

SHIP TO:

02029590  
BRAKE SYSTEMS INC  
ATTN: REX  
2221 NE HOYT ST

ORDER NO: 020515848  
PROD NO: 04171253

PORTLAND OR 97232

VAN WATERS & ROGERS INC. 1600 NORTON BLDG. SEATTLE, WA 98104-1564

-----EMERGENCY ASSISTANCE-----

FOR EMERGENCY ASSISTANCE INVOLVING CHEMICALS CALL CHEMTREC  
(800) 424-9300.

-----FOR PRODUCT AND SALES INFORMATION-----

CONTACT YOUR LOCAL VAN WATERS & ROGERS BRANCH OFFICE

-----PRODUCT IDENTIFICATION-----

PRODUCT NAME: METHANOL CAS NO.: 67-56-1  
COMMON NAMES/SYNONYMS: METHYL ALCOHOL, VW&R CODE: P1132  
WOOD ALCOHOL, CARBINOL, WOOD NAPHTHA,  
METHYL HYDROXIDE  
FORMULA: C H4 O  
HAZARD RATING (NFPA 704):  
HEALTH: 1 DATE ISSUED: 07/89  
FIRE: 3 SUPERCEDES: 12/88  
REACTIVITY: 0 HAZARD RATING SCALE:  
SPECIAL: NONE 0=MINIMAL 3=SERIOUS  
1=SLIGHT 4=SEVERE  
2=MODERATE

-----HAZARDOUS INGREDIENTS-----

COMPONENT	CAS NO.	%	EXPOSURE LIMITS, PPM			HAZARD
			OSHA PEL	ACGIH TLV	OTHER LIMIT	
METHANOL	67-56-1	99	200	200 (SKIN)	250 (SKIN)	FLAMMABLE; TOXIC

-----PHYSICAL PROPERTIES-----

BOILING POINT, DEG F: 148-148.5 VAPOR PRESSURE, MM HG/20 DEG C: 96-100  
MELTING POINT, DEG F: -144 VAPOR DENSITY (AIR=1): 1.1  
SPECIFIC GRAVITY (WATER=1): 0.79 WATER SOLUBILITY, %: 100  
APPEARANCE AND ODOR: CLEAR, EVAPORATION RATE (BUTYL ACETATE=1): >2  
COLORLESS LIQUID; MILD ALCOHOL ODOR

-----FIRST AID MEASURES-----

IF INHALED: REMOVE TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET IMMEDIATE MEDICAL ATTENTION.

IN CASE OF EYE CONTACT: IMMEDIATELY FLUSH EYES WITH LOTS OF RUNNING WATER FOR 15 MINUTES, LIFTING THE UPPER AND LOWER EYELIDS OCCASIONALLY. GET IMMEDIATE MEDICAL ATTENTION.

IN CASE OF SKIN CONTACT: IMMEDIATELY WASH SKIN WITH LOTS OF SOAP AND WATER. REMOVE CONTAMINATED CLOTHING AND SHOES; WASH BEFORE REUSE. GET MEDICAL ATTENTION IF IRRITATION PERSISTS AFTER WASHING.

METHANOL

REVISION OF: 07-26-89

IF SWALLOWED: IF CONSCIOUS, IMMEDIATELY INDUCE VOMITING BY GIVING 2 GLASSES OF WATER AND STICKING A FINGER DOWN THE THROAT. GET IMMEDIATE MEDICAL ATTENTION. AFTER PATIENT HAS VOMITED HAVE PATIENT DRINK MILK, WATER, OR SOLUTION OF SODIUM BICARBONATE IN WATER (1 TSP/1 QT). DO NOT GIVE ANYTHING TO AN UNCONSCIOUS OR CONVULSING PERSON.

## -----HEALTH HAZARD INFORMATION-----

PRIMARY ROUTES OF EXPOSURE: SWALLOWING, SKIN OR EYE CONTACT, INHALATION.

