



Material Safety Data Sheet

HAZARD WARNINGS





RISK PHRASES

TOXIC BY INHALATION. Highly toxic; do not ingest or inhale.

Combustible material; avoid heat and sources of ignition.

Environmental hazard.

This material is toxic to aquatic organisms and may cause long term adverse effects to the aquatic environment.

CARCINOGEN. MINIMIZE EXPOSURE. MUTAGEN. MINIMIZE EXPOSURE.

May react violently and/or evolve heat upon exposure to heat,

shock, and friction.

PROTECTIVE CLOTHING



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Section I. C	hemical Product and Company Identif	ication	
Chemical Name	N-Nitrosodimethylamine		
Catalog Number	D0761	Supplier	TCI America 9211 N. Harborgate St.
Synonym	Dimethylnitrosamine		Portland OR 1-800-423-8616
Chemical Formula	$C_2H_6N_2O$	********	***************************************
CAS Number	62-75-9	In case of Emergency Call	Chemtrec® (800) 424-9300 (U.S.) (703) 527-3887 (International)

Section II. Composition and Information on Ingredients						
Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data		
N-Nitrosodimethylamine	62-75-9	Min. 99.0 (GC)	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen. This compound is classified as a mutagen. There is no acceptable exposure limit for a mutagen.	Rat LD $_{50}$ (oral) 26 mg/kg Rat LD $_{50}$ (inhalation) 78 ppm/4H Mouse LD $_{50}$ (inhalation) 57 ppm/4H		

Section III. Hazards Identification

Acute Health Effects

Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Chronic Health Effects

CARCINOGENIC EFFECTS: Carcinogenic by RTECS criteria.

MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS: Tumorigenic effects. Rat TCLo Inhalation 200 μg/m³ for 45 weeks continuous

TOXIC EFFECTS:

Tumorigenic - Carcinogenic by RTECS criteria

Liver - Tumors

Kidney, Ureter, and Bladder - Kidney tumors

Rat TDLo Intramuscular 18 mg/kg

TOXIC EFFECTS:

Tumorigenic - Equivocal tumorigenic agent by RTECS criteria

Kidney, Ureter, and Bladder - Kidney tumors Rat TDLo Oral 30 mg/kg (21 days of pregnancy)

TOXIC EFFECTS:

Tumorigenic - Equivocal tumorigenic agent by RTECS criteria

Tumorigenic Effects - Transplacental tumorigenesis Kidney, Ureter, and Bladder - Kidney tumors **DEVELOPMENTAL TOXICITY**: Reproductive effects.

Rat TDLo Intraplacental 500 µg/kg, female 13 days of pregnancy

TOXIC EFFECTS:

Effects on Embryo or Fetus - Fetal death

Rat TDLo Oral 30 mg/kg, female 10 days of pregnancy

TOXIC EFFECTS:

Effects on Embryo or Fetus - Fetal death

Rat TDLo Oral 35 mg/kg, female 8-14 days of pregnancy

TOXIC EFFECTS:

Effects on Fertility - Post-implanation mortality

Effects on Embryo or Fetus - Fetal death

Specific Developmental Abnormalities - Other developmental abnormalities

Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or

many human organs.

