

Material Safety Data Sheet



Superior Solutions

Zep Inc.
1310 Seaboard Industrial Blvd.
Atlanta, GA 30318
1-877-I-BUY-ZEP (428-9937)
www.zep.com

Section 1. Chemical Product and Company Identification

Product name BRAKE FLUSH (LIQUID)
Product use Non-Chlorinated Brake Parts Cleaner
Product code 0535
Date of issue 02/06/09 **Supersedes** 02/27/07

Emergency Telephone Numbers

For MSDS Information:
Compliance Services 1-877-I-BUY-ZEP (428-9937)

For Medical Emergency
(877) 541-2016 Toll Free - All Calls Recorded

For Transportation Emergency
CHEMTREC: (800) 424-9300 - All Calls Recorded
In the District of Columbia (202) 483-7616

Prepared By

Compliance Services
1420 Seaboard Industrial Blvd.
Atlanta, GA 30318

HAMPTON TEDDER ELECTRIC
4571 STATE ST
MONTCLAIR CA 91763-6129

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Section 2. Hazards Identification

Emergency overview

DANGER !

EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. Keep away from sources of ignition - No smoking. CAUSES EYE IRRITATION. HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED.

*Hazard Determination System (HDS): Health, Flammability, Reactivity



NOTE: MSDS data pertains to the product as delivered in the original shipping container(s). Risk of adverse effects are lessened by following all prescribed safety precautions, including the use of proper personal protective equipment.

Acute Effects

Routes of Entry

Dermal contact. Eye contact. Inhalation. Ingestion.

- Eyes** Contact may cause eye irritation. Inflammation of the eye is characterized by redness, watering and itching.
- Skin** Direct contact may cause irritation and redness. Skin inflammation is characterized by itching, scaling, or reddening. Defatting properties, may aggravate an existing dermatitis
- Inhalation** Avoid breathing vapors, spray or mists. Over-exposure by inhalation may cause respiratory irritation. Can cause central nervous system (CNS) depression. High vapor concentrations can cause headaches, dizziness, drowsiness and nausea and may lead to unconsciousness.
- Ingestion** Harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage. Vomiting increases risk of chemical pneumonia or pulmonary edema caused by aspiration of hydrocarbon solvents.

Chronic effects

Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Repeated or prolonged exposure to the substance can produce target organs damage. Contains material which may cause damage to the following organs: kidneys, lungs, liver, heart, brain, central nervous system (CNS).

Carcinogenicity Ingredients: Not listed as carcinogen by OSHA, NTP or IARC.

Additional Information: See Toxicological Information (Section 11)

Section 3. Composition/Information on Ingredients

Name of Hazardous Ingredients	CAS number	% by Weight
ACETONE; dimethyl ketone	67-64-1	50 - 60
HEPTANE; n-heptane	142-82-5	35 - 45
ISOPROPYL ALCOHOL; ipa; dimethylcarbinol; 2-propanol	67-63-0	1 - 5
METHANOL; methyl alcohol; wood alcohol; columbia spirits	67-56-1	1 - 5

Section 4. First Aid Measures

Eye Contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention immediately.
Skin Contact	Immediately wash with water and soap and rinse thoroughly. Get medical attention if irritation develops.
Inhalation	Move exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	ASPIRATION HAZARD. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Section 5. Fire Fighting Measures

National Fire Protection Association (U.S.A.)



Flash Point	Closed cup: <math>< -18^{\circ}\text{C}</math> (<math>< 0^{\circ}\text{F}</math>) (Tagliabue.)
Flammable Limits	Lower: 1.2% Upper: 11.6%
Flammability	EXTREMELY FLAMMABLE LIQUID AND VAPOR.
Fire hazard	FLAMMABLE LIQUID AND VAPOR. Vapor may cause flash fire. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
Fire-Fighting Procedures	Use dry chemical or CO_2 . Fire-fighters should wear appropriate protective equipment. Cool containers with water jet in order to prevent pressure build-up, auto-ignition or explosion. Do not release runoff from fire to sewers or waterways.

Section 6. Accidental Release Measures

Spill Clean up	Eliminate all ignition sources. Put on appropriate personal protective equipment (see section 8). Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.
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Section 7. Handling and Storage

Handling	Extremely flammable liquid and vapor. Store and use away from heat, sparks, open flame or any other ignition source. Put on appropriate personal protective equipment (see section 8). Avoid contact with eyes, skin and clothing. Do not breathe vapor or mist. Use only with adequate ventilation. Do not ingest. Wash thoroughly after handling. Do not reuse container. Observe label precautions. Wash contaminated clothing before reusing.
Storage	Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Store between the following temperatures: 40°F - 120°F (4.4°C - 49°C). Keep out of the reach of children.

