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## MAC'S NON-CHLORINATED BRAKE CLEANER 4800

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THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (THE HAZARD COMMUNICATION STANDARD)

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Product Name: MAC'S NON-CHLORINATED BRAKE CLEANER

NAPA-RICHMOND  
800 SOUTHLAKE BLVD

08 70 000 0862955-000

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RICHMOND VA 23235

PRODUCT: 00004800  
INVOICE: 714919  
INVOICE DATE: 08/15/94  
TO:

ATTN: PLANT MGR / SAFETY DIR.

## SECTION I-PRODUCT IDENTIFICATION

General or Generic ID: AUTOMOTIVE CHEMICAL

## SECTION II-COMPONENTS

THE COMPOSITION OF THIS PRODUCT IS BEING WITHHELD AS A TRADE SECRET.

IF PRESENT, IARC, NTP AND OSHA CARCINOGENS AND CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III SECTION 313 ARE IDENTIFIED IN THIS SECTION.  
SEE DEFINITION PAGE FOR CLARIFICATION

INGREDIENT	Percent	PEL	TLV	Note
CARBON DIOXIDE CAS #: 124-38-9	1-5	10000 PPM	5000 PPM	( 1 )
TOLUENE CAS #: 108-88-3	35-40	100 PPM	50 PPM - SKIN	( 2 )
METHYL ALCOHOL CAS #: 67-56-1	25-30	200 PPM - SKIN	200 PPM - SKIN	( 3 )
ALIPHATIC PETROLEUM DISTILLATES CAS #: 64742-89-8	25-30	400 PPM		( 4 )

## Notes:

- ( 1 ) ACGIH/OSHA SHORT TERM EXPOSURE LIMIT (STEL) FOR CARBON DIOXIDE IS 30,000 PPM.  
( 2 ) OSHA SHORT TERM EXPOSURE LIMIT (STEL) FOR TOLUENE IS 150 PPM. NIOSH RECOMMENDS A LIMIT OF 100 PPM, 8-HOUR TWA; 200 PPM 10-MINUTE CEILING.

THIS CHEMICAL IS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF SARA TITLE III.

SKIN ABSORPTION MAY CONTRIBUTE TO TO THE OVERALL ABSORPTION OF THIS MATERIAL. APPROPRIATE MEASURES SHOULD BE TAKEN TO PREVENT ABSORPTION SO THAT THE TLV AND/OR PEL ARE NOT INVALIDATED. SEE SECTION V.

- ( 3 ) SKIN ABSORPTION MAY CONTRIBUTE TO TO THE OVERALL ABSORPTION OF THIS MATERIAL. APPROPRIATE MEASURES SHOULD BE TAKEN TO PREVENT ABSORPTION SO THAT THE TLV AND/OR PEL ARE NOT INVALIDATED. SEE SECTION V.

OSHA/ACGIH SHORT TERM EXPOSURE LIMIT (STEL) FOR METHYL ALCOHOL IS 250 PPM. NIOSH RECOMMENDS A LIMIT OF 200 PPM, 8-HOUR TWA; 800 PPM 15-MINUTE CEILING.

THIS CHEMICAL IS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF SARA TITLE III.

- ( 4 ) NIOSH RECOMMENDS A LIMIT OF 350 MG/CUM - 8 HOUR TIME WEIGHTED AVERAGE, 1800 MG/CUM AS DETERMINED BY A 15 MINUTE SAMPLE.

TLV NOT ESTABLISHED FOR THIS MATERIAL.

THIS MATERIAL CONTAINS A MAXIMUM OF 7% TOLUENE (CAS# 108-88-3) WHICH HAS A TLV OF 50 PPM - SKIN, AND A PEL OF 100 PPM, STEL OF 150 PPM; AND A MAXIMUM OF 3.5% CYCLOHEXANE (CAS# 110-92-7) WHICH HAS A PEL/TLV OF 300 PPM. TOLUENE AND CYCLOHEXANE ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III.

## SECTION III-PHYSICAL DATA

Boiling Point	for COMPONENT( 25-30%)	147.00 Deg F ( 63.88 Deg C ) 3 760.00 mm Hg
Vapor Pressure	for COMPONENT( 25-30%)	97.68 mm Hg 2 68.00 Deg F ( 20.00 Deg C )
Specific Vapor Density		HEAVIER THAN AIR
Specific Gravity		.833 2 77.00 Deg F ( 25.00 Deg C )
Percent Volatiles		>99%
Evaporation Rate		SLOWER THAN ETHER
Appearance		CLEAR, COLORLESS
State		LIQUID

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## SECTION IV-FIRE AND EXPLOSION INFORMATION

FLASH POINT(TCC ) 20.0 Deg F ( -6.7 Deg C)

EXPLOSIVE LIMIT (LOWEST VALUE OF COMPONENT) LOWER - 1.2%

EXTINGUISHING MEDIA: REGULAR FOAM OR CARBON DIOXIDE OR DRY CHEMICAL

HAZARDOUS DECOMPOSITION PRODUCTS: MAY FORM TOXIC MATERIALS:, CARBON DIOXIDE AND CARBON MONOXIDE, VARIOUS HYDROCARBONS, ETC.

FIREFIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN THE POSITIVE PRESSURE DEMAND MODE WHEN FIGHTING FIRES.

SPECIAL FIRE & EXPLOSION HAZARDS: MATERIAL IS HIGHLY VOLATILE AND READILY GIVES OFF VAPORS WHICH MAY TRAVEL ALONG THE GROUND OR BE MOVED BY VENTILATION AND IGNITED BY PILOT LIGHTS, OTHER FLAMES, SPARKS, HEATERS, SMOKING, ELECTRIC MOTORS, STATIC DISCHARGE, OR OTHER IGNITION SOURCES AT LOCATIONS DISTANT FROM MATERIAL HANDLING POINT.

NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

ALL FIVE GALLON PAILS AND LARGER METAL CONTAINERS INCLUDING TANK CARS AND TANK TRUCKS SHOULD BE GROUNDED AND/OR BONDED WHEN MATERIAL IS TRANSFERRED.

NFPA CODES: HEALTH- 2 FLAMMABILITY- 3 REACTIVITY- 0

## SECTION V-HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL: NOT ESTABLISHED FOR PRODUCT. SEE SECTION II.

## EFFECTS OF ACUTE OVEREXPOSURE:

SKIN - PROLONGED OR REPEATED CONTACT MAY CAUSE MODERATE IRRITATION, DEFATTING, DERMATITIS.

BREATHING - EXCESSIVE INHALATION OF VAPORS MAY CAUSE NASAL AND RESPIRATORY IRRITATION, CENTRAL NERVOUS SYSTEM EFFECTS INCLUDING DIZZINES, WEAKNESS, FATIGUE, NAUSEA, HEADACHE AND POSSIBLE UNCONSCIOUSNESS AND EVEN ASPHYXIATION.

SWALLOWING - MAY CAUSE GASTROINTESTINAL IRRITATION NAUSEA, VOMITING, AND DIARRHEA. ASPIRATION OF MATERIAL INTO THE LUNGS MAY CAUSE CHEMICAL PNEUMONIA WHICH MAY BE FATAL.

EYES - EXPOSURE TO LIQUID OR VAPOR CAUSES EYE IRRITATION. SYMPTOMS MAY INCLUDE STINGING, TEARING, REDNESS, AND SWELLING.

ADDITIONAL SYMPTOMS OF EYE EXPOSURE MAY INCLUDE:  
-BLURRED VISION-

## FIRST AID:

IF ON SKIN: THOROUGHLY WASH EXPOSED AREA WITH SOAP AND WATER.

IF IN EYES: FLUSH WITH LARGE AMOUNTS OF WATER, LIFTING UPPER AND LOWER LIDS OCCASIONALLY, GET MEDICAL ATTENTION.

IF SWALLOWED: CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY FOR INSTRUCTIONS. THIS MATERIAL CONTAINS BOTH METHANOL AND PETROLEUM DISTILLATES. ASPIRATION OF MATERIAL INTO THE LUNGS DUE TO VOMITING CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL.

NOTE TO PHYSICIANS: THIS PRODUCT CONTAINS METHANOL. METHANOL IS METABOLIZED TO FORMALDEHYDE AND FORMIC ACID. THESE METABOLITES MAY CAUSE METABOLIC ACIDOSIS, VISUAL DISTURBANCES AND BLINDNESS. SINCE METABOLISM IS REQUIRED FOR THESE TOXIC SYMPTOMS, THEIR ONSET MAY BE DELAYED FROM 6 TO 30 HOURS FOLLOWING INGESTION. ETHANOL COMPETES FOR THE SAME METABOLIC PATHWAY AND HAS BEEN USED AS AN ANTIDOTE. METHANOL IS EFFECTIVELY REMOVED BY HEMODIALYSIS.

IF BREATHED: IF AFFECTED, REMOVE INDIVIDUAL TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF BREATHING HAS STOPPED GIVE ARTIFICIAL RESPIRATION. KEEP PERSON WARM, QUIET AND GET MEDICAL ATTENTION.

## PRIMARY ROUTE(S) OF ENTRY:

INHALATION, SKIN CONTACT, SKIN ABSORPTION

## EFFECTS OF CHRONIC OVEREXPOSURE:

TOLUENE MAY BE HARMFUL TO THE HUMAN FETUS BASED ON POSITIVE TEST RESULTS WITH LABORATORY ANIMALS. CASE STUDIES REVEAL THAT PROLONGED INTENTIONAL ABUSE OF TOLUENE DURING PREGNANCY MAY CAUSE BIRTH DEFECTS IN HUMANS.

