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

SECTION 1. - - - - - CHEMICAL IDENTIFICATION- - - - -

CATALOG #: H8627  
NAME: HYDROXYUREA CRYSTALLINE

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

CAS #: 127-07-1  
MF: CH4N2O2  
EC NO: 204-821-7

SYNONYMS

BIOSUPRESSIN \* CARBAMOXYHYDROXYAMIC ACID \* CARBAMOXYHYDROXYAMIC ACID \*  
CARBAMOXYL OXIME \* N-CARBAMOXYLHYDROXYLAMINE \* CARBAMOXYL HYDROXYAMATE \*  
HIDRIX \* HU \* HYDREA \* HYDREIA \* HYDROXYCARBAMIDE \* HYDROXYCARBAMINE \*  
HYDROXYHARNSTOFF (GERMAN) \* HYDROXYLAMINE, N-(AMINOCARBONYL)- \*  
HYDROXYLAMINE, N-CARBAMOXYL- \* HYDROXYLUREA \* N-HYDROXYMOCOVINA (CZECH)  
\* HYDROXYUREA \* N-HYDROXYUREA \* HYDROXYUREA (D4) \* HYDURA \* LITALER \*  
LITALIR \* NCI-C04831 \* NSC 32065 \* ONCO-CARBIDE \* OXYUREA \* SK 22591  
\* SQ 1089 \*

SECTION 3. - - - - - HAZARDS IDENTIFICATION - - - - -

LABEL PRECAUTIONARY STATEMENTS

TOXIC  
MAY CAUSE HERITABLE GENETIC DAMAGE.  
MAY CAUSE HARM TO THE UNBORN CHILD.  
HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.  
REPRODUCTIVE HAZARD.  
TARGET ORGAN(S):  
BONE MARROW  
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE  
IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).  
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.  
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  
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

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

EVACUATE AREA.  
WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY

RUBBER GLOVES.  
WEAR DISPOSABLE COVERALLS AND DISCARD THEM AFTER USE.  
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- - - - -  
WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT  
GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.  
USE ONLY IN A CHEMICAL FUME HOOD.  
SAFETY SHOWER AND EYE BATH.  
DO NOT BREATHE DUST.  
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.  
AVOID PROLONGED OR REPEATED EXPOSURE.  
WASH THOROUGHLY AFTER HANDLING.  
MUTAGEN.  
TERATOGEN.  
REPRODUCTIVE HAZARD.  
KEEP TIGHTLY CLOSED.  
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -  
APPEARANCE AND ODOR  
SOLID.

SECTION 10. - - - - - STABILITY AND REACTIVITY- - - - -  
INCOMPATIBILITIES  
STRONG OXIDIZING AGENTS  
PROTECT FROM MOISTURE.  
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS  
TOXIC FUMES OF:  
CARBON MONOXIDE, CARBON DIOXIDE  
NITROGEN OXIDES

SECTION 11. - - - - - TOXICOLOGICAL INFORMATION - - - - -  
ACUTE EFFECTS  
HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.  
MAY CAUSE IRRITATION.  
CHRONIC EFFECTS  
MAY ALTER GENETIC MATERIAL.  
MAY CAUSE REPRODUCTIVE DISORDERS.  
MAY CAUSE CONGENITAL MALFORMATION IN THE FETUS.  
TARGET ORGAN(S):  
BONE MARROW  
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND  
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

RTECS #: YT4900000  
UREA, HYDROXY-

IRRITATION DATA

SKN-HMN 218 MG/3W

CTRRDO 63,619,1979

TOXICITY DATA

ORL-RAT LD50:5760 MG/KG	IYKEDH 23,682,1992
IPR-RAT LD50:>4700 MG/KG	ARZNAD 18,645,1968
IVN-RAT LD50:4730 MG/KG	IYKEDH 23,682,1992
UNR-RAT LD50:4300 MG/KG	PAACA3 4,10,1963
ORL-MUS LD50:7330 MG/KG	IYKEDH 23,682,1992
IPR-MUS LD50:5800 MG/KG	CNREA8 39,3575,1979
IVN-MUS LD50:2350 MG/KG	IYKEDH 23,682,1992
ORL-DOG LD50:>2 GM/KG	IYKEDH 23,682,1992
IVN-DOG LD50:>1 GM/KG	IYKEDH 23,682,1992

TARGET ORGAN DATA

LUNGS, THORAX OR RESPIRATION (TUMORS)  
GASTROINTESTINAL (NAUSEA OR VOMITING)  
BLOOD (NORMOCYTIC ANEMIA)  
BLOOD (LUEKOPENIA)  
BLOOD (THROMBOCYTOPENIA)  
BLOOD (OTHER CHANGES)

