

SIGMA



CHEMICAL COMPANY

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

POST OFFICE BOX 14508
SAINT LOUIS, MISSOURI 63178, USA

FAX: USA/CANADA 1-800-325-5052 OUTSIDE USA/CANADA 314-771-5757
TELEX: 910-781-0593 or 434475 ANSWERBACK "SIG OK COLLECT"

TELEPHONE: USA/CANADA 1-800-325-3010
OUTSIDE USA/CANADA call COLLECT 314-771-5750

ATTN: SAFETY DIRECTOR
UNIVERSITY OF WISCONSIN
WHITEWATER
ACCOUNTS PAYABLE
PO BOX 296
WHITEWATER WI 53190-0296

EMERGENCY PHONE 1-314-771-5765

DATE 06/04/96
CUST#: 2-097-94804
PO#: UNF-64248

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 #: 35-A

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 665-8
NAME: TRICHLOROACETIC ACID SOLUTION 0.49 N

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #: 76-03-9
EC NO: 200-927-2

SYNONYMS

ACETO-CAUSTIN * ACIDE TRICHLORACETIQUE (FRENCH) * ACIDO
TRICHLOROACETICO (ITALIAN) * AMCHEM GRASS KILLER * DOW SODIUM TCA
INHIBITED * DOW SODIUM TCA SOLUTION * KONESTA * KYSELINA
TRICHLOROCTOVA (CZECH) * NA TA * SODIUM TCA SOLUTION *
TRICHLORAZIJNZUUR (DUTCH) * TRICHLOROACETIC ACID (IUPAC) *
TRICHLOROSSIGSAEURE (GERMAN) * TRICHLOROACETIC ACID (ACGIH) *
TRICHLOROACETIC ACID (UN1839) (DOT) * TRICHLOROACETIC ACID, SOLUTION
(UN2564) (DOT) * TRICHLOROETHANOIC ACID * TRICHLOROMETHANECARBOXYLIC
ACID * UN1839 (DOT) * UN2564 (DOT) * VARITOX *

SECTION 3. HAZARDS IDENTIFICATION

LABEL PRECAUTIONARY STATEMENTS

CORROSIVE
CAUSES BURNS.
VESICANT.
TARGET ORGAN(S):
CENTRAL NERVOUS SYSTEM
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING.
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE
PROTECTION.
DO NOT BREATHE VAPOR.

SECTION 4. FIRST-AID MEASURES

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
CALL A PHYSICIAN.
IN CASE OF SKIN CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER
FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND
SHOES. CALL A PHYSICIAN.
IF INHALED, REMOVE TO FRESH AIR. IF BREATHING BECOMES DIFFICULT,
CALL A PHYSICIAN.
IN CASE OF CONTACT WITH EYES, FLUSH WITH COPIOUS AMOUNTS OF WATER
FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING
THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.

CONTINUED ON NEXT PAGE

BRANCH OFFICES AT:

SIGMA-ALDRICH VERTRIEBS GmbH Grünvalder Weg 30 82041 Delsenhofen Deutschland	SIGMA-ALDRICH QUIMICA, S.A. Apt. Correos 161 28100 Alcobendas (Madrid) España	SIGMA-ALDRICH S.r.l. Via Gallarate 154 20151 Milano Italia	SIGMA-ALDRICH PTY., LIMITED Unit 2, 10 Anella Ave. Castle Hill NSW 2154 Australia	SIGMA-ALDRICH CHEMICAL REPRESENTAÇÕES LTDA Rua Sabará, 566 - Conj. 53 01238-010 São Paulo, SP Brasil	SIGMA-ALDRICH K. Cardijnplein, 8 B-2880 Bornem Belgie/Belgium	SIGMA-ALDRICH P.O. Box 260 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.	SIGMA-ALDRICH CORPORATION New Delhi Location B-4/158, Saitanjanj Enclave New Delhi - 110 029 India	SIGMA-ALDRICH 206 Samhan Campus Building 17-3 Yoido-dong Yungdeungpo-ku Seoul South Korea
--	---	---	--	--	--	---	---	--	---

CUST#: 2-097-94804
 PO#: UNF-64248

M A T E R I A L S A F E T Y D A T A S H E E T PAGE 2

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 35-A

CATALOG #: 665-8
 NAME: TRICHLOROACETIC ACID SOLUTION 0.49 N

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

EXTINGUISHING MEDIA
 NONCOMBUSTIBLE.
 USE EXTINGUISHING MEDIA APPROPRIATE TO SURROUNDING FIRE CONDITIONS.

