

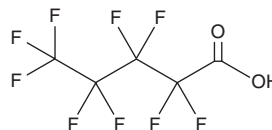
PRODUCT INFORMATION



Perfluoropentanoic Acid

Item No. 37254

CAS Registry No.: 2706-90-3
Formal Name: 2,2,3,3,4,4,5,5,5-nonafluoro-pentanoic acid
Synonyms: Nonafluoropentanoic Acid,
Nonafluorovaleric Acid, NSC 18404,
Perfluorovaleric Acid, PFPeA
MF: C₅HF₉O₂
FW: 264.0
Purity: ≥85%
Supplied as: A liquid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Perfluoropentanoic acid is supplied as a liquid. A stock solution may be made by dissolving the perfluoropentanoic acid in the solvent of choice, which should be purged with an inert gas. Perfluoropentanoic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of perfluoropentanoic acid in these solvents is approximately 10 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of perfluoropentanoic acid can be prepared by directly dissolving the liquid in aqueous buffers. The solubility of perfluoropentanoic acid in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Perfluoropentanoic acid is a perfluoroalkyl substance (PFAS).¹ It activates peroxisome proliferator-activated receptor α (PPAR α) in a reporter assay using COS-1 cells expressing the human receptor when used at concentrations ranging from 1 to 100 μ M. Topical application of perfluoropentanoic acid (5% v/v) increases liver weight and the number of B cells, T cells, natural killer (NK) cells, eosinophils, and dendritic cells in the draining lymph node, decreases blood urea nitrogen (BUN) levels, and induces epidermal hyperplasia and hyperkeratosis in mice.² It has been found in landfill leachate and sea and river water.^{3,4}

References

1. Wolf, C.J., Schmid, J.E., Lau, C., *et al.* Activation of mouse and human peroxisome proliferator-activated receptor- α (PPAR α) by perfluoroalkyl acids (PFAAs): Further investigation of C4-C12 compounds. *Reprod Toxicol* **33**(4), 546-551 (2012).
2. Weatherly, L.M., Shane, H.L., Lukomska, E., *et al.* Systemic toxicity induced by topical application of perfluoroheptanoic acid (PFHpA), perfluorohexanoic acid (PFHxA), and perfluoropentanoic acid (PFPeA) in a murine model. *Food Chem. Toxicol.* **171**, 113515 (2023).
3. Capozzi, S.L., Leang, A.L., Rodenburg, L.A., *et al.* PFAS in municipal landfill leachate: Occurrence, transformation, and sources. *Chemosphere* **334**, 138924 (2023).
4. Zhao, Z., Cheng, X., Hua, X., *et al.* Emerging and legacy per- and polyfluoroalkyl substances in water, sediment, and air of the Bohai Sea and its surrounding rivers. *Environ. Pollut.* **263**(Pt. A), 114391 (2020).

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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