



MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: Brakleen® Brake Parts Cleaner (aerosol)

Product Number (s): 05089, 05089T, 85089

Product Use: Brake cleaner

Manufacturer / Supplier Contact Information:

In United States:

CRC Industries, Inc.

885 Louis Drive

Warminster, PA 18974

www.crcindustries.com

1-215-674-4300 (General)

(800) 521-3168 (Technical)

(800) 272-4620 (Customer Service)

In Canada:

CRC Canada Co.

2-1246 Lorimar Drive

Mississauga, Ontario L5S 1R2

www.crc-canada.ca

1-905-670-2291

In Mexico:

CRC Industries Mexico

Av. Benito Juárez 4055 G

Colonia Orquídea

San Luís Potosí, SLP CP 78394

www.crc-mexico.com

52-444-824-1666

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

Section 2: Hazards Identification

Emergency Overview

DANGER: Vapor Harmful. Harmful or Fatal if Swallowed. Contents Under Pressure

As defined by OSHA's Hazard Communication Standard, this product is hazardous.

Appearance & Odor: Colorless liquid, irritating odor at high concentrations

Potential Health Effects:

ACUTE EFFECTS:

EYE: May cause slight temporary eye irritation. Vapors may also cause irritation.

SKIN: Short single exposure may cause skin irritation. Prolonged exposure may cause severe skin irritation, even a burn. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

INHALATION: Dizziness may occur at concentrations of 200 ppm. Progressively higher levels may also cause nasal irritation, nausea, incoordination, and drunkenness. Very high levels or prolonged exposure could lead to unconsciousness and death.

INGESTION: Single dose oral toxicity is considered to be extremely low. Swallowing large amounts may cause injury if aspirated into the lungs. This may be rapidly absorbed through the lungs and result in injury to other body systems.

CHRONIC EFFECTS: Repeated contact with skin may cause drying or flaking of skin. Excessive or long term exposure to vapors may increase sensitivity to epinephrine and increase myocardial irritability.

TARGET ORGANS: Central nervous system. Possibly liver and kidney.

Medical Conditions Aggravated by Exposure: None known.

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Product Name: Brakleen® Brake Parts Cleaner (aerosol)

Product Number (s): 05089, 05089T, 85089

Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Tetrachloroethylene (PERC)	127-18-4	55 – 99
Petroleum Distillates	8052-41-3 / 64742-47-8	1 – 30
Trichloroethylene	79-01-6	0 – 20
Carbon Dioxide	124-38-9	< 5

Section 4: First Aid Measures

Eye Contact: Immediately flush with plenty of water for 15 minutes. Call a physician if irritation persists.

Skin Contact: Remove contaminated clothing and wash affected area with soap and water. Call a physician if irritation persists. Wash contaminated clothing prior to re-use.

Inhalation: Remove person to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician.

Ingestion: Do NOT induce vomiting. If spontaneous vomiting is about to occur, place victim's head below knees. If victim is drowsy or unconscious, place on the left side with head down. Never give anything by mouth to a person who is not fully conscious. Do not leave victim unattended. Call a physician immediately

Note to Physicians: Because rapid absorption may occur through lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. If burn is present, treat as any thermal burn, after decontamination. Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary. No specific antidote.

Section 5: Fire-Fighting Measures

Flammable Properties: This product is nonflammable in accordance with aerosol flammability definitions. (See 16 CFR 1500.3(c)(6)) This product does not exhibit a flame extension or a flashback.

Flash Point: None (TCC) Upper Explosive Limit: ND
Autoignition Temperature: ND Lower Explosive Limit: ND

Fire and Explosion Data:

Suitable Extinguishing Media: Use dry chemicals, carbon dioxide, foam or inert gasses.

Products of Combustion: Oxides of carbon, hydrogen chloride, trace amounts of phosgene and chlorine

Explosion Hazards: Aerosol containers, when exposed to heat from fire, may build pressure and explode.

Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. Proper eye and skin protection should be provided. Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

Section 6: Accidental Release Measures

Product Name: Brakleen® Brake Parts Cleaner (aerosol)

Product Number (s): 05089, 05089T, 85089

Personal Precautions: Use personal protection recommended in Section 8. Do not breathe vapors.

Environmental Precautions: Take precautions to prevent contamination of ground and surface waters. Do not flush into sewers or storm drains.

Methods for Containment & Clean-up: Dike area to contain spill. Ventilate the area with fresh air. If in confined space or limited air circulation area, clean-up workers should wear appropriate respiratory protection. Recover or absorb spilled material using an absorbent designed for chemical spills. Place used absorbents into proper waste containers.

Section 7: Handling and Storage

Handling Procedures: Vapors of this product are heavier than air and will collect in low areas. Make sure ventilation removes vapors from low areas. Do not eat, drink or smoke while using this product. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Aerosol cans must be maintained below 120 F to prevent cans from rupturing.