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

UNUSUAL FIRE AND EXPLOSIONS HAZARDS
 EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

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

EVACUATE AREA.
 WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY
 RUBBER GLOVES.
 COVER WITH DRY LIME OR SODA ASH, PICK UP, KEEP IN A CLOSED CONTAINER
 AND HOLD FOR WASTE DISPOSAL.
 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 - - - - -

WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT
 GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.
 SAFETY SHOWER AND EYE BATH.
 USE ONLY IN A CHEMICAL FUME HOOD.
 FACESHIELD (8-INCH MINIMUM).

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

APPEARANCE AND ODOR
 LIQUID.

PHYSICAL PROPERTIES
 SOLUBILITY:
 WATER -SOLUBLE

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

STABILITY
 STABLE.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

TOXIC FUMES OF:
 CARBON MONOXIDE, CARBON DIOXIDE

CONTINUED ON NEXT PAGE

BRANCH OFFICES AT:

SIGMA-ALDRICH VERTRIEBS GmbH Grünwalder Weg 30 82041 Daisenhofen Deutschland	SIGMA-ALDRICH QUIMICA, S.A. Apt. Correos 161 28100 Alcobendas (Madrid) España	SIGMA-ALDRICH s.r.o. Krizkova 27 185 00 Praha 8 Ceská Republika	SIGMA CHEMIE K. Cardijnplein, 8 B-2680 Bornem België/Belgique	SIGMA CHEMIE P.O. Box 260 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.	SIGMA-ALDRICH CORPORATION 10361 New Delhi Location B-4/158, Safdarjung Enclave New Delhi - 110 029 India
SIGMA CHIMIE L'ISLE D'Abau Chesnes B.P. 701 38297 St. Quentin Fallavier Cedex France	SIGMA-ALDRICH S.r.l. Via Gallarate 154 20151 Milano Italia	SIGMA-ALDRICH PTY., LIMITED Unit 2, 10 Anella Ave Castle Hill NSW 2154 Australia	SIGMA-ALDRICH CHEMICAL REPRESENTAÇÕES LTDA Rua Sabará, 566 - Conj. 53 01239-010 São Paulo, SP Brasil	SIGMA CHEMICAL CO. LTD. Fancy Road, Poole Dorset BH17 7NH England	SIGMA-ALDRICH Kft Teréz krt. 39 1067 Budapest Hungary	SIGMA-ALDRICH 206 Samhan Campus Building 17-3 Yoido-dong Yungdeungpo-ku Seoul South Korea

CUST#: 2-097-94804
 PO#: UNE-64248

M A T E R I A L S A F E T Y D A T A S H E E T PAGE 4

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 35-A

CATALOG #: 665-8
 NAME: TRICHLOROACETIC ACID SOLUTION 0.49 N

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

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

EUROPEAN INFORMATION

EC INDEX NO: 607-004-00-7
 CORROSIVE
 R 34
 CAUSES BURNS.
 S 24/25
 AVOID CONTACT WITH SKIN AND EYES.
 S 26
 IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
 WATER AND SEEK MEDICAL ADVICE.
 S 45
 IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
 IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK
 ACGIH TLV-TWA 1 PPM 85INAS 6,1602,91
 IARC CANCER REVIEW:ANIMAL LIMITED EVIDENCE IMEMDT 63,291,95
 IARC CANCER REVIEW:HUMAN INADEQUATE EVIDENCE IMEMDT 63,291,95
 IARC CANCER REVIEW:GROUP 3 IMEMDT 63,291,95
 EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION
 FEREAC 54,7740,89
 OEL-AUSTRALIA:TWA 1 PPM (7 MG/M3) JAN93
 OEL-BELGIUM:TWA 1 PPM (6.7 MG/M3) JAN93
 OEL-DENMARK:TWA 1 MG/M3 JAN93
 OEL-FRANCE:TWA 1 PPM (5 MG/M3) JAN93
 OEL-THE NETHERLANDS:TWA 1 MG/M3 JAN93
 OEL-RUSSIA:STEL 5 MG/M3;SKIN JAN93
 OEL-SWITZERLAND:TWA 1 PPM (7 MG/M3) JAN93
 OEL-UNITED KINGDOM:TWA 1 PPM (5 MG/M3) JAN93
 OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV
 OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
 NIOSH REL TO TRICHLOROACETIC ACID-AIR:10H TWA 1 PPM
 NIOSH* DHHS #92-100,92
 NOHS 1974: HZD 81560; NIS 8; TNE 1353; NOS 13; TNE 13946
 NOES 1983: HZD 81560; NIS 9; TNE 1562; NOS 21; TNE 35124; TFE 16821
 EPA GENETOX PROGRAM 1988, INCONCLUSIVE: HISTIDINE REVERSION-AMES TEST
 EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
 ON EPA IRIS DATABASE
 EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, OCTOBER 1995

