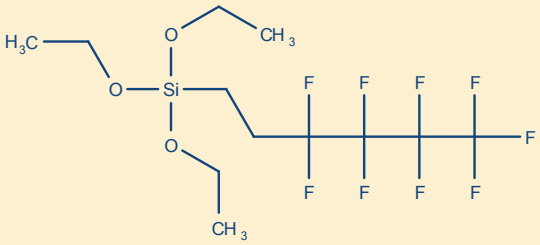
Key Organics
Chemistry | Innovation | Quality
The Home of BIONET

40th anniversary



AS-69313
CAS Number 51851-37-7

3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctyltriethoxysilane (PFOTES)

Premium fluoroalkylsilane for ultra-hydrophobic, oleophobic, and easy-clean surface coatings

Overview

This perfluoroalkyl triethoxysilane features a C_6 fluorinated tail ($-C_6F_{13}$) attached via a two-carbon hydrocarbon spacer to a triethoxysilyl anchor. The dense fluorine shell creates an extremely low surface energy (<15 mJ/m²), producing contact angles >110° for water and simultaneously repelling oils and organic solvents. The C–F bond strength (ca. 552 kJ/mol) gives exceptional chemical and UV stability. Applications span optical anti-fingerprint coatings, self-cleaning glass, and superhydrophobic surfaces for marine and construction applications.

Key Benefits:

- ✓ Affordable
- ✓ Usually Ex-Stock
- ✓ Purity >97%
- ✓ Bulk Pricing

Key applications

- Anti-fingerprint and oleophobic coatings for smartphone screens, ophthalmic lenses, and optical glass
- Superhydrophobic sol-gel coatings for stainless steel, aluminium, and glass — contact angles >150°
- Easy-clean coatings for architectural glass, oven doors, and cookware surfaces
- Water-repellent treatment for concrete and masonry — enhanced penetration vs. pure alkyl silanes
- Textile and paper oil-and-water repellency treatment
- Anti-fouling coatings for marine and industrial equipment

Available to purchase today!

More from the Collection

Selected literature

[1] Bouvet-Marchand A. et al. (2018). Distribution of fluoroalkylsilanes in hydrophobic hybrid sol–gel coatings. J Mater Chem A 6, 24899–24910. https://doi.org/10.1039/c8ta10191d

[2] Su Y. et al. (2023). UV resistance of sol-gel hydrophobic silica antireflective coatings. J Sol-Gel Sci Technol 106, 381–392. https://doi.org/10.1007/s10971-022-05729-9

[3] Structure–Property Relationships for Fluorinated and Fluorine-Free Superhydrophobic Coatings. PMC (2024). https://pmc.ncbi.nlm.nih.gov/articles/PMC11013294/

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Chemistry Services

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- Stable Label Custom Synthesis
- Analytical Chemistry
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BIONET
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- Natural Products
- Electronic Materials
- Amino Acids
- Organosilicon

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