



**SIGMA-ALDRICH**

SIGMA CHEMICAL COMPANY  
POST OFFICE BOX 14508  
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DATE 09/29/99  
CUST#: 0-495-04629  
PO#: CC/092999/MORSE

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 #: H9876  
NAME: HYDROXYLAMINE HCL

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

CAS #: 5470-11-1  
MF: H3NO  
EC NO: 226-798-2

SYNONYMS

HYDROXYAMINE HYDROCHLORIDE \* HYDROXYAMMONIUM CHLORIDE \* HYDROXYLAMINE  
CHLORIDE \* HYDROXYLAMINE CHLORIDE (1:1) \* HYDROXYLAMMONIUM CHLORIDE \*  
OXAMMONIUM HYDROCHLORIDE \*

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.  
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.  
CALL A PHYSICIAN IMMEDIATELY.  
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL  
RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

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

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  
CONTAINER EXPLOSION MAY OCCUR UNDER FIRE CONDITIONS.  
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

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

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.  
EVACUATE AREA.

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

REFER TO SECTION 8.

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

SAFETY SHOWER AND EYE BATH.  
USE ONLY IN A CHEMICAL FUME HOOD.  
WASH THOROUGHLY AFTER HANDLING.  
WASH CONTAMINATED CLOTHING BEFORE REUSE.  
DISCARD CONTAMINATED SHOES.  
DO NOT BREATHE DUST.  
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.  
AVOID PROLONGED OR REPEATED EXPOSURE.  
WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.  
FACESHIELD (8-INCH MINIMUM).  
KEEP TIGHTLY CLOSED.  
KEEP AWAY FROM HEAT AND OPEN FLAME.  
STORE IN A COOL DRY PLACE.

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

PHYSICAL PROPERTIES  
MELTING POINT: 155 - 157 C  
SPECIFIC GRAVITY: 1.67

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

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STABILITY  
STABLE.

CONDITIONS TO AVOID  
SENSITIVE TO AIR

INCOMPATIBILITIES  
SENSITIVE TO MOISTURE  
STRONG OXIDIZING AGENTS

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS  
NITROGEN OXIDES  
HYDROGEN CHLORIDE GAS

HAZARDOUS POLYMERIZATION  
WILL NOT OCCUR.

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

ACUTE EFFECTS

HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.  
MAY CAUSE ALLERGIC REACTION.  
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND  
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.  
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.

CHRONIC EFFECTS

TARGET ORGAN(S):  
BLOOD  
CENTRAL NERVOUS SYSTEM

RTECS #: NC3675000  
HYDROXYLAMINE, HYDROCHLORIDE

TOXICITY DATA

ORL-RAT LD50:141 MG/KG  
ORL-MUS LD50:408 MG/KG  
IPR-MUS LD50:10 MG/KG  
SCU-MUS LD50:125 MG/KG

NTIS\*\* OTS0555279  
APTOA6 6,285,1950  
NTIS\*\* AD277-689  
ABMGJ 21,635,1968

TARGET ORGAN DATA

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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.-RLV F344 RAT EMBRYO

EPA GENETOX PROGRAM 1988, POSITIVE: E COLI POLA WITHOUT S9; S

CEREVISIAE-FORWARD MUTATION

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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 1999

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

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