MSDS - Material Safety Data Sheet

Product Name: Brake Cleaner

MSDS No.: M720

I. Basic Information:

Manufacturer: RADIATOR SPECIALTY COMPANY
Address: 600 RADIATOR ROAD
City, ST Zip: INDIAN TRAIL, NC 28079
Country:

Contact: Robert Geer
Information Telephone Number: 704-684--181 1
Emergency Contact: RMPDC (877-740-5015)
Emergency Telephone Number: 303-623-5716
Emergency Restrictions:

Product Name: Brake Cleaner
MSDS No.: M720

Issue Date: 09/01/2011
Supersedes Date: 05/18/2011

II. Hazards Identification:

EMERGENCY OVERVIEW

Danger: Harmful or Fatal if Swallowed. Vapor harmful. Eye and Skin Irritant. Contents Under Pressure.

Level 1 Aerosol

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Potential Health Effects

Route(s) of Entry:

Absorption, inhalation, and ingestion

Health Hazards (Acute and Chronic):

Affects of overexposure are:
Acute: Eye Contact: Liquid splashed on eyes and skin can result in discomfort, pain and irritation. Contact may cause tearing, redness, a stinging or burning.
Inhalation may cause upper respiratory tract irritation and central nervous system depression with symptoms such confusion, lightheadness, nausea, headache and fatigue., loss of coordination and equilibrium, unconsciousness and even death in confined or poorly ventilated areas. Ingestion may result in irritation of the mouth and GI tract. May cause nausea, vomiting, abdominal cramps and diarrhea, possibly with bloody stools and narcotic affects as in acute inhalation.

Prolonged exposure above the OSHA permissible exposure limit may complicate existing liver and kidney diseases.

Chronic Effects: Carcinogenicity of perchloroethylene has been documented in certain strains of mice and rats exposed by inhalation or oral routes. Other long-term inhalation studies in rats failed to show tumorigenic response. Human data are limited and have not extablished an association between perchloroethylene exposure and cancer. Methylene Chloride may cause liver damage. It may cause cancer based on animal data.

Signs and Symptoms:

Eye Contace: Irritant. Prolonged contact may cause conjunctivitis.
Skin Contact: Irritant. Defatting of tissue, dermatitis may occur.
Inhalation: Irritant to mucous membranes. Repeated exposure may cause narcosis..
Ingestion: HARMFUL OR FATAL IF SWALLOWED. May cause burns to mouth, throat & stomach.

Medical Conditions Generally Aggravated by Exposure:

May complicate existing liver and kidney diseases.

Other Health Warnings:

Vomiting and subsequent aspiration into the lungs may lead to chemical pneumonia and pulmonary edema which is a potentially fatal condition.

Potential Environmental Effects

Not Available

III. Composition/Information on Ingredients:

Chemical Name	CAS No.	% Range	Trade Secret
Carbon dioxide	124-38-9	1.0 - 5.0	
Dichloromethane	75-09-2	30.0 - 60.0	

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Tetrachloroethylene	127-18-4	30.0 - 60.0

IV. First Aid Measures:

Emergency and First Aid Procedures:

Eye Contact: Flush eyes with clean water for 15 minutes while lifting eyelids. Get prompt medical attention.
Skin Contact: Wash with soap and water thoroughly. If adverse effects persist, get prompt medical attention. Launder contaminated clothing before reuse.
Inhalation: Remove to fresh air. If breathing becomes difficult, get prompt medical attention.
Ingestion: DO NOT INDUCE VOMITING! Call Poison Control Center, physician, or hospital emergency room immediately.

Note to Physicians:

N/E

V. Fire Fighting Measures:

Suitable Extinguishing Media:

Water Fog, Foam, Carbon Dioxide, Dry Chemical

Unsuitable Extinguishing Media:

Do not use forced water stream as this could cause the fire to spread.

Products of Combustion:

Normal products of combustion: Carbon monoxide, carbon dioxide. In the presence of water: hydrochloric acid is liberated. Ignition sources and hot metals surfaces may generate: phosgene and chlorine gases. Flames, welding, and high temperatures will induce decomposition.