Skin Contact In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contand shoes. Weath clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately flush skin with plenty of water for at least 15 minutes while removing contand shoes. Weath clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if respiration plents of the contained of t	N-Nitrosodimethylamine Page 2			D0761	
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waisbaand. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration prove. INDUCE VOMITING by slicking linger in throat. Lower the head so that the vomit will not reenter the me acceptance of the product of th					Skin Contact
Losen fight clothing such as a collar, fie, belt or waistband. If the victim is not breathing, perform material was ingested; the absence of such signs, however, is not conclusive. Section V. Fire and Explosion Data Flammability Combustible Flammability Flash Points 61°C (141.8°F) Flammable Limits Fire Hazards Fire Hazards Fire Hazards Fire Fighting Media and Instructions Fire Fighting Media and Instruction Instructions Fire Fighting Media and Instruction Instructions Fire Fighting Med	If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.			waistband. If breathing is difficult, oxyg-	Inhalation
Flammability Flash Points Flammability Flash Points Flammabile Flammable Limits Flammable L	n mouth-to-mouth	Loosen tight clothing such as a collar, resuscitation. Examine the lips and moutl	Ingestion		
Flash Points Combustion Products These products are toxic carbon oxides (CO, CO ₂), nitrogen oxides (NO, NO ₂). Fire Hazards Not available. Explosion Hazards Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Fire Fighting Media and Instructions SMALL FIRE: Use DPX chemical powder. LARGE FIRE: Use water spray, log or foam. DO NOT use water jet. Consult with local fire authorities before attempting large scale fire-fighting operations. Section VI. Accidental Release Measures Spill Cleanup Instructions Spill Cleanup Instructions Accidental Release Measures Toxic by inhalation material. Highly toxic material. Combustible material. Environmentally hazardous material toxic spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confirmeded. Consult federal, state, and/or local authorities for assistance on disposal. Section VII. Handling and Storage Information Information Information Information Information Exposure Controls/Personal Protection Engineering Controls Personal Protection Engineering Controls Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below threshold linit value. Ensure that eyewash station and safety shower is proximal to the work-station location. Inhalation of the product. Splash goggles. Lab coat. Vapor respirator. Boots. Gloves. A MSHANNIOSH approved respirator must be inhalation of the product. Splash goggles. Lab coat. Vapor respirator. Boots. Gloves. A MSHANNIOSH approved respirator must be inhalation of the product. Splash goggles. Lab coat. Vapor respirator. Boots. Gloves. A MSHANNIOSH approved respirator must be inhalation of the product. Splash goggles. Lab coat. Vapor respirator.				Fire and Explosion Data	Section V.
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Viscosity Not available. Taste Not available.		Not available.	Taste	Not available.	Viscosity

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Section X. Stability and Reactivity Data

Stability This material is stable if stored under proper conditions. (See Section VII for instructions)

Incompatibilities Reactive with oxidizing agents, alkalis (bases).

Section XI. Toxicological Information

RTECS Number IQ0525000

Routes of Exposure Eye Contact. Ingestion. Inhalation.

Toxicity Data Rat LD_{50} (oral) 26 mg/kg Rat LD_{50} (inhalation) 78 ppm/4H

Mouse LD₅₀ (inhalation) 57 ppm/4H

Chronic Toxic Effects CARCINOGENIC EFFECTS: Carcinogenic by RTECS criteria.

MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Tumorigenic effects.
Rat TCLo Inhalation 200 µg/m³ for 45 weeks continuous

TOXIC EFFECTS:

Tumorigenic - Carcinogenic by RTECS criteria

Liver - Tumors

Kidney, Ureter, and Bladder - Kidney tumors

Rat TDLo Intramuscular 18 mg/kg

TOXIC EFFECTS:

Tumorigenic - Equivocal tumorigenic agent by RTECS criteria

Kidney, Ureter, and Bladder - Kidney tumors Rat TDLo Oral 30 mg/kg (21 days of pregnancy)

TOXIC EFFECTS:

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Tumorigenic Effects - Transplacental tumorigenesis Kidney, Ureter, and Bladder - Kidney tumors **DEVELOPMENTAL TOXICITY**: Reproductive effects.

Rat TDLo Intraplacental 500 µg/kg, female 13 days of pregnancy

TOXIC EFFECTS:

Effects on Embryo or Fetus - Fetal death

Rat TDLo Oral 30 mg/kg, female 10 days of pregnancy

TOXIC FFFCTS:

Effects on Embryo or Fetus - Fetal death

Rat TDLo Oral 35 mg/kg, female 8-14 days of pregnancy

TOXIC EFFECTS:

Effects on Fertility - Post-implanation mortality Effects on Embryo or Fetus - Fetal death

Specific Developmental Abnormalities - Other developmental abnormalities

Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many

human organs.

