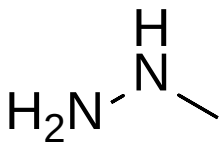
Product data sheet

MedKoo Cat#: 592256 Name: Methylhydrazine CAS: 60-34-4 Chemical Formula: CH_6N_2 Exact Mass: 46.0531 Molecular Weight: 46.073	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
Methylhydrazine is a hydrazine substituted by one methyl group.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	21.70 mL	108.52	217.05
5 mM	4.34 mL	21.70 mL	43.41 mL
10 mM	2.17 mL	10.85 mL	21.70 mL
50 mM	0.43 mL	2.17 mL	4.34 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Ioannou DI, Gioftsidou DK, Tsina VE, Kallitsakis MG, Hatzidimitriou AG, Terzidis MA, Angaridis PA, Lykakis IN. Selective Reduction of Nitroarenes to Arylamines by the Cooperative Action of Methylhydrazine and a Tris(N-heterocyclic thioamidate) Cobalt(III) Complex. J Org Chem. 2021 Feb 5;86(3):2895-2906. doi: 10.1021/acs.joc.0c02814. Epub 2021 Jan 26. PMID: 33497222.

In vivo study

1. Pandey S, Singh A, Chaudhari N, Nampoothiri LP, Kumar GN. Protection against 1,2-di-methylhydrazine-induced systemic oxidative stress and altered brain neurotransmitter status by probiotic Escherichia coli CFR 16 secreting pyrroloquinoline quinone. Curr Microbiol. 2015 May;70(5):690-7. doi: 10.1007/s00284-014-0763-9. Epub 2015 Jan 14. PMID: 25586077.
2. Estrada-Flores E, Yáñez Mendoza C. Histology of rat placentas treated with methylhydrazine Ro 4-6467. Bol Estud Med Biol. 1990 Jul-Dec;38(3-4):59-64. PMID: 2103745.

7. Bioactivity
Biological target:

Methylhydrazine is a hydrazine substituted by one methyl group.

In vitro activity

This study reports an efficient catalytic protocol that chemoselectively reduces nitroarenes to arylamines, by using methylhydrazine as a reducing agent in combination with the easily synthesized and robust catalyst tris(N-heterocyclic thioamidate) Co(III) complex

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[Co(κS,N-tfmp2S)3], tfmp2S = 4-(trifluoromethyl)-pyrimidine-2-thiolate. Preliminary mechanistic investigations, supported by UV-vis and NMR spectroscopy, cyclic voltammetry, and high-resolution mass spectrometry, suggest a cooperative action of methylhydrazine and [Co(κS,N-tfmp2S)3] via a coordination activation pathway that leads to the formation of a reduced cobalt species, responsible for the catalytic transformation.

Reference: J Org Chem. 2021 Feb 5;86(3):2895-2906. https://pubmed.ncbi.nlm.nih.gov/33497222/

In vivo activity

Aim of the present study was to evaluate the antioxidant efficacy of PQQ-producing probiotic E. coli CFR 16 on DMH (1,2-dimethylhydrazine)-induced systemic oxidative damage and altered neurotransmitter status in rat brain. Blood lipid peroxidation levels exhibited a marked increase while antioxidant enzyme activities of superoxide dismutase, catalase, glucose-6-phosphate dehydrogenase and glutathione peroxidase were found to be reduced in DMH-treated rats.

Reference: Curr Microbiol. 2015 May;70(5):690-7. https://pubmed.ncbi.nlm.nih.gov/25586077/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.