



chemists helping chemists in research & industry

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FEB 11 1991

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JOYCE KILBY/RISK MRMNT & SAFETY

DATE: 02/05/91
CUST#: 523216
PO#: LETTER 1/31/91

Chemistry

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

IDENTIFICATION

PRODUCT #: 22581-9 NAME: HYDRAZINE HYDRATE
CAS #: 10217-52-4
MF: H4N2

SYNONYMS

HYDRAZINE HYDRATE * IDRAZINA IDRATA (ITALIAN) *

TOXICITY HAZARDS

RTECS NO: MV8050000

HYDRAZINE, MONOHYDRATE

TOXICITY DATA

ORL-RAT LD50:129 MG/KG
ORL-MUS LD50:83 MG/KG
IPR-MUS LD50:156 MG/KG
ORL-RBT LD50:55 MG/KG
ORL-GPG LD50:40 MG/KG

HYSAAV 30(7-9),191,65
HYSAAV 30(7-9),191,65
CNREA8 41,1469,81
HYSAAV 30(7-9),191,65
HYSAAV 30(7-9),191,65

REVIEWS, STANDARDS, AND REGULATIONS

NIOSH REL TO HYDRAZINES-AIR:CL 0.04 MG/M3/2H MMWR** 37(S-7),16,88
NOHS 1974: HZD 84613; NIS 4; TNF 108; NOS 6; TNE 1787
NOES 1983: HZD 84613; NIS 11; TNF 466; NOS 28; TNE 14621; TFE 1432

TARGET ORGAN DATA

PATERNAL EFFECTS (SPERMATOGENESIS)
EFFECTS ON FERTILITY (PRE-IMPLANTATION MORTALITY)
EFFECTS ON FERTILITY (POST-IMPLANTATION MORTALITY)
EFFECTS ON NEWBORN (BIOCHEMICAL AND METABOLIC)

ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS)
DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

HEALTH HAZARD DATA

ACUTE EFFECTS

MAY BE FATAL IF INHALED, SWALLOWED, OR ABSORBED THROUGH SKIN.
MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES
AND UPPER RESPIRATORY TRACT, EYES AND SKIN.
INHALATION MAY BE FATAL AS A RESULT OF 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.
MAY CAUSE ALLERGIC REACTION.
CAN CAUSE CNS DEPRESSION.
MAY CAUSE CONVULSIONS.
EXPOSURE CAN CAUSE:

CONTINUED ON NEXT PAGE

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----- HEALTH HAZARD DATA -----

DAMAGE TO THE EYES
DAMAGE TO THE LIVER
DAMAGE TO THE KIDNEYS
DAMAGE TO THE LUNGS
BLOOD EFFECTS
CHRONIC EFFECTS
CARCINOGEN.
MAY ALTER GENETIC MATERIAL.
TARGET ORGAN(S):
NERVES
BLOOD
LIVER, KIDNEYS

FIRST AID

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.
DISCARD CONTAMINATED CLOTHING AND SHOES.

----- PHYSICAL DATA -----

SPECIFIC GRAVITY: 1.029
VAPOR DENSITY: >1
VAPOR PRESSURE: 5 MM @ 25 C
APPEARANCE AND ODOR
COLORLESS LIQUID

----- FIRE AND EXPLOSION HAZARD DATA -----

FLASHPOINT: 204 F
LOWER EXPLOSION LEVEL: 3.5%
UPPER EXPLOSION LEVEL: 99.99%
EXTINGUISHING MEDIA
WATER SPRAY.
CARBON DIOXIDE.
DRY CHEMICAL POWDER.

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NAME: HYDRAZINE HYDRATE

----- FIRE AND EXPLOSION HAZARD DATA -----

SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO
PREVENT CONTACT WITH SKIN AND EYES.
COMBUSTIBLE.
UNUSUAL FIRE AND EXPLOSIONS HAZARDS
UNDER FIRE CONDITIONS, MATERIAL MAY DECOMPOSE
TO FORM FLAMMABLE AND/OR EXPLOSIVE MIXTURES IN AIR.

----- REACTIVITY DATA -----

INCOMPATIBILITIES
OXIDIZING AGENTS
OXYGEN
COPPER
ZINC
ORGANIC MATERIALS
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
NITROGEN OXIDES

----- SPILL OR LEAK PROCEDURES -----

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED
EVACUATE AREA.
SHUT OFF ALL SOURCES OF IGNITION.
WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY
RUBBER GLOVES.
ABSORB ON SAND OR VERMICULITE AND PLACE IN CLOSED CONTAINERS FOR
DISPOSAL.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.
WASTE DISPOSAL METHOD
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 LAWS.

--- PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE ---

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).

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NAME: HYDRAZINE HYDRATE

--- PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE ---

DO NOT BREATHE VAPOR.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
READILY ABSORBED THROUGH SKIN.
WASH THOROUGHLY AFTER HANDLING.
HIGHLY TOXIC.
CORROSIVE.
CARCINOGEN.
MUTAGEN.
KEEP TIGHTLY CLOSED.
KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME.
STORE IN A COOL DRY PLACE.

REGULATORY INFORMATION

55.0% HYDRAZINE 302-01-2
THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS.

----- ADDITIONAL PRECAUTIONS AND COMMENTS -----

ADDITIONAL INFORMATION

WARNING: HYDRAZINE VAPOR IN AIR IS FLAMMABLE AT 4.7 TO 100% HYDRAZINE BY VOLUME - HANDLE UNDER NITROGEN! SOME METALS AND ALLOYS INCLUDING MONEL, BRONZE, BRASS, CADMIUM, GOLD, MOLYBDENUM AND STAINLESS STEEL WITH MORE THAN 0.5% MOLYBDENUM OR RUST CAUSE DECOMPOSITION OF HYDRAZINE.

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