MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product identifier : **SMALL ENGINE CARB CLEANER**

Product Use : Carburetor choke and valve cleaner.
Chemical Family : Mixture.
Manufacturer part no. : M4806C

Supplier's name and address:

Radiator Specialty Co., of Canada
1711 Aimco Blvd.
Mississauga, ON, Canada
L4W 1H7

Manufacturer's name and address:
Refer to Supplier

Information Telephone # : (905) 625-9117 (Monday - Friday, 8 AM - 4 PM)
24 Hr. Emergency Tel # : 613-996-6666 (CANUTEC)

SECTION 2 - HAZARDS IDENTIFICATION

Classification : WHMIS information: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR). WHMIS classification:
Class A (Pressurized containers);
Class B5 (Flammable Aerosols);
Class D1B (Materials Causing Immediate and Serious Toxic Effects, Toxic Material);
Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material);
Class D2B (Materials Causing Other Toxic Effects, Toxic Material).

Labelling: Phrases recommended to appear on a supplier label, can be found in Section 15.

WHMIS symbols required on a supplier label:

Emergency Overview : Clear liquid, contained in a pressurized aerosol can. Hydrocarbon odour.
Danger.
Flammable aerosol. Contents under pressure. Containers may explode if heated. POISON! May be fatal or cause blindness if swallowed in sufficient quantities. May be harmful if inhaled. May cause respiratory irritation. May cause nausea, vomiting, headache and other central nervous system effects. May be an aspiration hazard. Can enter the lungs and cause damage. Causes eye and skin irritation. Possible birth defect hazard - contains material that may cause birth defects, based on animal data. Contains material which may cause cancer based on animal data.

POTENTIAL HEALTH EFFECTS:

Signs and symptoms of short-term (acute) exposure

Inhalation : May cause irritation to the nose, throat and upper respiratory tract. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. In extremely high concentrations, product may act as an asphyxiant and cause increased breathing and pulse rates, fatigue and unconsciousness.

Skin : May cause moderate skin irritation. May be absorbed through the skin. If product is sprayed directly on skin, symptoms of frostbite may be experienced including numbness, prickling and itching.

Eyes : Causes severe eye irritation. Symptoms may include stinging and tearing. If product is sprayed directly into the eyes, could cause freezing of the eye.

Ingestion : May cause irritation of mouth, throat, and stomach. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Affected person could experience a latent period of no symptoms, followed by blurred vision and possibly blindness. May result in unconsciousness and possibly death. Product may present an aspiration hazard, if ingested in large amounts, causing life-threatening lung injury.

Effects of long-term (chronic) exposure

: Prolonged skin contact may defat the skin and produce dermatitis. Prolonged overexposure may cause liver and kidney effects.

Carcinogenic status : Possible cancer hazard. See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards : May cause birth defects. See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

: Contains material that may be harmful in the environment. See Section 12 for more environmental information.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	Wt.%
Xylene	1330-20-7	40.00 - 60.00
Petroleum gases, liquefied	68476-85-7	10.00 - 30.00
Acetone	67-64-1	10.00 - 30.00
Ethylbenzene	100-41-4	10.00 - 30.00
Methanol	67-56-1	1.00 - 3.00

SECTION 4 - FIRST AID MEASURES

Inhalation : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention.

Skin contact : Remove/Take off immediately all contaminated clothing. Wash off immediately with soap and plenty of water. Get medical attention if symptoms persist.

Eye contact : Immediately flush eyes with running water for at least 15 minutes. Seek immediate medical attention/advice.

Ingestion : Seek immediate medical attention/advice. Do not induce vomiting. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. Never give anything by mouth to an unconscious person.

Notes For Physician : Immediate medical attention is required. Contains methanol. May be an aspiration hazard. Provide general supportive measures and treat symptomatically.

SECTION 5 - FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability

: Flammable aerosol. Closed containers are contained under pressure and may explode if exposed to excess heat for a prolonged period of time. Vapours may be heavier than air and may collect in confined and low-lying areas. Product may float, and be re-ignited at the water's surface.

Oxidizing properties : None known.

Explosion data: Sensitivity to mechanical impact / static discharge

: May be sensitive to static discharge. Aerosols are sensitive to mechanical impact. Contents under pressure.

Suitable extinguishing media : Dry chemical, foam, carbon dioxide and water fog. Do not use water jet, as this may spread burning material.

Special fire-fighting procedures/equipment

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Shield personnel to protect from venting or rupturing containers. Water spray may be useful in cooling equipment exposed to heat and flame.

Hazardous combustion products

: Carbon oxides; Aldehydes; acetic acid; Reactive hydrocarbons; Other unidentified organic compounds.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions : All persons dealing with the clean-up should wear the appropriate chemically 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.

Spill response/cleanup : Ventilate area of release. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required. Use only non-sparking tools and equipment in the clean-up process.

Prohibited materials : Do not use combustible absorbents, such as sawdust.

