



SAFETY DATA SHEET

1. Identification

Product identifier	Permanent Metallic™ Block Seal Head Gasket Repair	
Other means of identification		
Product code	No. 74016 (Item# 1006217)	
Recommended use	Seal leaks in engine block	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Manufactured or sold by:		
Company name	CRC Canada Co.	
Address	2-1246 Lorimar Dr. Mississauga, Ontario L5S 1R2 Canada	
Telephone	905-670-2291	
Website	www.crc-canada.ca	
E-mail	Support.CA@crcindustries.com	
Emergency phone number	24-Hour Emergency (CHEMTREC)	800-424-9300 (Canada) 703-527-3887 (International)

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Carcinogenicity	Category 2
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	Warning
Hazard statement	Causes skin irritation. Causes serious eye irritation. Suspected of causing cancer. 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. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment.
Response	IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF exposed or concerned: Get medical advice/attention.
Storage	Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Other hazards	None known.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
water		7732-18-5	60 - 80
sodium silicate		1344-09-8	15 - 40
cellulose		9004-34-6	1 - 5
aluminosilicate refractory ceramic fibers		142844-00-6	0.1 - 1
quartz		14808-60-7	0.1 - 1

The exact percentage (concentration) of composition has been withheld as a trade secret.
All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Move to fresh air. 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	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
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. 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 (CO ₂).
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.
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	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

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 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	Prevent product from entering drains. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.
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. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Keep container tightly closed. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
cellulose (CAS 9004-34-6)	TWA	10 mg/m ³	
quartz (CAS 14808-60-7)	TWA	0.025 mg/m ³	Respirable fraction.

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

Components	Type	Value	Form
aluminosilicate refractory ceramic fibers (CAS 142844-00-6)	TWA	0.2 fibers/cm ³	Fiber.
		5 mg/m ³	Fiber, total
		5 mg/m ³	Total particulate.
cellulose (CAS 9004-34-6)	TWA	10 mg/m ³	
quartz (CAS 14808-60-7)	TWA	0.025 mg/m ³	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
aluminosilicate refractory ceramic fibers (CAS 142844-00-6)	TWA	0.2 fibers/cm ³	Fiber.
		5 mg/m ³	Inhalable fibers.
cellulose (CAS 9004-34-6)	TWA	3 mg/m ³	Respirable fraction.
		10 mg/m ³	Total dust.
quartz (CAS 14808-60-7)	TWA	0.025 mg/m ³	Respirable fraction.

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

Components	Type	Value	Form
aluminosilicate refractory ceramic fibers (CAS 142844-00-6)	TWA	5 mg/m ³	Inhalable fraction.
cellulose (CAS 9004-34-6)	TWA	10 mg/m ³	
quartz (CAS 14808-60-7)	TWA	0.025 mg/m ³	Respirable fraction.

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

Components	Type	Value	Form
aluminosilicate refractory ceramic fibers (CAS 142844-00-6)	TWA	0.5 fibers/ml	Respirable fibers.
		5 mg/m ³	Inhalable fraction.
cellulose (CAS 9004-34-6)	TWA	10 mg/m ³	
quartz (CAS 14808-60-7)	TWA	0.1 mg/m ³	Respirable fraction.

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
aluminosilicate refractory ceramic fibers (CAS 142844-00-6)	TWA	1 fibers/cm ³ n	Fiber.
		10 mg/m ³	Total dust.
cellulose (CAS 9004-34-6)	TWA	10 mg/m ³	Total dust.
quartz (CAS 14808-60-7)	TWA	0.1 mg/m ³	Respirable dust.

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) 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. Eye wash fountain and emergency showers are recommended.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear protective gloves such as: Neoprene. Nitrile.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies.
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

Appearance

Physical state	Liquid.
Form	Liquid.
Color	Reddish-brown.
Odor	Odorless.
Odor threshold	Not available.
pH	11.3
Melting point/freezing point	32 °F (0 °C) estimated
Initial boiling point and boiling range	212 °F (100 °C) estimated
Flash point	None (Tag Closed Cup)
Evaporation rate	Slow.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	22.3 hPa estimated
Vapor density	> 1 (air = 1)
Relative density	1.37
Solubility(ies)	
Solubility (water)	Soluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	400 °F (204.4 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Percent volatile	62.7 % estimated

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 oxidizing agents. Reducing agents. Hydrofluoric acid.
Hazardous decomposition products	Nitrogen oxides (NO _x). Sodium nitrite. Sodium oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Health injuries are not known or expected under normal use.

Symptoms related to the physical, chemical and toxicological characteristics Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity Not known.

Product	Species	Test Results
Permanent Metallic™ Block Seal Head Gasket Repair		

Acute

Oral

ATEmix

4208.9314 mg/kg

Components	Species	Test Results
quartz (CAS 14808-60-7)		

Acute

Oral

LD50

Rat

500 mg/kg

sodium silicate (CAS 1344-09-8)

Acute

Oral

Solid

LD50

Rat

1500 - 3200 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Canada - Alberta OELs: Irritant

aluminosilicate refractory ceramic fibers (CAS 142844-00-6) Irritant

cellulose (CAS 9004-34-6) Irritant

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Suspected of causing cancer.

ACGIH Carcinogens

aluminosilicate refractory ceramic fibers (CAS 142844-00-6) A2 Suspected human carcinogen.

Canada - Alberta OELs: Carcinogen category

aluminosilicate refractory ceramic fibers (CAS 142844-00-6) Suspected human carcinogen.

Canada - Manitoba OELs: carcinogenicity

aluminosilicate refractory ceramic fibers (CAS 142844-00-6)

Suspected human carcinogen.

Canada - Quebec OELs: Carcinogen category

aluminosilicate refractory ceramic fibers (CAS 142844-00-6)

Detected carcinogenic effect in animals.

IARC Monographs. Overall Evaluation of Carcinogenicity

aluminosilicate refractory ceramic fibers (CAS 142844-00-6)

2B Possibly carcinogenic to humans.

natural red iron oxide (CAS 1317-60-8)

3 Not classifiable as to carcinogenicity to humans.

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

Not classified.

Aspiration hazard

Not an aspiration hazard.

Chronic effects

Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information**Ecotoxicity**

Harmful to aquatic life with long lasting effects.

Components**Species****Test Results**

sodium silicate (CAS 1344-09-8)

Aquatic

Crustacea

EC50

Water flea (*Ceriodaphnia dubia*)

22.94 - 49.01 mg/l, 48 hours

Fish

LC50

Western mosquitofish (*Gambusia affinis*)

2320 mg/l, 96 hours

Acute

Fish

LC50

Western mosquitofish (*Gambusia affinis*)

2320 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability**Bioaccumulative potential**

No data available.

Mobility in soil

No data available.

Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations**Disposal of waste from residues / unused products**

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. 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

Not regulated.

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 established.

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 Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
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)	No
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

Issue date

07-14-2017

Version

01

Further information

CRC # 902A/1002894

Disclaimer

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC's knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Canada Co..