

MATERIAL SAFETY DATA SHEET

MSDS DATE:08/08/08

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: POLYETHYLENE GLYCOL
SYNONYMS: N/A
PRODUCT CODES: 19710
MANUFACTURER: ELECTRON MICROSCOPY SCIENCES
DIVISION: 1560 INDUSTRY ROAD/P.O. BOX 550
ADDRESS: HATFIELD, PA 19440

EMERGENCY PHONE: 215-412-8400
CHEMTREC PHONE: 800-424 -9300

FAX PHONE: 215-412-8450

CHEMICAL NAME: POLYETHYLENE GLYCOL 300
CHEMICAL FAMILY: N/A

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT:

POLYETHYLENE GLYCOL 300

| <u>CAS NO.</u> | <u>% WT</u> | <u>% VOL</u> | <u>SARA 313 REPORTABLE</u> |
|--------------------|-------------|--------------|----------------------------|
| 25322-68-3 | 100 | N/A | |
| | <u>ppm</u> | <u>mg/m3</u> | |
| OSHA PEL-TWA: | N/A | N/A | |
| OSHA PEL STEL : | N/A | N/A | |
| OSHA PEL CEILING: | N/A | N/A | |
| ACGIH TLV-TWA: | N/A | N/A | |
| ACGIH TLV STEL: | N/A | N/A | |
| ACGIH TLV CEILING: | N/A | N/A | |

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: N/A

ROUTES OF ENTRY: N/A

POTENTIAL HEALTH EFFECTS

EYES: IRRITATION TO EYES

SKIN: IRRITATION TO SKIN, PERMEATOR

INGESTION: SLIGHTLY HAZARDOUS

INHALATION: SLIGHTLY HAZARDOUS

ACUTE HEALTH HAZARDS: SLIGHTLY HAZARDOUS IN CASE OF SKIN CONTACT(IRRITANT, PERMEATOR) OF EYE CONTACT (IRRITANT), OF INGESTION, OF INHALATION

CHRONIC HEALTH HAZARDS: N/A

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:REPEATED OR PROLONGED EXPOSURE IS NOT KNOWN TO AGGRAVATE MEDICAL CONDITION.

CARCINOGENICITY

OSHA: N/A ACGIH: N/A NTP: N/A IARC: N/A
OTHER: N/A

SECTION 4: FIRST AID MEASURES

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EYES: CHECK FOR AND REMOVE ANY CONTACT LENSES, FLUSH WITH WATER FOR 15 MINUTES. IF IRRITATION OCCURS, SEEK MEDICAL ATTENTION

SKIN: WASH WITH SOAP AND WATER. COVER THE IRRITATED SKIN WITH AN EMOLLIENT. IF IRRITATION OCCURS, SEEK MEDICAL ATTENTION.

INGESTION: DO NOT INDUCE VOMITING UNLESS DIRECTIONED TO DO SO BY MEDICAL PERSONNEL. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. IF LARGE QUANTITIES OF THIS MATERIAL ARE SWALLOWED, CALL A PHYSICIAN IMMEDIATELY. LOOSEN TIGHT CLOTHING SUCH AS A COLLAR, BELT, OR WAISTBAND.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. GET MEDICAL ATTENTION.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: N/A

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR, UPPER: N/A
(% BY VOLUME) LOWER: N/A

FLASH POINT:
F: 390.2 DEG
C: 199 DEG
METHOD USED: OPEN CUP

AUTOIGNITION TEMPERATURE: N/A
F: N/A
C: N/A

NFPA HAZARD CLASSIFICATION
HEALTH: 0 FLAMMABILITY: 1 REACTIVITY: 0
OTHER: N/A

HMIS HAZARD CLASSIFICATION
HEALTH: 1 FLAMMABILITY: 1 REACTIVITY: 0
PROTECTION: g

EXTINGUISHING MEDIA: SMALL FIRE: USE DRY CHEMICAL POWDER
LARGE FIRE: USE WATER SPRAY, FOG OR FOAM. DO NOT USE WATER JET

SPECIAL FIRE FIGHTING PROCEDURES: N/A

UNUSUAL FIRE AND EXPLOSION HAZARDS: SLIGHTLY FLAMMABLE IN PRESENCE OF HEAT

HAZARDOUS DECOMPOSITION PRODUCTS: THESE PRODUCTS ARE CARBON OXIDES (CO, CO₂).

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:

SMALL SPILL: DILUTE WITH WATER AND MOP UP, OR ABSORB WITH AN INERT DRY MATERIAL AND PLACE IN AN APPROPRIATE WASTE DISPOSAL CONTAINER. FINISH CLEANING BY SPREADING WATER ON THE CONTAMINATED SURFACE AND DISPOSE OF ACCORDING TO LOCAL AND REGIONAL AUTHORITY REQUIREMENTS.

