

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: BRAKE CLEANER

Product Code(s) : M739C

Recommended use of the chemical and restrictions on use

: Brake cleaner.
No restrictions on use known.

Chemical family : Mixture of : Petroleum distillates; Alcohol

Name, address, and telephone number of the supplier:

Radiator Specialty Co., of Canada

1711 Aimco Blvd.
Mississauga, ON, Canada
L4W 1H7

Supplier's Telephone # : (905) 625-9117 (Monday - Friday, 8 AM - 4 PM)

24 Hr. Emergency Tel # : (613) 996-6666 (CANUTEC)

Name, address, and telephone number of the manufacturer:

Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Clear colourless liquid. Petroleum odour.

Most important hazards:

Highly flammable liquid and vapour. This material may be ignited by heat, sparks and direct flame. Vapours are heavier than air and may spread along floors.

Aspiration hazard. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

This material is classified as hazardous under Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazardous classification:

- Flammable liquid - Category 2
- Aspiration toxicity - Category 1
- Skin corrosion/irritation - Category 2
- Eye damage/irritation - Category 2A
- Specific target organ toxicity, single exposure - Category 3

Label elements

Hazard pictogram(s)



Signal Word

DANGER!

Hazard statement(s)

- Highly flammable liquid and vapour.
- May be fatal if swallowed and enters airways.
- Causes skin irritation.
- Causes serious eye irritation.
- May cause drowsiness or dizziness.

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Precautionary statement(s)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking.
 Keep container tightly closed.
 Ground/Bond container and receiving equipment.
 Use explosion-proof electrical and ventilating equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Avoid breathing mist or vapours.
 Wash exposed skin thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves and eye/face protection.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

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

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

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.

In case of fire: Use carbon dioxide, dry chemical or foam to extinguish.

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

Dispose of contents/container in accordance with local regulation.

Other hazards

Other hazards which do not result in classification:

Toxic fumes may be released during a fire. Mild respiratory irritant. May cause gastrointestinal irritation. Prolonged overexposure may cause slight liver and kidney effects, such as increased organ weights.

Environmental precautions:

Toxic to aquatic life with long lasting effects. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Avoid release to the environment. See ECOLOGICAL INFORMATION, Section 12.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Naphtha (petroleum), hydrotreated light	Aliphatic naphtha Aliphatic hydrocarbon Commercial heptane	64742-49-0	80.0 - 100.0
Isopropyl alcohol	Isopropanol 2-Propanol	67-63-0	1.0 - 5.0

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

- Ingestion* : IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration.
- Inhalation* : IF INHALED: Remove person to fresh air and keep comfortable for breathing. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Call a POISON CENTER or doctor/physician if you feel unwell.
- Skin contact* : IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
- Eye contact* : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Flush eyes with water for at least 15 minutes. If eye irritation persists: get medical advice/attention.

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Most important symptoms and effects, both acute and delayed

- : Aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.
Causes skin irritation. Contact may cause redness, swelling and a painful sensation.
Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling.
Inhalation may cause headache, nausea and central nervous effects such as dizziness, coordination difficulties and unconsciousness.
Mild respiratory irritant. May cause coughing and breathing difficulties.
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Prolonged overexposure may cause slight liver and kidney effects, such as increased organ weights.

Indication of any immediate medical attention and special treatment needed

- : Immediate medical attention is required. Aspiration hazard.
Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

- : Dry chemical, alcohol foam, carbon dioxide, or water spray.

Unsuitable extinguishing media

- : None known.

Special hazards arising from the substance or mixture / Conditions of flammability

- : Highly flammable liquid and vapour. Will be ignited by heat, sparks, flame, or other ignition sources. Vapours are heavier than air and collect in confined and low-lying areas. Vapour can travel considerable distance and flashback to a source of ignition. Material will float on water and can be re-ignited at the water's surface. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Toxic fumes, gases or vapours may evolve on burning.

Hazardous combustion products

- : Carbon oxides; unburned alcohols; Reactive hydrocarbons; Other unidentified organic compounds.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : All persons dealing with the clean-up should wear the appropriate personal protective equipment. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Environmental precautions

- : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.

Methods and material for containment and cleaning up

- : Ventilate the area. Prevent further leakage or spillage if safe to do so. Eliminate all ignition sources. Use only non-sparking tools and equipment in the clean-up process. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Pick up and transfer to properly labeled containers. Do not use combustible absorbents, such as sawdust. Refer to Section 13 for disposal of contaminated material. Contact the proper local authorities.

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SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

- : Use only outdoors or in a well-ventilated area. Wear protective equipment during handling. Wear protective gloves and eye/face protection. Avoid breathing mist or vapours. Avoid contact with skin, eyes and clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking. Ground/Bond container and receiving equipment. Use explosion-proof electrical and ventilating equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep away from incompatibles. Keep container tightly closed when not in use. Wash thoroughly after handling. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

Conditions for safe storage

- : Store in a cool, dry, well-ventilated area. Store locked up. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks.

