



## SAFETY DATA SHEET

### SECTION 01 - IDENTIFICATION

<b>Product Identifier</b>	4-NITROTOLUENE
<b>Other identification (Chemical name, Commercial name, Synonymous)</b>	p-Nitrotoluène; p-Nitrotoluol; Para-Nitrotoluène; 1-Méthyl-4-nitrobenzène; 4-Méthylnitrobenzène; 4-Nitrotoluol
<b>Product code</b>	NR-0131
<b>Chemical formula</b>	C <sub>7</sub> H <sub>7</sub> NO <sub>2</sub>
<b>Molar weight</b>	137.14
<b>Recommended use and Restrictions on use</b>	For laboratory, school, commercial or industrial use. Not for medical or household use. Do not use for medical, food or household purposes.
<b>Supplier</b>	LABORATOIRE MAT 610, rue Adanac Québec Québec G1C 7B7 418-660-8666 Mon-Fri 8h-16h www.labmat.com labmat@labmat.com
<b>Emergency phone</b>	418-660-8666 Mon-Fri 8h-16h CENTRE ANTI-POISON DU QUÉBEC 800-463-5060
<b>Date SDS</b>	2025-11-27

## SECTION 02 - HAZARDS IDENTIFICATION

### WHIMS CANADA

- Acute toxicity - Dermal - category 3
- Acute toxicity - Inhalation - category 2
- Acute toxicity - Oral - category 3
- Specific Target Organ Toxicity - Repeated exposure - category 2

### PICTOGRAMS



### Signal Word

DANGER

### Hazards statements (H)

- Toxic in contact with skin
- Fatal if inhaled
- Toxic if swallowed
- May cause damage to organs through prolonged or repeated exposure

### Precautionary statements (P)

- Wear protective gloves (Viton®, nitrile, butyl), protective clothing and eye and face protection.
- IF ON SKIN: Wash with plenty of water
- Call a POISON CENTER or a doctor or if you feel unwell.
- Store locked up.
- Dispose of contents and container in accordance with local, regional and national regulations, or contact a specialist waste disposal company.
- Do not breathe mists, gases, vapors and other fumes, or the product itself.
- Use only outdoors or in a well-ventilated area.
- Wear respiratory protection.
- IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
- Immediately call a POISON CENTER or a physician.
- Store in a well ventilated place. Keep container tightly closed.
- Wash thoroughly after handling.
- Rinse mouth.
- Get medical attention if you feel unwell.

### Other dangers

NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)

**Health** 3  
**Fire** 1  
**Reactivity** 3  
**Special danger**

## SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Component	No. CAS	% Weight
4-Nitrotulène	99-99-0	<=100%

## SECTION 04 - FIRST AID MEASURE

<b>Eye contact</b>	Wash eyes with large amounts of water for at least 15 minutes while holding eyelids apart to rinse eyes. If irritation persists, seek medical attention.
<b>Skin contact</b>	Wash skin with plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation persists, seek medical attention.
<b>Inhalation</b>	Move the unwell person to the fresh air. If breathing is difficult, give oxygen. Consult a physician.
<b>Ingestion</b>	If the person is conscious, give water to drink. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician.
<b>Most important symptoms and effects (acute and delayed)</b>	Main symptoms of high exposure: Methemoglobinemia (methemoglobin level too high in the blood). Liver damage. Headaches. Redness. Irritability. Dizziness. Cyanosis (blue to black coloring of the skin and nails). Nausea and vomiting. Increased pulse. Skin irritation. Spleen damages. Muscular weakness. Convulsions. Breathing difficulties.
<b>Immediate medical attention and special treatment, if necessary</b>	Treat according to symptoms. Show this sheet to the attending physician.

## SECTION 05 - FIREFIGHTING MEASURES

<b>Suitable extinguishing media</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>Unsuitable extinguishing media</b>	No limitations on extinguishing agents.
<b>Combustion products</b>	Hazardous combustion products formed under fire conditions: Carbon oxides. Nitrogen oxides (NOx).
<b>Specific hazards of the dangerous product</b>	Containers exposed to fire or its heat may explode. Vapors are heavier than air and may spread along floors. May react violently with incompatible products (Ref Section 10).
<b>Special protective equipment and precautions for firefighters</b>	Discard incompatible substances if this can be done without risk. Firefighters should be equipped with standard protective equipment, fireproof clothing, face mask, gloves, protective boots and, where appropriate, self-contained breathing apparatus.