LARGE SPILL: ABSORB WITH AN INERT MATERIAL AND PUT THE SPILLED MATERIAL IN AN APPROPRIATE WASTE DISPOSAL. FINISH CLEANING BY SPREADING WATER ON THE CONTAMINATED SURFACE AND ALLOW TO EVACUATE THROUGH THE SANITARY SYSTEM. BE CAREFUL THAT THE PRODUCT IS NOT PRESENT AT A CONCENTRATION LEVEL ABOVE TLV. CHECK TLV ON THE MSDS AND WITH LOCAL AUTHORITIES.

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SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: KEEP AWAY FROM HEAT. KEEP AWAY FROM SOURCES OF IGNITION. EMPTY CONTAINERS POSE A FIRE RISK. EVAPORATE THE RESIDUE UNDER A FUME HOOD. GROUND ALL EQUIPMENT CONTAINING MATERIAL. DO NOT INGEST. DO NOT BREATHE GAS/FUMES/VAPOR/SPRAY. WEAR SUITABLE PROTECTIVE CLOTHING. IF INGESTED, SEEK MEDICAL ADVICE IMMEDIATELY AND SHOW THE CONTAINER OR THE LABEL. KEEP AWAY FROM INCOMPATIBLES SUCH AS OXIDIZING AGENTS.

KEEP CONTAINER TIGHTLY CLOSED. KEEP CONTAINER IN A COOL, WELL-VENTILATED AREA. DO NOT STORE ABOVE 23° C

OTHER PRECAUTIONS: N/A

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: PROVIDE EXHAUST VENTILATION OR OTHER ENGINEERING CONTROLS TO KEEP THE AIRBORNE CONCENTRATIONS OF VAPORS BELOW THEIR RESPECTIVE THRESHOLD LIMIT VALUE. ENSURE THAT EYEWASH STATION AND SAFETY SHOWERS ARE PROXIMAL TO THE WORK-STATION LOCATION.

VENTILATION: EXHAUST VENTILATION

RESPIRATORY PROTECTION: VAPOR RESPIRATOR. BE SURE TO USE AN APPROVED/ CERTIFIED RESPIRATOR OR EQUIVALENT.

EYE PROTECTION: SAFETY GLASSES

SKIN PROTECTION: LAB COAT. GLOVES

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: IN CASE OF A LARGE SPILL: SPLASH GOGGLES. FULL SUIT. VAPOR RESPIRATOR. BOOTS. GLOVES. A SELF CONTAINED BREATHING APPARATUS SHOULD BE USED TO AVOID INHALATION OF THE PRODUCT. SUGGESTED PROTECTIVE CLOTHING MIGHT NOT BE SUFFICIENT; CONSULT A SPECIALIST BEFORE HANDLING THIS PRODUCT.

WORK HYGIENIC PRACTICES: N/A

EXPOSURE GUIDELINES: LIMITS: TWA: 10 (MG/M³) FROM AIHA

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: CLEAR

ODOR: ODORLESS

PHYSICAL STATE: LIQUID (VISCOUS)

pH AS SUPPLIED: N/A

pH (Other): N/A

BOILING POINT: N/A

F: N/A

C: N/A

MELTING POINT:

F: 12.2 DEG

C: -11 DEG

FREEZING POINT: N/A

F: N/A

C: N/A

VAPOR PRESSURE (mmHg): N/A

@

F: N/A

C: N/A

VAPOR DENSITY (AIR = 1): N/A

@

F: N/A

C: N/A

@

F: N/A

C: N/A

EVAPORATION RATE: N/A

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BASIS (=1): N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (con't)

SOLUBILITY IN WATER: SOLUBLE IN COLD WATER, HOT WATER

PERCENT SOLIDS BY WEIGHT: N/A

PERCENT VOLATILE: N/A
BY WT/ BY VOL @
F: N/A
C: N/A

VOLATILE ORGANIC COMPOUNDS (VOC): N/A

WITH WATER: N/A LBS/GAL
WITHOUT WATER: N/A LBS/GAL

MOLECULAR WEIGHT: N/A
VISCOSITY: N/A
@
F: N/A
C: N/A

SECTION 10: STABILITY AND REACTIVITY

STABILITY: THE PRODUCT IS STABLE

CONDITIONS TO AVOID (STABILITY): STRONG OXIDIZING AGENTS, DUST GENERATION, EXCESS HEAT

INCOMPATIBILITY (MATERIAL TO AVOID): REACTIVE WITH OXIDIZING AGENTS

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: N/A

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID (POLYMERIZATION): N/A

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

TOXICITY TO ANIMALS: ACUTE ORAL TOXICITY (LD50): 27500 MG/KG [RAT]
ACUTE DERMAL TOXICITY (LD50): > 20000 MG/KG [RABIT]

OTHER TOXIC EFFECTS ON HUMANS: SLIGHTLY HAZARDOUS IN CASE OF SKIN CONTACT (IRRITANT, PERMEATOR), OF INGESTION, OF INHALATION

SPECIAL REMARKS ON OTHER TOXIC EFFECTS ON HUMANS:

ACUTE POTENTIAL HEALTH EFFECTS:

SKIN: MAY CAUSE MILD SKIN IRRITATION

EYES: MAY CAUSE MILD EYE IRRITATION

INHALATION: VAPOR MAY CAUSE RESPIRATORY TRACT IRRITATION.

