

# MATERIAL SAFETY DATA SHEET

ETHYLENE GLYCOL MONOMETHYL ETHER  
CAROLINA BIOLOGICAL

Revised: 09/05/00  
Replaces: None  
Printed: 07/08/06

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## PRODUCT IDENTIFICATION

PRODUCT NAME: ETHYLENE GLYCOL MONOMETHYL ETHER  
COMMON SYNONYMS: 2-METHOXYETHANOL; METHYL CELLOSOLVE;  
METHOXYHYDROXYETHANE  
CHEMICAL FAMILY: ETHER ALCOHOLS  
FORMULA: CH3OCH2CH2OH  
FORMULA WT.: 76.10  
CAS NO.: 109-86-4  
NIOSH/RTECS NO.: KL5775000  
PRODUCT USE: LABORATORY REAGENT  
PRODUCT CODES: L718

CHEMTREC # (800) 424-9300 NATIONAL RESPONSE CENTER # (800) 424-8802  
J.T.BAKER INC. 222 RED SCHOOL LANE PHILLIPSBURG, NJ 08865 24-HOUR  
EMERGENCY TELEPHONE -- (201) 859-2151

EFFECTIVE: 01/04/94 ISSUED: 04/08/95  
REVISION #05

### PRECAUTIONARY LABELING

BAKER SAF-T-DATA\* SYSTEM

HEALTH	-	3	SEVERE (LIFE)
FLAMMABILITY	-	2	MODERATE
REACTIVITY	-	1	SLIGHT
CONTACT	-	3	SEVERE (LIFE)

### LABORATORY PROTECTIVE EQUIPMENT

GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES; CLASS B  
EXTINGUISHER

### U.S. PRECAUTIONARY LABELING

#### WARNING

CAUSES SEVERE IRRITATION. COMBUSTIBLE. HARMFUL IF INHALED OR ABSORBED  
THROUGH  
SKIN. OVEREXPOSURE MAY CAUSE MALE OR FEMALE REPRODUCTIVE DISORDERS.  
EXCEPTIONAL HEALTH AND CONTACT HAZARDS. BEFORE USING, READ MATERIAL  
SAFETY  
DATA SHEET (MSDS) FOR THIS MATERIAL.  
KEEP AWAY FROM HEAT, SPARKS, FLAME. DO NOT GET IN EYES, ON SKIN, ON  
CLOTHING.  
AVOID BREATHING VAPOR. KEEP IN TIGHTLY CLOSED CONTAINER. USE WITH  
ADEQUATE  
VENTILATION. WASH THOROUGHLY AFTER HANDLING. IN CASE OF FIRE, USE WATER  
SPRAY, ALCOHOL FOAM, DRY CHEMICAL, OR CARBON DIOXIDE. FLUSH SPILL AREA  
WITH  
WATER SPRAY.

PRECAUTIONARY LABELING (CONTINUED)

INTERNATIONAL LABELING

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FLAMMABLE. HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.  
IRRITATING TO RESPIRATORY SYSTEM.  
AVOID CONTACT WITH SKIN AND EYES.

SAF-T-DATA\* STORAGE COLOR CODE: RED (FLAMMABLE)

### **COMPONENTS**

COMPONENT ACGIH/TLV	CAS NO.	WEIGHT %	OSHA/PEL
2-METHOXYETHANOL PPM	109-86-4	90-100	25 PPM 5

### **PHYSICAL DATA**

BOILING POINT: 124 C (255 F)  
(AT 760 MM HG) VAPOR PRESSURE (MMHG): 6.17  
(20 C)

MELTING POINT: -85 C (-121 F)  
(AT 760 MM HG) VAPOR DENSITY (AIR=1): 2.6

SPECIFIC GRAVITY: 0.97  
(H2O=1) EVAPORATION RATE: 0.62  
(BUTYL ACETATE = 1)

SOLUBILITY(H2O): COMPLETE (100%) % VOLATILES BY VOLUME: 100  
(21 C)

PH: N/A

ODOR THRESHOLD (P.P.M.): N/A PHYSICAL STATE: LIQUID

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: COLORLESS LIQUID. PLEASANT ODOR.

### **FIRE AND EXPLOSION HAZARD DATA**

FLASH POINT (CLOSED CUP): 39 C (103 F) NFPA 704M RATING: 2-2-0

AUTOIGNITION TEMPERATURE: 284 C (545 F)

FLAMMABLE LIMITS: UPPER - 19.8 % LOWER - 2.3 %

#### **FIRE EXTINGUISHING MEDIA**

USE WATER SPRAY, CARBON DIOXIDE, DRY CHEMICAL OR ORDINARY FOAM.

#### **SPECIAL FIRE-FIGHTING PROCEDURES**

FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE. MOVE CONTAINERS FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK. USE WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL.

#### **UNUSUAL FIRE & EXPLOSION HAZARDS**

VAPORS MAY FLOW ALONG SURFACES TO DISTANT IGNITION SOURCES AND FLASH

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BACK.

CLOSED CONTAINERS EXPOSED TO HEAT MAY EXPLODE. CONTACT WITH STRONG OXIDIZERS MAY CAUSE FIRE.

TOXIC GASES PRODUCED

CARBON MONOXIDE, CARBON DIOXIDE

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT

NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE

NONE IDENTIFIED.

