

## SAFETY DATA SHEET

Version 6.16  
Revision Date 05/07/2025  
Print Date 05/08/2025

## SECTION 1. IDENTIFICATION

## 1.1 Product identifiers

Product name : 2-Nitrophenol

Product Number : N19702  
Brand : Aldrich  
CAS-No. : 88-75-5

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

Identified uses : Laboratory chemicals, Synthesis of substances

Uses advised against : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

## 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATES

Telephone : +1 314 771-5765  
Fax : +1 800 325-5052

## 1.4 Emergency telephone number

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

## SECTION 2. HAZARDS IDENTIFICATION

**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Aldrich - N19702

Page 1 of 14

Acute toxicity (Dermal) : Category 4

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

#### Other hazards

None known.

#### GHS label elements

Hazard pictograms :



Signal Word : Warning

Hazard Statements : H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.  
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**  
P261 Avoid breathing dust.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing.  
**Response:**  
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.  
P302 + P352 + P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor if you feel unwell.  
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.  
P363 Wash contaminated clothing before reuse.  
P391 Collect spillage.  
**Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

---

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Aldrich - N19702

Page 2 of 14

## Components

| Chemical name | CAS No./Unique ID | Concentration (% w/w) | Trade secret |
|---------------|-------------------|-----------------------|--------------|
| 2-nitrophenol | 88-75-5*          | >= 90 - <= 100        | -            |

\* Indicates that the identifier is a CAS No.

Actual concentration is withheld as a trade secret

---

## SECTION 4. FIRST AID MEASURES

|   |  |
|---|--|
| General advice  | : Show this material safety data sheet to the doctor in attendance.  |
| If inhaled  | : After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician. |
| In case of skin contact                                     | : In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.                             |
| In case of eye contact                                      | : After eye contact: rinse out with plenty of water. Remove contact lenses.  |
| If swallowed  | : After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.  |
| 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                                      |
| Protection of first-aiders                                  | : For personal protection see section 8.   |
| Notes to physician  | : No data available  |

---

## SECTION 5. FIRE-FIGHTING MEASURES

|                                |  |
|--------------------------------|--|
| Suitable extinguishing media   | : Water<br>Foam<br>Carbon dioxide (CO <sub>2</sub> )<br>Dry powder             |
| Unsuitable extinguishing media | : For this substance/mixture no limitations of extinguishing agents are given. |

|  |   |
|--|---|
| Specific hazards during fire fighting          | : Combustible.  |
|  | Vapors are heavier than air and may spread along floors.  |
|  | Forms explosive mixtures with air on intense heating.   |
|  | Development of hazardous combustion gases or vapours possible in the event of fire.   |
| Hazardous combustion products                  | : Carbon oxides   |
|  | Nitrogen oxides (NO <sub>x</sub> )  |
| Specific extinguishing methods                 | : No data available   |
| Further information                            | : Suppress (knock down) gases/vapors/mists with a water spray jet.<br>Prevent fire extinguishing water from contaminating surface water or the ground water system. |
| Special protective equipment for fire-fighters | : Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.     |

---

## SECTION 6. ACCIDENTAL RELEASE MEASURES

|   |   |
|---|---|
| Personal precautions, protective equipment and emergency procedures | : Advice for non-emergency personnel:<br>Avoid inhalation of dusts.<br>Avoid substance contact.<br>Ensure adequate ventilation.<br>Evacuate the danger area, observe emergency procedures, consult an expert.<br>Advice for emergency responders:<br>For personal protection see section 8. |
| Environmental precautions   | : Do not let product enter drains.  |
| Methods and materials for containment and                           | : Cover drains. Collect, bind, and pump off spills.<br>Observe possible material restrictions (see sections 7   |

cleaning up

and 10).