OVEREXPOSURE TO THIS MATERIAL (OR ITS COMPONENTS) HAS BEEN SUGGESTED AS A CAUSE OF THE FOLLOWING EFFECTS IN LABORATORY ANIMALS, AND MAY AGGRAVATE PRE-EXISTING DISORDERS OF THESE ORGANS IN HUMANS:, LIVER ABNORMALITIES, KIDNEY DAMAGE, ANEMIA, LUNG DAMAGE, EYE DAMAGE, BRAIN DAMAGE, NERVOUS SYSTEM DAMAGE, SPLEEN DAMAGE, CARDIAC SENSITIZATION

OVEREXPOSURE TO THIS MATERIAL (OR ITS COMPONENTS) HAS BEEN SUGGESTED AS A CAUSE OF THE FOLLOWING EFFECTS IN HUMANS, AND MAY AGGRAVATE PRE-EXISTING DISORDERS OF THESE ORGANS:, LIVER ABNORMALITIES, EYE DAMAGE, CARDIAC SENSITIZATION

## SECTION VI-REACTIVITY DATA

HAZARDOUS POLYMERIZATION: CANNOT OCCUR

STABILITY: STABLE -- AVOID HEAT, OPEN FLAME, AND PROLONGED STORAGE AT ELEVATED TEMPERATURES.

INCOMPATIBILITY: AVOID CONTACT WITH:, STRONG OXIDIZING AGENTS

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**SECTION VII-SPILL OR LEAK PROCEDURES****STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:**

**SMALL SPILL:** ABSORB LIQUID ON VERMICULITE, FLOOR ABSORBENT OR OTHER ABSORBENT MATERIAL.

**LARGE SPILL:** ELIMINATE ALL IGNITION SOURCES (FLARES, FLAMES INCLUDING PILOT LIGHTS, ELECTRICAL SPARKS). PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF SPILL UNTIL CLEAN-UP HAS BEEN COMPLETED. STOP SPILL AT SOURCE. PREVENT FROM ENTERING DRAINS, SEWERS, STREAMS OR OTHER BODIES OF WATER. PREVENT FROM SPREADING. IF RUNOFF OCCURS, NOTIFY AUTHORITIES AS REQUIRED. PUMP OR VACUUM TRANSFER SPILLED PRODUCT TO CLEAN CONTAINERS FOR RECOVERY. ABSORB UNRECOVERABLE PRODUCT. TRANSFER CONTAMINATED ABSORBENT, SOIL AND OTHER MATERIALS TO CONTAINERS FOR DISPOSAL.

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.

**WASTE DISPOSAL METHOD:**

**SMALL SPILL:** DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

**LARGE SPILL:** DISPOSE OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

**SECTION VIII-PROTECTIVE EQUIPMENT TO BE USED**

**RESPIRATORY PROTECTION:** IF WORKPLACE EXPOSURE LIMIT(S) OF PRODUCT OR ANY COMPONENT IS EXCEEDED (SEE SECTION II), A NIOSH/MSHA APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS (NEGATIVE PRESSURE TYPE) UNDER SPECIFIED CONDITIONS (SEE YOUR INDUSTRIAL HYGIENIST). ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

**VENTILATION:** PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW TLV(S).

**PROTECTIVE GLOVES:** WEAR RESISTANT GLOVES SUCH AS: NEOPRENE

**EYE PROTECTION:** CHEMICAL SPLASH GOGGLES IN COMPLIANCE WITH OSHA REGULATIONS ARE ADVISED; HOWEVER, OSHA REGULATIONS ALSO PERMIT OTHER TYPE SAFETY GLASSES. CONSULT YOUR SAFETY REPRESENTATIVE.

**OTHER PROTECTIVE EQUIPMENT:** NOT REQUIRED UNDER NORMAL CONDITIONS OF USE.

**SECTION IX-SPECIAL PRECAUTIONS OR OTHER COMMENTS**

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED. SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THIS DATASHEET MUST BE OBSERVED.

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH THE COMPANY OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.

**MATERIAL SAFETY  
DATA SHEET**

THE VALVOLINE COMPANY  
Division of Ashland Oil, Inc.  
P.O. BOX 14000  
LEXINGTON, KENTUCKY 40512  
(606) 264-7000

Emergency  
Telephone  
1 (800) 274-5263 or  
1-800-ASHLAND

**DEFINITIONS**

This definition page is intended for use with Material Safety Data Sheets supplied by the Valvoline Oil Company. Recipients of these data sheets should consult the OSHA Safety and Health Standards (29 CFR 1910), particularly subpart G - Occupational Health and Environmental Control, and subpart I - Personal Protective Equipment, for general guidance on control of potential Occupational Health and Safety Hazards.

