Valid 02/1999 - 04/1999

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MATERIAL SAFETY DATA SHEET

SECTION 1. --- -- -- -- -- CHEMICAL IDENTIFICATION--- -- -- -- --
CATALOG #: T4833
NAME: TRICHLOROACETIC ACID CRYSTALLINE

SECTION 2. --- -- -- -- COMPOSITION/INFORMATION ON INGREDIENTS -- -- --
CAS #: 76-03-9
MF: C2HCL3O2
EC NO: 200-927-2
HAZARDOUS INGREDIENTS
CONTAINS DICHLOROACETIC ACID, CHEMICAL ABSTRACTS REGISTRY NUMBER 79-43-6.
SYNONYMS
ACETO-CAUSTIN * ACIDE TRICHLORACETIQUE (FRENCH) * ACIDO TRICHLORACETICO (ITALIAN) * AMCHEM GRASS KILLER * KONESTA * KYSELINA TRICHLOROCETOVA (CZECH) * NA TA * SODIUM TCA SOLUTION *
TRICHLORAZIJNIKZUUR (DUTCH) * TRICHLOROACETIC ACID (IUPAC) *
TRICHLORESSIGSAURE (GERMAN) * TRICHLOROACETIC ACID (ACGIH) *
TRICHLOROETHANOLIC ACID * TRICHLOROMETHANECARBOXYLIC ACID *

SECTION 3. --- -- -- -- -- HAZARDS IDENTIFICATION -- -- -- --
LABEL PRECAUTIONARY STATEMENTS
TOXIC
MAY CAUSE CANCER.
CAUSES BURNS.
VESICANT.
TARGET ORGAN(S):
CENTRAL NERVOUS SYSTEM
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.
DO NOT BREATHE DUST.

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.
ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS WITH FINGERS.
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.
DISCARD CONTAMINATED SHOES.

SECTION 5. --- -- -- -- -- -- FIRE FIGHTING MEASURES -- -- -- -- -- --
EXTINGUISHING MEDIA
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
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - -
EVACUATE AREA.
WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY
RUBBER GLOVES.
SHUT OFF ALL SOURCES OF IGNITION.
COVER WITH DRY LIME OR SOEA 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.
ADDITIONAL INFORMATION
A VIOLENT REACTION HAS BEEN REPORTED ON MIXING TRICHLOROACETIC ACID
AND COPPER WOOL IN DIMETHYL SULFOXIDE. (CHEM.ENG.NEWS, P.4, JULY 13,
1981)
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).
DO NOT BREATHE DUST.
DO NOT GET IN EYES, ON SKIN, ON 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
WHITE CRYSTALLINE POWDER
PHYSICAL PROPERTIES
BOILING POINT: 196 C
MELTING POINT: 54 C TO 58 C
FLASHPOINT >230F
>110C
VAPOR PRESSURE: 1MM 51 C
SPECIFIC GRAVITY: 1.620
VAPOR DENSITY: <1
SECTION 10. - - - - - - - STABILITY AND REACTIVITY - - - - - - -
INCOMPATIBILITIES
STRONG OXIDIZING AGENTS
STRONG BASES
PROTECT FROM MOISTURE.
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE
HYDROGEN CHLORIDE GAS
SECTION 11. - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - -
ACUTE EFFECTS
HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.
MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES
AND UPPER RESPIRATORY TRACT, EYES AND SKIN.
INHALATION MAY RESULT IN SPASM, INFLAMMATION AND EDEMA OF THE
LARYNX AND BRONCHI, CHEMICAL PNEUMONITIS AND PULMONARY EDEMA.
SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING,
WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND
VOMITING.
CAUSES BLISTERS ON CONTACT WITH SKIN.
CAN CAUSE CNS DEPRESSION.
CHRONIC EFFECTS
THIS PRODUCT IS OR CONTAINS A COMPONENT THAT HAS BEEN REPORTED TO BE
PROBABLY CARCINOGENIC BASED ON ITS IARC, OSHA, ACGIH, NTP OR EPA
CLASSIFICATION.
TARGET ORGAN(S):
CENTRAL NERVOUS SYSTEM
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

ACETIC ACID, TRICHLORO-
IRRITATION DATA
SKN-RBT 210 UG MLD
EYE-RBT 3500 UG/5S SEV
TOXICITY DATA
EC-50 M L50: 270 MG/KG
TARGET ORGAN DATA
PATERNAL EFFECTS (SPERMATOGENESIS)
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 EQUIPED 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
EC INDEX NO: 607-004-00-7
TOXIC
R 35
CAUSES SEVERE 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
OEI=MAK
ACGIH TLV-NOT CLASSIFIABLE AS A HUMAN CARCINOGEN DTLVS* TLV/BEI, 1997
ACGIH TLV-TWA 6.7 MG/M3 (1 PPM) DTLVS* TLV/BEI, 1997
IARC CANCER REVIEW:ANIMAL LIMITED EVIDENCE INEMDT 63, 291, 1995
IARC CANCER REVIEW: HUMAN INADEQUATE EVIDENCE INEMDT 63, 291, 1995
IARC CANCER REVIEW: GROUP 3 INEMDT 63, 291, 1995
EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION
FREAC 54, 7740, 1989
OEI-AUSTRALIA: TWA 1 PPM (7 MG/M3) JAN 1993
OEI-BELGIUM: TWA 1 PPM (6.7 MG/M3) JAN 1993
OEI-DENMARK: TWA 1 MG/M3 JAN 1993
OEI-FRANCE: TWA 1 PPM (5 MG/M3) JAN 1993
OEI-THE NETHERLANDS: TWA 1 MG/M3 JAN 1993
OEI-RUSSIA: STEL 5 MG/M3; SKIN JAN 1993
OEI-SWITZERLAND: TWA 1 PPM (7 MG/M3) JAN 1993
OEI-UNITED KINGDOM: TWA 1 PPM (5 MG/M3) JAN 1993
OEI IN BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV
OEI IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
NIOH SCI TO TRICHLOROACETIC ACID-AIR: 10H TWA 1 PPM
NIOH* DHHS #92-100, 1992
NOHS 1974; HZD 81560; NIS 8; TNF 1353; NOS 13; TNE 13946
NOES 1983: HZD 81560; NIS 9; TNF 1562; NOS 21; TNE 35124; TFE 16821
EPA GENETOX PROGRAM 1988, INCONCLUSIVE: HISTIDINE REVERSION-AMES TEST
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES
ON EPA IRIS DATABASE
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JUNE 1998

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