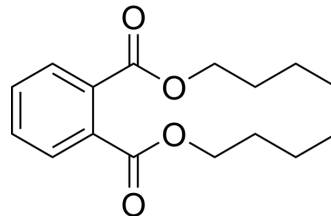


Dibutyl phthalate

Cat. No.:	HY-Y0304		
CAS No.:	84-74-2		
Molecular Formula:	C ₁₆ H ₂₂ O ₄		
Molecular Weight:	278.34		
Target:	Biochemical Assay Reagents		
Pathway:	Others		
Storage:	Pure form	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

Ethanol : ≥ 50 mg/mL (179.64 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	3.5927 mL	17.9636 mL	35.9273 mL
	5 mM	0.7185 mL	3.5927 mL	7.1855 mL
	10 mM	0.3593 mL	1.7964 mL	3.5927 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% EtOH >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.5 mg/mL (8.98 mM); Clear solution
- Add each solvent one by one: 10% EtOH >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 2.5 mg/mL (8.98 mM); Clear solution
- Add each solvent one by one: 10% EtOH >> 90% corn oil
 Solubility: ≥ 2.5 mg/mL (8.98 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Dibutyl phthalate is a commonly used plasticizer commonly found in some food packaging materials, personal care products, and the coating of oral medications^[1]. May cause toxicity and adverse neurobehavioral effects^{[2][3]}.

In Vitro

Dibutyl phthalate (0.001 µg/mL-1000 µg/mL) is detrimental to follicle growth and viability and results in significant dysregulation of cell cycle and apoptosis gene expression in a dose-specific manner. But MBP does not play a role in Dibutyl phthalate toxicity in follicles exposed in vitro^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Dibutyl phthalate (200, 400, or 600 mg/kg/day) induces decrease mice weight, impairment of spermatogenesis, reduces serum follicle stimulating hormone and testosterone level, alters testicular LDH, increases LPO, and decreases the levels of enzymatic antioxidants with histopathological anomalies^[2].

Dibutyl phthalate (6.25, 12.5, 25, 50, 100 and 200 mg/kg) could cause some neurobehavioral adverse effects in mice^[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Sci Total Environ. 2023 Jul 11;897:165500.

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REFERENCES

[1]. Rasmussen LM, et al. Effects of in vitro exposure to dibutyl phthalate, mono-butyl phthalate, and acetyl tributyl citrate on ovarian antral follicle growth and viability. Biol Reprod. 2017 May 1;96(5):1105-1117.

[2]. Aly HA, et al. Dibutyl phthalate induces oxidative stress and impairs spermatogenesis in adult rats. Toxicol Ind Health. 2016 Aug;32(8):1467-1477.

[3]. Farzanehfar V, et al. Determination of dibutyl phthalate neurobehavioral toxicity in mice. Food Chem Toxicol. 2016 Aug;94:221-6.

Caution: Product has not been fully validated for medical applications. For research use only.

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