## SIGNS AND SYMPTOMS OF EXPOSURE

INHALATION: PROLONGED OR REPEATED EXPOSURE OR BREATHING VERY HIGH CONCENTRATIONS MAY CAUSE HEADACHES, NAUSEA, VOMITING, DIZZINESS, VISUAL DISTURBANCES, GIDDINESS, INTOXICATION, SLEEPINESS, UNCONSCIOUSNESS, AND DEATH. INITIAL SYMPTOMS OF INHALATION MAY ONLY BE MILD INTOXICATION BUT MAY BECOME MORE SEVERE AFTER 12-18 HOURS. TOXIC EFFECTS ARE EXERTED ON THE CENTRAL NERVOUS SYSTEM, ESPECIALLY THE OPTIC NERVE.

EYE CONTACT: VAPORS WILL IRRITATE THE EYES. LIQUID AND MISTS WILL IRRITATE AND MAY BURN THE EYES.

SKIN CONTACT: BRIEF CONTACT MAY DRY THE SKIN. PROLONGED OR REPEATED CONTACT MAY IRRITATE THE SKIN, CAUSING DERMATITIS. METHANOL MAY BE ABSORBED THROUGH INTACT SKIN TO PRODUCE SYSTEMIC EFFECTS.

SWALLOWED: SWALLOWING 100-250 ML OF METHANOL CAN BE FATAL. SWALLOWING LESSER QUANTITIES CAN CAUSE BLINDNESS, DIZZINESS, HEADACHES, OR NAUSEA. ABSORPTION OF METHANOL IS RAPID BUT EXCRETION IS SLOW, RESULTING IN DELAYED EFFECTS OR COMPOUNDING EFFECTS OF REPEATED EXPOSURE. INITIAL SYMPTOMS MAY ONLY BE MILD INTOXICATION BUT THESE MAY BECOME MORE SEVERE 12-18 HOURS LATER. TOXIC EFFECTS ARE EXERTED ON THE CENTRAL NERVOUS SYSTEM, ESPECIALLY THE OPTIC NERVE.

CHRONIC EFFECTS OF EXPOSURE: PROLONGED OR REPEATED EXPOSURE MAY RESULT IN CNS DAMAGE, BLINDNESS, DAMAGE TO PANCREAS, OR DEATH.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NONE REPORTED.

## -----TOXICITY DATA-----

ORAL: HUMAN LDLO = 340 MG/KG; RAT LD50 = 5628 MG/KG

DERMAL: RABBIT LD50 = 20 G/KG

INHALATION: HUMAN TCLO = 86 G/M3 (IRRITATION); RAT LC50 = 64,000 PPM/4H

CARCINOGENICITY: THIS MATERIAL IS NOT CONSIDERED TO BE A CARCINOGEN BY THE NATIONAL TOXICOLOGY PROGRAM, THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER, OR THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

OTHER DATA: NONE

## -----PERSONAL PROTECTION-----

VENTILATION: LOCAL MECHANICAL EXHAUST VENTILATION CAPABLE OF MAINTAINING EMISSIONS AT THE POINT OF USE BELOW THE PEL.

RESPIRATORY PROTECTION: WEAR A NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS IN THE PRESSURE DEMAND MODE, OR A SUPPLIED-AIR RESPIRATOR IF USE CONDITIONS GENERATE VAPORS OR MISTS.

EYE PROTECTION: CHEMICAL GOGGLES UNLESS A FULL FACEPIECE RESPIRATOR IS ALSO WORN. IT IS GENERALLY RECOGNIZED THAT CONTACT LENSES SHOULD NOT BE WORN WHEN WORKING WITH CHEMICALS BECAUSE CONTACT LENSES MAY CONTRIBUTE TO THE SEVERITY OF AN EYE INJURY.

PROTECTIVE CLOTHING: LONG-SLEEVED SHIRT, TROUSERS, SAFETY SHOES, RUBBER GLOVES, AND RUBBER APRON.

