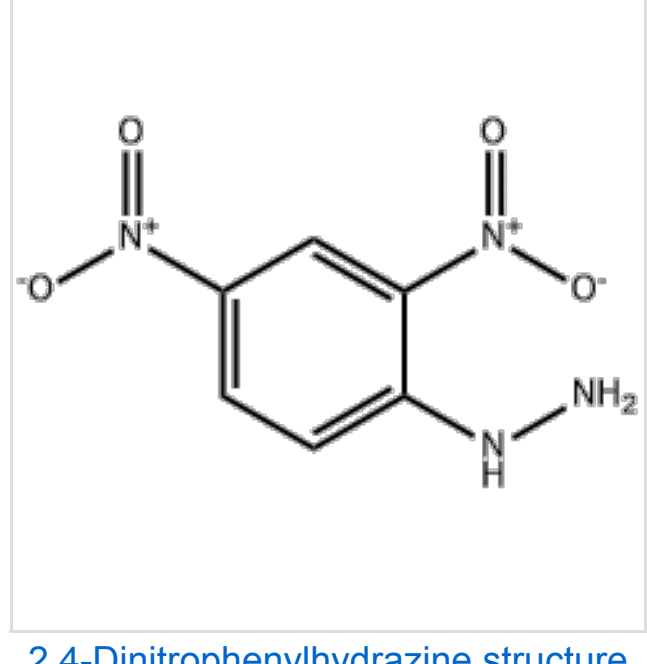


[ChemicalBook](#) >> [CAS DataBase List](#) >> 2,4-Dinitrophenylhydrazine

## 2,4-Dinitrophenylhydrazine



2,4-Dinitrophenylhydrazine structure

|                           |  |
|---------------------------|--|
| <b>CAS No.</b>            | 119-26-6   |
| <b>Chemical Name:</b>     | 2,4-Dinitrophenylhydrazine   |
| <b>Synonyms</b>           | DNPH;2,4-DINITROPHENYLHYDRAZINE;2,4-DNPH;(2,4-dinitrophenyl)-hydrazin;DINITROPHENYL HYDRAZINE;2,4-Dinitrofenylhydrazin;2,4-dinitrophenyl-hydrazin;2,4-Dinitrophenylhydrazine, 97%, moist with 30-35% water;2,4-Dinitrophenylhydrazine, reagent grade, with 30 - 35% of H2O;DNP |
| <b>CBNumber:</b>          | CB4852908  |
| <b>Molecular Formula:</b> | C6H6N4O4   |
| <b>Molecular Weight:</b>  | 198.14   |
| <b>MDL Number:</b>        | MFCD00007578   |
| <b>MOL File:</b>          | <a href="#">119-26-6.mol</a>   |
| <b>MSDS File:</b>         | <a href="#">SDS</a>  |
| <b>Last updated:</b>      | 2023-07-27 17:37:55  |

[Request For Quotation](#)

|                            |                        |                       |                    |                      |                           |                   |                          |
|----------------------------|------------------------|-----------------------|--------------------|----------------------|---------------------------|-------------------|--------------------------|
| <a href="#">Properties</a> | <a href="#">Safety</a> | <a href="#">Price</a> | <a href="#">12</a> | <a href="#">Uses</a> | <a href="#">Suppliers</a> | <a href="#">3</a> | <a href="#">Spectrum</a> |
|----------------------------|------------------------|-----------------------|--------------------|----------------------|---------------------------|-------------------|--------------------------|

