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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 #: D4137
NAME: SYM-DIMETHYLHYDRAZINE DIHYDROCHLORIDE

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

CAS #: 306-37-6
MF: C2H8N2
EC NO: 206-183-5

SYNONYMS

N,N'-DIMETHYLHYDRAZINE DIHYDROCHLORIDE * SYM-DIMETHYLHYDRAZINE
DIHYDROCHLORIDE * 1,2-DIMETHYLHYDRAZINE DIHYDROCHLORIDE * 1,2-
DIMETHYLHYDRAZINIUM DICHLORIDE *

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

LABEL PRECAUTIONARY STATEMENTS

HIGHLY TOXIC (USA)
TOXIC (EU)
MAY CAUSE CANCER.
MAY CAUSE HERITABLE GENETIC DAMAGE.
TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
CAUSES SEVERE IRRITATION.
TARGET ORGAN(S):
LIVER
KIDNEYS
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 IMMEDIATELY.
REMOVE AND WASH CONTAMINATED CLOTHING PROMPTLY.

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.
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.
FACESHIELD (8-INCH MINIMUM).
DO NOT BREATHE DUST.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
WASH THOROUGHLY AFTER HANDLING.
HIGHLY TOXIC.
SEVERE IRRITANT.
CARCINOGEN.
MUTAGEN.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -
APPEARANCE AND ODOR
SOLID.
PHYSICAL PROPERTIES
MELTING POINT: 167 C TO 169 C (DEC)

SECTION 10. - - - - - -STABILITY AND REACTIVITY - - - - -
INCOMPATIBILITIES
OXIDIZING AGENTS
BASES
PROTECT FROM MOISTURE.
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
NITROGEN OXIDES
HYDROGEN CHLORIDE GAS
CARBON MONOXIDE, CARBON DIOXIDE

SECTION 11. - - - - - TOXICOLOGICAL INFORMATION - - - - -
ACUTE EFFECTS
MAY BE FATAL IF INHALED, SWALLOWED, OR ABSORBED THROUGH SKIN.
CAUSES SEVERE IRRITATION.
HIGH CONCENTRATIONS ARE EXTREMELY DESTRUCTIVE TO TISSUES OF THE MUCOUS
MEMBRANES AND UPPER RESPIRATORY TRACT, EYES AND SKIN.
SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING,
WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND
VOMITING.
CHRONIC EFFECTS
CARCINOGEN.
MAY ALTER GENETIC MATERIAL.
TARGET ORGAN(S):
LIVER
KIDNEYS
BLOOD
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

RTECS #: MV2800000
HYDRAZINE, 1,2-DIMETHYL-, DIHYDROCHLORIDE

TOXICITY DATA

ORL-RAT LD50:100 MG/KG	23HZAR - ,267,1970
SCU-RAT LD50:122 MG/KG	NTIS** AD-A062-138
ORL-MUS LD50:26 MG/KG	JTEHD6 32,383,1991
IPR-MUS LD50:95 MG/KG	CNREA8 41,1469,1981
SCU-MUS LD50:25400 UG/KG	CRNGDP 3,603,1982
SCU-HAM LD50:50 MG/KG	NTIS** AD-A062-138

TARGET ORGAN DATA
SENSE ORGANS AND SPECIAL SENSES (TUMORS)
BEHAVIORAL (SOMNOLENCE)

VASCULAR (TUMORS)
LUNGS, THORAX OR RESPIRATION (TUMORS)
GASTROINTESTINAL (TUMORS)
GASTROINTESTINAL (COLON TUMORS)
LIVER (TUMORS)
LIVER (ANGIOSARCOMA)
EFFECTS ON NEWBORN (BIOCHEMICAL AND METABOLIC)
TUMORIGENIC (CARCINOGENIC BY RTECS CRITERIA)
TUMORIGENIC (NEOPLASTIC BY RTECS CRITERIA)
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 45

MAY CAUSE CANCER.

R 46

MAY CAUSE HERITABLE GENETIC DAMAGE.

R 23/24/25

TOXIC 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 26

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.

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

EPA GENETOX PROGRAM 1988, POSITIVE: CARCINOGENICITY-MOUSE/RAT;
HOST-MEDIATED ASSAY

EPA GENETOX PROGRAM 1988, INCONCLUSIVE: E COLI POLA WITHOUT S9

EPA TSCA SECTION 8(B) CHEMICAL INVENTORY

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

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