



# LABORATORY REAGENT

INDO GULF COMPANY TEL - 0091-22-2345522-/356. FAX - 23476535.

## Material Safety Data Sheet 2-Nitrophenol, 99%

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** 2-Nitrophenol, 99%

**Synonyms:** o-Nitrophenol; 2-Hydroxynitrobenzene; Phenol, 2-nitro-; Phenol, o-nitro-.

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
88-75-5	2-Nitrophenol	98	201-857-5

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: light yellow needles.

**Warning!** Harmful if swallowed. Dust causes eye, skin, and upper respiratory system irritation. Methemoglobin former - can cause cyanosis. May be absorbed through intact skin. May cause digestive tract irritation. May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood).

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

#### Potential Health Effects

**Eye:** Causes eye irritation and possible burns.

**Skin:** Causes skin irritation. May be absorbed through the skin.

**Ingestion:** Harmful if swallowed. May cause irritation of the digestive tract.

**Inhalation:** Causes respiratory tract irritation.

**Chronic:** Absorption into the body leads to the formation of methemoglobin which in sufficient concentrations causes cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Kidney, lung and central nervous system effects may also occur. Chronic ingestion or inhalation may cause headache, drowsiness, blue color in the lips, ear, and fingernails.

### 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.

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

**Ingestion:** Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

**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 breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

**Notes to Physician:** Effects may be delayed. Absorption of this product into the body may cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Moderate degrees of cyanosis need to be treated only by supportive measures: bed rest and oxygen inhalation. For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobin concentration in the blood. Ingestion of large quantities of this material can depress the central nervous system. Stimulants may be useful in certain situations; however, a professional decision is required.

## 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. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

**Extinguishing Media:** Use agent most appropriate to extinguish fire. Do NOT get water inside containers. Use water fog, dry chemical, carbon dioxide or alcohol type foam.

**Flash Point:** 102 deg C ( 215.60 deg F)

**Autoignition Temperature:** 485 deg C ( 905.00 deg F)

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

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 3; Flammability: 1; Instability: 2

## Section 6 - Accidental Release Measures

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

**Spills/Leaks:** Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation. Do not get water inside containers. Stop leak only if you can do so without risk.

## Section 7 - Handling and Storage

**Handling:** Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Keep away from heat, sparks and flame. Do not ingest or inhale.

**Storage:** Keep away from heat, sparks, and flame. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

## 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 adequate ventilation to keep airborne concentrations low.

**Exposure Limits**

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

**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.

Section 9 - Physical and Chemical Properties

**Physical State:** Needles

**Appearance:** light yellow

**Odor:** aromatic odor

**pH:** 5.0 - 7.0

**Vapor Pressure:** 1 mm Hg @49.3 C

**Vapor Density:** 1.495 @ 14 C

**Evaporation Rate:**Not available.

**Viscosity:** Not available.

**Boiling Point:** 214.6 deg C @ 760.00mm Hg

**Freezing/Melting Point:**44 deg C

**Decomposition Temperature:**Not available.

**Solubility:** Soluble in hot water.

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

**Molecular Formula:**C<sub>6</sub>H<sub>5</sub>NO<sub>3</sub>

**Molecular Weight:**139.11

Section 10 - Stability and Reactivity

**Chemical Stability:** Volatile in steam. Reacts violently with potassium hydroxide.

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

**Incompatibilities with Other Materials:** Potassium hydroxide, strong oxidizing agents, strong bases.

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

**Hazardous Polymerization:** Has not been reported.

Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 88-75-5: SM2100000

**LD50/LC50:**

CAS# 88-75-5:

Oral, mouse: LD50 = 1297 mg/kg;

Oral, rat: LD50 = 334 mg/kg;

Skin, rabbit: LD50 = >7940 mg/kg;

**Carcinogenicity:**

CAS# 88-75-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information available.

**Teratogenicity:** No information available.

**Reproductive Effects:** No information available.

**Mutagenicity:** No information available.

**Neurotoxicity:** No information available.

**Other Studies:**

Section 12 - Ecological Information

**Ecotoxicity:** Fish: Bluegill/Sunfish: 46.3-67 mg/L; 24-48 Hr; TLmDaphnia: Shrimp: 210,000 ug/L; 24 Hr; LC50 Estimated BCF value = 14. This value suggests that there is little tendency for 2-Nitrophenol to bioconcentrate in fish.

**Environmental:** No information available.

**Physical:** No information available.

**Other:** No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

Section 14 - Transport Information

	IATA	
<b>Shipping Name:</b>	NITROPHENOLS	
<b>Hazard Class:</b>	6.1	
<b>UN Number:</b>	UN1663	
<b>Packing Group:</b>	III	

Section 15 - Regulatory Information

**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

Section 16 - Additional Information

**MSDS Creation Date:** 1/29/1999

**Revision #4 Date:** 10/03/2005

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51/57, dontad street, 1st floor, off no. 11, mumbai - 400 009, india  
[www.indogulfgroup.com](http://www.indogulfgroup.com)