### 2,4-Dinitrophenylhydrazine Properties

|                                      |  |
|--------------------------------------|--|
| <b>Melting point</b>                 | 197-200 °C (lit.)  |
| <b>Boiling point</b>                 | 335.43°C (rough estimate)  |
| <b>Density</b>                       | 0.843 g/mL at 20 °C  |
| <b>refractive index</b>              | <i>n</i> <sub>D</sub> 1.374  |
| <b>Flash point</b>                   | 14 °C  |
| <b>storage temp.</b>                 | 2-8°C  |
| <b>solubility</b>                    | 50% sulfuric acid: 10 mg/mL, clear, colorless  |
| <b>pka</b>                           | 12.1(at 25°C)  |
| <b>form</b>                          | crystals   |
| <b>color</b>                         | Red  |
| <b>PH Range</b>                      | Yellow (11.0) to brown (12.5)  |
| <b>Water Solubility</b>              | slightly soluble   |
| <b>Merck</b>                         | 14,3283  |
| <b>BRN</b>                           | 615586   |
| <b>Stability</b>                     | Stable when wet, but explosive when dry. May be shock sensitive when dry. Highly flammable. Incompatible with strong oxidizing agents.                             |
| <b>Major Application</b>             | Fuel cells, detecting microorganisms, antibacterial agent, treatment of acuteand chronic hepatitis, gynecopathy, cardiovascular diseases, cerebrovascular diseases |
| <b>InChIKey</b>                      | HORQAOAYAGIBM-UHFFFAOYSA-N   |
| <b>CAS DataBase Reference</b>        | <a href="#">119-26-6(CAS DataBase Reference)</a>   |
| <b>FDA UNII</b>                      | 1N39KD7QPJ   |
| <b>NIST Chemistry Reference</b>      | <a href="#">Hydrazine, (2,4-dinitrophenyl)-(119-26-6)</a>  |
| <b>EPA Substance Registry System</b> | <a href="#">2,4-Dinitrophenylhydrazine (119-26-6)</a>  |

| SAFETY                          | Risk and Safety Statements                   |
|---------------------------------|--|
| <b>Symbol(GHS)</b>              | <br>GHS02,GHS07                              |
| <b>Signal word</b>              | Danger                                       |
| <b>Hazard statements</b>        | H206-H302                                    |
| <b>Precautionary statements</b> | P210-P212-P230-P233-P280-P370+P380+P375-P501 |
| <b>Hazard Codes</b>             | F, Xn  |
| <b>Risk Statements</b>          | 1-11-22-40-2001/11/22                        |
| <b>Safety Statements</b>        | 35-48A-45-36/37-16                           |
| <b>RIDADR</b>                   | UN 3380 4.1/PG 1                             |
| <b>WGK Germany</b>              | 3  |
| <b>RTECS</b>                    | MV3325000                                    |
| <b>F</b>                        | 8  |
| <b>HazardClass</b>              | 4.1  |
| <b>PackingGroup</b>             | II   |
| <b>HS Code</b>                  | 29280000                                     |
| <b>NFPA 704</b>                 |  |

### 2,4-Dinitrophenylhydrazine price

[More Price\(12\)](#)

| Manufacturer  | Product number | Product description   | CAS number | Packaging | Price         | Updated    | Buy                 |
|---------------|----------------|---|------------|-----------|---------------|------------|---------------------|
| Sigma-Aldrich | 04732          | 2,4-Dinitrophenylhydrazine for HPLC derivatization, moistened with 35% water, ≥99.0% (HPLC) | 119-26-6   | 1g        | <b>\$33.6</b> | 2022-05-15 | <a href="#">Buy</a> |
| Sigma-Aldrich | 04732          | 2,4-Dinitrophenylhydrazine for HPLC derivatization, moistened with 35% water, ≥99.0% (HPLC) | 119-26-6   | 10g       | <b>\$66.1</b> | 2022-05-15 | <a href="#">Buy</a> |
| TCI Chemical  | D2968          | 2,4-Dinitrophenylhydrazine (contains HCl) Ethanol Solution [for TLC Stain]                  | 119-26-6   | 500mL     | <b>\$181</b>  | 2023-06-20 | <a href="#">Buy</a> |
| Sigma-Aldrich | D199303        | 2,4-Dinitrophenylhydrazine reagent grade, 97%   | 119-26-6   | 25g       | <b>\$65</b>   | 2023-06-20 | <a href="#">Buy</a> |
| Sigma-Aldrich | D199303        | 2,4-Dinitrophenylhydrazine reagent grade, 97%   | 119-26-6   | 100g      | <b>\$166</b>  | 2023-06-20 | <a href="#">Buy</a> |