SECTION 7 - HANDLING AND STORAGE

Safe Handling procedures : Use in a well-ventilated area. Wear suitable protective equipment during handling. Do not breathe vapours or spray mist. Do not ingest. Avoid contact with skin, eyes and clothing. Keep away from heat and flame. Ground all equipment during handling. Avoid contact with incompatible materials. Do not puncture or incinerate. Wash thoroughly after handling. Do not eat or smoke in areas of use or storage. Always replace cap after use.

Storage requirements : Store in a cool, dry, well-ventilated area. Keep away from direct sunlight. Inspect periodically for damage or leaks. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. No smoking in the area. Keep out of the reach of children. Protect from sunlight.

Incompatible materials : Oxidizing agents; Reducing agents; Acids; Reactive metals

Special packaging materials : Not available.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits

Ingredients	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Xylene	100 ppm	150 ppm	100 ppm (435 mg/m³)	N/Av
Petroleum gases, liquefied	N/Av	N/Av	1000 ppm (1800 mg/m³)	N/Av
Acetone	250 ppm	500 ppm	1000 ppm (2400 mg/m³)	N/Av
Ethylbenzene	20 ppm	N/Av	100 ppm (435 mg/m³)	N/Av
Methanol	200 ppm (skin)	250 ppm (skin)	200 ppm (260 mg/m³)	N/Av

Ventilation and engineering measures

: Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection : If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Advice should be sought from respiratory protection specialists. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with CSA Z94.4-02.

Skin protection : Gloves impervious to the material are recommended. Advice should be sought from glove suppliers. Wear resistant clothing and boots.

Eye / face protection : Chemical splash goggles must be worn when handling this material.

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

: Handle in accordance with good industrial hygiene and safety practice. Do not breathe vapours or spray mist. Wash hands thoroughly after using this product, and before eating, drinking or smoking. Remove and wash contaminated clothing before re-use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Liquid aerosol.

Appearance : Clear

Odour : Hydrocarbon odour.

Odour threshold : N/Av

pH : N/Av

Boiling point : N/Av

Specific gravity : 0.84 @ 15°C

Melting/Freezing point : N/Av
Coefficient of water/oil distribution : N/Av
Vapour pressure (mmHg @ 20° C / 68° F) : N/Av
Solubility in water : Negligible.
Vapour density (Air = 1) : N/Av
Evaporation rate (n-Butyl acetate = 1) : N/Av
Volatile organic Compounds (VOC's) : N/Av
Volatiles (% by weight) : 81%
Flash point : < 11°C (concentrate)
Flash point Method : N/Av
Auto-ignition temperature : N/Av
Lower flammable limit (% by vol.) : N/Av
Upper flammable limit (% by vol.) : N/Av
Flame Projection Length : > 15 cm; < 70 cm
Flashback observed : NO
Absolute pressure of container : N/Av
Viscosity : < 14 cSt @ 40°C (concentrate)
General Information : No additional information.

Section 10: STABILITY AND REACTIVITY

Stability and reactivity : Stable under the recommended storage and handling conditions prescribed.
Hazardous polymerization : Hazardous polymerization does not occur.
Conditions to avoid : Avoid heat and open flame. Extremes of temperature and direct sunlight. Do not use in areas without adequate ventilation.
Materials To Avoid And Incompatibility : Oxidizing agents; Reducing agents; Alkali metals; Acids.
Hazardous decomposition products : None known, refer to hazardous combustion products in Section 5.

SECTION 11 - TOXICOLOGICAL INFORMATION

Target organs : Eyes, skin, respiratory system, digestive system, central nervous system. Liver; Kidneys.

Routes of exposure : *Inhalation:* YES *Skin Absorption:* YES *Skin & Eyes:* YES *Ingestion:* YES
Irritancy : Moderate skin irritant. Severe eye irritant.
Toxicological data : There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

Ingredients	LC_{50}(4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
Xylene	6350 ppm (27.6 mg/L) (vapour)	3253 mg/kg	12 180 mg/kg
Petroleum gases, liquefied	276 000 ppm (Read-across)	N/Ap (gas)	N/Ap (gas)
Acetone	30 000 ppm (71 mg/L) (vapour)	5800 mg/kg	> 15 800 mg/kg
Ethylbenzene	4000 ppm (17.4 mg/L) (vapour)	3500 mg/kg	15 380 mg/kg
Methanol	> 5000 ppm/6H (4.1 mg/L/4H (vapour)	5628 mg/kg (rat) The estimated human lethal dose is: 300 - 1000 mg/kg	> 393 mg/kg (Monkey) 15 800 mg/kg (rabbit)

Carcinogenic status : Contains Ethylbenzene. Ethylbenzene is classifed as carcinogenic by IARC (Group 2B) and ACGIH (Category A3).
Reproductive effects : Not expected to cause reproductive effects.
Teratogenicity : This product contains Xylene. Xylene may cause fetotoxic effects at doses which are not maternally toxic, based on animal data.
Contains Methanol. Methanol may cause fetotoxic and teratogenic effects at doses which are not maternally toxic, based on animal data.
Mutagenicity : No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Epidemiology : None known or reported by the manufacturer.
Sensitization to material : Not expected to be a skin or respiratory sensitizer.
Synergistic materials : None known or reported by the manufacturer.
other important hazards : None known or reported by the manufacturer.

