



Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M(TM) High Power Brake Cleaner; PN 08180

MANUFACTURER: 3M

DIVISION: Automotive Aftermarket

ADDRESS: 3M Center, St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 06/11/12

Supersedes Date: 01/13/10

Document Group: 19-5916-2

Product Use:

Intended Use: Automotive

Specific Use: Cleaner for automotive brakes and brake assemblies

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
Acetone	67-64-1	40 - 60
Solvent Naphtha (Petroleum), Light Aliphatic	64742-89-8	15 - 30
Propane	74-98-6	7 - 13
Xylene	1330-20-7	5 - 10
Ethylbenzene	100-41-4	0.5 - 3
Toluene	108-88-3	< 0.01
Benzene	71-43-2	< 0.01

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Aerosol

Odor, Color, Grade: Clear Liquid, Citrus / Acetone Odor, Dispensed as an Aerosol

General Physical Form: Liquid

Immediate health, physical, and environmental hazards: Extremely flammable liquid and vapor. Closed containers exposed to heat from fire may build pressure and explode. Vapors may travel long distances along the ground or floor to an ignition source and

flash back. Aerosol container contains flammable material under pressure. May cause severe eye irritation. May cause target organ effects. Contains a chemical or chemicals which can cause birth defects or other reproductive harm. Contains a chemical or chemicals which can cause cancer.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Skin Contact:

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, and itching.

Prolonged or repeated exposure may cause:

Dermal Effects: Signs/symptoms may include redness, itching, acne, or bumps on the skin.

Inhalation:

Intentional concentration and inhalation may be harmful or fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Single exposure, above recommended guidelines, may cause:

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

May be absorbed following inhalation and cause target organ effects.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Chemical (Aspiration) Pneumonitis: Signs/symptoms may include coughing, gasping, choking, burning of the mouth, difficulty breathing, bluish colored skin (cyanosis), and may be fatal.

May be absorbed following ingestion and cause target organ effects.

Target Organ Effects:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Prolonged or repeated exposure may cause:

Liver Effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice.

Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Class Description</u>	<u>Regulation</u>
Benzene	71-43-2	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
Benzene	71-43-2	Known human carcinogen	National Toxicology Program Carcinogens
Benzene	71-43-2	Cancer hazard	OSHA Carcinogens
Ethylbenzene	100-41-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

Skin Contact: Wash affected area with soap and water. If signs/symptoms develop, get medical attention.

Inhalation: Remove person to fresh air. Get immediate medical attention.

If Swallowed: Do not induce vomiting. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get immediate medical attention.

4.2 NOTE TO PHYSICIANS

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	<i>No Data Available</i>
Flash Point	-156 °F [<i>Test Method:</i> Tagliabue Closed Cup] [<i>Details:</i> Based on propellant]
Flammable Limits(LEL)	<i>No Data Available</i>
Flammable Limits(UEL)	<i>No Data Available</i>
OSHA Flammability Classification:	Class IIIA Combustible Liquid

5.2 EXTINGUISHING MEDIA

Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: Extremely flammable liquid and vapor. Closed containers exposed to heat from fire may build pressure and explode. Vapors may travel long distances along the ground or floor to an ignition source and flash back. Aerosol container contains flammable material under pressure.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available.

Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Remove all ignition sources such as flames, smoking materials, and electrical spark sources. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Remember, adding an absorbent material does not remove a toxic, corrosivity or flammability hazard.

6.2. Environmental precautions

For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Collect the resulting residue containing solution. Place in a metal container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

Clean-up methods

Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Call 3M-HELPS line (1-800-364-3577) for more information on handling and managing the spill. Contain spill. Cover spill area with a fire-extinguishing foam designed for use on solvents, such as alcohols and acetone, that can dissolve in water. An AR - AFFF type foam is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much of the spilled material as possible using non-sparking tools. Clean up residue with detergent and water. Seal the container.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits. If ventilation is not adequate, use respiratory protection equipment. Keep away from heat, sparks, open flame, pilot lights and other sources of ignition. Ground containers securely when transferring contents. Wear low static or properly grounded shoes. Do not pierce or burn container, even after use. Do not spray near flames or sources of ignition. Avoid breathing of vapors, mists or spray. Aerosol container contains flammable gas under pressure. Avoid static discharge. Avoid eye contact with vapors, mists, or spray. Keep out of the reach of children. Avoid contact with oxidizing agents.

7.2 STORAGE

Store away from acids. Store away from heat. Store out of direct sunlight. Keep container tightly closed. Do not store containers on their sides. Store away from oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Use with functioning spray booth or local exhaust. Do not use in a confined area or areas with little or no air movement. Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and/or control mist, vapor, or spray. If ventilation is not adequate, use respiratory protection equipment.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact with vapors, mists, or spray.