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

---

## SECTION 7. HANDLING AND STORAGE

For precautions see section 2.2.

|   |   |
|---|---|
| Advice on safe handling                   | : Work under hood. Do not inhale substance/mixture.   |
| Further information on storage conditions | : Tightly closed.<br>Dry.<br>Keep in a well-ventilated place.<br>Keep locked up or in an area accessible only to qualified or authorized persons. |
| Storage class                             | : 6.1C, Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects   |
| Recommended storage temperature           | : Recommended storage temperature see product label.  |
| Further information on storage stability  | : Light sensitive.  |

---

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

**Engineering measures** : No data available

### Personal protective equipment

|                          |  |
|--------------------------|--|
| Respiratory protection   | : required when dusts are generated.<br>Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. |
| Recommended Filter type: | : Filter A (acc. to DIN 3181) for vapours of organic compounds   |

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

|                          |   |
|--------------------------|---|
| Hand protection          |   |
| Material                 | : Nitrile rubber  |
| Break through time       | : 480 min   |
| Glove thickness          | : 0.11 mm   |
| Protective index         | : Full contact  |
| Manufacturer             | : KCL 741 Dermatril® L  |
| Material                 | : Nitrile rubber  |
| Break through time       | : 480 min   |
| Glove thickness          | : 0.11 mm   |
| Protective index         | : Splash contact  |
| Manufacturer             | : KCL 741 Dermatril® L  |
| Remarks                  | : This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: <a href="http://www.kcl.de">www.kcl.de</a> ). |
| Eye protection           | : Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).<br>Safety glasses   |
| Skin and body protection | : protective clothing   |
| Hygiene measures         | : Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.   |

---

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

|                |  |
|----------------|--|
| Appearance     | : Needles  |
| Color          | : yellow   |
| Odor           | : phenol-like  |
| Odor Threshold | : No data available  |
| pH             | : No data available  |
| Melting point  | : 111 °F / 44 °C<br>(1,013 hPa)<br>Method: OECD Test Guideline 102 |

Aldrich - N19702

Page 6 of 14

|   |  |
|---|--|
| Boiling range                                       | : 417 °F / 214 °C (1,013 hPa)<br>Decomposition: yes<br>Decomposition |
| Flash point   | : 212.9 °F / 100.5 °C<br>(1,013 hPa)<br>Method: EN 2719, closed cup  |
| Evaporation rate                                    | : No data available  |
| Flammability (solid, gas)                           | : No data available  |
| Flammability (liquids)                              | : No data available  |
| Burning rate  | : No data available  |
| Upper explosion limit /<br>Upper flammability limit | : No data available  |
| Lower explosion limit /<br>Lower flammability limit | : No data available  |
| Vapor pressure                                      | : 0.069 hPa (68 °F / 20 °C)  |
| Relative vapor density                              | : No data available  |
| Relative density                                    | : No data available  |
| Density   | : 1.495 g/cm <sup>3</sup> (68 °F / 20 °C)                            |
| Solubility(ies)<br>Water solubility                 | : 2.1 g/l soluble (68 °F / 20 °C)                                    |
| Partition coefficient: n-<br>octanol/water          | : log Pow: 1.77<br>Bioaccumulation is not expected.                  |
| Autoignition temperature                            | : 1022 °F / 550 °C   |
| Decomposition<br>temperature                        | : No data available  |
| Viscosity, dynamic                                  | : No data available  |
| Viscosity, kinematic                                | : No data available  |
| Flow time   | : No data available  |
| Explosive properties                                | : Not classified as explosive.                                       |
| Oxidizing properties                                | : none   |

Molecular weight : 139.11 g/mol

Particle characteristics  
Particle size : No data available

---

## SECTION 10. STABILITY AND REACTIVITY

Reactivity : Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

Chemical stability : The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions : Violent reactions possible with:  
Strong oxidizing agents  
Strong acids  
strong alkalis  
alkali hydroxides  
Bases  
bases  
A risk of explosion and/or of toxic gas formation exists with the following substances:  
Reducing agents  
conc. sulfuric acid  
chlorosulfonic acid

Conditions to avoid : Strong heating.

Incompatible materials : No data available

Hazardous decomposition products : In the event of fire: see section 5

---

## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 334 mg/kg

Remarks: (RTECS)

Acute toxicity estimate Inhalation - 4 h - 1.6 mg/l - dust/mist

(Expert judgment)

Symptoms: mucosal irritations, Cough, Shortness of breath

Aldrich - N19702

Page 8 of 14



Acute toxicity estimate Dermal - 1,100.1 mg/kg  
(Expert judgment)

**Skin corrosion/irritation**

Skin - Rabbit

Result: No skin irritation - 20 h  
(OECD Test Guideline 404)

**Serious eye damage/eye irritation**

Eyes - Rabbit

Result: No skin irritation - 72 h  
(OECD Test Guideline 405)