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

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO
 BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SIGMA SHALL NOT BE
 HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH

CONTINUED ON NEXT PAGE

BRANCH OFFICES AT:

SIGMA-ALDRICH VERTRIEBS GmbH Grünwalder Weg 30 82041 Deisenhofen Deutschland	SIGMA-ALDRICH QUIMICA, S.A. Apt. Correos 161 28100 Alcobendas (Madrid) España	SIGMA-ALDRICH s.r.o. Krizikova 27 186 00 Praha 6 Ceská Republika	SIGMA CHEMIE K. Carlsplein, 8 B-2980 Bornem Belgie/Belgique	SIGMA CHEMIE P.O. Box 260 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.	SIGMA-ALDRICH CORPORATION 10363 New Delhi Location 5-4/168, Safdarjung Enclave New Delhi - 110 029 India
SIGMA CHIMIE L'ISLE D'Abau Chesnes B.P. 701 36297 St. Quentin Fallavier Cedex France	SIGMA-ALDRICH S.r.l. Via Gallarate 154 20151 Milano Italia	SIGMA-ALDRICH PTY., LIMITED Unit 2, 10 Anella Ave. Castle Hill NSW 2154 Australia	SIGMA-ALDRICH CHEMICAL REPRESENTAÇÕES LTDA. Rua Sabará, 566 - Conj. 53 01239-010 São Paulo, SP Brasil	SIGMA CHEMICAL CO. LTD. Fancy Road, Poole Dorset BH17 7NH England	SIGMA-ALDRICH Kft Térez krt. 39 1067 Budapest Hungary	SIGMA-ALDRICH 296 Samhan Campus Building 173 Yeoks-dong Yungdeungpo-ku Seoul South Korea

