



chemists helping chemists in research & industry

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DATE: 06/06/89
CUST # 523216 P.O. # Q C 1700

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 # 10817-0 NAME: NITROMETHANE, 96%
CAS # 75-52-5
MF: CH3NO2

SYNONYMS

NITROCARBOL * NITROMETAN (POLISH) * NITROMETHANE * NITROMETHANE
(ACGIH, ODT, OSHA) * UN 1261 (DOT) *

TOXICITY HAZARDS

RTECS # PA9800000

METHANE, NITRO-

TOXICITY DATA

ORL-RAT LD50:940 MG/KG

GISAAA 32(9),9,67

ORL-MUS LD50:950 MG/KG

GISAAA 32(9),9,67

IPR-MUS LD50:110 MG/KG

KHFZAN 10(6),53,76

REVIEWS, STANDARDS, AND REGULATIONS

ACGIH TLV-TWA 100 PPM 85INAB 5,439,86

MSHA STANDARD-AIR:TWA 100 PPM (250 MG/M3) DTLVS* 3,187,71

OSHAPL:8H TWA 100 PPM (250 MG/M3) FEREAC 54,2923,89

OSHAPL FINAL:8H TWA 100 PPM (250 MG/M3) FEREAC 54,2923,89

EPA TSCA CHEMICAL INVENTORY, 1986

EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JANUARY 1989

NIOSH ANALYTICAL METHODS: SEE NITROMETHANE, 2527

NTP CARCINOGENESIS STUDIES:ON TEST (PRECHRONIC STUDIES), FEBRUARY 1989

TARGET ORGAN DATA

LUNGS, THORAX OR RESPIRATION (RESPIRATORY DEPRESSION)

LIVER (HEPATITIS: HEPATOCELLULAR NECROSIS, ZONAL)

KIDNEY, URETER, BLADDER (CHANGES IN BOTH TUBULES AND GLOMERULI)

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 HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION.

MAY CAUSE IRRITATION.

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.

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.

IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL
RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

CALL A PHYSICIAN.

WASH CONTAMINATED CLOTHING BEFORE REUSE.

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

MELTING POINT: -29 C
BOILING POINT: 100 C TO 102 C
SPECIFIC GRAVITY: 1.127
VAPOR DENSITY: 2.1
VAPOR PRESSURE: 27.3 MM @ 20 C
APPEARANCE: COLORLESS LIQUID

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

AUTO IGNITION TEMP.: 784 F
LOWER EXPLOSION LEVEL: 7.3% @ 33 C
FLASH POINT: 95 F
EXTINGUISHING MEDIA
WATER SPRAY.
CARBON DIOXIDE.
ALCOHOL OR POLYMER FOAM.
DO NOT USE DRY CHEMICAL POWDER EXTINGUISHER ON THIS MATERIAL.
SPECIAL FIRE FIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO
PREVENT CONTACT WITH SKIN AND EYES.
USE WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS.
FLAMMABLE.
UNUSUAL FIRE AND EXPLOSION HAZARDS
VAPOR MAY TRAVEL CONSIDERABLE DISTANCE TO SOURCE OF IGNITION AND
FLASH BACK.
CONTAINER EXPLOSION MAY OCCUR UNDER FIRE CONDITIONS.
FORMS EXPLOSIVE MIXTURES IN AIR.
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

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

INCOMPATIBILITIES

AMINES
STRONG ACIDS
STRONG BASES
STRONG OXIDIZING AGENTS
STRONG REDUCING AGENTS
COPPER, COPPER ALLOYS
LEAD
AND ITS ALLOYS.
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
THERMAL DECOMPOSITION MAY PRODUCE CARBON MONOXIDE, CARBON DIOXIDE,
AND 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.
USE NONSPARKING TOOLS.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

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WASTE DISPOSAL METHOD

BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY FLAMMABLE.

OBSERVE ALL FEDERAL, STATE & LOCAL LAWS.

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

CHEMICAL SAFETY GOGGLES.

RUBBER GLOVES.

NIOSH/MSHA-APPROVED RESPIRATOR.

SAFETY SHOWER AND EYE BATH.

MECHANICAL EXHAUST REQUIRED.

DO NOT BREATHE VAPOR.

DO NOT GET IN EYES, ON SKIN, ON CLOTHING.

AVOID PROLONGED OR REPEATED EXPOSURE.

WASH THOROUGHLY AFTER HANDLING.

HARMFUL LIQUID AND FUMES.

KEEP TIGHTLY CLOSED.

KEEP AWAY FROM COMBUSTIBLE MATERIALS, HEAT, SPARKS, AND OPEN FLAME.

STORE IN A COOL DRY PLACE.

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

ADDITIONAL INFORMATION

NITROMETHANE CAN DETONATE IF SENSITIZED BY AMINES, ALKALIES, STRONG ACIDS, AND HIGH TEMPERATURES. IT CAN BE DETONATED BY ADIABATIC COMPRESSION. THE DRY ALKALI OR AMINE SALTS OF NITROMETHANE ARE SHOCK-SENSITIVE AND THE SODIUM SALT BURSTS INTO FLAME UPON CONTACT WITH WATER.

----- REGULATORY INFORMATION -----

NOT APPLICABLE

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