

Safety Data Sheet

according to Regulation (EC) No 1907/2006

4-Nitrophenol (p-nitrophenol) for analysis

Revision date: 21.09.2023

Product code: 25265

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

1.1. Product identifier

4-Nitrophenol (p-nitrophenol) for analysis

CAS No: 100-02-7
Index No: 609-015-00-2
EC No: 202-811-7

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

Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name: AnalytiChem GmbH
Street: Stempelstraße 6
Place: D-47167 Duisburg
Telephone: 0203/5194-0
E-mail: info@analytichem.de
Contact person: Abteilung Produktsicherheit
E-mail: produktsicherheit@analytichem.de
Internet: www.analytichem.de
Responsible Department: Abteilung Produktsicherheit
Telefax: 0203/5194-290
Telephone: 0203/5194-107/117

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Acute Tox. 3; H301
Acute Tox. 4; H332
Acute Tox. 4; H312
STOT RE 2; H373

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Signal word: Danger

Pictograms:



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Hazard statements

H301 Toxic if swallowed.
H312+H332 Harmful in contact with skin or if inhaled.
H373 May cause damage to organs (liver, kidneys) through prolonged or repeated exposure if swallowed.

Precautionary statements

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P314 Get medical advice/attention if you feel unwell.
P405 Store locked up.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Sum formula: O₂NC₆H₄OH
Molecular weight: 139,11 g/mol

Hazardous components

CAS No	Chemical name	Quantity
	EC No	Index No
	REACH No	
	Classification (Regulation (EC) No 1272/2008)	
100-02-7	4-nitrophenol	100 %
	202-811-7	609-015-00-2
	Acute Tox. 3, Acute Tox. 4, Acute Tox. 4, STOT RE 2; H301 H332 H312 H373	

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
100-02-7	202-811-7	4-nitrophenol	100 %
	inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: ATE = 1100 mg/kg; oral: ATE = 100 mg/kg		

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Self-protection of the first aider

After inhalation

Provide fresh air.
Call a physician immediately.

After contact with skin

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.
Call a physician immediately.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water.

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Remove contact lenses, if present and easy to do. Continue rinsing.
In case of eye irritation consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water.
Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Irritant, Dyspnoea, Dizziness
Gastrointestinal complaints, Vomiting, Circulatory collapse
Headache, Spasms, Cyanosis (blue coloured blood)

4.3. Indication of any immediate medical attention and special treatment needed

Give sodium sulfate as laxative (1 tablespoon in 1 glass of water).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Combustible solids
Danger of dust explosion.
Hazardous combustion products
In case of fire may be liberated: Nitrogen oxides (NO_x)
In case of warming: Vapours can form explosive mixtures with air.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.
Avoid contact with skin, eyes and clothes.

Additional information

Use water spray jet to protect personnel and to cool endangered containers.
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Provide adequate ventilation.
Use personal protection equipment.
Avoid contact with skin, eyes and clothes.
Remove persons to safety.
Emergency procedures
Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For containment

Cover drains.
Prevent spread over a wide area (e.g. by containment or oil barriers).
Collect in closed and suitable containers for disposal.
Take up carefully when dry. Take up dust-free and set down dust-free.

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For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Keep container tightly closed.

Do not breathe dust.

Avoid contact with skin, eyes and clothes.

Read label before use.

Use extractor hood (laboratory).

Advice on protection against fire and explosion

In case of warming: Vapours can form explosive mixtures with air.

Danger of dust explosion.

Advice on general occupational hygiene

Wash contaminated clothing prior to re-use.

Avoid contact with skin, eyes and clothes.

Further information on handling

Wash contaminated clothing before reuse.

Wash hands before breaks and after work.

Draw up and observe skin protection programme.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed.

storage temperature: +5°C - +30°C

Store in a place accessible by authorized persons only.

Further information on storage conditions

Store in a dry place.

Store in a well-ventilated place.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles

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Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact

Trade name/designation: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. 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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Wear suitable protective clothing.
Wash hands before breaks and after work.

Respiratory protection

Respiratory protection necessary at: dust formation

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	solid
Colour:	yellow
Odour:	characteristic
Odour threshold:	No data available
Melting point/freezing point:	110 - 114 °C
Boiling point or initial boiling point and boiling range:	279 °C
Flammability:	No data available
Lower explosion limits:	No data available
Upper explosion limits:	No data available
Flash point:	169 °C
Auto-ignition temperature:	510 °C
Decomposition temperature:	>280 °C
pH-Value (at 24 °C):	4,4 (5 g/l)
Viscosity / kinematic:	No data available
Water solubility:	No data available
Solubility in other solvents	No data available
Dissolution rate:	No data available
Partition coefficient n-octanol/water:	log Pow: 1,95
Dispersion stability:	No data available
Vapour pressure:	No data available
Vapour pressure:	No data available

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Density (at 20 °C):	1,48 g/cm ³
Relative density:	No data available
Bulk density:	~550 kg/m ³
Relative vapour density:	No data available
Particle characteristics:	No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

Danger of dust explosion.

