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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

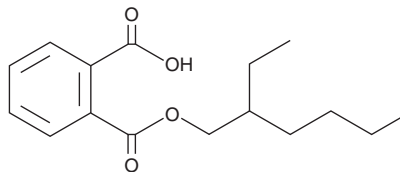
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PRODUCT INFORMATION



rac-Mono(ethylhexyl) Phthalate Item No. 35605

CAS Registry No.: 4376-20-9
Formal Name: 1,2-benzenedicarboxylic acid,
1-(2-ethylhexyl) ester
Synonyms: MEHP, Mono-2-ethylhexyl Phthalate
MF: C₁₆H₂₂O₄
FW: 278.3
Purity: ≥90%
Supplied as: A low melting solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

rac-Mono(ethylhexyl) phthalate (MEHP) is supplied as a low melting solid. A stock solution may be made by dissolving the MEHP in the solvent of choice, which should be purged with an inert gas. MEHP is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of MEHP in DMF is approximately 10 mg/ml and approximately 15 mg/ml in ethanol and DMSO.

Description

MEHP is a metabolite of di(2-ethylhexyl) phthalate (DEHP), commonly used as a plasticizer and an identified environmental contaminant, and an agonist of peroxisome proliferator-activated receptor γ (PPAR γ).¹ It binds to PPAR γ when used at concentrations of 50 and 100 μ M and activates PPAR γ in a reporter assay using HEK293H cells ($EC_{10} = 1.2 \mu$ M). MEHP (30, 100, and 300 μ M) accumulates in 3T3-L1 adipocytes and increases lipolysis, glucose uptake, and energy metabolism, as well as reduces the size of lipid droplets when used at concentrations of 100 and 300 μ M.² It also increases the expression of the thermogenesis-related genes *Usp1*, *Cidea*, *Prdm16*, and *Trpv1* in 3T3-L1 adipocytes.³ Urinary levels of MEHP in women positively correlate with the risk of unexplained recurrent spontaneous abortion (URSA).⁴

References

1. Kratochvil, I., Hofmann, T., Rother, S., *et al.* Mono(2-ethylhexyl) phthalate (MEHP) and mono(2-ethyl-5-oxohexyl) phthalate (MEOHP) but not di(2-ethylhexyl) phthalate (DEHP) bind productively to the peroxisome proliferator-activated receptor γ . *Rapid Commun Mass Spectrom.* **33 Suppl. 1(Suppl. 1)**, 75-85 (2019).
2. Chiang, H.-c., Kuo, Y.-T., Shen, C.-C., *et al.* Mono(2-ethylhexyl)phthalate accumulation disturbs energy metabolism of fat cells. *Arch. Toxicol.* **90(3)**, 589-601 (2016).
3. Hsu, J.-W., Nien, C.-Y., Yeh, S.-C., *et al.* Phthalate exposure causes browning-like effects on adipocytes *in vitro* and *in vivo*. *Food Chem. Toxicol.* **142**, 111487 (2020).
4. Aimuzi, R., Huang, S., Luo, K., *et al.* Levels and health risks of urinary phthalate metabolites and the association between phthalate exposure and unexplained recurrent spontaneous abortion: A large case-control study from China. *Environ. Res.* **212(Pt. C)**, 113393 (2022).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM