








Material Safety Data Sheet

HAZARD WARNINGS			RISK PHRASES	PROTECTIVE CLOTHING
			Flammable material; avoid heat and sources of ignition. Harmful compound, minimize exposure. Irritating to skin, eyes, and the respiratory system. Possible mutagenic material.	   

Section I. Chemical Product and Company Identification

Chemical Name	1-Nitronaphthalene ^(alpha-)		
Catalog Number	N0212	Supplier	TCI America 9211 N. Harborage St. Portland OR 1-800-423-8616
Synonym	Nitrol (Pesticide)		
Chemical Formula	C ₁₀ H ₇ NO ₂		
CAS Number	86-57-7	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
1-Nitronaphthalene ^(alpha-)	86-57-7	Min. 98.0 (GC)	Not available.	Rat LD ₅₀ (intraperitoneal) 86mg/kg

Section III. Hazards Identification

Acute Health Effects	Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury or death. Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.
Chronic Health Effects	CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. DEVELOPMENTAL TOXICITY : Not available. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section IV. First Aid Measures

Eye Contact	Check for and remove any contact lenses. IMMEDIATELY flush eyes with running water for at least 15 minutes. Keeping eyelids open. COLD water may be used. DO NOT use an eye ointment. Flush eyes with running water for a minimum of 15 minutes, occasionally lifting the upper eyelids. Seek medical attention. Treat symptomatically and supportively.
Skin Contact	After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. COLD water may be used. Cover the irritated skin with an emollient. Seek medical attention. Treat symptomatically and supportively. Wash any contaminated clothing before reusing.
Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform artificial respiration. WARNING: It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.
Ingestion	INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt, or waistband. If the victim is not breathing, administer artificial respiration. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.

Section V. Fire and Explosion Data

Flammability	Flammable.	Auto-Ignition	Not available.
Flash Points	Not available.	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO ₂), nitrogen oxides (NO, NO ₂).		
Fire Hazards	Reactive with strong oxidizers. Vapors may travel to source of ignition and flash back. Closed containers may explode from heat of a fire. Highly flammable in presence of open flames and sparks, of heat.		
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. No additional information is available regarding the risks of explosion.		

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Emergency phone number (800) 424-9300

Fire Fighting Media and Instructions

Flammable solid.
 SMALL FIRE: Use DRY chemicals, CO₂, water spray or foam.
 LARGE FIRE: Use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion. Consult with local fire authorities before attempting large scale fire-fighting operations.

Section VI. Accidental Release Measures

Spill Cleanup Instructions

Flammable solid. Harmful material. Irritating material. Possible mutagenic material.
 Stop leak if without risk. DO NOT touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all sources of ignition. Consult federal, state, and/or local authorities for assistance on disposal.

Section VII. Handling and Storage

Handling and Storage Information

FLAMMABLE. HARMFUL. IRRITANT. POSSIBLE MUTAGEN. Handle with caution and minimize exposure. DO NOT ingest. DO NOT breathe dust. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively.
 Always store away from incompatible compounds such as oxidizing agents, reducing agents.

Section VIII. Exposure Controls/Personal Protection

Engineering Controls

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection

Splash goggles. Lab coat. Dust respirator. Boots. Gloves. A MSHA/NIOSH approved respirator must be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.



Exposure Limits

Not available.

Section IX. Physical and Chemical Properties

Physical state @ 20°C

Solid.

Solubility

Insoluble in water.
 Soluble in alcohol.
 Freely soluble in chloroform, ether, carbon disulfide.
 Very soluble in benzene and pyridine.

Specific Gravity

1.223

Molecular Weight

173.17

Partition Coefficient

Not available.

Boiling Point

304°C (579.2°F)

Vapor Pressure

Not available.

Melting Point

59 to 60°C

Vapor Density

Not available.

Refractive Index

Not available.

Volatility

Not available.

Critical Temperature

Not available.

Odor

Not available.

Viscosity

Not available.

Taste

Not available.

Section X. Stability and Reactivity Data

Stability

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

Conditions of Instability

Avoid excessive heat and light.

Incompatibilities

Reactive with strong oxidizing agents, strong reducing agents.

Section XI. Toxicological Information

RTECS Number

QJ9720000

Routes of Exposure

Eye contact. Ingestion. Inhalation. Skin contact.

Toxicity Data

Rat LD₅₀ (intraperitoneal) 86mg/kg

Chronic Toxic Effects

CARCINOGENIC EFFECTS : Not available.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Not available.
DEVELOPMENTAL TOXICITY : Not available.
 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

Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury or death. Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.


Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	1-Nitronaphthalene may be released to the environment via manufacturing effluents where it is produced and used as a chemical intermediate. 1-Nitronaphthalene may also be released to the environment as an emission of a diesel fuel combustion. Data pertaining to the biodegradation of 1-nitronaphthalene were unavailable. 1-Nitronaphthalene is not expected to undergo hydrolysis or bioconcentrate in the environment. 1-Nitronaphthalene is expected to have a low mobility in soil; and in aquatic systems, may partition from the water column to organic matter contained in sediments and suspended solids. A Henry's Law constant of 3.08×10^{-6} atm-cu m/mole at 25°C suggests volatilization of 1-nitronaphthalene from environmental waters may be important. The volatilization half-lives from a model river and a model pond, the latter considers the effect of adsorption, have been estimated to be 15.8 days and 2.5 years, respectively. 1-Nitronaphthalene is expected to exist entirely in the vapor phase in ambient air. In the atmosphere, the vapor phase reaction with photochemically produced hydroxyl radicals (estimated half-life of 5.5 days) is likely to be important. The most probable human exposure would be occupational exposure, which may occur through dermal contact or inhalation at places where 1-nitronaphthalene is produced or used as a chemical intermediate. Non-occupational exposures would most likely occur in urban atmospheres.

Section XIII. Disposal Considerations

Waste Disposal	Recycle to process, if possible. Consult your local or 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.
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Section XIV. Transport Information

DOT Classification	DOT CLASS 4.1: Flammable solid.
PIN Number	UN2538
Proper Shipping Name	Nitronaphthalene
Packing Group (PG)	III
DOT Pictograms	

Section XV. Other Regulatory Information and Pictograms

TSCA Chemical Inventory (EPA)	This compound is ON the EPA Toxic Substances Control Act (TSCA) inventory list.
WHMIS Classification (Canada)	WHMIS CLASS B-4: Flammable solid.
EINECS Number (EEC)	201-684-5
EEC Risk Statements	R11- Highly flammable. R23/24/25- Toxic by inhalation, in contact with skin and if swallowed.
Japanese Regulatory Data	Not available.

Section XVI. Other Information

Version 1.0
Validated on 10/27/1999.
Printed 2/26/2005.

Notice to Reader

TCI laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.