Material Safety Data Sheet

Section 1: Product & Company Identification

Product Name: Brakleen® Brake Parts Cleaner – Non-chlorinated (aerosol)
Product Number (s): 05084
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 Luis 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

Appearance & Odor: Clear liquid; solvent odor

Potential Health Effects:

ACUTE EFFECTS:
EYE: Moderate eye irritant. Exposure can cause irritation including stinging, tearing, redness, blurred vision, and swelling of the eyes.
SKIN: Moderate skin irritant. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, drying and cracking of the skin, and skin burns. Passage of this material into the body through the skin is possibly, but it is unlikely that this would result in harmful effects during safe handling and use.

INHALATION: Breathing large amounts of this material may be harmful. Symptoms include irritation of the nose and throat and central nervous system excitation (giddiness), followed by CNS depression (dizziness, drowsiness, weakness, headache, nausea, unconsciousness).

INGESTION: Swallowing small amounts is not likely to cause harmful effects. May cause stomach or intestinal upset. Swallowing larger amounts may to harmful as this material may be aspirated into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

CHRONIC EFFECTS: Overexposure to methanol may lead to visual impairment.

TARGET ORGANS: liver, kidneys, blood, central nervous system, eyes

Medical Conditions Aggravated by Exposure: skin sensitivities, lung conditions, central nervous system conditions
See Section 11 for toxicology and carcinogenicity information on product ingredients.
Section 3: Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>CAS NUMBER</th>
<th>% by Wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>45 – 55</td>
</tr>
<tr>
<td>Heptane</td>
<td>142-82-5 / 64742-49-0</td>
<td>15 – 25</td>
</tr>
<tr>
<td>Methanol</td>
<td>67-56-1</td>
<td>10 – 20</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>5 – 15</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>124-38-9</td>
<td>5 – 10</td>
</tr>
</tbody>
</table>

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: Seek medical attention. Do not induce vomiting unless instructed by medical personnel. Have victim drink a glass of water if conscious.

Note to Physicians: This material is an aspiration hazard. This material (or a component) has produced hyperglycemia and ketosis following substantial ingestion. Inhalation of high concentrations of this material may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. This product contains methanol. The metabolites of methanol can cause metabolic acidosis, visual disturbances and blindness.

Section 5: Fire-Fighting Measures

Flammable Properties: This product is extremely flammable in accordance with aerosol flammability definitions. (See 16 CFR 1500.3(c)(6)).

- Flash Point: < 0°F / < -18°C (TCC)
- Autoignition Temperature: 399°F / 204°C
- Upper Explosive Limit: 12.8
- Lower Explosive Limit: 2.6

Fire and Explosion Data:

Suitable Extinguishing Media: Dry chemical, carbon dioxide, alcohol resistant foam, class B extinguishers

Products of Combustion: Oxides of carbon

Explosion Hazards: Aerosol containers, when exposed to heat from fire, may build pressure and explode. Vapors may accumulate in a confined space and create a flammable atmosphere.

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

Personal Precautions: Use personal protection recommended in Section 8.

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: Eliminate sources of ignition. 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: Do not use near potential sources of ignition. Do not use on energized equipment. Use with adequate ventilation. Avoid contact with skin and eyes. Avoid inhaling vapors. Use caution when near 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 / 49°C to prevent cans from rupturing.

Aerosol Storage Level: III

Section 8: Exposure Controls/ Personal Protection

Exposure Guidelines:

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>OSHA</th>
<th>ACGIH</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TWA</td>
<td>STEL</td>
<td>TWA</td>
</tr>
<tr>
<td>Acetone</td>
<td>1000</td>
<td>NE 500</td>
<td>500</td>
</tr>
<tr>
<td>Heptane</td>
<td>500</td>
<td>NE 400</td>
<td>400</td>
</tr>
<tr>
<td>Methanol</td>
<td>200</td>
<td>NE 200</td>
<td>200</td>
</tr>
<tr>
<td>Toluene</td>
<td>200</td>
<td>300 (c)</td>
<td>20</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>5000</td>
<td>30000(v)</td>
<td>5000</td>
</tr>
</tbody>
</table>

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

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.
**Product Name:** Brakleen® Brake Parts Cleaner – Non-chlorinated (Aerosol)  
**Product Number (s):** 05084

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

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

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**Section 9: Physical and Chemical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>liquid</td>
</tr>
<tr>
<td>Color</td>
<td>clear</td>
</tr>
<tr>
<td>Odor</td>
<td>solvent</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>ND</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.785</td>
</tr>
<tr>
<td>Initial Boiling Point</td>
<td>132°F / 56°C</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>ND</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>ND</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>&gt; 1 (air = 1)</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>fast</td>
</tr>
<tr>
<td>Solubility</td>
<td>slightly soluble in water</td>
</tr>
<tr>
<td>Coefficient of water/oil distribution</td>
<td>ND</td>
</tr>
<tr>
<td>pH</td>
<td>NA</td>
</tr>
<tr>
<td>Volatile Organic Compounds</td>
<td>wt %: 43.9  g/L: 344.6  lbs./gal: 2.87</td>
</tr>
</tbody>
</table>