## SECTION 06 - ACCIDENTAL RELEASE MEASURES

<b>Personal precautions, protective equipment and emergency measures</b>	Evacuate personnel to safe areas. When handling, wear appropriate safety equipment (reference Section 8 for protective equipment to be used). Ensure a good ventilation. Use NIOSH cartridge respiratory protection if necessary or for larger spills. Cut off all sources of ignition. Avoid the accumulation of charges electrostatic. Vapours can accumulate in low-lying areas. Beware of vapors accumulating to form explosive concentrations.
<b>Methods and materials for containment and cleaning up</b>	Pick up with a shovel or broom, taking care not to scatter dust. Dilute residues with water, clean and rinse. Dispose of residues in a container for disposal of hazardous materials. When handling, wear suitable safety equipment. Discharge into the environment must be avoided.

## SECTION 07 - HANDLING AND STORAGE

<b>Conditions for safe storage</b>	Store in a cool, dry, and well-ventilated place. Keep container tightly closed and store away from heat, moisture, and incompatible products (ref. section 10).
<b>Methods of handling</b>	Avoid contact with eyes, skin and clothing. Avoid ingestion and inhalation. Wear personal protective equipment (ref. section 8) when handling. Always ensure good ventilation. Bottle in the glass only. NOTE: may attack some plastics, rubbers and coatings. Apply the usual standard hygiene rules: Wash your hands after use. Do not eat or drink during use.

## SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

### WORKPLACE CONTROL PARAMETERS

Components	CAS-No.	Control parameters	Value	Basis
4-Nitrotoluene	99-99-0	TWA	2ppm 11mg/m <sup>3</sup>	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks	SubstaOnce may be readily absorbed through intact skin			
		TWA	2ppm	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	Skin (percutaneous)			
		TWA	2ppm	Canada. Ontario Reg.833
		TWA	2ppm	Canada. British Columbia OEL
		TWA	2ppm	USA. ACGIH Threshold Limit Values (TLV)

<b>Data origin</b>	Alberta OELs. Ontario Regulation 833. CNESST Worksafebc.com Sigma-Aldrich (Millipore Sigma)
<b>Respiratory</b>	If work under the hood is not possible, or if the permissible levels are exceeded, use NIOSH cartridge respiratory protection, or an air-supplied respirator.
<b>Gloves</b>	Handle with protective gloves. Suggested material: Nitrile. Butyl. Viton® (Fluoroelastomer). The type, thickness and length of the glove must be chosen according to the use, the concentration of the product, as well as the duration of use. Replace gloves regularly for better protection.
<b>Eyes</b>	Safety goggles with safety shutters.
<b>Shoes</b>	Use safety shoes.
<b>Clothes</b>	Labcoat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
<b>Engineering control</b>	Use fan. Have safety showers and eyewash stations in the workplace in case of an emergency and a ventilation system to maintain the level of concentrations in the air below the exposure limit values.

## SECTION 09 - PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state</b>	Solid
<b>Color</b>	Clear yellow
<b>Odour</b>	Faint aromatic odor
<b>Odour threshold</b>	Data not available
<b>Melting point and freezing point</b>	51,7 °C
<b>Boiling point</b>	238,3 °C
<b>Flammability</b>	Combustible
<b>Lower flammable / Explosive limit</b>	1.6%V
<b>Upper flammable / Explosive limit</b>	Data not available
<b>Flash point</b>	106°C
<b>Auto-ignition temperature</b>	450°C
<b>Decomposition temperature</b>	Data not available
<b>pH</b>	Not applicable
<b>Kinematic viscosity</b>	Not applicable
<b>Solubility</b>	Insoluble in water
<b>Partition coefficient water/n-octanol</b>	Water / oil 0,0043
<b>Vapour pressure</b>	0,10 mm de Hg (0,013 kPa) @ 20 °C
<b>Relative density</b>	1,286 g/ml @ 20 °C
<b>Vapour density</b>	4.73 (air=1)
<b>Particle characteristics</b>	Cristals

## SECTION 10 - STABILITY AND REACTIVITY

<b>Reactivity</b>	May form explosive mixtures with air on intense heating. May react violently with incompatible substances.
<b>Chemical stability</b>	Stable under recommended storage conditions. Sensitive to heat.
<b>Possibility of hazardous reactions</b>	May react violently with incompatible substances. Vapours can form explosive mixtures with air when heated.
<b>Conditions to avoid</b>	Avoid contact with incompatible materials and extreme temperatures. Heat, flames and sparks.
<b>Incompatible materials</b>	Violent reaction with: Tetranitromethane. Strong oxidizers. Alkali metals. Sulfuric acid. Strong acids.
<b>Hazardous decomposition products</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ). Nitrogen oxides (NO <sub>x</sub> ).