Acute Toxic Effects Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death.

Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Section XII. Ecological Information

Ecotoxicity Not available.

Environmental Fate

No evidence was found that N-nitrosodimethylamine is currently used, except for research purposes and may be released to the environment with laboratory waste. N-Nitrosodimethylamine's former production and use in the production of rocket fuels; antioxidant; additive for lubricants; and as a softener of copolymers may have resulted in its release to the environment through various waste streams. If released to air, a measured vapor pressure of 2.7 mm Hg at 20 deg C indicates N-nitrosodimethylamine is expected to exist solely as a vapor in the ambient atmosphere. Vapor-phase N-nitrosodimethylamine will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals with an estimated half-life of 6.3 days. N-Nitrosodimethylamine absorbs light in the environmental spectrum indicating a potential for direct photolysis. If released to soil, an estimated Koc of 12 indicates this compound is expected to have very high Volatilization from wet soil surfaces may be an important fate process based upon a measured Henry's Law constant of 1.82X10-6 atm-cu m/mole at 37 deg C. Under laboratory conditions, greater than 70% of N-nitrosodimethylamine applied to the surface of a moist, warm soil (12% moisture content, 22 deg C) volatilized in 10 hours. N-Nitrosodimethylamine may potentially volatilize from dry soil surfaces based upon its measured vapor pressure. A half-life of about three weeks was reported for N-nitrosodimethylamine in aerobic soil under laboratory conditions; the primary removal processes were volatilization and biodegradation. If released into water, N-nitrosodimethylamine is not expected to adsorb to suspended solids and sediment in the water column based upon its estimated Koc. The potential for bioconcentration in aquatic organisms is low based upon an estimated BCF of 0.22. This compound's measured Henry's Law constant indicates that volatilization from water surfaces is expected to occur. Estimated volatilization half-lives from a model river and a model lake are 17 and 130 days, respectively. Hydrolysis is not expected to be an important process. A photodegradation half-life of 79 hours was measured in distilled water exposed to fluorescent light through a pyrex filter (wavelength >280 nm). No biodegradation of N-nitrosodimethylamine was observed in lake water samples during an observation period of 3.5 months. Occupational exposure to N-nitrosodimethylamine may occur through inhalation of air at workplaces involved in rubber processing or tire manufacturing or where metal-working fluids are used. The general population may be exposed to N-nitrosodimethylamine via inhalation of ambient air and cigarette smoke and ingestion of contaminated food and drinking

Emergency phone number (800) 424-9300

Waste Disposal	Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.
Section XIV.	Transport Information
DOT Classification	DOT CLASS 6.1: Toxic material
PIN Number	UN3382
Proper Shipping Name	Toxic by inhalation liquid, n.o.s.
Packing Group (PG)	I ZONE B RQ = 10 (4.54)
DOT Pictograms	
	POISON

N-Nitrosodimethylamine

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Section XV. Other Regulatory Information and Pictograms TSCA Chemical Inventory This compound is ON the EPA Toxic Substances Control Act (TSCA) inventory list. WHMIS Classification CLASS B-3: Combustible liquid with a flash point between 37.8 ℃ (100 °F) and 93.3 ℃ (200 °F). CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). (Canada) CLASS D-2B: Material causing other toxic effects (TOXIC). On NDSL. 200-549-8 EINECS Number (EEC) **EEC Risk Statements** R26/27/28- Very toxic by inhalation, in contact with skin and if swallowed. R45- May cause cancer. R46- May cause heritable genetic damage. R47- May cause birth defects. R51- Toxic to aquatic organisms. R53- May cause long-term adverse effects in the aquatic environment. Japanese Regulatory Data ENCS No. 2-195

Section XVI. Other Information

Version 1.0 Validated on 10/5/2010. Printed 10/5/2010.

D0761

Disposal Considerations

Section XIII.

Notice to Reader

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