**Section 10: Stability and Reactivity**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>Stable</td>
</tr>
<tr>
<td>Conditions to Avoid</td>
<td>Sources of ignition; temperature extremes</td>
</tr>
<tr>
<td>Incompatible Materials</td>
<td>Acids, alkalis, reducing agents, strong oxidizing agents, hypochlorites, peroxides, reactive metals such as aluminum and magnesium, sodium, zinc</td>
</tr>
<tr>
<td>Hazardous Decomposition Products</td>
<td>Oxides of carbon, various hydrocarbons</td>
</tr>
<tr>
<td>Possibility of Hazardous Reactions</td>
<td>No</td>
</tr>
</tbody>
</table>

**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:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Oral LD50 (rat)</th>
<th>Dermal LD50 (rabbit)</th>
<th>Inhalation LC50 (rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>5800 mg/kg</td>
<td>No data</td>
<td>50,100 mg/m³/8H</td>
</tr>
<tr>
<td>Heptane</td>
<td>No data</td>
<td>No data</td>
<td>103 g/m³/4H</td>
</tr>
<tr>
<td>Methanol</td>
<td>5600 mg/kg</td>
<td>15,800 mg/kg</td>
<td>81,000 mg/m³/14H</td>
</tr>
<tr>
<td>Toluene</td>
<td>636 mg/kg</td>
<td>14,100 µL/kg</td>
<td>49 g/m³/4H</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>No data</td>
<td>No data</td>
<td>470,000 ppm/30M</td>
</tr>
</tbody>
</table>
Chronic Toxicity:

<table>
<thead>
<tr>
<th>Component</th>
<th>OSHA Carcinogen</th>
<th>IARC Carcinogen</th>
<th>NTP Carcinogen</th>
<th>Irritant E &amp; S (moderate) / R (mild)</th>
<th>Sensitizer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>E &amp; R (mild) / S (moderate)</td>
<td>Yes</td>
</tr>
<tr>
<td>Heptane</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>E &amp; S (moderate)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Methanol</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>E, S, R (mild)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Toluene</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
<td>Unknown</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
<td>No</td>
</tr>
</tbody>
</table>

Reproductive Toxicity: No information available
Teratogenicity: No information available
Mutagenicity: No information available
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: Acetone – 48H LC50 Daphnia: 10 mg/l
Persistence / Degradability: No information available
Bioaccumulation / Accumulation: No information available
Mobility in Environment: No information available

Section 13: Disposal Considerations

Waste Classification: The dispensed liquid product is a RCRA hazardous waste for the characteristic of ignitability with the following potential waste code(s): D001, F005. (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, flammable, 2.1, Limited Quantity
ICAO/IATA (air): UN1950, Aerosols, flammable, 2.1, Limited Quantity
IMO/IMDG (water): UN1950, Aerosols, 2.1, Limited Quantity
Special Provisions: None

Section 15: Regulatory Information
Product Name: Brakleen® Brake Parts Cleaner – Non-chlorinated (Aerosol)
Product Number(s): 05084

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: Acetone (5000 lbs), Toluene (1000 lbs), Methanol (5000 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 Yes
- Reactive Hazard No
- Release of Pressure Yes
- Acute Health Hazard Yes
- Chronic Health Hazard No

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:
- Toluene (< 10%), Methanol (< 17%)

Clean Air Act:
Section 112 Hazardous Air Pollutants (HAPs): Toluene, Methanol

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: Toluene

Consumer Products VOC Regulations: This product cannot be sold for use in California and northern Utah. In other states with consumer products VOC regulations, this product is compliant as a ‘Brake Cleaner’.

State Right to Know:

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

WHMIS Hazard Class: A, B5, D2B

European Union Regulations:


Additional Regulatory Information: None
Section 16: Other Information

<table>
<thead>
<tr>
<th>HMIS® (II)</th>
<th>NFPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health:</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability:</td>
<td>3</td>
</tr>
<tr>
<td>Reactivity:</td>
<td>0</td>
</tr>
<tr>
<td>PPE:</td>
<td>B</td>
</tr>
</tbody>
</table>

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

Prepared By: Michelle Rudnick
CRC #: 991
Revision Date: 08/26/2014

Changes since last revision: Section 15: Consumer Products VOC Regulations

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
CAS: Chemical Abstract Service
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL: Domestic Substance List
g/L: grams per Liter
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization
lbs./gal: pounds per gallon
LC: Lethal Concentration
LD: Lethal Dose

NA: Not Applicable
ND: Not Determined
NIOSH: National Institute of Occupational Safety & Health
NFPA: National Fire Protection Association
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PMCC: Pensky-Martens Closed Cup
PPE: Personal Protection Equipment
ppm: Parts per Million
RoHS: Restriction of Hazardous Substances
STEL: Short Term Exposure Limit
TCC: Tag Closed Cup
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Information System