



JAN 03 1995

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THE WORLD'S FOREMOST MANUFACTURER OF RESEARCH
BIOCHEMICALS AND DIAGNOSTIC REAGENTS

EMERGENCY PHONE 1-314-771-5765

ATTN: SAFETY DIRECTOR
UNIVERSITY OF WISCONSIN
WHITEWATER
ACCOUNTS PAYABLE
PO BOX 296
WHITEWATER WI 53190-0295

DATE 12/27/95
CUST#: 2-097-94804
PO#: QH4757

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

THIS MSDS IS FOR A COMPONENT OF CATALOG #: LAA-21

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: C7755
NAME: L-CYSTEINE FREE BASE CRYSTALLINE

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #: 52-90-4
MF: C3H7N1O2S1
EC NO: 200-158-2

SYNONYMS

CYSTEIN * CYSTEINE * L-CYSTEINE (9CI) * L-(+)-CYSTEINE * HALF-CYSTEINE * HALF-CYSTINE * BETA-MERCAPTOALANINE * THIOSERINE *

SECTION 3. HAZARDS IDENTIFICATION

LABEL PRECAUTIONARY STATEMENTS

HARMFUL
HARMFUL IF SWALLOWED.
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
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 WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES.
IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER.
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

CONTINUED ON NEXT PAGE

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SIGMA-ALDRICH VERTRIEBS GmbH Grünwalder Weg 30 82041 Delsenhofen Deutschland	SIGMA-ALDRICH QUIMICA, S.A. Apt. Correos 161 28100 Alcobendas (Madrid) España	SIGMA-ALDRICH s.r.l. Krizkova 27 185 02 Praha 8 Ceská Republika	SIGMA CHEMIE K. Carolingplein, 8 B-2880 Borrem België/Belgium	SIGMA CHEMIE P.O. Box 280 CH-9470 Buchs Switzerland	SIGMA-ALDRICH QUIMICA, S.A. de C.V. Avenida Picacho Ajusco No. 130-303 Fraccionamiento Jardines en la Montaña 14210 Mexico, D.F. Mexico	SIGMA-ALDRICH CORPORATION 2683 New Delhi Location B-4/158, Safdarjung Enclave New Delhi - 110 029 India
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MATERIAL SAFETY DATA SHEET PAGE 2

THIS MSDS IS FOR A COMPONENT OF CATALOG #: LAA-21

CATALOG #: C7755
NAME: L-CYSTEINE FREE BASE CRYSTALLINE

EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. ACCIDENTAL RELEASE MEASURES

WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID RAISING DUST.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. HANDLING AND STORAGE

REFER TO SECTION 8.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CHEMICAL SAFETY GOGGLES.
COMPATIBLE CHEMICAL-RESISTANT GLOVES.
NIOSH/MSHA-APPROVED RESPIRATOR.
SAFETY SHOWER AND EYE BATH.
MECHANICAL EXHAUST REQUIRED.
DO NOT BREATHE DUST.
AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
WASH THOROUGHLY AFTER HANDLING.
HARMFUL SOLID.
IRRITANT.
KEEP TIGHTLY CLOSED.
REFRIGERATE.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODDOR
WHITE CRYSTALLINE POWDER

PHYSICAL PROPERTIES
MELTING POINT: 220 C (DEC)

SECTION 10. STABILITY AND REACTIVITY

INCOMPATIBILITIES
STRONG OXIDIZING AGENTS
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE
NITROGEN OXIDES
SULFUR OXIDES

SECTION 11. TOXICOLOGICAL INFORMATION

ACUTE EFFECTS
HARMFUL IF SWALLOWED.

CONTINUED ON NEXT PAGE

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Table listing branch offices for SIGMA-ALDRICH in various countries including Germany, Spain, France, Italy, Australia, Brazil, India, Mexico, and South Korea.



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MATERIAL SAFETY DATA SHEET PAGE 3

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NAME: L-CYSTEINE FREE BASE CRYSTALLINE

MAY BE HARMFUL IF INHALED.
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
CAUSES EYE AND SKIN IRRITATION.
MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER
RESPIRATORY TRACT.
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

RTECS #: HA1600000
CYSTEINE, L-

TOXICITY DATA

Table with 2 columns: Test parameters (e.g., ORL-RAT LD50) and corresponding values (e.g., 1890 MG/KG). Includes various animal models and routes.

TARGET ORGAN DATA

BEHAVIORAL (SOMNOLENCE)
BEHAVIORAL (ATAXIA)
LUNGS, THORAX OR RESPIRATION (DYSPPNAE)
LUNGS, THORAX OR RESPIRATION (RESPIRATORY DEPRESSION)
KIDNEY, URETER, BLADDER (OTHER CHANGES IN URINE COMPOSITION)
EFFECTS ON FERTILITY (LITTER SIZE)
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

HARMFUL
R 22
HARMFUL IF SWALLOWED.

CONTINUED ON NEXT PAGE

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MATERIAL SAFETY DATA SHEET PAGE 4

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NAME: L-CYSTEINE FREE BASE CRYSTALLINE

R 36/37/38
IRRITATING TO EYES, RESPIRATORY SYSTEM 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

DEL=MAX
DEL-RUSSIA: STEL 2 MG/M3 JAN93
NDES 1983: HZD X4773; NIS 2; TNF 81; NOS 7; TNE 8402; TFE 7734
EPA GENETOX PROGRAM 1988, INCONCLUSIVE; HISTIDINE REVERSION-AMES TEST
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, OCTOBER 1995

SECTION 16. OTHER INFORMATION

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