



15 Erie Drive  
Natick, MA 01760  
Phone: 508.655.4336  
Fax: 508.655.2754  
[www.americanbio.com](http://www.americanbio.com)  
In case of emergency call 3E at 800.451.8346

MATERIAL SAFETY DATA SHEET:  
GLYCEROL ANHYDROUS, SUPER GLYCEROL  
CATALOG NUMBER: AB00751

---

SECTION I – PRODUCT IDENTIFICATION

---

PRODUCT NAME: GLYCEROL ANHYDROUS, SUPER GLYCEROL  
GRADE: ULTRA PURE/USP/ACS  
PHYSICAL DESCRIPTION: CLEAR VISCOUS LIQUID

---

SECTION II – COMPOSITION/INFORMATION ON INGREDIENT

---

CAS NUMBER: 56-81-5  
FORMULA: C<sub>3</sub>H<sub>8</sub>O<sub>3</sub>  
FORMULA WEIGHT: 92.1

---

SECTION III – HAZARDS IDENTIFICATION

---

EMERGENCY OVERVIEW:

WATER WHITE LIQUID. ODORLESS. NO SIGNIFICANT HAZARDS FOR EMERGENCY RESPONSE ARE KNOWN.

POTENTIAL HEALTH EFFECTS (SEE SECTION XI FOR TOXICOLOGICAL DATA.)

EYE: MAY CAUSE SLIGHT TRANSIENT (TEMPORARY) EYE IRRITATION. CORNEAL INJURY IS UNLIKELY.

SKIN: PROLONGED OR REPEATED EXPOSURE NOT LIKELY TO CAUSE SIGNIFICANT SKIN IRRITATION. A SINGLE PROLONGED EXPOSURE IS NOT LIKELY TO RESULT IN THE MATERIAL BEING ABSORBED THROUGH SKIN IN HARMFUL AMOUNTS. MAY BE ABSORBED IN POTENTIALLY HARMFUL AMOUNTS WHEN APPLIED IN LARGE QUANTITIES TO SEVERE BURNS (SECOND OR THIRD DEGREE) OVER LARGE AREAS OF THE BODY AS PART OF A CREAM OR OTHER TOPICAL APPLICATION. ABSORPTION UNDER SUCH CIRCUMSTANCES CAN ELEVATE SERUM OSMOLALITY AND MAY RESULT IN OSMOTIC SHOCK.

INGESTION: SINGLE DOSE ORAL TOXICITY IS CONSIDERED TO BE EXTREMELY LOW. SMALL AMOUNTS SWALLOWED INCIDENTAL TO NORMAL HANDLING OPERATIONS ARE NOT LIKELY TO CAUSE INJURY; SWALLOWING AMOUNTS LARGER THAN THAT MAY CAUSE INJURY. SIGNS AND SYMPTOMS OF EXCESSIVE EXPOSURE MAY BE CENTRAL NERVOUS SYSTEM EFFECTS AND INCREASED BLOOD SUGAR LEVELS.

INHALATION: AT ROOM TEMPERATURE, VAPORS ARE MINIMAL DUE TO PHYSICAL PROPERTIES. IF HEATED OR SPRAYED AS AN AEROSOL, AIRBORNE MATERIAL MAY CAUSE UPPER RESPIRATORY IRRITATION.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: REPEATED EXCESSIVE EXPOSURES MAY CAUSE INCREASED FAT LEVELS IN BLOOD. OBSERVATIONS IN ANIMALS INCLUDE KIDNEY, LIVER, AND GASTROINTESTINAL EFFECTS WITH VERY LARGE ORAL DOSES.

CANCER INFORMATION: DID NOT CAUSE CANCER IN LONG-TERM ANIMAL STUDIES.

TERATOLOGY: BIRTH DEFECTS ARE UNLIKELY. EXPOSURES HAVING NO ADVERSE EFFECTS ON THE MOTHER SHOULD HAVE NO EFFECT ON THE FETUS.