### 2,4-Dinitrophenylhydrazine Chemical Properties,Uses,Production

#### Description

2,4-Dinitrophenylhydrazine (abbreviated 2,4-DNP for short) is the chemical compound C<sub>6</sub>H<sub>3</sub>(NO<sub>2</sub>)<sub>2</sub>NHNH<sub>2</sub>, and it is often used to qualitatively test for carbonyl groups associated with aldehydes and ketones. The hydrazone derivatives can also be used as evidence toward the identity of the original compound. It is relatively sensitive to shock and friction; it is a shock explosive, so care must be taken with its use. To reduce its explosive hazard, it is usually supplied wet.

2,4-Dinitrophenylhydrazine is a compound with a benzene ring, two Nitro groups, and a hydrazine (two nitrogen atoms bonded directly to each other) functional group. It is used as a Brady's reagent to test the existing of a ketone or aldehyde.

#### Chemical Properties

white to light yellow crystal powde

#### Uses

2,4-Dinitrophenylhydrazine has been used as a reagent to detect the presence of aldehydes and ketones in protein carbonyls. It may be used as a colorimetric reagent in the quantitative estimation of prednisone.

#### Uses

2,4-Dinitrophenylhydrazine is known as Brady's reagent, a substituted hydrazine that is often used for qualitative testing of carbonyl groups associated with aldehydes and ketones.

#### Definition

ChEBI: 2,4-dinitrophenylhydrazine is a C-nitro compound that is phenylhydrazine substituted at the 2- and 4-positions by nitro groups. It has a role as a reagent. It is a member of phenylhydrazines and a C-nitro compound.

#### General Description

2,4-Dinitrophenylhydrazine (DNPH), a hydrazine derivative, is a potential mutagenic agent. Its molecular and crystal structure has been analyzed. The intra- and intermolecular hydrogen bonds in DNPH have been investigated by vibrational spectroscopic analysis. The mechanism of isothermal degradation of DNPH has been studied by differential scanning calorimetry (DSC).

#### Hazard

2,4-Dinitrophenylhydrazine [119-26-6] is a flammable solid, which must be kept moist and is harmful if swallowed, inhaled, or absorbed through the skin. Concentrated sulfuric acid [7664-93-9] is poisonous and corrosive. Its mist can cause severe burns to all body tissue. It may be fatal if swallowed or by skin contact. It is harmful if inhaled and may cause cancer. Ethanol [64-17-5] is flammable and should be kept from ignition sources. Eye and face protection, protective clothing, and gloves must be worn.

#### Purification Methods

Crystallise DNPH from butan-1-ol, dioxane, EtOH, \*C<sub>6</sub>H<sub>6</sub> or EtOAc. The hydrochloride has m 186o (dec). [Beilstein 15 IV 380.]

#### References

- SOME LIMITATIONS OF 2,4-DINITROPHENYLHYDRAZINE AS A REAGENT FOR CARBONYL GROUPS. DOI:[10.1021/JO01226A003](#)
- Linstromberg, W. W.; Baumgarten, H. E. Organic Experiments, 6th ed.; Houghton Mifflin: Boston, 2002; p 175. Shriner, R. L.; Hermann, C. K. F.; Morrill, T. C.; Curtin, D. Y.; Fuson, R. C. The Systematic Identification of Organic Compounds, 8th ed.; Wiley: Hoboken, NJ, 2004; pp 278–279.
- An Improved Preparation of 2,4-Dinitrophenylhydrazine Reagent. DOI:[10.1021/ED082P1310.2](#)

### 2,4-Dinitrophenylhydrazine Preparation Products And Raw materials

#### Raw materials

[Hydrazine sulfate](#) | [Potassium Acetate](#) | [2,4-Dinitrochlorobenzene](#)

#### Preparation Products

[Di-2,4-dinitrophenylhydrazonopyruvaldehyde](#) | [ACROLEIN 2,4-DINITROPHENYLHYDRAZONE](#) | [ACETONE 2,4-DINITROPHENYLHYDRAZONE](#)

