0**

MSDS Prepared By EPC & Risk Management Department

Phone No. 1-800-268-4238

Date of Preparation October 27, 2015

Revision Indicators The following MSDS content was changed on May 06, 2015:
References; Disclaimer.

Key to Abbreviations ACGIH® = American Conference of Governmental Industrial Hygienists
AIHA = American Industrial Hygiene Association
HSDB® = Hazardous Substances Data Bank
IARC = International Agency for Research on Cancer
NFPA = National Fire Prevention Association
NIOSH = National Institute for Occupational Safety and Health
NTP = National Toxicology Program
OSHA = US Occupational Safety and Health Administration
RTECS® = Registry of Toxic Effects of Chemical Substances

References CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).
HSDB® database. US National Library of Medicine. Available from Canadian Centre for Occupational Health and Safety (CCOHS). Registry of Toxic Effects of Chemical Substances (RTECS®) database. Accelrys, Inc. Available from Canadian Centre for Occupational Health and Safety (CCOHS). NIOSH Pocket Guide database. National Institute for Occupational Safety and Health. Available from Canadian Centre for Occupational Health and Safety (CCOHS).

Disclaimer To the best of our knowledge, the information herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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