REPRODUCTIVE EFFECTS: REPRODUCTIVE EFFECTS SEEN IN FEMALE ANIMALS ARE BELIEVED TO BE DUE TO ALTERED NUTRITIONAL STATUS RESULTING FROM EXTREMELY

HIGH DOSES IN THEIR DIETS. SIMILAR EFFECTS HAVE BEEN SEEN IN ANIMALS FED SYNTHETIC DIETS.

---

#### SECTION IV – FIRST AID

---

EYES: FLUSH EYES WITH PLENTY OF WATER.

SKIN: WASH OFF IN FLOWING WATER OR SHOWER.

INGESTION: IF SWALLOWED, SEEK MEDICAL ATTENTION. DO NOT INDUCE VOMITING UNLESS DIRECTED TO DO SO BY MEDICAL PERSONNEL.

INHALATION: REMOVE TO FRESH AIR IF EFFECTS OCCUR. CONSULT A PHYSICIAN.

NOTE TO PHYSICIAN: NO SPECIFIC ANTIDOTE. SUPPORTIVE CARE. TREATMENT BASE ON JUDGEMENT OF THE PHYSICIAN IN RESPONSE TO REACTIONS OF THE PATIENT.

---

#### SECTION V – FIRE FIGHTING MEASURES

---

##### FLAMMABLE PROPERTIES

FLASH POINT: 390°F, 199°C

METHOD USED: PMCC

AUTOIGNITION TEMPERATURE: 698°F, 370°C

FLAMMABILITY LIMITS:

LFL: NOT DETERMINED

UFL: NOT DETERMINED

HAZARDOUS COMBUSTION PRODUCTS: DURING A FIRE, SMOKE MAY CONTAIN THE ORIGINAL MATERIAL IN ADDITION TO UNIDENTIFIED TOXIC AND/OR IRRITATING COMPOUNDS. HAZARDOUS COMBUSTION PRODUCTS MAY INCLUDE AND ARE NOT LIMITED TO: ALDEHYDES, CARBON MONOXIDE, CARBON DIOXIDE.

OTHER FLAMMABILITY INFORMATION: VIOLENT STEAM GENERATION OR ERIPTION MAY OCCUR UPON APPLICATION OF DIRECT WATER STREAM.

EXTINGUISHING MEDIA: WATER FOG OR FINE SPRAY, CARBON DIOXIDE, DRY CHEMICAL, FOAM. ALCOHOL RESISTANT FOAMS (ATC TYPE) OR PROTEIN FOAMS MAY FUNCTION, BUT MUCH LESS EFFECTIVELY. DO NOT USE DIRECT WATER STREAM. WILL SPREAD FIRE.

MEDIA TO BE AVOIDED: DO NOT USE DIRECT WATER STREAM.

FIRE FIGHTING INSTRUCTIONS: KEEP PEOPLE AWAY. ISOLATE FIRE AREA AND DENY UNNECESSARY ENTRY. BURNING LIQUIDS MAY BE MOVED BY FLUSHING WITH WATER TO PROTECT PERSONNEL AND MINIMIZE PROPERTY DAMAGE. BURNING LIQUIDS MAY BE EXTINGUISHED BY DILUTION WITH WATER. DO NOT USE DIRECT WATER STREAM. MAY SPREAD FIRE.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: WEAR POSITIVE-PRESSURE SELF CONTAINED BREATHING APPARATUS (SCBA) AND PROTECTIVE FIRE FIGHTING CLOTHING (INCLUDES FIRE FIGHTING HELMET, COAT, PANTS, BOOTS AND GLOVES. IF PROTECTIVE EQUIPMENT IS NOT AVAILABLE OR NOT USED, FIGHT FIRE FROM A PROTECTED LOCATION OR SAFE DISTANCE.

---

#### SECTION VI – ACCIDENTAL RELEASE MEASURES

---

PROTECT PEOPLE: KEEP UNNECESSARY PEOPLE AWAY, ISOLATE HAZARD AREA AND DENY UNNECESSARY ENTRY.

PROTECT THE ENVIRONMENT: KEEP OUT OF SEWERS, STORM DRAINS, SURFACE WATER AND SOIL.

