



SIGMA-ALDRICH

SIGMA CHEMICAL COMPANY
POST OFFICE BOX 14508
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DATE 03/17/99
CUST#: 0-495-04629
PO#: CC/031799

M A T E R I A L S A F E T Y D A T A S H E E T PAGE 1

SECTION 1. ----- CHEMICAL IDENTIFICATION-----

CATALOG #: G6279
NAME: GLYCEROL, SIGMAULTRA

SECTION 2. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

CAS #: 56-81-5
MF: C₃H₈O₃
EC NO: 200-289-5

SYNONYMS

CITIFLUOR AF 2 * GLYCERIN * GLYCERIN, ANHYDROUS * GLYCERINE *
GLYCERIN MIST (ACGIH, OSHA) * GLYCERIN, SYNTHETIC * GLYCERITOL *
GLYCYL ALCOHOL * GLYCERIN, WASSERFREI (GERMAN) * GROCOLENE * MOON *
OSMOGLYN * 1,2,3-PROPANETRIOL * STAR * SYNTHETIC GLYCERIN * 90
TECHNICAL GLYCERINE * TRIHYDROXYPROPANE * 1,2,3-TRIHYDROXYPROPANE *

SECTION 3. ----- HAZARDS IDENTIFICATION -----

LABEL PRECAUTIONARY STATEMENTS

IRRITANT
IRRITATING TO EYES AND SKIN.
TARGET ORGAN(S):
KIDNEYS
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE PROTECTIVE CLOTHING.

SECTION 4. ----- FIRST-AID MEASURES-----

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.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
CALL A PHYSICIAN.
WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. ----- FIRE FIGHTING MEASURES -----

EXTINGUISHING MEDIA

WATER SPRAY.
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIREFIGHTING PROCEDURES

WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO
PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS

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EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. - - - - - ACCIDENTAL RELEASE MEASURES- - - - -

WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
ABSORB ON SAND OR VERMICULITE AND PLACE IN CLOSED CONTAINERS FOR DISPOSAL.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - HANDLING AND STORAGE- - - - -

REFER TO SECTION 8.

ADDITIONAL INFORMATION

VIOLENT OR EXPLOSIVE REACTIONS HAVE OCCURED UPON DIRECT CONTACT OF GLYCEROL WITH: SODIUM HYDRIDE, PHOSPHOROUS TRIOXIDE, PERCHLORIC ACID, CHLORINE, CALCIUM HYPOCHLORITE, NITRIC ACID AND HYDROFLUORIC ACID, NITRIC ACID AND SULFURIC ACID, SODIUM PEROXIDE, HYDROGEN PEROXIDE OR POTASSIUM PERMANGANATE.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -

WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.
MECHANICAL EXHAUST REQUIRED.
SAFETY SHOWER AND EYE BATH.
DO NOT BREATHE VAPOR.
AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
WASH THOROUGHLY AFTER HANDLING.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -

APPEARANCE AND ODOR
VISCIOUS COLORLESS LIQUID

PHYSICAL PROPERTIES

BOILING POINT: 182 C/20MM.
MELTING POINT: 20 C
FLASHPOINT 320F
160C

EXPLOSION LIMITS IN AIR:
LOWER

AUTOIGNITION TEMPERATURE: 698 F 0.9% 369C
VAPOR PRESSURE: <1MM 20 C
SPECIFIC GRAVITY: 1.261
VAPOR DENSITY: 3.1

SECTION 10. - - - - - STABILITY AND REACTIVITY - - - - -

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INCOMPATIBILITIES
STRONG OXIDIZING AGENTS
STRONG BASES
PROTECT FROM MOISTURE.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
CARBON MONOXIDE, CARBON DIOXIDE

HAZARDOUS POLYMERIZATION
WILL NOT OCCUR.

SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

ACUTE EFFECTS
MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION.
CAUSES EYE AND SKIN IRRITATION.
MATERIAL MAY BE IRRITATING TO MUCOUS MEMBRANES AND UPPER
RESPIRATORY TRACT.
PROLONGED EXPOSURE CAN CAUSE:
NAUSEA, HEADACHE AND VOMITING

CHRONIC EFFECTS
TARGET ORGAN(S):
KIDNEYS
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

RTECS #: MA8050000
GLYCEROL

IRRITATION DATA	
SKN-RBT 500 MG/24H MLD	85JCAE - ,207,1986
EYE-RBT 126 MG MLD	BIOFX* 9-4/1970
EYE-RBT 500 MG/24H MLD	85JCAE - ,207,1986

TOXICITY DATA	
ORL-RAT LD50:12600 MG/KG	FEFRA7 4,142,1945
IHL-RAT LC50:>570 MG/M3/1H	BIOFX* 9-4/1970
IPR-RAT LD50:4420 MG/KG	RCOCB8 56,125,1987
SCU-RAT LD50:100 MG/KG	NIIRDN 6,215,1982
IVN-RAT LD50:5566 MG/KG	ARZNAD 26,1581,1976
ORL-MUS LD50:4090 MG/KG	FRZKAP (6),56,1977
IPR-MUS LD50:8700 MG/KG	ARZNAD 28,1579,1978
SCU-MUS LD50:91 MG/KG	NIIRDN 6,215,1982
IVN-MUS LD50:4250 MG/KG	JAPMA8 39,583,1950
ORL-RBT LD50:27 GM/KG	DMDJAP 31,276,1959
SKN-RBT LD50:>10 GM/KG	BIOFX* 9-4/1970
IVN-RBT LD50:53 GM/KG	NIIRDN 6,215,1982
ORL-GPG LD50:7750 MG/KG	JIH7AB 23,259,1941

TARGET ORGAN DATA

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BEHAVIORAL (HEADACHE)
GASTROINTESTINAL (NAUSEA OR VOMITING)
PATERNAL EFFECTS (SPERMATOGENESIS)
PATERNAL EFFECTS (TESTES, EPIDIDYMIS, SPERM DUCT)
EFFECTS ON FERTILITY (MALE FERTILITY INDEX)
EFFECTS ON FERTILITY (POST-IMPLANTATION MORTALITY)
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
(RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR
COMPLETE INFORMATION.

SECTION 12. - - - - - ECOLOGICAL INFORMATION - - - - -
DATA NOT YET AVAILABLE.

SECTION 13. - - - - - DISPOSAL CONSIDERATIONS - - - - -
DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A
CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - TRANSPORT INFORMATION - - - - -
CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - REGULATORY INFORMATION - - - - -

EUROPEAN INFORMATION

IRRITANT
R 36/38
IRRITATING TO EYES AND SKIN.
S 26
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
S 36
WEAR SUITABLE PROTECTIVE CLOTHING.

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK
ACGIH TLV-TWA 10 MG/M3, INHALABLE PARTICULATE DTLVS* TLV/BEI, 1997
EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION
FEREAC 54,7740,1989
MSHA STANDARD: NUISANCE PARTICULATES (MIST)
DTLWS* 3,20,1973
OSHA PEL (GEN INDU): 8H TWA 15 MG/M3, TOTAL DUST
CFRGBR 29,1910.1000,1994
OSHA PEL (GEN INDU): 8H TWA 5 MG/M3, RESPIRABLE FRACTION
CFRGBR 29,1910.1000,1994
OSHA PEL (CONSTRUC): 8H TWA 15 MG/M3, TOTAL DUST
CFRGBR 29,1926.55,1994
OSHA PEL (CONSTRUC): 8H TWA 5 MG/M3, RESPIRABLE FRACTION
CFRGBR 29,1926.55,1994

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OSHA PEL (SHIPYARD): 8H TWA 15 MG/M3, TOTAL DUST
CFRGBR 29,1915.1000,1993
OSHA PEL (SHIPYARD): 8H TWA 5 MG/M3, RESPIRABLE FRACTION
CFRGBR 29,1915.1000,1993
OEL-AUSTRALIA: TWA 10 MG/M3 JAN 1993
OEL-BELGIUM: TWA 10 MG/M3 JAN 1993
OEL-FINLAND: TWA 20 MG/M3 JAN 1993
OEL-FRANCE: TWA 10 MG/M3 JAN 1993
OEL-THE NETHERLANDS: TWA 10 MG/M3 JAN 1993
OEL-UNITED KINGDOM: TWA 10 MG/M3 JAN 1993
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
NOHS 1974: HZD 35085; NIS 358; TNF 86657; NOS 198; TNE 1085329
NOES 1983: HZD 35085; NIS 310; TNF 67054; NOS 215; TNE 2135546; TFE
1346631
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, DECEMBER 1998

SECTION 16. - - - - - OTHER INFORMATION - - - - -

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