### 2,4-Dinitrophenylhydrazine Suppliers

Global( 3)Suppliers China 3

| Supplier  | Tel                      | Email         | Country | ProdList              | Advantage          |
|---|--------------------------|---------------|---------|-----------------------|--------------------|
| <a href="#">BEST-REAGENT</a>                            | 400-1166-196 18981987031 | cdhsj@163.com | China   | <a href="#">11729</a> | <a href="#">57</a> |
| <a href="#">Chengdu HuaXia Chemical Reagent Co. Ltd</a> | 400-1166-196 13458535857 | cdhsj@163.com | China   | <a href="#">13360</a> | <a href="#">58</a> |
| <a href="#">Chengdu Dianchun Technology Co., Ltd</a>    | 400-1166-196 18502815961 | cdhsj@163.com | China   | <a href="#">14624</a> | <a href="#">60</a> |

### Related articles

#### The reaction of 2,4-Dinitrophenylhydrazine to test the existing of aldehyde or ketone

2,4-Dinitrophenylhydrazine (abbreviated 2,4-DNP for short) is the chemical compound C<sub>6</sub>H<sub>3</sub>(NO<sub>2</sub>)<sub>2</sub>NHNH<sub>2</sub>, and it is often used to...

Mar 2, 2020

### 2,4-Dinitrophenylhydrazine Spectrum

[DNP\(119-26-6\)MS](#) [DNP\(119-26-6\)<sup>1</sup>HNMR](#) [DNP\(119-26-6\)IR1](#) [DNP\(119-26-6\)IR2](#) [DNP\(119-26-6\)Raman](#)

### 119-26-6(2,4-Dinitrophenylhydrazine)Related Search:

[Chloroacetaldehyde \(2,4-dinitrophenyl\)hydrazone](#) | [2-\[2-\(5-CHLORO-2,4-DINITROPHENYL\)HYDRAZONO\]PROPANOIC ACID](#) | [NONANAL \(DNPH DERIVATIVE\)](#) | [SALOR-INT L254711-1FA](#) | [RARECHEM AL F1 4041](#) | [RARECHEM AL F1 4042](#) | [SALOR-INT L255858-1FA](#) | [AURORA 681](#) | [DIETHYL \(2,4-DICHLORO-2-\(2,4-DINITROPHENYL\)HYDRAZONO\)YLPHOSPHONATE](#) | [4-\[3-CHLORO-5-\(1-METHYLHYDRAZINO\)-2,6-DINITROPHENYL\]MORPHOLINE](#) | [BENZALDEHYDE 2,4-DINITROPHENYLHYDRAZONE](#) | [2,4-dinitro-N-\(octylideneamino\)aniline](#) | [P-TOLUALDEHYDE 2,4-DINITROPHENYLHYDRAZONE](#) | [AURORA KA-261](#) | [AKOS BB-9501](#) | [2,2-DI\(4-TERT-OCTYLPHENYL\)-1-PICRYL-HYDRAZYL](#) | [FREE RADICAL](#) | [\[3-CHLORO-5-\(TRIFLUOROMETHYL\)-2-PYRIDINYL\]\(3-PYRIDINYL\)METHANONE N-\(2,4-DINITROPHENYL\)HYDRAZONE](#) | [AZO YELLOW](#)

