







Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
 	Toxic compound, do not ingest or inhale. Avoid all contact with this material. Irritating to skin, eyes, and the respiratory system.	   

Section I. Chemical Product and Company Identification

Chemical Name	4-Nitro-3-(trifluoromethyl)phenol		
Catalog Number	N0279	Supplier	TCI America 9211 N. Harbortgate St. Portland OR 1-800-423-8616
Synonym	5-Hydroxy-2-nitrobenzotrifluoride		
Chemical Formula	C ₇ H ₄ F ₃ NO ₃		
CAS Number	88-30-2	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
4-Nitro-3-(trifluoromethyl)phenol	88-30-2	Min. 99.0 (GC)	Not available.	Rat LD ₅₀ (oral) 141 mg/kg Mouse LD ₅₀ (intraperitoneal) 25 mg/kg

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. 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. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Inhalation	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.
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, perform mouth-to-mouth resuscitation. 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.

Section V. Fire and Explosion Data

Flammability	May be combustible at high temperature.	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), halogenated compounds. WARNING: Highly toxic HF gas is produced during combustion.		
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 DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet. Consult with local fire authorities before attempting large scale fire-fighting operations.		

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Emergency phone number (800) 424-9300

Section VI. Accidental Release MeasuresSpill Cleanup
Instructions

Toxic material. Irritating material.
Stop leak if without risk. DO NOT get water inside container. DO NOT touch spilled material. Use water spray to reduce vapors. 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 StorageHandling and Storage
Information

TOXIC. IRRITANT. Keep locked up. Keep away from heat. Mechanical exhaust required. When not in use, tightly seal the container and store in a dry, cool place. Avoid excessive heat and light. 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.

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. (Light yellow ~ yellow, crystal ~ powder)

Solubility

Not available.

Specific Gravity

Not available.

Molecular Weight

207.11

Partition Coefficient

Not available.

Boiling Point

138°C (280.4°F) @ 1.3 kPa

Vapor Pressure

Not applicable.

Melting Point

80°C (176°F)

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.

Section XI. Toxicological Information

RTECS Number

GP3520000

Routes of Exposure

Eye Contact. Ingestion. Inhalation.

Toxicity Data

Rat LD₅₀ (oral) 141 mg/kg
Mouse LD₅₀ (intraperitoneal) 25 mg/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

Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness 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 3-Trifluoromethyl-4-nitrophenol's production may result in its release to the environment through various waste streams; its use as a lampricide to eradicate the parasitic sea lamprey will result in its direct release to the environment. If released to air, an estimated vapor pressure of 1.3×10^{-3} mm Hg at 25 deg C, indicates that 3-trifluoromethyl-4-nitrophenol is expected to exist solely as a vapor in the ambient atmosphere. Vapor-phase 3-trifluoromethyl-4-nitrophenol is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 21 days. 3-Trifluoromethyl-4-nitrophenol undergoes photolysis in aqueous solutions, and may be subject to photodegradation in the air. 3-Trifluoromethyl-4-nitrophenol is a weak acid with pKa of 6.07, indicating that it will partially exist as an anion under environmental conditions, and there is a correlation between pH and the soil adsorption properties of 3-trifluoromethyl-4-nitrophenol. Koc values in the range of 224-390 at pH 6, and 38-52 at pH 8, indicates that 3-trifluoro-methyl-4-nitro-phenol is expected to possess moderate mobility in soil under acidic conditions and high to very high mobility under alkaline conditions. Volatilization from moist soil surfaces is not expected to be an important environmental fate process since anions do not volatilize, and the estimated Henry's Law constant of the neutral species is 1.9×10^{-8} atm-cu m/mole. Volatilization from dry soil surfaces is not expected based upon the estimated vapor pressure. The biodegradation half-life of 3-trifluoromethyl-4-nitrophenol under aerobic and anaerobic conditions was under 1 week, with 4-amino-3-(trifluoromethyl)phenol observed as the primary degradation product. If released into water, 3-trifluoromethyl-4-nitrophenol may adsorb to suspended solids and sediment in the water column in acidic waters, but is not expected to adsorb under alkaline conditions given the range of Koc values measured as a function of pH. Volatilization from water surfaces is not expected to be an important environmental fate process since anions do not volatilize and given the estimated Henry's Law constant for the neutral species. 3-Trifluoromethyl-4-nitrophenol is stable to hydrolysis at pH 5, 7, and 9; however, it may be susceptible to photolysis in surface water. 3-Trifluoromethyl-4-nitrophenol photodegraded in unbuffered distilled water when exposed to natural sunlight conditions with a half-life of 3.3 days. Occupational exposure to 3-trifluoromethyl-4-nitrophenol may occur through inhalation of dust and dermal contact with this compound at workplaces where it is produced or used.

Section XIII. Disposal Considerations

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 UN2811

Proper Shipping Name Toxic solid, organic, n.o.s.

Packing Group (PG) III

DOT Pictograms

**Section XV. Other Regulatory Information and Pictograms**

TSCA Chemical Inventory (EPA) This product is **NOT** on the EPA Toxic Substances Control Act (TSCA) inventory. The following notices are required by 40 CFR 720.36 (C) for those products not on the inventory list:

- (i) These products are supplied solely for use in research and development by or under the supervision of a technically qualified individual as defined in 40 CFR 720.0 et sec.
- (ii) The health risks of these products have not been fully determined. Any information that is or becomes available will be supplied on an MSDS sheet.

WHMIS Classification (Canada) CLASS D-2B: Material causing other toxic effects (TOXIC).
On DSL

EINECS Number (EEC) 201-818-2

EEC Risk Statements R23/24/25- Toxic by inhalation, in contact with skin and if swallowed.
R36/37/38- Irritating to eyes, respiratory system and skin.

Japanese Regulatory Data Not available.

Section XVI. Other Information

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Notice to Reader

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Emergency phone number (800) 424-9300

TCl 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.