Aerosol Storage Level: I

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines:

COMPONENT	OSHA		ACGIH		OTHER		UNIT
	TWA	STEL	TWA	STEL	TWA	SOURCE	
Tetrachloroethylene	100	N.E.	25	100	NE		ppm
Petroleum Distillates	100 (v)	NE	100	NE	NE		ppm
Trichloroethylene	100	200 (v)	10	25	5	mfg*	ppm
Carbon dioxide	5000	30000 v	5000	30,000	N.E.		ppm

N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated

* TCE manufacturer's internal PEL

Controls and Protection:

Engineering Controls: Area should have ventilation to provide fresh air. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at the source, preventing dispersion into the general work area. Use mechanical means if necessary to maintain vapor levels below the exposure guidelines. If working in a confined space, follow applicable OSHA regulations.

Respiratory Protection: None required for normal work where adequate ventilation is provided. If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with organic vapor cartridge. Air monitoring is needed to determine actual employee exposure levels. Use a self-contained breathing apparatus in confined spaces and for emergencies.

Eye/face Protection: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

Product Name: Brakleen® Brake Parts Cleaner (aerosol)

Product Number (s): 05089, 05089T, 85089

Skin Protection: Use protective gloves such as PVA, Teflon or Viton. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Section 9: Physical and Chemical Properties

Physical State: liquid

Color: colorless

Odor: irritating odor

Odor Threshold: ND

Specific Gravity: 1.23 – 1.62

Initial Boiling Point: 189 F

Freezing Point: ND

Vapor Pressure: ND

Vapor Density: > 4 (air = 1)

Evaporation Rate: Fast

Solubility: negligible

Coefficient of water/oil distribution (log P_{ow}): ND

pH: NA

Volatile Organic Compounds: wt %: < 45 g/L: < 729 lbs./gal: < 6

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Avoid direct sunlight or ultraviolet sources. Avoid open flames, welding arcs, and other high temperature sources which induce thermal decomposition.

Incompatible Materials: Avoid contact with metals such as: aluminum powders, magnesium powders, potassium, sodium, and zinc powder. Avoid unintended contact with amines. Avoid contact with strong acids, strong bases, alkalies and strong oxidizers.

Hazardous Decomposition Products: Hydrogen chloride, trace amounts of phosgene and chlorine

Possibility of Hazardous Reactions: No

Section 11: Toxicological Information

Long-term toxicological studies have not been conducted for this product. The following information is available for components of this product.

Acute Toxicity:

<u>Component</u>	<u>Oral LD50 (rat)</u>	<u>Dermal LD50 (rabbit)</u>	<u>Inhalation LC50 (rat)</u>
Tetrachloroethylene	2629 mg/kg	> 10 g/kg	5200 mg/kg/4H
Petroleum Distillates	No data	No data	>1400 ppm/8H
Trichloroethylene	4920 mg/kg	10,000 mg/kg	12,500 ppm/4H
Carbon dioxide	No data	No data	470,000 ppm/30M

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Chronic Toxicity:

<u>Component</u>	<u>OSHA Carcinogen</u>	<u>IARC Carcinogen</u>	<u>NTP Carcinogen</u>	<u>Irritant</u>	<u>Sensitizer</u>
Tetrachloroethylene	No	Group 2A	Reasonably Anticipated to be a Carcinogen	E (mild) / S (severe)	No
Petroleum Distillates	No	No	No	E & S (mild)	Unknown
Trichloroethylene	No	Group 2A	Reasonably Anticipated to be a Carcinogen	E (moderate) / S (mild)	Unknown
Carbon dioxide	No	No	No	None	No

E – Eye S – Skin R - Respiratory

Reproductive Toxicity: No information available.

Teratogenicity: No information available.

Mutagenicity: Tetrachloroethylene: in vitro studies were negative
animal studies were negative
Trichloroethylene: in vitro mutagenicity studies were negative
animal mutagenicity studies were predominantly negative

Synergistic Effects: No information available.

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity: Tetrachloroethylene -- 96 Hr LC50 Rainbow Trout: 5.28 mg/L (static)
96 Hr LC50 Fathead minnow: 13.4 mg/L (flow-through)
Trichloroethylene -- 96 Hr LC50 fathead minnow: 44.1 mg/L (flow-through)

Persistence / Degradability: Biodegradation under aerobic conditions is below detectable limits.
Biodegradation may occur under anaerobic conditions. Biodegradation rate may increase in soil and/or water with acclimation.

Bioaccumulation / Accumulation: Bioconcentration potential is low (BCF less than 100).

Mobility in Environment: Potential for mobility in soil is medium.