Protection of Firefighters:

Wear self-contained positive pressure breathing apparatus and protective clothes. Use shield to protect from rupturing and venting containers. At elevated temperatures containers may vent, rupture or burst, even violently. Vapors of this product may present a future health hazard in poorly ventilated areas. May liberate corrosive hydrochloric acid or toxic phosgene fumes.

VI. Accidental Release Measures:

Personal Precautions:

Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Wear positive-pressure self-contained breathing apparatus (SCBA) if needed.

Environmental Precautions:

Prevent run-off to sewers, streams, or other bodies of water. If run-off occurs, notify proper authorities as required that a spill has occurred.

Methods for Containment:

Dike or contain spill and absorb with inert materials (sand, sawdust, absorbent sweeping compounds, rags, etc).

Methods for Cleanup:

Using a non-metalic scoop, place contaminated material into an approved chemical waste container.

Other Information:

If run-off occurs, notify proper authorities as required that a spill has occurred.

VII. Handling and Storage:

Handling Precautions:

Handling: Use with adequate ventilation and proper protective equipment.
Do not use or store near fire, sparks, or flame. Do not puncture or incinerate container. Exposure to temperatures above 120° may cause container to vent, rupture, or burst. Avoid contact with eyes, skin and clothing. Avoid breathing vapors. Do not swallow. Do not enter confined spaces with this product unless adequately ventilated. Keep away from food.

Storage Precautions:

Vapors are heavier that air and will collect in low areas. This material or its vapors when in contact with flames, hot glowing surfaces or electric arcs can decompose to form hydrogen chloride gas and possible traces of phosgene. Avoid contamination with water supplies. Do not expose to fire, sparks or flames. Do not store above 120°. Keep container closed.

VIII. Exposure Controls/Personal Protection:

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Chemical Name	OSHA PEL	ACGIH TLV	Other Limits
Tetrachloroethylene	25 ppm	25 ppm	Not Available
Carbon dioxide	N/AV	5000 ppm	Not Available
Dichloromethane	25 ppm (TWA)	25 ppm (TWA)	Not Available

Engineering Controls:

See above Section for applicable exposure limits. Maintain adequate ventilation.
Avoid breathing vapors. In restricted areas, use respirator with approved chemical filters designed to remove vapor. In confined areas, use approved air line type respirator or hood. A self-contained breathing apparatus is required for vapor concentrations above TLV limit

Personal Protective Equipment:

Maintain adequate ventilation. Avoid breathing vapors. For prolonged exposure wear protective safety glasses, gloves, and apron.

IX. Physical and Chemical Properties:

Boiling Point: 132°F
Boiling Range: N/D
Solubility In Water: 530 ppm @ 25°C
Flash Point: None
Odor Threshold: N/D
Vapor Density (AIR = 1): N/D
pH Range: N/A
Decomposition Temp: N/A
Lower Explosive Limit: N/A
Specific Gravity (H20 = 1): 1.47
Other Information: VOC Content: 0 %

Melting Point: N/A
Freezing Point: < -20°C
Evaporation Rate (Butyl Acetate = 1): 0.09
Flash Point Method: N/A
Appearance and Odor: Clear colorless volatile liquid with midly sweet, chloroform-like odor
Vapor Pressure (mm Hg.): N/D
Partition Coefficient: N/D
Auto-Ignition Temp: N/A
Upper Explosive Limit: N/A

X. Stability and Reactivity:

Stability:

Stable

Conditions to Avoid:

Avoid heat, sparks, and flames. Exposure to elevated temperatures can cause product to decompose. Avoid direct sunlight or ultraviolet sources.

Incompatible Materials:

Liquid oxygen, other strong oxidizers and strong bases. Avoid contact with metals such as Zinc powders, aluminum powders, magnesium powders, potassium and Sodium. Avoid unintended contact with amines.