**SECTION I**  
**PRODUCT IDENTIFICATION**

**GENERAL OR GENERIC ID:** Chemical family or product description.

**DOT HAZARD CLASSIFICATION:** Product meets DOT criteria for hazards listed.

**SECTION II**  
**COMPONENTS**

Components are listed in this section if they present a physical or health hazard and are present at or above 1% in the mixture. If a component is identified as a CARCINOGEN by NTP, IARC or OSHA as of the date on the MSDS, it will be listed and footnoted in this section when present at or above 0.1% in the product. Negative conclusions concerning carcinogenicity are not reported. Additional health information may be found in Section V. Components subject to the reporting requirements of Section 313 of SARA Title III are identified in the footnotes in this section, along with typical percentages. Other components may be listed if deemed appropriate.

Exposure recommendations are for components. OSHA Permissible Exposure Limits (PELs) and American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs) appear on the line with the component identification. Other recommendations appear as footnotes.

**SECTION III**  
**PHYSICAL DATA**

**BOILING POINT:** Of product if known. The lowest value of the components is listed for mixtures.

**VAPOR PRESSURE:** Of product if known. The highest value of the components is listed for mixtures.

**SPECIFIC VAPOR DENSITY:** Compared to AIR = 1. If Specific Vapor Density of product is not known, the value is expressed as lighter or heavier than air.

**SPECIFIC GRAVITY:** Compared to WATER = 1. If Specific Gravity of product is not known, the value is expressed as less than or greater than water.

pH: If applicable.

**PERCENT VOLATILES:** Percentage of material with initial boiling point below 425 degrees Fahrenheit and vapor pressure above 0.1mm Hg at 68 F.

**EVAPORATION RATE:** Indicated as faster or slower than ETHYL ETHER, unless otherwise stated.

**SECTION IV**  
**FIRE AND EXPLOSION DATA**

**FLASH POINT:** Method identified.

**EXPLOSION LIMITS:** For product if known. The lowest value of the components is listed for mixtures.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Known or expected hazardous products resulting from heating, burning or other reactions.

**EXTINGUISHING MEDIA:** Following National Fire Protection Association criteria.

**SECTION IV (cont.)**

**FIREFIGHTING PROCEDURES:** Minimum equipment to protect firefighters from toxic products of vaporization, combustion or decomposition in fire situations. Other firefighting hazards may also be indicated.

**SPECIAL FIRE AND EXPLOSION HAZARDS:** States hazards not covered by other sections.

**NFPA CODES:** Hazard ratings assigned by the National Fire Protection Association.

**SECTION V**  
**HEALTH HAZARD DATA**

**PERMISSIBLE EXPOSURE LIMIT:** For product.

**THRESHOLD LIMIT VALUE:** For product.

**EFFECTS OF ACUTE OVEREXPOSURE:** Potential local and systemic effects due to single or short term overexposure to the eyes and skin or through inhalation or ingestion.

**EFFECTS OF CHRONIC OVEREXPOSURE:** Potential local and systemic effects due to repeated or long term overexposure to the eyes and skin or through inhalation or ingestion.

**FIRST AID:** Procedures to be followed when dealing with accidental overexposure.

**PRIMARY ROUTE OF ENTRY:** Based on properties and expected use.

**SECTION VI**  
**REACTIVITY DATA**

**HAZARDOUS POLYMERIZATION:** Conditions to avoid to prevent hazardous polymerization resulting in a large release of energy.

**STABILITY:** Conditions to avoid to prevent hazardous or violent decomposition.

**INCOMPATIBILITY:** Materials and conditions to avoid to prevent hazardous reactions.

**SECTION VII**  
**SPILL OR LEAK PROCEDURES**

Reasonable precautions to be taken and methods of containment, clean-up and disposal. Consult federal, state and local regulations for accepted procedures and any reporting or notification requirements.

**SECTION VIII**  
**PROTECTIVE EQUIPMENT TO BE USED**

Protective equipment which may be needed when handling the product.

**SECTION IX**  
**SPECIAL PRECAUTIONS OR OTHER COMMENTS**

Covers any relevant points not previously mentioned.

**SECTION X**  
**LABEL INFORMATION**

Contains label information including physical and health hazard warnings, handling and first aid instructions appropriate for the product.

**ADDITIONAL COMMENTS**

Containers should be either reconditioned by CERTIFIED firms or properly disposed of by APPROVED firms. Disposal of containers should be in accordance with applicable laws and regulations. "EMPTY" drums should not be given to individuals. Serious accidents have resulted from the misuse of "EMPTIED" containers (drums, pails, etc.). Refer to Sections IV and IX.