

SIGMA CHEMICAL CO -- ETHYLENE GLYCOL MONOMETHYL ETHER, E5378 -- 6810-01-467-0894  
===== Product Identification =====

Product ID:ETHYLENE GLYCOL MONOMETHYL ETHER, E5378

MSDS Date:12/01/1999

FSC:6810

NIIN:01-467-0894

Status Code:A

MSDS Number: CLHGS

=== Responsible Party ===

Company Name:SIGMA CHEMICAL CO

Box:14508

City:SAINT LOUIS

State:MO

ZIP:63178

Country:US

Info Phone Num:314-771-5765 / 800-325-3010

Emergency Phone Num:1-314-771-5765

CAGE:20176

=== Contractor Identification ===

Company Name:SIGMA CHEMICAL CO

Box:14508

City:SAINT LOUIS

State:MO

ZIP:63178

Country:US

Phone:314-771-5765 / 800-325-3010

CAGE:20176

Company Name:SIGMA-ALDRICH CORP

Address:3050 SPRUCE ST

Box:14508

City:ST LOUIS

State:MO

ZIP:63103

Country:US

Phone:800-505-6275/ 314-771-5765

CAGE:1FPM8

===== Composition/Information on Ingredients =====

Ingred Name:ETHYLENE GLYCOL MONOMETHYL ETHER. (MOLECULAR FO

RMULA:

C3H8O2. EC NO.: 203-713-7.)

CAS:109-86-4

RTECS #:KL5775000

OSHA PEL:80 MG/M3;25 PPM TWA

ACGIH TLV:16 MG/M3;5 PPM

===== Hazards Identification =====

LD50 LC50 Mixture:ORAL RAT LD50 = 2370 MG/KG

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES

Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO

Health Hazards Acute and Chronic:CONTAINS ETHYLENE GLYCOL MONOMETHYL  
ETHER WHICH APPEARS ON THE NAVY OCCUPATIONAL CHEMICAL REPRODUCTIVE  
HAZAR

DS LIST. SEEK CONSULTATION FROM APPROPRIATE HEALTH

PROFESSIONALS CONCERNING SAFE HANDLING AND EXPOSURE INFORMATION .

ACUTE EFFECTS: DAMAGE TO THE KIDNEYS AND LIVER. EXPOSURE CAN CAUSE:

BLOOD EFFECTS, CAUSES SKIN IRRITATION. HARMFUL IF SWALLOWED,

INHALED, OR ABSORBED THROUGH SKIN. VAPOR OR MIST IS IRRITATING TO

THE EYES, MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT. MAY CAUSE  
NERVOUS SYSTEM DISTURBANCES. CHRONIC EFFECTS: MAY CAUSE CONGENITAL  
MALFORMATION IN THE FET

US. MAY CAUSE REPRODUCTIVE (SYMPTOMS OF  
OVEREXPOS)

Effects of Overexposure:HEALTH HAZARDS ACUTE AND CHRONIC (CON'T):

DISORDERS. TARGET ORGANS: DAMAGE TO THE KIDNEYS. DAMAGE TO THE

LIVER. BLOOD, KIDNEYS, LIVER, LUNGS, CENTRAL NERVOUS SYSTEM, MALE

REPRODUCTIVE SYSTEM, IMMUNE SYSTEM, THYMUS AND BONE MARROW. IN

LABORATORY STUDIES WITH THIS MATERIAL, BIRTH DEFECTS, FETOTOXICITY,

EMBRYOLETHALITY, ANEMIA, BONE MARROW DAMAGE, HEMOLYSIS,

IMMUNOSUPPRESSION AND DAMAGE TO THE M

ALE REPRODUCTIVE TISSUES HAVE

BEEN OBSERVED.

===== First Aid Measures =====

First Aid:IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH

COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING

CONTAMINATED CLOTHING AND SHOES. IF INHALED, REMOVE TO FRESH AIR.

IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS

DIFFICULT, GIVE OXYGEN. ASSURE ADEQUATE FLUSHING OF THE EYES BY

SEPARATING THE EYELIDS WITH FINGERS.

INGESTION- CONTACT A PHYSICIAN  
IMMEDIATELY .

===== Fire Fighting Measures =====

Flash Point:=46.1C, 115.F

Lower Limits:2.5%

Upper Limits:24.5%

Extinguishing Media:CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE  
FOAM.

Fire Fighting Procedures:WEAR NIOSH-APPROVED SELF-CONTAINED BREATHING  
APPARATUS AND FULL PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN  
AND EYES.