Hazardous Decomposition Products:

Normal products of combustion: Carbon monoxide, carbon dioxide. In the presence of water: hydrochloric acid is liberated. Ignition sources and hot metals surfaces may generate: phosgene and chlorine gases. Flames, welding, and high temperatures will induce decomposition.

Possibility of Hazardous Reactions:

Will not occur.

XI. Toxicological Information:

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Tetrachloroethylene
ACUTE INHALATION LC50: (rats) 5040 ppm for 8 hours. Moderately toxic.
ACUTE DERMAL LD50: (rabbit) > 3228 mg/kg. Slight to very low toxicity
SKIN IRRITATION: Mildly irritating.
EYE IRRITATION: Mildly irritating.
ACUTE ORAL LD50: (rats) 2629 mg/kg. Moderalely toxic.

Methylene Chloride
Methylene Chloride is not believed to pose a measurable carcinogenic risk to man when handled as recommended. Studies have shown that tumors observed in mice are unique to that species.
ACUTE ORAL LD50 (rats): 1600 mg/kg
ACUTE INHALATION LC50 (rats) 52 mg/liter, 6 hours.

This product is listed under IARC as a 2A

XII. Ecological Information:

Toxic to aquatic life.(Marine Pollutant)
100 - 10 ppm (fish) 96-hours TLM LC50

XIII. Disposal Considerations:

DISPOSAL: This container may be recycled in aerosol recycling centers when empty. Before offering for recycling, empty the can by using the product according to the label. DO NOT PUNCTURE! If recycling is not available, wrap the container and discard in the trash. Dispose of unused product in accordance with all local, state government and federal laws and regulations.

XIV. Transport Information:

Shipping Name: Consumer Commodity

DOT Hazard Class: ORM-D

DOT Subsidiary Hazard Class: Not Available

UN/NA#: Not Available

Packing Group: Not Available

Transportation Information:

DOT Hazard Class: ORM-D
Shipping Name: Consumer Commodity

The DOT description is provided to assist in the proper shipping classification of this product and may not be suitable for international and air shipping purposes.

ICAO/IATA (US)
Shipping Name: Aerosols
Class: 2.2 (6.1)
UN number: UN1950

International:

ICAO/IATA
UN number: UN1950
Shipping Name: Aerosols
Class: 2.2 (6.1)

IMDG
UN number: UN1950
Shipping Name: Aerosols
Class: 2.2 (6.1)
EmS: F-D, S-U

XV. Regulatory Information:

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SARA 313 REPORTABLE:
Tetrachloroethylene - 127-18-4
Methylene Chloride - 75-09-2

USA TSCA: All chemicals used are listed on the TSCA Inventory.

CERCLA RQ: 100 lbs (Tetrachloroethylene), 1000 lbs (Methylene Chloride)
SARA 302: Not listed as a Extremely Hazardous Substance
SARA 311/312 HAZARD CLASS: Acute, Chronic

State RTK Chemicals:
Tetrachloroethylene - 127-18-4
Methylene Chloride - 75-09-2

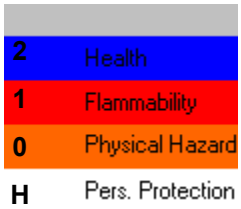
XVI. Other Information:

Chemical State: [X] Liquid [ ] Gas [ ] Solid

Chemical Type: [X] Pure [ ] Mixture

Hazard Category:

[X] Acute [X] Chronic [ ] Fire [X] Pressure [ ] Reactive



Additional Manufacturer Warnings:

Do not used in confined area without proper ventilation. Contact lenses may cause further damage in case of splash into eye. KEEP AWAY FROM CHILDREN AND ANIMALS!

N/E: Not Established
N/D: Not Determined
N/A: Not Applicable
N/AV: Not Available

Additional Product Information:

While Radiator Specialty Company believes this data is accurate as of the revision date, we make no warranty with respect to the data and we expressly disclaim all liability for reliance thereon. The data is offered solely for information, investigation, and verification. Various government agencies may have specific regulations regarding the transportation, handling, storage, use, or disposal of this product which may not be covered by this MSDS. The user is responsible for full compliance.