Valid 02/1999 - 04/1999

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MATERIAL SAFETY DATA SHEET

SECTION 1. - - - - - - - - CHEMICAL IDENTIFICATION - - - - - - - -
CATALOG #: H9876
NAME: HYDROXYLAMINE HCL

SECTION 2. - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -
CAS #: 5470-11-1
MF: H3NO
EC NO: 226-798-2
SYNONYMS
HYDROXYLAMINE HYDROCHLORIDE * HYDROXYAMMONIUM CHLORIDE * HYDROXYLAMINE CHLORIDE * HYDROXYLAMINE CHLORIDE (1:1) * HYDROXYAMMONIUM CHLORIDE *

SECTION 3. - - - - - - - - HAZARDS IDENTIFICATION - - - - - - -
LABEL PRECAUTIONARY STATEMENTS
TOXIC
TOXIC IF SWALLOWED.
HARMFUL BY INHALATION AND IN CONTACT WITH SKIN.
CAUSES BURNS.
MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.
HEATING MAY CAUSE AN EXPLOSION.
POSSIBLE RISK OF IRREVERSIBLE EFFECTS.
HARMFUL: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED EXPOSURE IF SWALLOWED.
TARGET ORGAN(S):
BLOOD
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.
DO NOT BREATHE DUST.
AVOID CONTACT WITH SKIN.
WEAR SUITABLE GLOVES.
AVOID RELEASE TO THE ENVIRONMENT. REFER TO SPECIAL INSTRUCTIONS/ SAFETY DATA SHEETS.

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 IMMEDIATELY.
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.
MAY EXPLODE WHEN HEATED.
UNUSUAL FIRE AND EXPLOSION HAZARDS
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.
CONTAINER EXPLOSION MAY OCCUR 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.
ADDITIONAL INFORMATION
WARNING: THIS MATERIAL MAY EXPLODE IF HEATED ABOVE 115 C. DO NOT
STORE ABOVE 65 C.
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.
KEEP AWAY FROM HEAT AND OPEN FLAME.
STORE IN A COOL DRY PLACE.
SECTION 9. - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - -
APPEARANCE AND ODOR
WHITE CRYSTALS
PHYSICAL PROPERTIES
MELTING POINT: 155 C TO 157 C (DEC)
SECTION 10. - - - - - - - - STABILITY AND REACTIVITY - - - - - - - -
STABILITY
STABLE.
CONDITIONS TO AVOID
HEAT
INCOMPATIBILITIES
STRONG OXIDIZING AGENTS
SENSITIVE TO AIR
SENSITIVE TO MOISTURE
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:
NITROGEN OXIDES
HYDROGEN CHLORIDE GAS
HAZARDOUS POLYMERIZATION
WILL NOT OCCUR.
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.
ABSORPTION INTO THE BODY LEADS TO THE FORMATION OF METHEMOGLOBIN
WHICH IN SUFFICIENT CONCENTRATION CAUSES CYANOSIS. ONSET MAY BE
DELAYED 2 TO 4 HOURS OR LONGER.
MAY CAUSE CONVULSIONS.
MAY CAUSE ALLERGIC REACTION.
CHRONIC EFFECTS
LABORATORY EXPERIMENTS HAVE SHOWN MUTAGENIC EFFECTS.
TARGET ORGAN(S):
BLOOD
CENTRAL NERVOUS SYSTEM
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.
RTECS #: NC3675000
HYDROXYLAMINE, HYDROCHLORIDE
TOXICITY DATA
ORL-RAT LD50:141 MG/KG NTIS** OTS055279
ORL-MUS LD50:408 MG/KG APDOA6 6,285,1950
IFR-MUS LD50:10 MG/KG NTIS** AD277-689
SCU-MUS LD50:125 MG/KG ABMGAI 21,635,1968
TARGET ORGAN DATA
BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)
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
TOXIC
R 22
HARMFUL IF SWALLOWED.
R 36/38
IRRITATING TO EYES AND SKIN.
R 43
MAY CAUSE SENSITIZATION BY SKIN CONTACT.
R 48/22
HARMFUL: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED
EXPOSURE IF SWALLOWED.
R 50
VERY TOXIC TO AQUATIC ORGANISMS.
S 22
DO NOT BREATHE DUST.
S 24
AVOID CONTACT WITH SKIN.
S 37
WEAR SUITABLE GLOVES.
S 61
AVOID RELEASE TO THE ENVIRONMENT. REFER TO SPECIAL INSTRUCTIONS/
SAFETY DATA SHEETS.
REVIEWS, STANDARDS, AND REGULATIONS
OEL=MAK
NOHS 1974: HZD 38950; NIS 18; TNF 1202; NOS 11; TNE 6578
NOES 1983: HZD 38950; NIS 20; TNF 1258; NOS 26; TNE 15258; TFE 4469
EPA GENETOX PROGRAM 1988, POSITIVE: CELL TRANSFORM.-KLV F344 RAT EMBRYO
EPA GENETOX PROGRAM 1988, POSITIVE: E COLI POLA WITHOUT S9; S
CEREVISIAE-FORWARD MUTATION
EPA GENETOX PROGRAM 1988, POSITIVE: S CEREVISIAE-HOMOZYGOSIS
EPA GENETOX PROGRAM 1988, NEGATIVE: CELL TRANSFORM.-BALB/C-3T3,
SHE-CLONAL ASSAY
EPA GENETOX PROGRAM 1988, NEGATIVE: HISTIDINE REVERSION-AMES TEST
EPA GENETOX PROGRAM 1988, NEGATIVE: IN VITRO UDS-HUMAN FIBROBLAST
EPA GENETOX PROGRAM 1988, INCONCLUSIVE: D MELANOGASTER SEX-LINKED
LETHAL
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JUNE 1998

SECTION 16. OTHER INFORMATION

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO
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