PROD: 04171253 07:55:30 03 AUG 1989 CUST: 02029590 INVOICE: 020515848

METHANOL

REVISION OF: 07-26-89

OTHER PROTECTIVE MEASURES: AN EYEWASH AND SAFETY SHOWER SHOULD BE NEARBY AND READY FOR USE.

## -----FIRE AND EXPLOSION INFORMATION-----

FLASH POINT, DEG F: 52-53  
METHOD USED: TCC  
EXTINGUISHING MEDIA: USE WATER SPRAY, DRY CHEMICAL, CO<sub>2</sub>, OR ALCOHOL FOAM. DO NOT USE A DIRECT WATER STREAM.

FLAMMABLE LIMITS IN AIR, %  
LOWER: 6 UPPER: 36.5

SPECIAL FIRE FIGHTING PROCEDURES: FIRE FIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. USE WATER SPRAY TO COOL NEARBY CONTAINERS AND STRUCTURES EXPOSED TO FIRE.

UNUSUAL FIRE AND EXPLOSION HAZARDS: EXTINGUISH ALL NEARBY SOURCES OF IGNITION. THIS PRODUCT MAY BURN WITH A FLAME WHICH IS INVISIBLE IN DAYLIGHT. MIXTURES WITH WATER AND AS LITTLE AS 21% METHANOL ARE FLAMMABLE.

## -----HAZARDOUS REACTIVITY-----

STABILITY: STABLE  
CONDITIONS TO AVOID: HEAT, SPARKS, AND OPEN FLAMES.

POLYMERIZATION: WILL NOT OCCUR

MATERIALS TO AVOID: STRONG OXIDIZING AGENTS, ALUMINUM, ZINC, ANY METAL THAT DISPLACES HYDROGEN, ACIDS, AND ALKALIS.

HAZARDOUS DECOMPOSITION PRODUCTS: MAY LIBERATE CARBON MONOXIDE, CARBON DIOXIDE, FORMALDEHYDE AND UNIDENTIFIED ORGANIC COMPOUNDS IN BLACK SMOKE.

## -----SPILL, LEAK, AND DISPOSAL PROCEDURES-----

ACTION TO TAKE FOR SPILLS OR LEAKS: WEAR PROTECTIVE EQUIPMENT INCLUDING RUBBER BOOTS, RUBBER GLOVES, RUBBER APRON, AND A SELF-CONTAINED BREATHING APPARATUS IN THE PRESSURE DEMAND MODE OR A SUPPLIED-AIR RESPIRATOR. IN ANY EVENT, ALWAYS WEAR EYE PROTECTION. EXTINGUISH ALL IGNITION SOURCES AND ENSURE THAT ALL HANDLING EQUIPMENT IS ELECTRICALLY GROUND. FOR SMALL SPILLS OR DRIPS, MOP OR WIPE UP AND DISPOSE OF IN DOT-APPROVED WASTE CONTAINERS. FOR LARGE SPILLS, CONTAIN BY DIKING WITH SOIL OR OTHER NON-COMBUSTIBLE ABSORBENT MATERIALS AND THEN PUMP INTO DOT-APPROVED WASTE CONTAINERS; OR ABSORB WITH NON-COMBUSTIBLE SORBENT MATERIAL. PLACE RESIDUE IN DOT-APPROVED WASTE CONTAINERS. KEEP OUT OF SEWERS, STORM DRAINS, SURFACE WATERS, AND SOIL. COMPLY WITH ALL APPLICABLE GOVERNMENTAL REGULATIONS ON SPILL REPORTING, AND HANDLING AND DISPOSAL OF WASTE.

DISPOSAL METHODS: DISPOSE OF CONTAMINATED PRODUCT AND MATERIALS USED IN CLEANING UP SPILLS OR LEAKS IN A MANNER APPROVED FOR THIS MATERIAL. CONSULT APPROPRIATE FEDERAL, STATE AND LOCAL REGULATORY AGENCIES TO ASCERTAIN PROPER DISPOSAL PROCEDURES.

NOTE: EMPTY CONTAINERS CAN HAVE RESIDUES, GASES AND MISTS AND ARE SUBJECT TO PROPER WASTE DISPOSAL, AS ABOVE.

