

Material Safety Data Sheet

4-Nitrophenol

ACC# 96371

Section 1 - Chemical Product and Company Identification

MSDS Name: 4-Nitrophenol

Catalog Numbers: AC157050000, AC157050050, AC157052500, AC220950000, AC220950500, 15705-0010, 15705-1000, BP612-1

Synonyms: 4-Hydroxynitrobenzene; p-Nitrophenol.

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
100-02-7	4-Nitrophenol	98+	202-811-7

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: yellow crystals.

Warning! Harmful if swallowed, inhaled, or absorbed through the skin. May cause allergic respiratory reaction. May cause eye, skin, and respiratory tract irritation. Danger of cumulative effects.

Target Organs: Kidneys, central nervous system, liver, respiratory system, skin.

Potential Health Effects

Eye: May cause eye irritation.

Skin: May cause skin irritation. Harmful if absorbed through the skin. Substance is readily absorbed through the skin.

Ingestion: Harmful if swallowed. May cause irritation of the digestive tract. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, and death. Effects may be delayed 2 to 4 hours. Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown colored blood.

Inhalation: Harmful if inhaled. May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). May cause respiratory tract irritation. May cause asthmatic attacks due to allergic sensitization of the respiratory tract. May cause nausea and possible vomiting. May cause methemoglobinemia.

Chronic: Prolonged or repeated skin contact may cause dermatitis. May cause liver and kidney damage.

Adverse reproductive effects have been reported in animals. Laboratory experiments have resulted in mutagenic effects. There is a danger of cumulative effects. Exposure to high concentrations may cause central nervous system depression.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: Do not induce vomiting. Get medical aid immediately. Call a poison control center.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Containers may explode in the heat of a fire. Vapors or dust may form explosive mixture with air.

Extinguishing Media: Use water spray to cool fire-exposed containers. Use water spray, dry chemical, carbon dioxide, or chemical foam.

Flash Point: 169 deg C (336.20 deg F)

Autoignition Temperature: 283 deg C (541.40 deg F)

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 1; Instability: 1

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Avoid generating dusty conditions. Provide ventilation. Do not let this chemical enter the environment.

Section 7 - Handling and Storage

Handling: Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use only in a chemical fume hood.

Storage: Store in a cool, dry place. Store in a tightly closed container. Store protected from light.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
4-Nitrophenol	none listed	none listed	none listed

OSHA Vacated PELs: 4-Nitrophenol: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Crystals

Appearance: brown - yellow

Odor: phenol-like

pH: 4.4 (5 g/L aq.sol.)

Vapor Pressure: Not available.

Vapor Density: 4.8 (air=1)

Evaporation Rate: Not available.

Viscosity: 2.56 mPa @ 121 deg C

Boiling Point: 279 deg C @ 760 mmHg

Freezing/Melting Point: > 112 deg C

Decomposition Temperature: 279 deg C

Solubility: Soluble.

Specific Gravity/Density: Not available.

Molecular Formula: C₆H₅NO₃

Molecular Weight: 139.11

Section 10 - Stability and Reactivity

Chemical Stability: Light sensitive. Heat sensitive

Conditions to Avoid: Incompatible materials, light, dust generation, temperatures above 75°C (167°F), heat.

Incompatibilities with Other Materials: Strong oxidizing agents, strong bases, caustic alkalis, combustible materials.

Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon dioxide, phenol.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:**CAS#** 100-02-7: SM2275000**LD50/LC50:**

CAS# 100-02-7:

Dermal, guinea pig: LD50 = >1 gm/kg;

Oral, mouse: LD50 = 282 mg/kg;

Oral, rat: LD50 = 202 mg/kg;

Skin, rat: LD50 = 1024 mg/kg;

Inhalation, rat: LC50 = > 4.7 mg/l/4H.; Skin sensitization, guinea pig: None sensitized. (Eastman Kodak).

Carcinogenicity:

CAS# 100-02-7: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information available.**Teratogenicity:** No information available.**Reproductive Effects:** Adverse reproductive effects have occurred in experimental animals.**Mutagenicity:** Mutagenic effects have occurred in experimental animals.**Neurotoxicity:** No information available.**Other Studies:**

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.**Environmental:** No information available.**Physical:** No information available.**Other:** Do not empty into drains.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.**RCRA U-Series:**

CAS# 100-02-7: waste number U170.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	NITROPHENOLS	NITROPHENOLS
Hazard Class:	6.1	6.1
UN Number:	UN1663	UN1663
Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 100-02-7 is listed on the TSCA inventory.

Health & Safety Reporting List

CAS# 100-02-7: Effective 4/13/89, Sunset 6/30/98

Chemical Test Rules

CAS# 100-02-7: 40 CFR 799.5055

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

CAS# 100-02-7: 100 lb final RQ; 45.4 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 100-02-7: immediate, delayed, reactive.

Section 313

This material contains 4-Nitrophenol (CAS# 100-02-7, 98+%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR

Clean Air Act:

CAS# 100-02-7 is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 100-02-7 is listed as a Hazardous Substance under the CWA. CAS# 100-02-7 is listed as a Priority Pollutant under the Clean Water Act.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 100-02-7 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XN

Risk Phrases:

R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R 33 Danger of cumulative effects.

Safety Phrases:

S 28A After contact with skin, wash immediately with plenty of water

WGK (Water Danger/Protection)

CAS# 100-02-7: 2

Canada - DSL/NDSL

CAS# 100-02-7 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1B, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 100-02-7 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information
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MSDS Creation Date: 7/09/1998

Revision #8 Date: 4/04/2008

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.