Conditions aggravated by overexposure

: Pre-existing eye, skin, respiratory, liver, kidney and central nervous system disorders.

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. This product contains the following substance which may also be hazardous for the environment: Xylene.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Xylene	1330-20-7	8.2 mg/L (Rainbow trout)	N/Av	None.
Petroleum gases, liquefied	68476-85-7	N/Ap	N/Ap	N/Ap
Acetone	67-64-1	6210 mg/L (Fathead minnow)	N/Av	None.
Ethylbenzene	100-41-4	4.2 mg/L (Rainbow trout)	1.13 mg/L (30 days)	None.
Methanol	67-56-1	15 400 mg/L (Bluegill sunfish)	446.7 mg/L/28-day (Fathead minnow) (QSAR)	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Xylene	1330-20-7	3.2 - 9.56 mg/L (Daphnia magna)	N/Av	None.
Petroleum gases, liquefied	68476-85-7	N/Ap	N/Ap	N/Ap
Acetone	67-64-1	15 800 mg/L (Daphnia magna)	1660 mg/L	None.
Ethylbenzene	100-41-4	1.81 mg/L (Daphnia magna)	N/Av	None.
Methanol	67-56-1	> 10 000 mg/L (Daphnia magna)	208 mg/L (QSAR)	None.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Xylene	1330-20-7	3.2 - 4.9 mg/L/72hr (Green algae)	N/Av	None.
Petroleum gases, liquefied	68476-85-7	N/Ap	N/Ap	N/Ap
Acetone	67-64-1	7000 mg/L/96hr (Green algae)	N/Av	None.
Ethylbenzene	100-41-4	3.6 mg/L/96hr (Green algae)	3.4 mg/L/96hr	None.
Methanol	67-56-1	22 000 mg/L/96hr (Green algae)	N/Av	None.

Mobility : No data is available on the product itself.

Persistence : No data is available on the product itself.
The following ingredients are considered to be readily biodegradable: Acetone; Methanol.
Contains the following chemicals which are considered to be inherently biodegradable: Xylene; Ethylbenzene.

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

Components	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Xylene (CAS 1330-20-7)	3.12 - 3.2	50 - 58
Petroleum gases, liquefied (CAS 68476-85-7)	2.89 (Read-across)	33 (Read-across)
Acetone (CAS 67-64-1)	0.24	0.65 (Fish)
Ethylbenzene (CAS 100-41-4)	3.15	1.1 - 1.5
Methanol (CAS 67-56-1)	- 0.82 to - 0.64	< 10 (common carp)

Other Adverse Environmental effects

: No data is available on the product itself.

SECTION 13 - DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle waste according to recommendations in Section 7. Do not puncture or incinerate containers. Pressurized container: Do not pierce or burn, even after use. Refer to protective measures listed in sections 7 and 8.

Methods of Disposal : Dispose of in accordance with federal, provincial and local hazardous waste laws.

SECTION 14: TRANPORT INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	UN1950	AEROSOLS	2.1	None	
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 TDGR, refer to Section 1.17 for additional exemption information, if shipping under this exemption.				

SECTION 15 - REGULATORY INFORMATION

Labelling:

Danger. Extremely flammable aerosol. Contents under pressure. Container may explode if heated. POISON! May be fatal or cause blindness if swallowed in sufficient quantities. May be harmful if inhaled. May cause respiratory irritation. May cause nausea, vomiting, headache and other central nervous system effects. May be an aspiration hazard. Can enter the lungs and cause damage. Causes eye and skin irritation. Possible birth defect hazard - contains material that may cause birth defects, based on animal data. Contains material which may cause cancer, based on animal data.

Precautions: Use in a well-ventilated area. Wear suitable protective equipment during handling. Do not breathe vapours or spray mist. Do not ingest. Avoid contact with skin, eyes and clothing. Keep away from heat and flame. Ground all equipment during handling. Avoid contact with incompatible materials. Do not puncture or incinerate containers. Wash thoroughly after handling. Always replace cap after use. Store in a cool, dry, well-ventilated area away from sources of heat, ignition and sunlight.

FIRST AID: If inhaled, move to fresh air. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention. For skin contact, wash with soap and water while removing contaminated clothing. Get medical attention if symptoms persist. For eye contact, flush with running water for at least 15 minutes. Seek immediate medical attention/advice. If ingested, do not induce vomiting. Seek immediate medical attention/advice. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. Never give anything by mouth to an unconscious person.

Refer To Material Safety Data Sheet for further information.

Canadian Information:

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

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

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

US Federal Information:

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

SECTION 16 - OTHER INFORMATION

Legend :

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CNS: Central Nervous System
EC50: Effective Concentration 50%.
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
Inh: Inhalation
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
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RTECS: Registry of Toxic Effects of Chemical Substances
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References :

1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2015.
2. International Agency for Research on Cancer Monographs, searched 2016.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2016 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.

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MSDS Preparation Date (mm/dd/yyyy)

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