Section 8. Exposure Controls/Personal Protection

Product name

ACETONE; dimethyl ketone

HEPTANE; n-heptane

ISOPROPYL ALCOHOL; ipa; dimethylcarbinol; 2-propanol

METHANOL; methyl alcohol; wood alcohol; columbia spirits

Exposure limits

ACGIH TLV / OSHA PEL (United States).

TWA: 750 ppm 8 hour(s).

ACGIH / OSHA (United States).

STEL: 1000 ppm 15 minute(s).

ACGIH/OSHA (United States).

TWA: 400 ppm 8 hour(s).

ACGIH/OSHA (United States).

STEL: 400 ppm 15 minute(s).

ACGIH TLV (United States).

TWA: 200 ppm 8 hour(s).

OSHA PEL (United States).

TWA: 400 ppm 8 hour(s).

ACGIH/OSHA (United States).

STEL: 400 ppm 15 minute(s).

OSHA/ACGIH (United States).

TWA: 200 ppm 8 hour(s).

OSHA /ACGIH (United States).

STEL: 250 ppm 15 minute(s).

Personal Protective Equipment (PPE)

Eyes	Splash goggles.
Body	Wear appropriate protective clothing to prevent skin contact. Recommended Viton gloves. Nitrile gloves. Neoprene gloves. Synthetic apron.



Respiratory Use with adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Wear appropriate respirator when ventilation is inadequate.

Section 9. Physical and Chemical Properties

Physical State	Thin liquid	Color	Clear, Colorless.
pH	Not applicable	Odor	Hydrocarbon. [Slight]
Boiling Point	55.5°C (131.9°F)	Vapor Pressure	Not determined.
Specific Gravity	0.72	Vapor Density	>1 [Air = 1]
Solubility	insoluble in water.	Evaporation Rate	Not determined.
		VOC (Consumer)	50% 3.0 (lb/gal) 359 (g/l).

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Incompatibility	Keep away from heat, sparks and flame. Reactive or incompatible with the following materials: oxidizing materials.
Hazardous Polymerization	Will not occur.
Hazardous Decomposition Products	carbon oxides (CO, CO ₂)

Section 11. Toxicological Information

Acute Toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Dermal	Rabbit	20000 mg/kg	-
	LD50 Oral	Mouse	9750 mg/kg	-
Heptane	LC50 Inhalation Vapor	Rat	16000 ppm	4 hours
	LD50 Oral	Mouse	15000 mg/kg	-
Isopropyl Alcohol	LC50 Inhalation Gas.	Mouse	18295 ppm	2 hours
	LD50 Dermal	Rabbit	5030 mg/kg	-
	LD50 Oral	Rat	5045 mg/kg	-
Methanol	LC50 Inhalation Vapor	Rat	16000 ppm	4 hours
	LD50 Dermal	Rabbit	15800 mg/kg	-
	LD50 Oral	Rat	5628 mg/kg	-
	LC50 Inhalation Vapor	Rat	64000 ppm	4 hours

Section 12. Ecological Information

Environmental Effects No applicable toxicity data

Aquatic Ecotoxicity

Not available.


Section 13. Disposal Considerations

Waste Information

Waste must be disposed of in accordance with federal, state and local environmental control regulations. Consult your local or regional authorities for additional information.

Waste Stream Code: D001
Classification: - [Hazardous waste.]
Origin: - [RCRA waste.]

Section 14. Transport Information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label
DOT Classification	1993	FLAMMABLE LIQUIDS, N.O.S. (Acetone, Heptane)	3	II	
IMDG Class	Not determined.				

NOTE: DOT classification applies to most package sizes. For specific container size classifications or for size exceptions, refer to the Bill of Lading with your shipment.

PG* : Packing group

Section 15. Regulatory Information**U.S. Federal Regulations**

SARA 313 toxic chemical notification and release reporting:

Product name

Methanol

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: Methanol

All Components of this product are listed or exempt from listing on TSCA Inventory.

State Regulations**California Prop 65**

WARNING: This product contains a chemical or chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. :
Toluene

Section 16. Other Information

*To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution.
Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.*

*NOTE: Hazard Determination System (HDS) ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although these ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HDS ratings are to be used with a fully implemented program to relay the meanings of this scale.