The following eye protection(s) are recommended: Safety Glasses with side shields

Indirect Vented Goggles

8.2.2 Skin Protection

Avoid skin contact.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Butyl Rubber

8.2.3 Respiratory Protection

Avoid breathing of vapors, mists or spray. Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection.

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or full facepiece air-purifying respirator suitable for organic vapors

Select and use respiratory protection to prevent an inhalation exposure based on the results of an exposure assessment. Consult with your respirator manufacturer for selection of appropriate types of respirators.

8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
Acetone	ACGIH	TWA	500 ppm	
Acetone	ACGIH	STEL	750 ppm	
Acetone	OSHA	TWA	2400 mg/m3	
Alkanes, C1-4	ACGIH	TWA	1000 ppm	
Benzene	ACGIH	TWA	0.5 ppm	Skin Notation*
Benzene	ACGIH	STEL	2.5 ppm	Skin Notation*
Benzene	OSHA	TWA	1 ppm	29 CFR 1910.1028
Benzene	OSHA	STEL	5 ppm	29 CFR 1910.1028
Benzene	OSHA	TWA	10 ppm	
Benzene	OSHA	CEIL	25 ppm	
Benzene, 1,3-dimethyl-	ACGIH	TWA	100 ppm	
Benzene, 1,3-dimethyl-	ACGIH	STEL	150 ppm	
Benzene, 1,4-dimethyl-	ACGIH	TWA	100 ppm	
Benzene, 1,4-dimethyl-	ACGIH	STEL	150 ppm	
Ethylbenzene	ACGIH	TWA	20 ppm	
Ethylbenzene	CMRG	TWA	25 ppm	
Ethylbenzene	CMRG	STEL	75 ppm	
Ethylbenzene	OSHA	TWA	435 mg/m3	
Propane	OSHA	TWA	1800 mg/m3	
Solvent Naphtha (Petroleum), Light Aliphatic	CMRG	TWA	300 ppm	
Toluene	ACGIH	TWA	20 ppm	
Toluene	CMRG	STEL	75 ppm	Skin Notation*
Toluene	OSHA	TWA	200 ppm	
Toluene	OSHA	CEIL	300 ppm	
Xylene	ACGIH	TWA	100 ppm	
Xylene	ACGIH	STEL	150 ppm	
Xylene	CMRG	TWA	50 ppm	

Xylene	CMRG	STEL	75 ppm
Xylene	OSHA	TWA	435 mg/m3

* Substance(s) refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists
 CMRG: Chemical Manufacturer Recommended Guideline
 OSHA: Occupational Safety and Health Administration
 AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Aerosol
Odor, Color, Grade:	Clear Liquid, Citrus / Acetone Odor, Dispensed as an Aerosol
General Physical Form:	Liquid
Autoignition temperature	<i>No Data Available</i>
Flash Point	-156 °F [<i>Test Method:</i> Tagliabue Closed Cup] [<i>Details:</i> Based on propellant]
Flammable Limits(LEL)	<i>No Data Available</i>
Flammable Limits(UEL)	<i>No Data Available</i>
Boiling Point	<i>No Data Available</i>
Density	0.88 g/ml
Vapor Density	<i>No Data Available</i>
Vapor Pressure	<i>No Data Available</i>
Specific Gravity	0.88 [<i>Ref Std:</i> WATER=1]
pH	<i>Not Applicable</i>
Melting point	<i>Not Applicable</i>
Solubility in Water	Appreciable
Evaporation rate	<i>No Data Available</i>
Hazardous Air Pollutants	8.70 % weight [<i>Test Method:</i> Calculated]
Volatile Organic Compounds	44.9 % weight [<i>Test Method:</i> calculated per CARB title 2]
Volatile Organic Compounds	395 g/l [<i>Test Method:</i> calculated SCAQMD rule 443.1]
Kow - Oct/Water partition coef	<i>No Data Available</i>
Percent volatile	100 % weight
VOC Less H2O & Exempt Solvents	1,024 g/l [<i>Test Method:</i> calculated SCAQMD rule 443.1]
Viscosity	<i>No Data Available</i>

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:

10.1 Conditions to avoid
 Heat
 Sparks and/or flames

10.2 Materials to avoid
 Strong oxidizing agents

Strong acids

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide
Carbon dioxide

Condition

Not Specified
Not Specified

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not determined.

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Incinerate in a permitted hazardous waste incinerator. As a disposal alternative, dispose of waste product in a permitted hazardous waste facility.