Incompatible materials

- : Strong oxidizing agents (e.g. hydrogen peroxide, nitric acid); Strong acids; Alkali metals

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Naphtha (petroleum), hydrotreated light	N/Av	N/Av	N/Av	N/Av
Isopropyl alcohol	200 ppm	400 ppm	400 ppm (980 mg/m ³)	N/Av

Exposure controls

Ventilation and engineering measures

- : Use only outdoors or in a well-ventilated area. Use with adequate local or mechanical ventilation to meet TLV requirements. Use explosion-proof electrical and ventilating equipment. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection

- : If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with CSA Z94.4-02.

Skin protection

- : Wear protective gloves. Wear as appropriate: Neoprene; Nitrile rubber. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.

Eye / face protection

- : Wear eye/face protection. Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles. A full face shield may also be necessary.

Other protective equipment

- : An eyewash station and safety shower should be made available in the immediate working area. Other equipment may be required depending on workplace standards.

General hygiene considerations

- : Avoid breathing mist or vapours. Avoid contact with skin, eyes and clothing. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Clear colourless liquid.

Odour : Petroleum odour.

Odour threshold : N/Av

pH : N/Av

Melting/Freezing point : N/Av

Initial boiling point and boiling range

- : 55 - 140°C (131 - 284°F) (based on ingredients)

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Flash point	: - 8°C (17.6°F)
Flashpoint (Method)	: N/Av
Evaporation rate (BuAe = 1)	: N/Av
Flammability (solid, gas)	: Not applicable.
Lower flammable limit (% by vol.)	: N/Av
Upper flammable limit (% by vol.)	: N/Av
Oxidizing properties	: None known.
Explosive properties	: Not explosive
Vapour pressure	: N/Av
Vapour density	: > 1 (Air = 1.0)
Relative density / Specific gravity	: 0.7 @ 15°C (59°F)
Solubility in water	: negligible
Other solubility(ies)	: N/Av
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution	: N/Av
Auto-ignition temperature	: N/Av
Decomposition temperature	: N/Av
Viscosity	: < 14 cSt @ 40°C (104°F)
Volatiles (% by weight)	: 100%
Volatile organic Compounds (VOC's)	: N/Av
Absolute pressure of container	: N/Av
Flame projection length	: N/Av
Other physical/chemical comments	: No additional information.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Not normally reactive.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Hazardous polymerization does not occur.
Conditions to avoid	: Ensure adequate ventilation, especially in confined areas. Avoid contact with incompatible materials. Avoid heat and open flame.
Incompatible materials	: Strong oxidizing agents (e.g. hydrogen peroxide, nitric acid); Strong acids; Alkali metals
Hazardous decomposition products	: None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation	: YES
Routes of entry skin & eye	: YES
Routes of entry Ingestion	: YES
Routes of exposure skin absorption	: YES

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Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

- : Inhalation may cause headache, nausea and central nervous effects such as dizziness, coordination difficulties and unconsciousness.
Mild respiratory irritant. May cause coughing and breathing difficulties.

Sign and symptoms ingestion

- : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

Sign and symptoms skin

- : Causes moderate skin irritation. Contact may cause redness, swelling and a painful sensation.

Sign and symptoms eyes

- : Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling.

Potential Chronic Health Effects

- : Prolonged overexposure may cause slight liver and kidney effects, such as increased organ weights.

Mutagenicity

- : No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

- : Not expected to have carcinogenic effects. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

- : This product is not expected to cause reproductive or developmental effects.

Sensitization to material

- : Not expected to be a skin or respiratory sensitizer.

Specific target organ effects

- : This material is classified as hazardous under Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Specific target organ toxicity, single exposure - Category 3. May cause drowsiness or dizziness.

Medical conditions aggravated by overexposure

- : Pre-existing skin, eye and respiratory disorders.

Synergistic materials

- : No information available.

Toxicological data

- : Not classified for acute toxicity based on available data. No data is available on the product itself.
See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC₅₀ (4hr)</u> <u>inh, rat</u>	<u>LD₅₀</u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Naphtha (petroleum), hydrotreated light	33 - 42 mg/L (vapour)	> 5800 mg/kg	> 2920 mg/kg (No mortality)
Isopropyl alcohol	17 000 ppm (41.8 mg/L) (vapour)	4720 mg/kg	12 890 mg/kg

Other important toxicological hazards

- : None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

- : Toxic to aquatic life with long lasting effects.
No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. The product contains the following substances which are hazardous for the environment: Distillates (petroleum), hydrotreated light.

See the following tables for individual ingredient ecotoxicity data.