## SECTION 11 - TOXICOLOGICAL INFORMATION

### 4-NITROTOLUENE

<b>Routes of exposure</b>	Ingestion, inhalation and skin contact.
<b>Acute exposition effects / symptoms:</b>	By exposure route below.
- Eyes	Irritation. Pain.
- Skin	Irritation. Breathing difficulties. Cyanosis. Nausea and vomiting. Muscular weakness. Convulsions. Headache. Increased pulse and respiratory. Irritability. Redness. Dizziness. The product is absorbed through the skin.
- Inhalation	Headaches. Redness. Nausea and vomiting. Muscular weakness. Convulsions. Irritability. Increased pulse and respiratory. Cyanosis. Breathing difficulties. Dizziness.
<b>Acute toxicity (Ingestion)</b>	Headaches. Disturbance of heart rhythm. Damage to the spleen. Nausea and vomiting. Redness. Convulsions. Muscular weakness. Irritability. Cyanosis. Breathing difficulties. Dizziness.
<b>Chronic exposure effects / symptoms</b>	Methemoglobinemia (methemoglobin level too high in the blood). Anemia. Is recognized as an unclassifiable agent for its carcinogenicity (Group 3 according to IARC). Cyanosis (blue to black coloring of the skin and nails). Spleen damages. Liver damage. Cardiovascular disorders. Muscle weakness. Redness. Dyspnoea. Headache. Irritability. Dizziness.
<b>DL50 (specify species and route of entry)</b>	LD50 Oral - Rat - 2100mg/kg. LD50 Dermal - Rabbit - >750mg/kg.
<b>CL50 (specify species and route of entry)</b>	LC50 Inhalation - Rat - 4 h - > 1,04 mg/l.

## SECTION 12 - ECOLOGICAL INFORMATION

### 4-NITROTOLUENE

<b>Ecotoxicity</b>	Toxicity to fish: LC50 - Pimephales promelas (Bighead Minnow) - 49.7 mg/l - 96.0 h. Toxicity to daphnia and other aquatic invertebrates: Immobilization EC50 - Daphnia magna (Water flea) - env. 4.2 mg/l - 48 h. Toxicity to algae: Static test EC50 - Chlorella pyrenoidosa - 22 mg/l - 96 h.
<b>Persistence and degradability</b>	Biodegradability aerobic - Exposure time 14 d - Result: <1% Not readily biodegradable.
<b>Bioaccumulative potential</b>	Data not available.
<b>Mobility in soil</b>	Data not available.
<b>Other adverse effects</b>	Avoid release to the environment.

## SECTION 13 - DISPOSAL CONSIDERATIONS

<b>Waste Disposal Method</b>	Dispose of contents and container in accordance with local, regional and national regulations, or contact a specialist waste disposal company.
<b>Contaminated Packaging</b>	Dispose of as unused product.

## SECTION 14 - TRANSPORT INFORMATION

UN Number	3446
UN Proper shipping name	NITROTOLUÈNES SOLIDES
Transport hazard class(es)	Matières toxiques 6.1
Packing group	II
Limited quantity index	0.5 kg
ERAP Index	-
Special precautions	-

## SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	- Acute toxicity - Dermal - category 3 - Acute toxicity - Inhalation - category 2 - Acute toxicity - Oral - category 3 - Specific Target Organ Toxicity - Repeated exposure - category 2
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## SECTION 16 - OTHER INFORMATION

CNESST: Commission des normes, de l'équité et de la santé et sécurité au travail  
NIH: National institute of health (U.S. National Library of Medicine)  
ECHA: Agence Européenne de Chimie  
ACGIH : American Conference of Governmental Industrial Hygienists  
AIHA : American Industrial Hygiene Association  
VECD: Valeur d'exposition courte durée  
VEMP: Valeur d'exposition moyenne pondérée  
CMRG : Chemical Manufacturer's Recommended Guidelines  
OSHA : United States Department of Labor - Occupational Safety and Health Administration  
TLV : Threshold limit value  
TWA: Time-Weighted-Average  
STEL: Short Term Exposure Limit  
CEIL: Ceiling  
RSST: Règlement sur la santé et sécurité au travail (Québec)  
INRS: l'Institut national de recherche et de sécurité pour la prévention des accidents du travail et des maladies professionnelles (France)

The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. It does not represent any guarantee of the properties of the product. Laboratoire MAT Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

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