SAFETY DATA SHEET

1. Identification

Product identifier **Cold Patch Asphalt**

Other means of identification

Synonyms Hot Mix Cold Lay Asphalt, Cold Asphalt Paving Material, Cold Mix Asphaltic Concrete, Cold Mix Asphalt

Recommended use Road and construction applications.

Recommended restrictions Workers (and your customers or users in the case of resale) should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations. Uses other than the recommended use.

Manufacturer/Importer/Supplier/Distributor information

Company name Amrize Inc.

Address 6509 Airport Road
Mississauga, Ontario L4V 157

Telephone Eastern Canada: (905) 738-7070
Western Canada: (403) 225-5400

Website www.amrize.com

E-mail sdsinfo@amrize.com

Emergency telephone number CHEMTREC within USA and Canada: 1-800-424-9300
CHEMTREC outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2. Hazard identification

Physical hazards Not classified.

Health hazards

Skin corrosion/irritation	Category 2
Carcinogenicity	Category 1A
Specific target organ toxicity - repeated exposure	Category 2 (Bone marrow, Liver, Lungs, thymus gland)

Environmental hazards

Hazardous to the aquatic environment, acute hazard	Category 3
Hazardous to the aquatic environment, long-term hazard	Category 3

Label elements

Signal word Danger

Hazard statement Causes skin irritation. May cause cancer. May cause damage to organs (Bone marrow, Liver, Lungs, thymus gland) through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust.

Response IF ON SKIN: Wash with plenty of water. IF exposed or concerned: Get medical advice/attention. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental information None.

Other hazards None known.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Fuel oil, no. 2		68476-30-2	1 - 5
Kerosine (petroleum)		8008-20-6	1 - 5
Quartz		14808-60-7	1 - 5

Composition comments All concentrations are in percent by weight. Components not listed are either non-hazardous or are below reportable limits. Any concentration shown as a range is to protect confidentiality or is due to batch variation.

4. First-aid measures

Inhalation Move to fresh air. If not breathing, give artificial respiration. Call a physician if symptoms develop or persist.

Skin contact Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Skin irritation. May cause redness and pain. Jaundice. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed. Combustion products may include: Carbon oxides. Smoke. Fumes. Hydrocarbons. Sulphur oxides. Hydrogen sulfide.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Water runoff can cause environmental damage.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards Will burn if involved in a fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up The product is immiscible with water and will spread on the water surface. Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Following product recovery, flush area with water.

Small Spills: Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. Put material in suitable, covered, labelled containers. For waste disposal, see section 13 of the SDS. The product is insoluble in water.

Environmental precautions Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Should be handled in closed systems, if possible. Wash thoroughly after handling. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store locked up. Store in tightly closed container. Store away from incompatible materials (see section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value	Form
Fuel oil, no. 2 (CAS 68476-30-2)	TWA	100 mg/m3	Inhalable fraction and vapour.
Kerosine (petroleum) (CAS 8008-20-6)	TWA	200 mg/m3	Non-aerosol.
Quartz (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended

Components	Type	Value	Form
Fuel oil, no. 2 (CAS 68476-30-2)	TWA	100 mg/m3	
Kerosine (petroleum) (CAS 8008-20-6)	TWA	200 mg/m3	Vapour.
Quartz (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable particles.

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Fuel oil, no. 2 (CAS 68476-30-2)	TWA	100 mg/m3	Vapour and aerosol, inhalable.
Kerosine (petroleum) (CAS 8008-20-6)	TWA	200 mg/m3	Non-aerosol.
Quartz (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended

Components	Type	Value	Form
Fuel oil, no. 2 (CAS 68476-30-2)	TWA	100 mg/m3	Inhalable fraction and vapour.
Kerosine (petroleum) (CAS 8008-20-6)	TWA	200 mg/m3	Non-aerosol.
Quartz (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.

Canada. New Brunswick OELs: Threshold Limit Values (TLVs) Based on the 1991 and 1997 ACGIH TLVs and BEIs Publication (New Brunswick Regulation 91-191)

Components	Type	Value	Form
Fuel oil, no. 2 (CAS 68476-30-2)	TWA	100 mg/m3	Inhalable fraction and vapour.
Kerosine (petroleum) (CAS 8008-20-6)	TWA	200 mg/m3	Non-aerosol.
Quartz (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended

Components	Type	Value	Form
Fuel oil, no. 2 (CAS 68476-30-2)	TWA	100 mg/m3	Inhalable fraction and vapour.
Kerosine (petroleum) (CAS 8008-20-6)	TWA	200 mg/m3	Non-aerosol.
Quartz (CAS 14808-60-7)	TWA	0.1 mg/m3	Respirable fraction.

Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)

Components	Type	Value	Form
Kerosine (petroleum) (CAS 8008-20-6)	TWA	200 mg/m3	
Quartz (CAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended

Components	Type	Value	Form
Fuel oil, no. 2 (CAS 68476-30-2)	15 minute	150 mg/m3	Vapour.
	8 hour	100 mg/m3	Vapour.
Kerosine (petroleum) (CAS 8008-20-6)	15 minute	250 mg/m3	Vapour.
	8 hour	200 mg/m3	Vapour.
Quartz (CAS 14808-60-7)	8 hour	0.05 mg/m3	Respirable fraction.

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

Canada - Alberta OELs: Skin designation

Kerosine (petroleum) (CAS 8008-20-6) Can be absorbed through the skin.

Canada - British Columbia OELs: Skin designation

Fuel oil, no. 2 (CAS 68476-30-2) Can be absorbed through the skin.
Kerosine (petroleum) (CAS 8008-20-6) Can be absorbed through the skin.