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Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Naphtha (petroleum), hydrotreated light	64742-49-0	4.1 mg/L (Fathead minnow)	N/Av	None.
Isopropyl alcohol	67-63-0	9640 mg/L (Fathead minnow)	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Naphtha (petroleum), hydrotreated light	64742-49-0	10 mg/L (Daphnia magna)	2.6 mg/L	None.
Isopropyl alcohol	67-63-0	> 10 000 mg/L/24hr (Daphnia magna)	30 mg/L	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Naphtha (petroleum), hydrotreated light	64742-49-0	11 mg/L/72hr (Green algae)	0.1 mg/L/72hr	None.
Isopropyl alcohol	67-63-0	N/Av	N/Av	None.

Persistence and degradability

- : No data is available on the product itself.
The following ingredients are considered to be readily biodegradable: Isopropanol; Distillates (petroleum), hydrotreated light.

Bioaccumulation potential

- : No data is available on the product itself. See the following data for ingredient information.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Naphtha (petroleum), hydrotreated light (CAS 64742-49-0)	3.6 - 5.7	105 - 1216 (calculated)
Isopropyl alcohol (CAS 67-63-0)	0.05	1.0

Mobility in soil

- : No data is available on the product itself.

Other Adverse Environmental effects

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

SECTION 13. DISPOSAL CONSIDERATIONS**Handling for Disposal**






- : Handle waste according to recommendations in Section 7. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Methods of Disposal

- : Dispose in accordance with all applicable federal, state, provincial and local regulations.

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SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
TDG	UN1993	FLAMMABLE LIQUID, N.O.S. (Heptane; Isopropanol)	3	II	 
TDG Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Under the TDG, refer to Section 1.17 for additional exemption requirements, if shipping under this exemption. The environmentally hazardous substance mark must appear on packagings holding more than 5 litres of the material.				
ICAO/IATA	UN1993	Flammable liquid, n.o.s. (Heptane; Isopropanol)	3	II	
ICAO/IATA Additional information	Refer to the appropriate Packing Instruction, prior to shipping this material. Review all State and Operator Variations, prior to shipping this material. This material may be considered an Environmentally Hazardous Substance. No additional marking is required but the 'Environmentally hazardous substance' mark may be used when required by other international or national transport regulations.				
IMDG	UN1993	FLAMMABLE LIQUID, N.O.S. (Heptane; Isopropanol)	3	II	 
IMDG Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. The environmentally hazardous substance mark must appear on packagings holding more than 5 litres of the material.				

Special precautions for user : Appropriate advice on safety must accompany the package. Keep away from heat, sparks and open flame. - No smoking.

Environmental hazards : This product meets the criteria for an environmentally hazardous material according to the IMDG Code. See Section 12 for more environmental information.

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

SECTION 15 - REGULATORY INFORMATION

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

Canadian National Pollutant Release Inventory (NPRI): This product contains the following substances listed on the NPRI:
Isopropanol (Part 1, Group A Substance; Part 5: Individual Substances)

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	New Zealand IOC
Naphtha (petroleum), hydrotreated light	64742-49-0	265-151-9	Present	Present	(9)-1689	KE-25623	Present	May be used as a single component chemical under an appropriate group standard.
Isopropyl alcohol	67-63-0	200-661-7	Present	Present	(2)-207	KE-29363	Present	HSR001180

SAFETY DATA SHEET**SECTION 16. OTHER INFORMATION****Legend**

: ACGIH: American Conference of Governmental Industrial Hygienists
AICS: Australian Inventory of Chemical Substances
CAS: Chemical Abstract Services
CSA: Canadian Standards Association
EC50: Effective Concentration 50%
ENCS: Existing and New Chemical Substances
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organisation
IMDG: International Maritime Dangerous Goods
Inh: Inhalation
IOC: Inventory of Chemicals
IUCLID: International Uniform Chemical Information Database
KECI: Korean Existing Chemicals Inventory
KECL: Korean Existing Chemicals List
LC: Lethal Concentration
LD: Lethal Dose
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NOEC: No observable effect concentration
OECD: Organisation for Economic Co-operation and Development
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
PICCS: Philippine Inventory of Chemicals and Chemical Substances
RTECS: Registry of Toxic Effects of Chemical Substances
SDS: Safety Data Sheet
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
TSCA: Toxic Substance Control Act
WHMIS: Workplace Hazardous Materials Identification System

References

- : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2016.
2. International Agency for Research on Cancer Monographs, searched 2017.
3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2017 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2017.

Preparation Date (mm/dd/yyyy)

: 02/10/2017

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

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<p><u>Prepared for:</u> Radiator Specialty Co. of Canada 1711 Aimco Blvd. Mississauga, ON, Canada, L4W 1H7 Telephone: 905-625-9117 (Mon. - Fri., 8 AM - 4 PM) Please direct all enquiries to Radiator Specialty.</p>	
<p><u>Prepared by:</u> ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.); (888) 977-4834 (Canada) http://www.thecompliancecenter.com</p>	

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