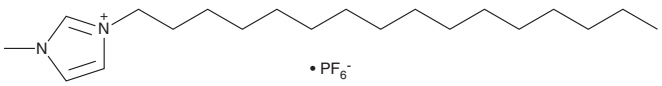
PRODUCT INFORMATION

1-Hexadecyl-3-methylimidazolium hexafluorophosphate

Item No. 44014

CAS Registry No.: 219947-95-2
Formal Name: 3-hexadecyl-1-methyl-1H-imidazolium, hexafluorophosphate
Synonyms: 1-Palmityl-3-methylimidazolium hexafluorophosphate, C_{16}mimPF$_6$, HDMIM.PF$_6$, HMIH
MF: $C_{20}H_{39}N_2 \bullet F_6P$
FW: 452.5
Purity: ≥98%
Supplied as: A 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

1-Hexadecyl-3-methylimidazolium hexafluorophosphate (C_{16}mimPF$_6$) is supplied as a solid. A stock solution may be made by dissolving the C_{16}mimPF$_6$ in the solvent of choice, which should be purged with an inert gas. C_{16}mimPF$_6$ is soluble (≥10 mg/ml) in DMSO.

Description

C_{16}mimPF$_6$ is a long alkyl-chain imidazolium-based ionic liquid (LIL).[1-3] It has been used in the formation of inclusion complexes with β-cyclodextrin and as an electrolyte additive in aluminum-air batteries.[2,3] Incorporation of C_{16}mimPF$_6$ (10-30 mol%) into phosphatidylcholine (PC) vesicles decreases particle size and turbidity and increases zeta potential.[1] PC vesicles containing C_{16}mimPF$_6$ decrease the viability of HaCaT, A431, and SCC-25 cells to a lesser extent than those containing 1-hexadecyl-3-methylimidazolium bromide (C_{16}mimBr).

References

1. Liang, C.-H., Ho, W.-Y., Yeh, L.-H., *et al.* Effects of 1-hexadecyl-3-methylimidazolium ionic liquids on the physicochemical characteristics and cytotoxicity of phosphatidylcholine vesicles. *Colloids and Surfaces A: Physicochemical and Engineering Aspects* **436**, 1083-1091 (2013).
2. Gao, Y., Zhao, X., Dong, B., *et al.* Inclusion complexes of β-cyclodextrin with ionic liquid surfactants. *J. Phys. Chem. B* **110(17)**, 8576-8581 (2006).
3. Guo, L., Zhang, Q., Huang, Y., *et al.* Effect of an imidazole-based ionic liquid as anti-corrosion additive on the performance of Al-air batteries. *J. Electroanal. Chem.* **941**, 117535 (2023).

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