## -----SPECIAL PRECAUTIONS-----

HANDLING AND STORAGE PRECAUTIONS: KEEP AWAY FROM HEAT, SPARKS, AND FLAMES. STORE IN A COOL, DRY, WELL-VENTILATED PLACE AWAY FROM INCOMPATIBLE MATERIALS. VENT CONTAINER FREQUENTLY, AND MORE OFTEN IN WARM WEATHER, TO RELIEVE PRESSURE. ELECTRICALLY GROUND ALL EQUIPMENT WHEN HANDLING THIS PRODUCT AND USE ONLY NON-SPARKING TOOLS. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. DO NOT USE PRESSURE TO EMPTY CONTAINER. WASH THOROUGHLY AFTER HANDLING. DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING.

REPAIR AND MAINTENANCE PRECAUTIONS: DO NOT CUT, GRIND, WELD, OR DRILL ON OR NEAR THIS CONTAINER.

OTHER PRECAUTIONS: CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, WILL RETAIN PRODUCT RESIDUE AND VAPORS. ALWAYS OBEY HAZARD WARNINGS AND HANDLE EMPTY CONTAINERS AS IF THEY WERE FULL.

PROD: 04171253 07:55:30 03 AUG 1989 CUST: 02029590 INVOICE: 020515848

METHANOL

REVISION OF: 07-26-89

## -----FOR ADDITIONAL INFORMATION-----

CONTACT DOUGLAS EISNER, TECHNICAL DIRECTOR, VAN WATERS & ROGERS INC.  
DURING BUSINESS HOURS, PACIFIC TIME (206)447-5911

## -----OTHER REGULATORY INFORMATION-----

DO NOT DETACH THIS SECTION FROM THE MSDS AND BE SURE TO INCLUDE  
THIS SECTION WHEN COPYING THE MSDS.

THIS PRODUCT CONTAINS THE FOLLOWING TOXIC CHEMICAL(S) 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:

NAME	CAS NO.	%, WT
METHANOL	67-56-1	>99%

## -----NOTICE-----

\*\*VAN WATERS & ROGERS INC. ("VW&R") EXPRESSLY DISCLAIMS ALL EXPRESS  
OR IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR  
PURPOSE, WITH RESPECT TO THE PRODUCT OR INFORMATION PROVIDED HEREIN.\*\*

ALL INFORMATION APPEARING HEREIN IS BASED UPON DATA OBTAINED FROM THE  
MANUFACTURER AND/OR RECOGNIZED TECHNICAL SOURCES. WHILE THE INFORMA-  
TION IS BELIEVED TO BE ACCURATE, VW&R MAKES NO REPRESENTATIONS AS TO  
ITS ACCURACY OR SUFFICIENCY. CONDITIONS OF USE ARE BEYOND VW&R'S CON-  
TROL AND THEREFORE USERS ARE RESPONSIBLE TO VERIFY THIS DATA UNDER  
THEIR OWN OPERATING CONDITIONS TO DETERMINE WHETHER THE PRODUCT IS  
SUITABLE FOR THEIR PARTICULAR PURPOSES AND THEY ASSUME ALL RISKS OF  
THEIR USE, HANDLING, AND DISPOSAL OF THE PRODUCT, OR FROM THE PUBLICA-  
TION OR USE OF, OR RELIANCE UPON, INFORMATION CONTAINED HEREIN. THIS  
INFORMATION RELATES ONLY TO THE PRODUCT DESIGNATED HEREIN, AND DOES NOT  
RELATE TO ITS USE IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY OTHER  
PROCESS.

## -----REVISION-----

07/89: REVISED SPILL, LEAK, DISPOSAL PROCEDURES PER REQUEST FROM OSHA,  
DENVER, AND DELETED SOME MATERIALS TO AVOID.

\*\*\*\* E N D O F M S D S \*\*\*\*

PROD: 04171253 07:55:30 03 AUG 1989 CUST: 02029590 INVOICE: 020515848