Section 13: Disposal Considerations

Waste Classification: The dispensed liquid product is a RCRA hazardous waste for toxicity with the following potential waste codes: F001, F002, D039, D040. (See 40 CFR Part 261.20 – 261.33)
Aerosol containers should be fully emptied and depressurized before disposal. Empty aerosol containers may be recycled.

All disposal activities must comply with federal, state, provincial and local regulations. Local regulations may be more stringent than state, provincial or national requirements.

Section 14: Transport Information

US DOT (ground): UN1950, Aerosols, nonflammable, 2.2 (6.1), Limited Quantity**

ICAO/IATA (air): UN1950, Aerosols, non-flammable, containing substances in Division 6.1, Packing Group III, 2.2 (6.1), Limited Quantity

IMO/IMDG (water): UN1950, Aerosols, 2.2 (6.1)

Special Provisions: Marine Pollutant

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****This product can be classified and labeled as 'Consumer Commodity, ORM-D' for domestic ground shipping until January 1, 2014.
If shipping as limited quantity by ground, note that shipping papers are not required.**

Section 15: Regulatory Information

U.S. Federal Regulations:

Toxic Substances Control Act (TSCA):

All ingredients are either listed on the TSCA inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):

Reportable Quantities (RQ's) exist for the following ingredients: Tetrachloroethylene (100 lbs)
Trichloroethylene (100 lbs)

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Superfund Amendments Reauthorization Act (SARA) Title III:

Section 302 Extremely Hazardous Substances (EHS): None

Section 311/312 Hazard Categories:	Fire Hazard	No
	Reactive Hazard	No
	Release of Pressure	Yes
	Acute Health Hazard	Yes
	Chronic Health Hazard	Yes

Section 313 Toxic Chemicals: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:
Tetrachloroethylene (< 99%), Trichloroethylene (< 20%)

Clean Air Act:

Section 112 Hazardous Air Pollutants (HAPs): Tetrachloroethylene, Trichloroethylene

U.S. State Regulations:

California Safe Drinking Water and Toxic Enforcement Act (Prop 65):

This product may contain the following chemicals known to the state of California to cause cancer, birth defects or other reproductive harm:

Tetrachloroethylene
Cumene (< 0.2%)
Trichloroethylene
Ethylbenzene (< 0.05%)

Consumer Products VOC Regulations: This product cannot be sold for use in California and New Jersey. In other states with Consumer Products VOC regulations, this product is compliant as a Brake Cleaner.

State Right to Know:

New Jersey:	127-18-4, 8052-41-3, 79-01-6
Pennsylvania:	127-18-4, 8052-41-3, 79-01-6
Massachusetts:	127-18-4, 8052-41-3, 79-01-6
Rhode Island :	127-18-4, 8052-41-3, 79-01-6

Canadian Regulations:

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

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WHMIS Hazard Class: A, D1B, D2A, D2B

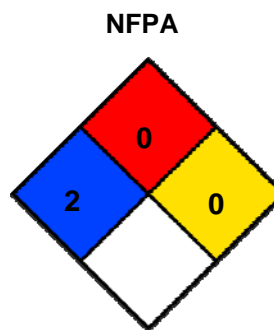
European Union Regulations:

RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as listed in Article 4(1) of the RoHS Directive.

Additional Regulatory Information: None

Section 16: Other Information

HMIS® (II)	
Health:	2
Flammability:	0
Reactivity:	0
PPE:	B



Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick
CRC #: 934A-D
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Changes since last revision: Section14: Transport Information
Removed Product Number

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 Industries' 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 MSDS consult your supervisor, a health & safety professional, or CRC Industries.

ACGIH: American Conference of Governmental Industrial Hygienists	NA: Not Applicable
CAS: Chemical Abstract Service	ND: Not Determined
CFR: Code of Federal Regulations	NIOSH: National Institute of Occupational Safety & Health
DOT: Department of Transportation	NFPA: National Fire Protection Association
DSL: Domestic Substance List	NTP: National Toxicology Program
g/L: grams per Liter	OSHA: Occupational Safety and Health Administration
HMIS: Hazardous Materials Identification System	PMCC: Pensky-Martens Closed Cup
IARC: International Agency for Research on Cancer	PPE: Personal Protection Equipment
IATA: International Air Transport Association	ppm: Parts per Million
ICAO: International Civil Aviation Organization	RoHS: Restriction of Hazardous Substances
IMDG: International Maritime Dangerous Goods	STEL: Short Term Exposure Limit
IMO: International Maritime Organization	TCC: Tag Closed Cup
lbs./gal: pounds per gallon	TWA: Time Weighted Average
LC: Lethal Concentration	WHMIS: Workplace Hazardous Materials Information System
LD: Lethal Dose	