**Respiratory or skin sensitization**

No data available

**Germ cell mutagenicity**

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

**Carcinogenicity**

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**11.2 Additional Information**

RTECS: SM2100000

Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer., Depending on the intensity and duration of exposure, effects may vary from mild irritation to severe destruction of tissue., prolonged or repeated exposure can cause:, Damage to the eyes., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

---

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

##### 2-nitrophenol:

#### Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

### Persistence and degradability

#### Components:

##### 2-nitrophenol:

Biodegradability : aerobic  
Concentration: 100 mg/l  
Result: Not biodegradable  
Biodegradation: 0 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301C  
GLP: yes

### Bioaccumulative potential

#### Components:

##### 2-nitrophenol:

Bioaccumulation : Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): < 5  
Exposure time: 42 d  
Concentration: 1 mg/l  
Method: OECD Test Guideline 305C  
  
Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): < 22  
Exposure time: 42 d  
Concentration: 0.1 mg/l  
Method: OECD Test Guideline 305C  
  
Partition coefficient: n-octanol/water : log Pow: 1.77  
Remarks: Bioaccumulation is not expected.

### Mobility in soil

No data available

### Other adverse effects

#### Product:

Aldrich - N19702

Page 10 of 14

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances  
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

**Components:**

**2-nitrophenol:**

Additional ecological information : Discharge into the environment must be avoided.

---

**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods**

Waste from residues : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

---

**SECTION 14. TRANSPORT INFORMATION**

**International Regulations**

**IATA-DGR**

UN/ID No. : UN 1663  
Proper shipping name : Nitrophenols  
Class : 6.1  
Packing group : III  
Labels : Division 6.1 - Toxic substances  
Packing instruction (cargo aircraft) : 677  
Packing instruction (passenger aircraft) : 670

**IMDG-Code**

UN number : UN 1663  
Proper shipping name : NITROPHENOLS (o-, m-, p-)  
  
Class : 6.1  
Packing group : III  
Labels : 6.1  
EmS Code : F-A, S-A  
Marine pollutant : no

**Transport in bulk according to IMO instruments**

Not applicable for product as supplied.

## National regulation

### 49 CFR Road

UN/ID/NA number : UN 1663  
Proper shipping name : Nitrophenols  
  
Class : 6.1  
Packing group : III  
Labels : Division 6.1 - Toxic substances  
ERG Code : 153  
Marine pollutant : no  
  
Poison Inhalation Hazard : No

### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

---

## SECTION 15. REGULATORY INFORMATION

### CERCLA Reportable Quantity

| Components    | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|---------------|---------|--------------------|-----------------------------|
| 2-nitrophenol | 88-75-5 | 100                | 100                         |

### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Acute Health Hazard

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

2-nitrophenol 88-75-5 >= 90 - <= 100 %

### Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

2-nitrophenol 88-75-5 >= 90 - <= 100 %

## Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

|               |         |                  |
|---------------|---------|------------------|
| 2-nitrophenol | 88-75-5 | >= 90 - <= 100 % |
|---------------|---------|------------------|

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

|               |         |                  |
|---------------|---------|------------------|
| 2-nitrophenol | 88-75-5 | >= 90 - <= 100 % |
|---------------|---------|------------------|

This product contains the following priority pollutants related to the U.S. Clean Water Act:

|               |         |                  |
|---------------|---------|------------------|
| 2-nitrophenol | 88-75-5 | >= 90 - <= 100 % |
|---------------|---------|------------------|

## US State Regulations

### Massachusetts Right To Know

|               |         |
|---------------|---------|
| 2-nitrophenol | 88-75-5 |
|---------------|---------|

### Pennsylvania Right To Know

|               |         |
|---------------|---------|
| 2-nitrophenol | 88-75-5 |
|---------------|---------|

### Maine Chemicals of High Concern

Product does not contain any listed chemicals

### Vermont Chemicals of High Concern

Product does not contain any listed chemicals

### Washington Chemicals of High Concern

Product does not contain any listed chemicals

### The ingredients of this product are reported in the following inventories:

TSCA : All substances listed as active on the TSCA inventory

### TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

---

## SECTION 16. OTHER INFORMATION

### Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA -

Aldrich - N19702

Page 13 of 14

International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

Copyright 2020 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.

Revision Date : 05/07/2025

The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact [mlsbranding@sial.com](mailto:mlsbranding@sial.com).

US / EN