CLEANUP: SMALL SPILLS: COVER WITH ABSORBENT MATERIAL, SOAK UP AND SWEEP INTO A DRUM. LARGE SPILLS: DIKE AROUND SPILL AND PUMP INTO SUITABLE CONTAINERS.

---

#### SECTION VII – HANDLING AND STORAGE

---

HANDLING: PRACTICE REASONABLE CARE AND CAUTION.

STORAGE: GLYCEROL FREEZES AT 64°F. GLYCEROL SHOULD BE KEPT ABOVE 64°F BUT BELOW 130°F.

---

## SECTION VIII – EXPOSURE CONTROLS/PERSONAL PROTECTION

---

ENGINEERING CONTROLS: PROVIDE GENERAL AND/OR LOCAL EXHAUST VENTILATION TO CONTROL AIRBORNE LEVELS BELOW THE EXPOSURE GUIDELINES.

PERSONAL PROTECTIVE EQUIPMENT: EYE/FACE PROTECTION: USE SAFETY GLASSES.

SKIN PROTECTION: NO PRECAUTIONS OTHER THAN CLEAN BODY-COVERING CLOTHING SHOULD BE NEEDED.

RESPIRATORY PROTECTION: FOR MOST CONDITIONS, NO RESPIRATORY PROTECTION SHOULD BE NEEDED, HOWEVER, IF MATERIAL IS HEATED OR SPRAYED, USE AN APPROVED AIR-PURIFYING RESPIRATOR.

EXPOSURE GUIDELINE: GLYCEROL: ACGIH TLV IS 10 MG/M3. OSHA PEL IS 10 MG/M3 TOTAL, 5 MG/M3 RESPIRABLE. PELS ARE IN ACCORD THOSE RECOMMENDED BY OSHA, AS IN THE 1989 REVISION OF PELS.

---

## SECTION IX – PHYSICAL AND CHEMICAL PROPERTIES

---

APPEARANCE: WATER WHITE LIQUID

ODOR: ODORLESS

VAPOR PRESSURE: <1.0 MMHG AT 20°C

VORP DENSITY: 3.1

BOILING POINT: 554°F, 290°C

SOLUBILITY IN WATER: MISCIBLE

SPECIFIC GRAVITY: 1.2607 AT 25/25 (MIN.)

---

## SECTION X – STABILITY AND REACTIVITY

---

CHEMICAL STABILITY: STABLE

CONDITIONS TO AVOID: AVOID STRONG OXIDIZING AGENT (SUCH AS SODIUM HYPOCHLORITE, HYPOCHLOROUS ACID.)

INCOMPATIBILITY WITH OTHER MATERIALS: OXIDIZING MATERIAL.

HAZARDOUS DECOMPOSITION PRODUCTS: ACROLEIN.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

---

## SECTION XI – TOXICOLOGICAL INFORMATION

---

SKIN: THE LD50 FOR SKIN ABSORPTION IN RABBITS IS >10,000 MG/KG.

INGESTION: THE ORAL LD50 FOR RATS IS 17,000 TO 27,000 MG/KG.

INHALATION: THE LC50 FOR 6 HOURS IN RATS WAS >4 MG/LITER.

MUTAGENICITY: IN VITRO MUTAGENICITY STUDIES WERE NEGATIVE.

---

## SECTION XII – ECOLOGICAL INFORMATION

---

MOVEMENT AND PARTITIONING: BASED LARGELY OR COMPLETELY ON INFORMATION FOR SIMILAR MATERIALS, i.e. GLYCEROL. BIOCONCENTRATION POTENTIAL IS LOW (BCF LESS THAN 100 OR LOG POW LESS THAN 3). LOG OCTANOL/WATER COEFFICIENT (LOG POW) IS -1.76.