SKIN AND APPENDAGES (TUMORS)  
PATERNAL EFFECTS (SPERMATOGENESIS)  
PATERNAL EFFECTS (TESTES, EPIDIDYMIS, SPERM DUCT)  
EFFECTS ON FERTILITY (POST-IMPLANTATION MORTALITY)  
EFFECTS ON FERTILITY (LITTER SIZE)  
EFFECTS ON EMBRYO OR FETUS (EXTRA EMBRYONIC STRUCTURES)  
EFFECTS ON EMBRYO OR FETUS (CYTOLOGICAL CHANGES)  
EFFECTS ON EMBRYO OR FETUS (FETOTOXICITY)  
EFFECTS ON EMBRYO OR FETUS (FETAL DEATH)  
EFFECTS ON EMBRYO OR FETUS (OTHER EFFECTS TO EMBRYO OR FETUS)  
SPECIFIC DEVELOPMENTAL ABNORMALITIES (CENTRAL NERVOUS SYSTEM)  
SPECIFIC DEVELOPMENTAL ABNORMALITIES (EYE, EAR)  
SPECIFIC DEVELOPMENTAL ABNORMALITIES (CRANIOFACIAL)  
SPECIFIC DEVELOPMENTAL ABNORMALITIES (SKIN AND SKIN APPENDAGES)  
SPECIFIC DEVELOPMENTAL ABNORMALITIES (BODY WALL)  
SPECIFIC DEVELOPMENTAL ABNORMALITIES (MUSCULOSKELETAL SYSTEM)  
SPECIFIC DEVELOPMENTAL ABNORMALITIES (CARDIOVASCULAR SYSTEM)  
SPECIFIC DEVELOPMENTAL ABNORMALITIES (GASTROINTESTINAL SYSTEM)  
SPECIFIC DEVELOPMENTAL ABNORMALITIES (UROGENITAL SYSTEM)  
SPECIFIC DEVELOPMENTAL ABNORMALITIES (HOMEOSTASIS)  
SPECIFIC DEVELOPMENTAL ABNORMALITIES (OTHER DEVELOPMENTAL ABNORMALITIES)  
EFFECTS ON NEWBORN (VIABILITY INDEX)  
EFFECTS ON NEWBORN (GROWTH STATISTICS)  
EFFECTS ON NEWBORN (BEHAVIORAL)  
EFFECTS ON NEWBORN (PHYSICAL)  
NUTRITIONAL AND GROSS METABOLIC (BODY TEMPERATURE INCREASE)  
TUMORIGENIC (EQUIVOCAL TUMORIGENIC AGENT BY RTECS CRITERIA)  
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 46  
MAY CAUSE HERITABLE GENETIC DAMAGE.  
R 61  
MAY CAUSE HARM TO THE UNBORN CHILD.  
R 20/21/22  
HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.  
S 45  
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE  
IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).  
S 36/37/39  
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE  
PROTECTION.  
S 22  
DO NOT BREATHE DUST.

REVIEWS, STANDARDS, AND REGULATIONS  
OEL=MAK  
NOES 1983: HZD X4716; NIS 2; TNF 73; NOS 3; TNE 4336; TFE 1343  
EPA GENETOX PROGRAM 1988, POSITIVE: CELL TRANSFORM.-SA7/SHE  
EPA GENETOX PROGRAM 1988, POSITIVE: IN VITRO CYTOGENETICS-HUMAN  
LYMPHOCYTE  
EPA GENETOX PROGRAM 1988, POSITIVE: E COLI POLA WITHOUT S9; SPERM  
MORPHOLOGY-MOUSE  
EPA GENETOX PROGRAM 1988, POSITIVE: S CEREVISIAE GENE CONVERSION  
EPA GENETOX PROGRAM 1988, NEGATIVE: CELL TRANSFORM.-BALB/C-3T3; IN

VITRO SCE-NONHUMAN  
EPA GENETOX PROGRAM 1988, NEGATIVE: V79 CELL CULTURE-GENE MUTATION  
EPA GENETOX PROGRAM 1988, INCONCLUSIVE: CARCINOGENICITY-MOUSE/RAT;  
MAMMALIAN MICRONUCLEUS  
EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES  
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JUNE 1998  
NCI CARCINOGENESIS STUDIES (IPR);EQUIVOCAL EVIDENCE:RAT  
CANCAR 40,1935,77  
NCI CARCINOGENESIS STUDIES (IPR);NO EVIDENCE:MOUSE  
CANCAR 40,1935,77

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