

# Material Safety Data Sheet

## 4-Nitroaniline

ACC# 12238

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** 4-Nitroaniline**Catalog Numbers:** AC128370000, AC128370250, AC128371000, AC128375000, AC180690000, AC180690050, 18069-1000, 18069-5000**Synonyms:** p-Nitroaniline; p-Nitrophenylamine; 1-Amino-4-nitrobenzene; 4-Nitrobenzenamine.**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
100-01-6	4-Nitroaniline	99+	202-810-1

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: brown solid.

**Danger!** Toxic if swallowed, inhaled or absorbed through the skin. Harmful to aquatic organisms; may cause long-term adverse effects in the aquatic environment. May cause eye, skin, and respiratory tract irritation. Danger of cumulative effects. May cause methemoglobinemia.

**Target Organs:** Blood, kidneys, central nervous system, liver, spleen.

#### Potential Health Effects

**Eye:** May cause eye irritation. May result in corneal injury.

**Skin:** May cause skin irritation. Toxic in contact with skin.

**Ingestion:** May cause irritation of the digestive tract. Poison by ingestion. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, and death. May cause nausea and vomiting.

**Inhalation:** May cause respiratory tract irritation. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, tachycardia, dyspnea (labored breathing), and death. Toxic if inhaled. May cause nausea, dizziness, and headache.

**Chronic:** May cause liver and kidney damage. May cause methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, breath shortness, cyanosis (bluish skin due to deficient oxygenation of blood), rapid heart rate, unconsciousness and possible death. Repeated exposure may cause damage to the spleen. Adverse reproductive effects have been reported in animals. Laboratory experiments have resulted in mutagenic effects. Chronic exposure may cause blood effects. There is a danger of cumulative effects. Exposure to high concentrations may cause central nervous system depression. Animal studies have reported the development of tumors.

## 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:** POISON material. If swallowed, get medical aid immediately. Only induce vomiting if directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

**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.

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or chemical foam.

**Flash Point:** 199 deg C ( 390.20 deg F)

**Autoignition Temperature:** 510 deg C ( 950.00 deg F)

**Explosion Limits, Lower:**Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 3; 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.

## 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-Nitroaniline	3 mg/m <sup>3</sup> TWA; Skin - potential significant contribution to overall exposure by the cutaneous route	3 mg/m <sup>3</sup> TWA 300 mg/m <sup>3</sup> IDLH	1 ppm TWA; 6 mg/m <sup>3</sup> TWA

**OSHA Vacated PELs:** 4-Nitroaniline: 3 mg/m<sup>3</sup> TWA

### 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:** Solid

**Appearance:** yellow - ochre - brown

**Odor:** ammonia-like - pungent odor - faint odor

**pH:** CA. 7 (sat.sol.)

**Vapor Pressure:** 1 mm Hg @142 deg C

**Vapor Density:** 4.77 (air=1)

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** 332 deg C @ 760 mmHg

**Freezing/Melting Point:** 146 - 151 deg C

**Decomposition Temperature:** > 260 deg C

**Solubility:** 0.8 g/L (20°C)

**Specific Gravity/Density:** Not available.

**Molecular Formula:** C<sub>6</sub>H<sub>6</sub>N<sub>2</sub>O<sub>2</sub>

**Molecular Weight:** 138.13

## Section 10 - Stability and Reactivity

**Chemical Stability:** Moisture sensitive. Heat sensitive

**Conditions to Avoid:** Incompatible materials, dust generation, moisture, excess heat.

**Incompatibilities with Other Materials:** Strong reducing agents, strong oxidizing agents, strong acids, bases.

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

**Hazardous Polymerization:** Will not occur.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 100-01-6: BY7000000

**LD50/LC50:**

CAS# 100-01-6:

Dermal, guinea pig: LD50 = >500 mg/kg;

Oral, mouse: LD50 = 810 mg/kg;

Oral, rat: LD50 = 750 mg/kg;

**Carcinogenicity:**

CAS# 100-01-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** Tumorigenic effects have been reported in experimental animals.

**Teratogenicity:** Teratogenic effects have occurred in experimental animals.

**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:** CAS# 100-01-6: waste number P077.

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

## Section 14 - Transport Information

	<b>US DOT</b>	<b>Canada TDG</b>
<b>Shipping Name:</b>	NITROANILINES	NITROANILINES
<b>Hazard Class:</b>	6.1	6.1
<b>UN Number:</b>	UN1661	UN1661
<b>Packing Group:</b>	II	II

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 100-01-6 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

CAS# 100-01-6: 40 CFR 799.5115

#### Section 12b

CAS# 100-01-6: Section 4, 1 % de minimus concentration

#### TSCA Significant New Use Rule

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

#### CERCLA Hazardous Substances and corresponding RQs

CAS# 100-01-6: 5000 lb final RQ; 2270 kg final RQ

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### SARA Codes

CAS # 100-01-6: immediate, delayed, reactive.

#### Section 313

This material contains 4-Nitroaniline (CAS# 100-01-6, 99+%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

#### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

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

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

#### OSHA:

CAS# 100-01-6 is considered highly hazardous by OSHA.

#### STATE

CAS# 100-01-6 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, 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:

T

#### Risk Phrases:

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R 33 Danger of cumulative effects.

R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### Safety Phrases:

S 36/37 Wear suitable protective clothing and gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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

#### WGK (Water Danger/Protection)

CAS# 100-01-6: 2

#### Canada - DSL/NDSL

CAS# 100-01-6 is listed on Canada's DSL List.

#### Canada - WHMIS

This product has a WHMIS classification of D1B.

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# 100-01-6 is listed on the Canadian Ingredient Disclosure List.

## Section 16 - Additional Information

**MSDS Creation Date:** 11/05/1998

**Revision #5 Date:** 3/24/2008

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