Unusual Fire/Explosion Hazard:COMBUSTIBLE LIQUID. FORMS EXPLOSIVE  
MIXTURES  
IN AIR.

===== Accidental Release Measures =====

Spill Release Procedures:EVACUATE AREA. WEAR SELF-CONTAINED BREATHING  
APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES. ABSORB ON SAND OR  
VERMICULITE AND PLACE IN CLOSED CONTAINERS FOR DISPOSAL.

===== Handling and Storage =====

Handling and Storage Precautions:USE ONLY IN A CHEMICAL FUME HOOD. KEEP  
TIGHTLY CLOSED. KEEP AWAY FROM HEAT AND OPEN FLAME. STORE IN A COOL  
DR

Y PLACE. DO NOT BREATHE VAPOR. DO NOT GET IN EYES, ON SKIN, ON  
CLOTHING. AVOID PROLONGED O R REPEATED EXPOSURE.

Other Precautions:WASH THOROUGHLY AFTER HANDLING.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:WEAR APPROPRIATE NIOSH APPROVED RESPIRATOR.

Ventilation:USE ONLY IN A CHEMICAL FUME HOOD.

Protective Gloves:CHEMICAL-RESISTANT GLOVES.

Eye Protection:ANSI APPROVED CHEMICAL SAFETY GOGGLES AND FULL  
FACESHIELD .

Other Protective Equipment:

EYEWASH AND DELUGE SHOWER MEETING ANSI  
DESIGN CRITERIA . WEAR OTHER PROTECTIVE CLOTHING.

Work Hygienic Practices:WASH HANDS AFTER HANDLING.

Supplemental Safety and Health

SYNONYMS: AETHYLENGLYKOL-MONOMETHYLAETHER; DOWANOL 7; DOWANOL EM; ETHER  
MONOMETHYLIQUE DE L'ETHYLENE-GLYCOL; ETHYLENE GLYCOL METHYL ETHER;  
GLYCOL ETHER EM; GLYCOLMETHYL ETHER GLYCOL MONOMETHYL ETHER ;  
JEFFERSON EM; 2-METHOXY-AETHANOL; METHOXYETHANOL; 2-METHOXYETHANOL  
(ACGIH:OSHA); METHYL ETHOXOL; (OTHER IN  
FORMATION)

===== Physical/Chemical Properties =====

Boiling Pt:=124.C, 255.2F

B.P. Text:124-125C

Melt/Freeze Pt:=-85.C, -121.F

Vapor Pres:6.17 MMHG

Vapor Density:2.62 G/L

Spec Gravity:0.965

Appearance and Odor:NONE SPECIFIED BY MANUFACTURER

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

OXIDIZING AGENTS

Hazardous Decomposition Products:CARBON MONOXIDE, CARBON DIOXIDE.

===== Toxicologi  
cal Information =====

Toxicological Information:IN LABORATORY STUDIES WITH THIS MATERIAL,  
BIRTH DEFECTS, FETOTOXICITY, EMBRYOLETHALITY, ANEMIA, BONE MARROW  
DAMAGE, HEMOLYSIS, IMMUNO-SUPPRESSION AND DAMAGE TO THE MALE  
REPRODUCTIVE TISSUES HAVE BEEN OBSERVED. IRRITATION DATA: SKIN-RBT  
483 MG/24H MLD. EYE-RBT 97 MG; EYE-RBT 500 MG/24H MLD; EYE-GPG 10  
UG MLD. TOXICITY DATA: ORAL HMN LDLO:3380 MG/KG; ORAL RAT LD50:  
2370 MG/KG; IHL RAT LC50: 1500 PPM /7H; IPR RA  
T LD50: 2500 MG/KG;  
IVN RAT LD50: 2068 MG/KG; ORL MUS LD50: 2560 MG/KG. IHL-MUS LC50:  
1480 PPM/7H; IPR-MUS LD50: 2147 MG/KG; ORL-RBT LD50: 890 MG/KG;  
SKN-RBT LD50: 1280 MG/KG; ORL-GPG LD50: 950 MG/KG. (SEE ECOLOGICAL  
SECTION)

===== Ecological Information =====

Ecological:DATA NOT YET AVAILABLE. TOXICOLOGICAL (CON'T): TARGET  
ORGAN DATA: BEHAVIORAL (GENERAL ANESTHETIC, TREMOR, CONVULSIONS OR  
EFFECT ON SEIZURE THRESHOLD, CHANGE IN MOTOR