Canada - Manitoba OELs: Skin designation

Fuel oil, no. 2 (CAS 68476-30-2) Danger of cutaneous absorption
Kerosine (petroleum) (CAS 8008-20-6) Danger of cutaneous absorption

Canada - Ontario OELs: Skin designation

Fuel oil, no. 2 (CAS 68476-30-2) Can be absorbed through the skin.
Kerosine (petroleum) (CAS 8008-20-6) Can be absorbed through the skin.

Canada - Quebec OELs: Skin designation

Kerosine (petroleum) (CAS 8008-20-6) Can be absorbed through the skin.

Canada - Saskatchewan OELs: Can be absorbed through the skin.

Fuel oil, no. 2 (CAS 68476-30-2) Can be absorbed through the skin.
Kerosine (petroleum) (CAS 8008-20-6) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Fuel oil, no. 2 (CAS 68476-30-2) Danger of cutaneous absorption
Kerosine (petroleum) (CAS 8008-20-6) Danger of cutaneous absorption

Appropriate engineering controls Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Selection and use of respiratory protective equipment should be in accordance with CSA Standard Z94.4.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Physical state	Solid.
Form	Granular solid.
Colour	Black.
Odour	Slight petroleum odor.
Odour threshold	Property has not been measured.
Melting point/freezing point	Property has not been measured.
Boiling point or initial boiling point and boiling range	Property has not been measured.
Flammability	Will burn if involved in a fire.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not applicable, material is a solid.
Explosive limit – upper (%)	Not applicable, material is a solid.
Flash point	Not applicable, material is a solid.
Auto-ignition temperature	Not applicable, material is a solid.
Decomposition temperature	Property has not been measured.
pH	Property has not been measured.
pH concentration	Property has not been measured.
Kinematic viscosity	Not applicable, material is a solid.
Solubility	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water) (log value)	Not applicable, product is a mixture.
Vapour pressure	Property has not been measured.
Vapour pressure temp.	Property has not been measured.
Density and/or relative density	
Density	Property has not been measured.
Relative density	Property has not been measured.
Relative density temperature	Property has not been measured.
Vapour density	Not applicable, material is a solid.
Particle characteristics	
Particle size	Property has not been measured.
Other information	
Evaporation rate	Not applicable, material is a solid.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
Viscosity	Not applicable, material is a solid.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong acids. Strong bases. Strong oxidising agents. Powerful oxidizers. Chlorine. Fluorine.
Hazardous decomposition products	No hazardous decomposition products are known. In the event of fire: See Section 5.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May cause discomfort if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Skin irritation. May cause redness and pain. Jaundice. Prolonged exposure may cause chronic effects.

Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components	Species	Test Results
Fuel oil, no. 2 (CAS 68476-30-2)		
Acute		
Dermal		
LD50	Rabbit	> 4300 mg/kg
Inhalation		
dust/mist		
ATE		1.5 mg/l
LC50	Rat	1 - 5 mg/l, 4 Hours
Oral		
LD50	Rat	> 5000 mg/kg
Quartz (CAS 14808-60-7)		
Chronic		
Inhalation		
LOEC	Human	0.0563 mg/m3

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitisation

Respiratory sensitisation	Not a respiratory sensitiser.
Skin sensitisation	This product is not expected to cause skin sensitisation.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. May cause cancer. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.

ACGIH Carcinogens

Fuel oil, no. 2 (CAS 68476-30-2)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Kerosine (petroleum) (CAS 8008-20-6)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Quartz (CAS 14808-60-7)	A2 Suspected human carcinogen.

Canada - Alberta OELs: Carcinogen category

Quartz (CAS 14808-60-7)	Suspected human carcinogen.

Canada - Manitoba OELs: carcinogenicity

Fuel oil, no. 2 (CAS 68476-30-2)	Confirmed animal carcinogen with unknown relevance to humans.
Kerosine (petroleum) (CAS 8008-20-6)	Confirmed animal carcinogen with unknown relevance to humans.
Quartz (CAS 14808-60-7)	Suspected human carcinogen.

Canada - Quebec OELs: Carcinogen category

Kerosine (petroleum) (CAS 8008-20-6)	Detected carcinogenic effect in animals.
Quartz (CAS 14808-60-7)	Suspected carcinogenic effect in humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Fuel oil, no. 2 (CAS 68476-30-2)	3 Not classifiable as to carcinogenicity to humans.
Quartz (CAS 14808-60-7)	1 Carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

Quartz (CAS 14808-60-7)	Known To Be Human Carcinogen.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure May cause damage to organs (Bone marrow, Liver, Lungs, thymus gland) through prolonged or repeated exposure.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful. May cause damage to organs through prolonged or repeated exposure. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Components		Species	Test Results
Fuel oil, no. 2 (CAS 68476-30-2)			
Aquatic			
Acute			
Algae	EL50	Raphidocelis subcapitata	> 1 - 10 mg/l, 72 Hours
	NOELR	Raphidocelis subcapitata	> 0.1 - 1 mg/l, 72 Hours
Crustacea	EL50	Daphnia magna	2 mg/l, 48 Hours
Fish	LL50	Oncorhynchus mykiss	6.3 mg/l, 96 Hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available for this product.

Partition coefficient n-octanol / water (log Kow)

Fuel oil, no. 2 (CAS 68476-30-2)	> 4

Mobility in soil The product is insoluble in water. Not expected to be mobile in soil.

Other adverse effects No data available.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

TDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

Canadian regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto Protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

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Revision date -

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Disclaimer	Amrize Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.