

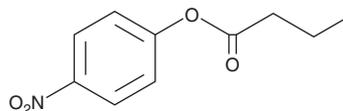
# PRODUCT INFORMATION



## 4-Nitrophenyl Butyrate

Item No. 25439

**CAS Registry No.:** 2635-84-9  
**Formal Name:** butanoic acid, 4-nitrophenyl ester  
**Synonyms:** p-Nitrophenyl Butyrate, para-Nitrophenyl Butyrate, 4-NPB, NSC 6867  
**MF:** C<sub>10</sub>H<sub>11</sub>NO<sub>4</sub>  
**FW:** 209.2  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 270 nm  
**Supplied as:** A neat oil  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

4-Nitrophenyl butyrate (4-NPB) is supplied as a neat oil. A stock solution may be made by dissolving the 4-NPB in the solvent of choice. 4-NPB is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of 4-NPB in ethanol is approximately 15 mg/ml and approximately 30 mg/ml in DMSO and DMF.

4-NPB is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 4-NPB should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 4-NPB has a solubility of approximately 0.50 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

4-NPB is a colorimetric substrate for lipases.<sup>1,2</sup> Upon hydrolysis, 4-NPB is converted into *p*-nitrophenoxide, which can be monitored using UV-Vis spectrophotometry at 400 nm to quantify lipase activity.

### References

1. Sterri, S.H., Johnsen, B.A., and Fonnum, F. A radiochemical assay method for carboxylesterase, and comparison of enzyme activity towards the substrates methyl [1-<sup>14</sup>C] butyrate and 4-nitrophenyl butyrate. *Biochem. Pharmacol.* **34**(15), 2779-2785 (1985).
2. Das, A. and Chakrabarti, K. A cold tolerant lipase develops enhanced activity, thermal tolerance and solvent stability in the presence of calcium nanoparticles: Alternative approach to genetic modulation. *Biocatal. Agric. Biotechnol.* **15**, (2018).

#### 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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