CUST#: 2-097-94804
PO#: UNF-64248

M A T E R I A L S A F E T Y D A T A S H E E T P A G E 5

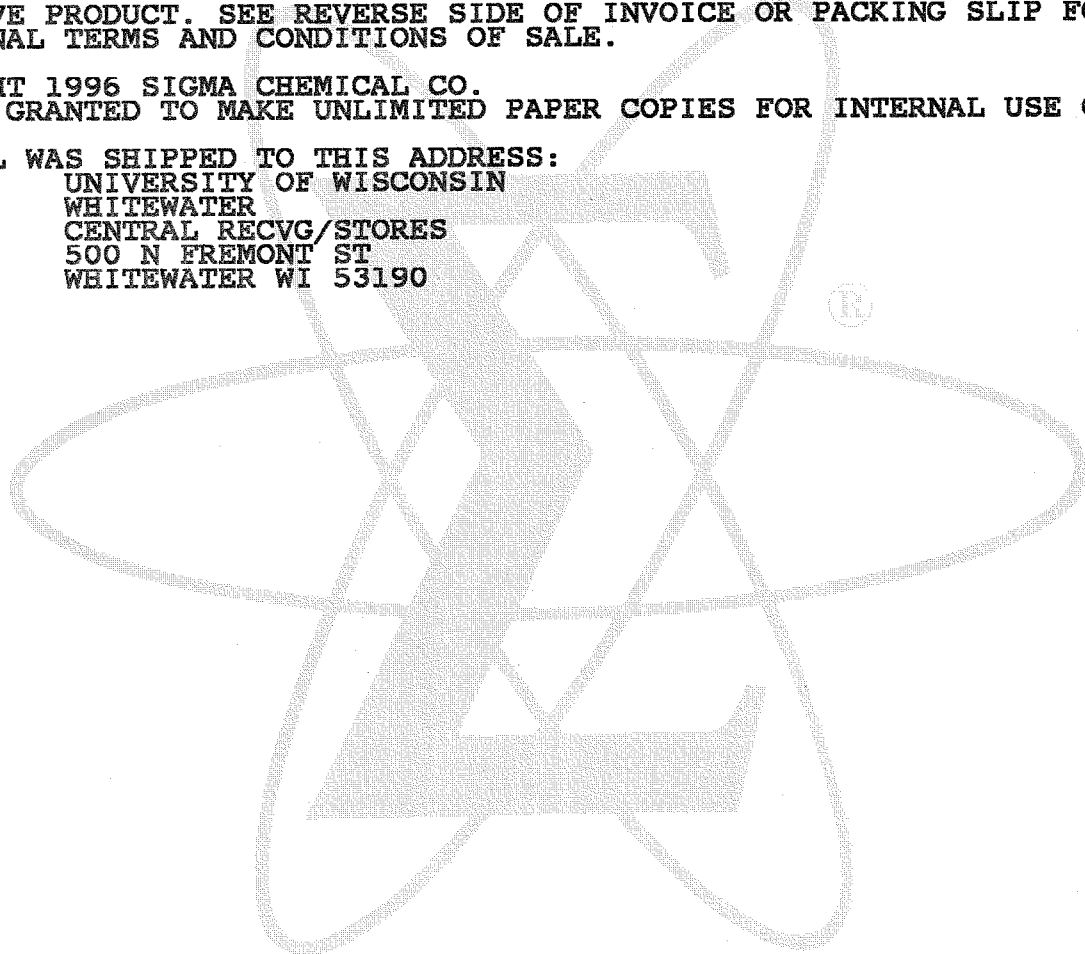
THIS MSDS IS FOR A COMPONENT OF CATALOG #: **35-A**

CATALOG #: 665-8
NAME: TRICHLOROACETIC ACID SOLUTION 0.49 N

**THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR
ADDITIONAL TERMS AND CONDITIONS OF SALE.**

**COPYRIGHT 1996 SIGMA CHEMICAL CO.
LICENSE GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.**

MATERIAL WAS SHIPPED TO THIS ADDRESS:
UNIVERSITY OF WISCONSIN
WHITEWATER
CENTRAL RECVG/STORES
500 N FREMONT ST
WHITEWATER WI 53190



BRANCH OFFICES AT:

SIGMA-ALDRICH VERTRIEBS GmbH Grünwalder Weg 30 82041 Deisenhofen Deutschland	SIGMA-ALDRICH QUIMICA, S.A. Apt. Correos 161 28100 Alcobendas (Madrid) España	SIGMA-ALDRICH S.r.l. Krizikova 27 186 00 Praha 8 Ceská Republika	SIGMA CHEMIE K. Carolinplein, 8 B-2880 Bornem België/Belgique	SIGMA CHEMIE P.O. Box 260 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.	SIGMA-ALDRICH CORPORATION New Delhi Location B-4/158, Safdarjung Enclave New Delhi - 110 029 India
SIGMA CHIMIE L'ISLE D'Abeau Chesnes B.P. 701 38297 St. Quentin Fallavier Cedex France	SIGMA-ALDRICH S.r.l. Via Gallarate 154 20151 Milano Italia	SIGMA-ALDRICH PTY., LIMITED Unit 2, 10 Anella Ave. Castle Hill NSW 2154 Australia	SIGMA-ALDRICH CHEMICAL REPRESENTAÇÕES LTDA Rua Sabará, 566 - Conj. 53 01239-010 São Paulo, SP Brasil	SIGMA CHEMICAL CO. LTD. Fancy Road, Poole Dorset BH17 7NH England	SIGMA-ALDRICH KR Teréz krt. 39 1067 Budapest Hungary	SIGMA-ALDRICH 206 Samhan Campus Building 17-3 Yoido-dong Yungdeungpo-ku Seoul South Korea