

MATERIAL SAFETY DATA SHEET SDS/MSDS

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : p-Nitro Toluene

CAS-No. : 99-99-0

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet

Company : Bio-Chem Chemicals
5455 Nicholson Road, Science Market
Ambala Cantt, 133001 - Haryana
+91 82952 41953
info@biofinechemical.com - www.biofinechemical.com

1.4 Emergency telephone number

Emergency Phone # +91 99921 51495 (10.00am - 06.30pm) (Office Hours)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 3), H301

Acute toxicity, Inhalation (Category 3), H331

Acute toxicity, Dermal (Category 3), H311

Specific target organ toxicity - repeated exposure (Category 2), H373

Chronic aquatic toxicity (Category 2), H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H301 + H311 + H331

H373

Toxic if swallowed, in contact with skin or if inhaled

May cause damage to organs through prolonged or repeated exposure.

H411	Toxic to aquatic life with long lasting effects.
Precautionary statement(s)	
P261	Avoid breathing dust.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P311	Call a POISON CENTER /doctor.
Supplemental Hazard Statements	none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms : 1-Methyl-4-nitrobenzene

Formula : C₇H₇NO₂
Molecular weight : 137.14 g/mol
CAS-No. : 99-99-0
EC-No. : 202-808-0
Index-No. : 609-006-00-3

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component		Classification	Concentration
4-Nitrotoluene			
CAS-No.	99-99-0	Acute Tox. 3; STOT RE 2;	<= 100 %
EC-No.	202-808-0	Aquatic Chronic 2; H301,	
Index-No.	609-006-00-3	H331, H311, H373, H411	

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NOx)

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
Storage class (TRGS 510): Combustible solids, toxic

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use (EN 143) respirator cartridges as a backup to engineering controls. If the full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

a) Appearance	Form: crystalline Colour: light yellow
b) Odour	No data available
c) Odour Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	Melting point/range: 52 - 54 °C - lit.
f) Initial boiling point and boiling range	238 °C - lit.
g) Flash point	106.00 °C - closed cup
h) Evaporation rate	No data available
i) Flammability (solid, gas)	The product is not flammable. - Flammability (solids)
j) Upper/lower flammability or explosive limits	Lower explosion limit: 1.6 %(V)
k) Vapour pressure	0.13 hPa at 20 °C
l) Vapour density	5.49
m) Relative density	1.392 g/cm ³ at 25 °C
n) Water solubility	0.345 g/l at 20 °C
o) Partition coefficient: n-octanol/water	log Pow: 2.37 at 25 °C
p) Auto-ignition temperature	450 °C
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

9.2 Other safety information

Relative vapour density 5.49

SECTION 10: Stability and reactivity**10.1 Reactivity**

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Oxidizing agents, Reducing agents, Strong bases

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx)

Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - > 2,250 mg/kg(4-Nitrotoluene)

(OECD Test Guideline 401)

LCLO Inhalation - Rat - 1 h - 4 ppm(4-Nitrotoluene)

LC50 Inhalation - Rat - 975 mg/m³(4-Nitrotoluene)

Remarks: Brain and Coverings:Recordings from specific areas of CNS. Liver:Fatty liver degeneration.

Blood:Methemoglobinemia-Carboxyhemoglobin.

LD50 Dermal - Rat - > 16,000 mg/kg(4-Nitrotoluene)

Remarks: Lungs, Thorax, or Respiration:Other changes. Liver:Fatty liver degeneration. Nutritional and

Gross Metabolic:Weight loss or decreased weight gain.

Skin corrosion/irritation

Skin - Rabbit(4-Nitrotoluene)

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit(4-Nitrotoluene)

Result: No eye irritation - 24

h (OECD Test Guideline 405)

Respiratory or skin sensitisation

Buehler Test - Guinea pig(4-

Nitrotoluene) Result: Does not cause

skin sensitisation. (OECD Test Guideline

406)

Germ cell mutagenicity

Ames test(4-

Nitrotoluene) S.

typhimurium

Result: negative

Mutagenicity (micronucleus test)(4-

Nitrotoluene) Rat - male

Result: negative

Carcinogenicity

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (4-Nitrotoluene)

Reproductive toxicity

Specific target organ toxicity - single exposure

No data available(4-Nitrotoluene)

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available(4-Nitrotoluene)

Additional Information

RTECS: XT3325000

Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, burning sensation, Absorption into the body leads to the formation of methemoglobin which in delayed 2 to 4 hours or longer.(4-Nitrotoluene)

SECTION 12: Ecological information**12.1 Toxicity**

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 49.7 mg/l - 96.0 h(4-Nitrotoluene)
Toxicity to daphnia and other aquatic invertebrates	Immobilization EC50 - Daphnia magna (Water flea) - ca. 4.2 mg/l - 48 h(4-Nitrotoluene) (ISO 6341)
Toxicity to algae	static test EC50 - Chlorella pyrenoidosa (aglae) - 22 mg/l - 96 h(4-Nitrotoluene) (OECD Test Guideline 201)

12.2 Persistence and degradability

Biodegradability	aerobic - Exposure time 14 d(4-Nitrotoluene) Result: 0.8 % - According to the results of tests of biodegradability this product is not readily biodegradable. (OECD Test Guideline 301C)
------------------	--

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available(4-Nitrotoluene)

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chem scrubber.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information**14.1 UN number**

ADR/RID: 3446

IMDG: 3446

IATA: 3446

14.2 UN proper shipping name

ADR/RID: NITROTOLUENES, SOLID

IMDG: NITROTOLUENES, SOLID

IATA: Nitrotoluenes, solid

14.3 Transport hazard class(es)		
ADR/RID: 6.1	IMDG: 6.1	IATA: 6.1
14.4 Packaging group		
ADR/RID: II	IMDG: II	IATA: II
14.5 Environmental hazards		
ADR/RID: no	IMDG Marine pollutant: no	IATA: no
14.6 Special precautions for user		
No data available		

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H301	Toxic if swallowed.
H301 + H311 + H331	Toxic if swallowed, in contact with skin or if inhaled
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.