### **HEALTH HAZARD DATA**

THRESHOLD LIMIT VALUE (TLV/TWA): 16 MG/M (5 PPM)

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): 80 MG/M (25 PPM)

TOXICITY OF COMPONENTS

ORAL RAT LD50 FOR 2-METHOXYETHANOL 2460  
MG/KG

INTRAPERITONEAL RAT LD50 FOR 2-METHOXYETHANOL 2500  
MG/KG

SKIN RABBIT LD50 FOR 2-METHOXYETHANOL 1280  
MG/KG

INHALATION-7HR MOUSE LC50 FOR 2-METHOXYETHANOL 1480  
PPM

CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

CARCINOGENICITY

NONE IDENTIFIED.

REPRODUCTIVE EFFECTS

IN LABORATORY ANIMALS: BIRTH DEFECTS, ADVERSE EFFECTS ON PREGNANCY,  
AND

DAMAGE TO MALE REPRODUCTIVE ORGANS HAVE BEEN REPORTED. ACCEPTABLE  
MAXIMUM

EXPOSURE LIMIT FOR WOMEN OF CHILDBEARING AGE = 2 PPM (8 HR TIME-  
WEIGHTED  
AVERAGE).

EFFECTS OF OVEREXPOSURE

INHALATION: HEADACHE, NAUSEA, DIZZINESS, FATIGUE, WEAKNESS IN  
ARMS  
AND LEGS

SKIN CONTACT: IRRITATION

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EYE CONTACT: IRRITATION

SKIN ABSORPTION: RAPID ABSORPTION

INGESTION: IRRITATION OF MUCOUS MEMBRANES, HEADACHE, NAUSEA,  
VOMITING, DIZZINESS, GASTROINTESTINAL IRRITATION,  
CENTRAL NERVOUS SYSTEM DEPRESSION, HEARING LOSS

CHRONIC EFFECTS: CENTRAL NERVOUS SYSTEM DEPRESSION, DAMAGE TO LIVER,  
KIDNEYS, BLOOD, TESTES

### TARGET ORGANS

CENTRAL NERVOUS SYSTEM, BLOOD, EYES, SKIN, KIDNEYS

### MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

NONE IDENTIFIED

### PRIMARY ROUTES OF ENTRY

INHALATION, INGESTION, SKIN CONTACT, EYE CONTACT, ABSORPTION

### EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, IF CONSCIOUS, GIVE  
LARGE AMOUNTS OF WATER. INDUCE VOMITING.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING,  
GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT,  
GIVE OXYGEN. PROMPT ACTION IS ESSENTIAL.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN WITH PLENTY  
OF WATER FOR AT LEAST 15 MINUTES.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY  
OF WATER FOR AT LEAST 15 MINUTES.

### SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: YES CHRONIC: YES FLAMMABILITY: YES PRESSURE: NO REACTIVITY: NO

EXTREMELY HAZARDOUS SUBSTANCE: NO

CERCLA HAZARDOUS SUBSTANCE: NO

SARA 313 TOXIC CHEMICALS: YES CONTAINS 2-METHOXYETHANOL  
GENERIC CLASS: GENERIC CLASS REMOVED FROM CFR:

7/1/91

TSCA INVENTORY: YES

STATE LISTS: FOR PRODUCTS SOLD IN THE STATE OF CALIFORNIA, THE STATE  
REQUIRES



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## **STORAGE AND HANDLING PRECAUTIONS**

SAF-T-DATA\* STORAGE COLOR CODE: RED (FLAMMABLE)

### STORAGE REQUIREMENTS

KEEP CONTAINER TIGHTLY CLOSED. STORE IN A COOL, DRY, WELL-VENTILATED,

FLAMMABLE LIQUID STORAGE AREA OR CABINET.

## **TRANSPORTATION DATA AND ADDITIONAL INFORMATION**

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: ETHYLENE GLYCOL MONOMETHYL ETHER  
HAZARD CLASS: 3  
UN/NA: UN1188 PACKAGING GROUP: III  
LABELS: 3 FLAMMABLE LIQUID  
REGULATORY REFERENCES: 49CFR 172.101

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: ETHYLENE GLYCOL MONOMETHYL ETHER  
HAZARD CLASS: 3.3 I.M.O. PAGE: 3342  
UN: UN1188 MARINE POLLUTANTS: NO PACKAGING GROUP: III  
LABELS: 3 FLAMMABLE LIQUID  
REGULATORY REFERENCES: 49CFR PART 176; IMDG CODE

AIR (I.C.A.O.)

PROPER SHIPPING NAME: ETHYLENE GLYCOL MONOMETHYL ETHER  
HAZARD CLASS: 3  
UN: UN1188 PACKAGING GROUP: III  
LABELS: 3 FLAMMABLE LIQUID  
REGULATORY REFERENCES: 49CFR PART 175; ICAO=== WE BELIEVE THE  
TRANSPORTATION

FACTUAL AND

MEANT AS

PRODUCT

BE

THE

CONSIDERATION,

IN

LOCAL

49CFR

DATA AND REFERENCES CONTAINED HEREIN TO BE  
THE OPINION OF QUALIFIED EXPERTS. THE DATA IS  
A GUIDE TO THE OVERALL CLASSIFICATION OF THE  
AND IS NOT PACKAGE SIZE SPECIFIC, NOR SHOULD IT  
TAKEN AS A WARRANTY OR REPRESENTATION FOR WHICH  
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ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND  
LAWS AND REGULATIONS. SEE SHIPPER REQUIREMENTS

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TRAINING 49 171.2, CERTIFICATION 172.204, AND EMPLOYEE  
CFR 173.1(B).

U.S. CUSTOMS HARMONIZATION NUMBER: 29094200008

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