Sustaining combustion:

No data available

Self-ignition temperature

Solid:

No data available

Gas:

No data available

Oxidizing properties

No data available

Other safety characteristics

Evaporation rate:

No data available

Solvent separation test:

No data available

Solvent content:

No data available

Solid content:

100%

Sublimation point:

No data available

Softening point:

No data available

Pour point:

No data available

No data available:

Viscosity / dynamic:

No data available

Flow time:

No data available

Further Information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

In case of warming: Vapours can form explosive mixtures with air.

Danger of dust explosion.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Reducing agent

Sulphuric acid, concentrated

Alkali (lye)

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

In case of fire may be liberated: Nitrogen oxides (NOx)

Further information

No data available

SECTION 11: Toxicological information

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11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicokinetics, metabolism and distribution

No data available

Acute toxicity

Toxic if swallowed.
Harmful in contact with skin.
Harmful if inhaled.
Irritation to respiratory tract

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
100-02-7	4-nitrophenol				
	oral	ATE 100 mg/kg			
	dermal	ATE 1100 mg/kg			
	inhalation vapour	ATE 11 mg/l			
	inhalation dust/mist	ATE 1,5 mg/l			

Irritation and corrosivity

Based on available data, the classification criteria are not met. slightly irritant but not relevant for classification.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure. (4-nitrophenol)

Aspiration hazard

Based on available data, the classification criteria are not met.

Information on likely routes of exposure

No data available

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

No data available

11.2. Information on other hazards

Endocrine disrupting properties

No data available

Other information

No data available

Further information

Irritant, Dyspnoea, Dizziness
Gastrointestinal complaints, Vomiting, Circulatory collapse
Headache, Spasms, Cyanosis (blue coloured blood)

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SECTION 12: Ecological information

12.1. Toxicity

No data available

12.2. Persistence and degradability

97 %; 14 d

OECD-301A

Readily biodegradable (according to OECD criteria).

12.3. Bioaccumulative potential

log Pow: 1,95

OECD-117

No indication of bioaccumulation potential.

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

No data available

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

No data available

12.7. Other adverse effects

Discharge into the environment must be avoided.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not mix with other wastes.

Do not empty into drains.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

Land transport (ADR/RID)

<u>14.1. UN number or ID number:</u>	UN 1663
<u>14.2. UN proper shipping name:</u>	NITROPHENOLS (o-, m-, p-)
<u>14.3. Transport hazard class(es):</u>	6.1
<u>14.4. Packing group:</u>	III
Hazard label:	6.1
Classification code:	T2
Special Provisions:	279
Limited quantity:	5 kg
Excepted quantity:	E1
Transport category:	2
Hazard No:	60

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Tunnel restriction code: E

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 1663
14.2. UN proper shipping name: NITROPHENOLS (o-, m-, p-)
14.3. Transport hazard class(es): 6.1
14.4. Packing group: III
 Hazard label: 6.1
 Classification code: T2
 Special Provisions: 279 802
 Limited quantity: 5 kg
 Excepted quantity: E1

Marine transport (IMDG)

14.1. UN number or ID number: UN 1663
14.2. UN proper shipping name: NITROPHENOLS (o-, m-, p-)
14.3. Transport hazard class(es): 6.1
14.4. Packing group: III
 Hazard label: 6.1
 Special Provisions: 279
 Limited quantity: 5 kg
 Excepted quantity: E1
 EmS: F-A, S-A

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1663
14.2. UN proper shipping name: NITROPHENOLS (o-, m-, p-)
14.3. Transport hazard class(es): 6.1
14.4. Packing group: III
 Hazard label: 6.1
 Special Provisions: A113
 Limited quantity Passenger: 10 kg
 Passenger LQ: Y645
 Excepted quantity: E1
 IATA-packing instructions - Passenger: 670
 IATA-max. quantity - Passenger: 100 kg
 IATA-packing instructions - Cargo: 677
 IATA-max. quantity - Cargo: 200 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

EU regulatory information

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

National regulatory information

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Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
Water hazard class (D):	2 - obviously hazardous to water

SECTION 16: Other information

Abbreviations and acronyms

Acute Tox: Acute toxicity

STOT RE: Specific target organ toxicity - repeated exposure

Relevant H and EUH statements (number and full text)

H301	Toxic if swallowed.
H312	Harmful in contact with skin.
H312+H332	Harmful in contact with skin or if inhaled.
H332	Harmful if inhaled.
H373	May cause damage to organs (liver, kidneys) through prolonged or repeated exposure if swallowed.
H373	May cause damage to organs through prolonged or repeated exposure.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.