INGESTION: MAY CAUSE GASTROINTESTINAL TRACT IRRITATION WHICH MAY INCLUDE NAUSEA AND VOMITING. MAY AFFECT URINARY SYSTEM (KIDNEY, URETER, OR BLADDER), LIVER, METABOLISM BASED ON ANIMAL DATA. NO HUMAN DATA FOUND.

CHRONIC POTENTIAL HEALTH EFFECTS

CHRONIC OCCUPATIONAL EXPOSURE IS MAINLY LIMITED TO DERMAL CONTACT. PROLONGED OR REPEATED CONTACT MAY CAUSE DELAYED ECZEMATOUS AND IMMEDIATE URTICARIAL REACTIONS, AND CONTACT DERMATITIS.

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SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION:

ECOTOXICITY: IN WATER (LC50): > 5000 MG/L 24 HOURS [GOLDFISH]

PRODUCTS OF BIODEGRADATION: POSSIBLY HAZARDOUS SHORT TERM DEGRADATION PRODUCTS ARE NOT LIKELY. HOWEVER, LONG TERM DEGRADATION PRODUCTS MAY ARISE.

TOXICITY OF THE PRODUCTS OF BIODEGRADATION:THE PRODUCTS OF DEGRADATION ARE LESS TOXIC THAN THE PRODUCT ITSELF.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: COMPLY WITH FEDERAL, STATE, LOCAL REGULATIONS.

RCRA HAZARD CLASS: N/A

SECTION 13: DISPOSAL CONSIDERATIONS (con't)

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION

PROPER SHIPPING NAME: NOT A DOT CONTROLLED MATERIL (UNITED STATES).
HAZARD CLASS:
ID NUMBER:
PACKING GROUP:
LABEL STATEMENT:

WATER TRANSPORTATION

PROPER SHIPPING NAME: N/A
HAZARD CLASS:
ID NUMBER:
PACKING GROUP:
LABEL STATEMENTS:

AIR TRANSPORTATION

PROPER SHIPPING NAME: N/A
HAZARD CLASS:
ID NUMBER:
PACKING GROUP:
LABEL STATEMENTS:

OTHER AGENCIES: N/A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA (TOXIC SUBSTANCE CONTROL ACT): POLYETHYLENE GLYCOL 300

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): N/A

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): N/A

311/312 HAZARD CATEGORIES: N/A

313 REPORTABLE INGREDIENTS: N/A

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STATE REGULATIONS:

MINNESOTA: POLYETHYLENE GLYCOL 300

CALIFORNIA PROPOSITION 65: WARNING: ALTHOUGH POLYETHYLENE GLYCOL 300 ITSELF IS NOT PROP 65 LISTED, IT MAY CONTAIN TRACT AMOUNTS OF A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER: EHYLENE OXIDE, HEAVY METALS.

WARNING: ALTHOUGH THIS PRODUCT IS NOT PROP. 65 LISTED, IT MAY CONTAIN TRACE AMOUNTS OF A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS: HEAVY METALS

INTERNATIONAL REGULATIONS:

EINECS: THIS PRODUCT IS ON THE EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES

WHMIS (CANADA) NOT CONROLLED UNDER WHMIS (CANADA).

DSCL (EUROPE): R20/22- HARMFUL BY INHALATION AND IF SWALLOWED.

S24/25- AVOID CONTACT WITH SKIN AND EYES.

SECTION 16: OTHER INFORMATION

OTHER INFORMATION: N/A

PREPARATION INFORMATION: N/A

DISCLAIMER: IN COMPLIANCE WITH THE OSHA HAZARD COMMUNICATION STANDARD, 2.9 C.F.R 1910. 1200, WE ARE PROVIDING YOU WITH A MSDS FOR THE HAZARDOUS MATERIAL YOU ARE PURCHASING.

IT IS YOUR RESPONSIBILITY TO EDUCATE YOUR EMPLOYEES ON THE SAFE USE OF THE HAZARDOUS MATERIAL.

ELECTRON MICROSCOPY SCIENCES MAKES NO PRESENTATION AS TO THE ACCURACY OF THE INFORMATION IN THE MSDS. THE INFORMATION IS BELIEVED TO BE CORRECT; HOWEVER, YOU (THE CUSTOMER), SHOULD PERFORM YOUR OWN INVESTIGATION AND INDEPENDENT VERIFICATION. IF YOU RESELL THE PRODUCT, YOU ARE RESPONSIBLE TO FORWARD THE INFORMATION IN THE MSDS TO YOUR CUSTOMER.