Facility must be capable of handling aerosol cans. Dispose of empty product containers in a sanitary landfill.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable), D018 (Benzene)

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14: TRANSPORT INFORMATION

ID Number(s):

LB-K100-0152-2, LB-K100-0311-4, 60-4100-0974-4, 60-4550-3009-2, 60-4550-3779-0

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
Xylene	1330-20-7	5 - 10
Xylene (Benzene, 1,2-dimethyl-)	1330-20-7	5 - 10
Xylene (Benzene, 1,3-dimethyl-)	1330-20-7	5 - 10
Xylene (Benzene, 1,4-dimethyl-)	1330-20-7	5 - 10
Xylene (Benzene, dimethyl-)	1330-20-7	5 - 10
Ethylbenzene	100-41-4	0.5 - 3

STATE REGULATIONS

Contact 3M for more information.

CALIFORNIA PROPOSITION 65

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Classification</u>
Benzene	71-43-2	*Male reproductive toxin
Benzene	71-43-2	**Carcinogen
Benzene	71-43-2	*Developmental Toxin
Ethylbenzene	100-41-4	**Carcinogen
Toluene	108-88-3	*Female reproductive toxin
Toluene	108-88-3	*Developmental Toxin

* WARNING: contains a chemical or chemicals which can cause birth defects or other reproductive harm.
 ** WARNING: contains a chemical which can cause cancer.

CHEMICAL INVENTORIES

The components of this product are in compliance with the chemical notification requirements of TSCA.

All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS. Contact 3M for more information.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

WHMIS: Hazardous

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 2 Flammability: 3 Reactivity: 0 Special Hazards: None
Aerosol Storage Code: 3

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Revision Changes:

Section 1: Product use information was modified.
Section 16: NFPA hazard classification for flammability was modified.
Section 16: Disclaimer (second paragraph) was modified.
Section 4: First aid for eye contact - decontamination - was modified.
Section 4: First aid for eye contact - medical assistance - was modified.
Section 3: Immediate physical hazard(s) was modified.
Section 3: Potential effects from eye contact was modified.
Section 3: Potential effects from skin contact information was modified.
Section 3: Potential effects from inhalation information was modified.
Section 3: Potential effects from ingestion information was modified.
Section 5: Unusual fire and explosion hazard information was modified.
Section 7: Handling information was modified.
Section 8: Prevention of swallowing information was modified.
Section 10: Hazardous decomposition or by-products table was modified.
Section 8: Eye/face protection information was modified.
Section 8: Skin protection - recommended gloves information was modified.
Section 8: Respiratory protection - recommended respirators information was modified.
Section 4: First aid for skin contact - decontamination - was modified.
Section 4: First aid for skin contact - medical assistance - was modified.
Section 14: Transportation legal text was modified.
Section 3: Other health effects information was modified.
Section 15: Inventories information was modified.
Section 9: Density information was modified.
Section 9: Vapor density value was modified.
Section 9: Vapor pressure value was modified.
Section 9: Boiling point information was modified.
Section 5: Flammable limits (UE) information was modified.
Section 5: Flammable limits (LEL) information was modified.
Section 5: Autoignition temperature information was modified.
Section 5: Flash point information was modified.
Section 9: Property description for optional properties was modified.
Section 9: Specific gravity information was modified.
Section 9: pH information was modified.
Section 9: Melting point information was modified.
Section 9: Solubility in water text was modified.
Section 8: Respiratory protection - recommended respirators guide was modified.
Section 9: Flash point information was modified.
Section 9: Flammable limits (LEL) information was modified.
Section 9: Flammable limits (UEL) information was modified.
Section 9: Autoignition temperature information was modified.
Section 2: Ingredient table was modified.
Section 15: EPCRA 313 information was modified.
Section 8: Exposure guidelines ingredient information was modified.
Section 3: Carcinogenicity table was modified.
Section 15: California proposition 65 ingredient information was modified.
Section 6: Personal precautions information was modified.
Section 6: Environmental procedures information was modified.
Section 6: Methods for cleaning up information was modified.
Section 10: Materials to avoid physical property was modified.
Section 10: Conditions to avoid physical property was modified.
Section 3: Immediate eye hazard(s) was added.
Section 6: 6.2. Environmental precautions heading was added.
Section 6: 6.1. Personal precautions, protective equipment and emergency procedures heading was added.
Section 16: Web address was added.
Section 1: Address was added.
Copyright was added.

Company logo was added.
Section 6: Clean-up methods heading was added.
Telephone header was added.
Company Telephone was added.
Section 1: Emergency phone information was added.
Section 1: Emergency phone information was deleted.
Company Logo was deleted.
Copyright was deleted.
Section 16: Web address heading was deleted.
Section 6: Release measures heading was deleted.
Section 13: Waste disposal method comment was deleted.
Section 4: First aid for skin contact - termination of exposure - was deleted.
Section 4: First aid for skin contact - handling - was deleted.
Section 1: Address line 1 was deleted.
Section 1: Address line 2 was deleted.
Section 8: Exposure guidelines legend was deleted.
Section 8: Hand protection information was deleted.

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