DEGRADATION AND PERSISTANCE: BASED LARGELY OR COMPLETELY ON INFORMATION FOR SIMILAR MATERIALS, i.e. GLYCEROL. BIODEGRADATION UNDER AEROBIC LABORATORY CONDITIONS IS HIGH (BOD20 OR BOD28/THOD GREATER THAN 40%). BIODEGRADATION IS EXPECTED TO BE ACHIEVABLE IN A SECONDARY WASTEWATER TREATMENT PLANT. INHIBITORY CONCENTRATION (IC50) IN OECD ACTIVATED SLUDGE RESPIRATION INHIBITION TEST (OECD TEST NO. 209) IS GREATER THAN 1000 MG/L. 5-DAY BIOCHEMICAL OXYGEN DEMAND (BOD5) IS 0.54 P/P. 10-DAY BIOCHEMICAL OXYGEN DEMAND (BOD10) IS 0.98 P/P. 20 DAY BIOCHEMICAL OXYGEN DEMAND (BOD20) IS 1.0 P/P. THEORETICAL OXYGEN DEMAND (THOD) IS CALCULATED TO BE 1.22 P/P.

ECOTOXICITY: BASED LARGELY OR COMPLETELY ON INFORMATION FOR SIMILAR MATERIALS, I.E. GLYCEROL. MATERIAL IS PRACTICALLY NON-TOXIC TO FISH ON AN ACUTE BASIS (LC50 GREATER THAN 100 MG/L). ACUTE LD50 FOR FATHEAD MINNOW (PIMEPHALES PROMELAS) IS 44000 MG/L. ACUTE LD50 FOR GOLDFISH (CARASSIUS AURATUS) IS GREATER THAN 5000 MG/L.

---

SECTION XIII – DISPOSAL CONSIDERATIONS

---

DISPOSAL: DO NOT DUMP INTO ANY SEWERS ON THE GROUND OR INTO ANY BODY OF WATER. ALL DISPOSAL METHODS MUST BE IN COMPLIANCE WITH ALL FEDERAL, STATE/PROVINCIAL AND LOCAL LAWS AND REGULATIONS. REGULATIONS MAY VARY IN DIFFERENT LOCATIONS. WASTE CHARACTERIZATIONS AND COMPLIANCE WITH APPLICABLE LAWS ARE THE RESPONSIBILITY SOLELY OF THE WASTE GENERATOR. FOR UNUSED & UNCONTAMINATED PRODUCT, THE PREFERRED OPTIONS INCLUDE SENDING TO A LICENSED, PERMITTED: RECYCLER, RECLAIMER, INCINERATOR OR OTHER THERMAL DESTRUCTION DEVICE.

---

SECTION XIV – TRANSPORT INFORMATION

---

U.S. DEPARTMENT OF TRANSPORTATION (DOT): FOR DOT REGULATORY INFORMATION, IF REQUIRED, CONSULT TRANSPORTATION REGULATIONS, OR PRODUCT SHIPPING PAPERS.

CANADIAN TDG INFORMATION: FOR TDG REGULATORY INFORMATION, IF REQUIRED, CONSULT TRANSPORTATION REGULATIONS, OR PRODUCT SHIPPING PAPERS.

US REGULATIONS: SARA HAZARD CATEGORY: THIS PRODUCT HAS BEEN REVIEWED ACCORDING TO THE EPA "HAZARD CATEGORIES" PROMULGATED UNDER SECTIONS 311 AND 312 OF THE SUPERFUND AMENDMENT AND REAUTHORIZATION ACT OF 1986 (SARA TITLE III). AND IS CONSIDERED, UNDER APPLICABLE DEFINITIONS, TO MEET THE FOLLOWING CATEGORIES: NOT TO HAVE MET ANY HAZARD CATEGORY.

CANADIAN REGULATIONS: WHMIS INFORMATION: THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) CLASSIFICATION FOR THIS PRODUCT IS:

THIS PRODUCT IS NOT A "CONTROLLED PRODUCT" UNDER WHMIS.

---

SECTION XVI – OTHER INFORMATION

---

FOR R&D USE ONLY. NOT FOR DRUG, HOUSEHOLD OR OTHER USES.

---

REVISION DATE 04/22/06