[1-Hydrazino-2,4-dinitrobenzene](#) | [2,4-DINITROPHENYLHYDRAZINE](#) extrapure AR | [2,4-Dinitrophenylhydrazine, wetted with ca. 50% water](#) | [2,4-Dinitrophenylhydrazine \(contains HCl\) Ethanol Solution](#) | [2,4-DINITROPHENYLHYDRAZINE, MOIST. WITH WATER \(H2O ~35%\)](#) | [2,4-Dinitrophenylhydrazine Solution \[for Spray\]](#) | [2,4-Dinitrophenylhydrazine \(contains HCl\) Ethanol Solution \[for TLC Stain\]](#) | [DINITROPHENYL HYDRAZ](#) | [2,4-DINITROPHENYLHYDRAZINE, MOIST. WITH WATER \(H2O ~50%\)](#) | [2,4-DINITROPHENYLHYDRAZINE HYDROCHLORIC ACID SOLTUION](#) | [2,4-DINITROPHENYLHYDRAZINE MOIST. WITH](#) | [2,4-DINITROPHENYLHYDRAZINE 99+% GR](#) | [2,4-DinitrophenylHydrazineForSynthesis](#) | [2,4-DinitrophenylHydrazineGr](#) | [2,4-Dinitrophenylhydrazine99%](#) | [2,4-Dinitrophenylhydrazine, moist with water](#) | [2,4-Dinitrophenylhydrazine Solution, 100ppm](#) | [\(2,4-Dinitrophenyl\)hydrazine \(contains 30 - 40% water\)](#) | [DNP](#) | [2,4-Dinitrophenylhydrazine, 97%\(dry wt.\)](#), water ca 30-40% | [2,4-Dinitrophenylhydrazine \(wetted with ca. 50% Water, containing 25g and 500g on a dry weight basis respectively\)](#) | [L-Amino acids, dinitrophenyl](#) | [2,4-Dinitrophenylhydrazine \(wetted with ca. 50% Water, containing 25g, 100g and 500g on a dry weight basis respectively\)](#) | [2,4-Dinitrophenylhydrazine \(wetted with ca. 50% Water\) \(unit weight on dry weight basis\)](#) | [Dnp-hydrazine](#), [Hydrazine,\(2,4-dinitrophenyl\)-](#) | [2,4-dinitrophenylhydrazine](#) | [2,4-DINITROPHENYLHYDRAZINE, REAGENT GRADE](#) | [2,4-Dinitrophenylhydrazine, moist dnp, contains min. 30% water](#) | [2,4-dinitrophenylhydrazine hydrochloric acid solution](#) | [2,4-DINITROPHENYLHYDRAZINE, MOIST WITH 30-35% WATER](#) | [2,4-DINITROPHENYLHYDRAZINE AR](#) | [Nsc 5709](#) | [1-\(2,4-DINITROPHENYL\)HYDRAZINE](#) | [2,4-Dinitrophenylhydrazine, 98%, wetted with ca. 50% water](#) | [2,4- two nitrophenyl hydrazine solution](#) | [2,4-Dinitrophenylhydrazine reagent, 0.3 M in EtOH solution](#) | [Dinitrophenylhydrazine ethanol test solution\(ChP\)](#) | [Dinitrophenylhydrazine test solution\(ChP\)](#) | [oric acid soL](#) | [2,4-Dinitrophenylhydrazine \(wetted with ca. 50% Water, containing 25g and 500g on a dry weight basis respectively\)](#) > | [2,4-Dinitrophenylhydrazine \(water added\)](#) | [2, 4-Dinitrophenylhydrazine solution](#) | [2,4-Dinitrophenylhydrazine DISCONTINUED](#) | [2,4-Dinitrofenylhydrazine](#) | [4-Dinitrofenylhydrazine](#) | [Dinitrophenylhydrazine test solution](#) | [Dinitrophenylhydrazine ethanol test solution](#) | [2,4-Dinitrophenylhydrazine \(GR\)](#) | [2,4-Dinitrophenylhydrazine extrapure AR, ExiPlus, Multi-Compndial, 99%](#) | [2, 4-Dinitrophenylhydrazine, \(extra pure, wetted with ca. 50% Water as stabilizer\)](#) | [\(2,4-dinitrophenyl\)-hydrazin](#) | [2,4-Dinitrofenylhydrazin](#) | [2,4-dinitrophenyl-hydrazin](#) | [2,4-DNPH](#) | [2,4-Dinitrophenylhydrazine, 97%, moist with 30-35% water](#) | [2,4-Dinitrophenylhydrazine, reagent grade, with 30 - 35% of H2O](#) | [DINITROPHENYL HYDRAZINE](#)