ACTIVITY, ANALGESIA); LUNGS, THO RAX OR RESPIRATION (DYSPPNAE); GASTROINTESTINAL (OTHER CHANGES); KIDNEY, URETER, BLADDER (HEMATURIA, OTHER CHANGES); BLOOD (OTHER HEMOLYSIS WITH OR WITHOUT ANEMIA); PATERNAL EFFECTS ( SPERMATOGENESIS, TESTES, EPIDIDYMIS, SPERM DUCT); MATERIAL EFFECTS (PARTURITION); EFFECTS ON FERTILITY (FEMALE FERTILITY INDEX, POST-IMPLANTATION MORTALITY, LITTER SIZE, ABORTION); EFFECTS ON EMBRYO OR FETUS (FETOTOXI CITY, FETAL DEATH); (SEE TRANSPORT I NFO)

===== Disposal Considerations =====

Waste Disposal Methods:THIS COMBUSTIBLE MATERIAL MAY BE BURNED IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

===== MSDS Transport Information =====

Transport Information:CONTACT SIGMA CHEMICAL CO FOR TRANSPORTATION INFORMATION. ECOLOGICAL (CON'T): SPECIFIC DEVELOPMENTAL ABNORMALITIES (CENTRAL NERVOUS SYSTEM, CRANIOFACIAL, BODY WALL, MUSCULOSKELETAL SYSTEM, CARDIOVASCULAR SYSTEM, GASTROINTESTINAL SYSTEM, UROGENITAL SYSTEM); EFFECTS ON NEWBORN (LIVE BIRTH INDEX, VIABILITY INDEX, GROWTH STATISTICS, BIOCHEMICAL AND METABOLIC). ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

===== Regulatory Information =====

SARA Title III

Information:THIS PRODUCT IS SUBJECT TO SARA SEC 313 REPORTING REQUIREMENTS. REGULATORY INFORMATION: EUROPEAN INFORMATION: EC INDEX NO: 603-011-00-4. FLAMMABLE. TOXIC. R 60: MAY IMPAIR FERTILITY. R 61: MAY CAUSE HARM TO THE UNBORN CHILD. R 10: FLAMMABLE. R 20/21/22: HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED. S 53: AVOID EXPOSURE - OBTAIN SPECIAL INSTRUCTIONS BEFORE USE. S 45: IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY

ELY (SHOW LABEL WHERE POSSIBLE).

Federal Regulatory Information:THE INGREDIENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY. EPA TSCA SECTION 8(B) CHEMICAL INVENTORY. EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES. EPA TSCA SECTION 8(E) RISK NOTIFICATION, 8EHQ-0892-9101. ON EPA IRIS DATABASE. EPA TSCA TEST SUBMISSION (TSCATS) DATABASE, SEPTEMBER 1999. NIOSH CURRENT INTELLIGENCE BULLETIN #39. NIOSH ANALYTICAL METHOD, 1994: ALCOHOLS IV, 1403. NTP TOXICITY STUDIES,

RPT # TOX-26, SEPT 1999. OSHA ANALYTICAL METHOD #53. NIOSH REL TO ETHYLENE GLYCOL MONOMETHYL ETHER-AIR: 10H TWA 0.1 PPM (SK), NIOSH DHHS #92-100, 1992. CONTACT NEHC FOR ADDITIONAL INFORMATION ON REVIEWS AND STANDARDS

State Regulatory Information:CALIFORNIA PROPOSITION 65 - THIS PRODUCT IS OR CONTAINS CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE MALE REPRODUCTIVE TOXICITY. THIS PRODUCT IS OR CONTAINS CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE

DEVELOPMENTAL TOXICITY. SUPP SAFETY (CONT): METHOXYHYDROXYETHANE; METHYL CELLOSOLVE (OSHA); METHYLCELOSOLV; METHYL GLYCOL; METHYL OXITOL; METIL CELLOSOLVE; MONOMETHYL ETHER OF ETHYLENE GLYCOL; POLYSOL EM; PRIST; METOSSIETANOLO; METOKSYETYLOWY ALKOHOL; METHYLGLYKOL.

===== Other Information =====

Disclaimer (provided with this information by the compiling agencies): This information is formulated for use by elements of the Department of Defense. The United States of America in no manner whatsoever, expressly or implied, warrants this information to be accurate and disclaims all liability for its use. Any person utilizing this document should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation.