



>>Entry Name: Difluorotrimethylsilicate(1-), 11Cl, 9Cl

Synonym(s): Difluorotrimethylsiliconate(1-). Trimethyldifluorosilicate(1-). TASF



Molecular Formula: $\text{C}_3\text{H}_9\text{F}_2\text{Si}^{(-)}$

Molecular Weight: 111.186

Accurate Mass: 111.044158

Percentage Composition: C 32.41%; H 8.16%; F 34.17%; Si 25.26%

Source/Synthesis: Synth. from SiMe_3Cl + KF

Use/Importance: Anhyd. fluoride ion source

>>Derivative: Tris(dimethylamino)sulfonium salt

CAS Registry Number: 59218-87-0

Molecular Formula: $\text{C}_9\text{H}_{27}\text{F}_2\text{N}_3\text{SSi}$

Molecular Weight: 275.481

Accurate Mass: 275.1663

Percentage Composition: C 39.24%; H 9.88%; F 13.79%; N 15.25%; S 11.64%; Si 10.20%

Use/Importance: Commercially available source of soluble org. fluoride ion of high anion reactivity; catalyses conjugate addn. of ketene silyl acetals to enones

Physical Description: Hygroscopic colourless needles

Melting Point: Mp 98-101°

Aldrich: 25060-0

Fluka: 93336

>>Derivative: Tris(diethylamino)sulfonium salt

CAS Registry Number: 59201-86-4

Molecular Formula: $\text{C}_{15}\text{H}_{39}\text{F}_2\text{N}_3\text{SSi}$

Molecular Weight: 359.641

Accurate Mass: 359.2602

Percentage Composition: C 50.10%; H 10.93%; F 10.57%; N 11.68%; S 8.92%; Si 7.81%

Use/Importance: Reacts with enol silyl ethers → corresp. enolate; used in stereoselective aldol condensations; reacts with α -haloalkylsilanes → α -halo carbanion which may add to aldehydes; in presence of $[\text{PdCl}(\eta^3\text{-C}_3\text{H}_5)]_2$, converts aryl halides into methyl arenes; hydroxylates benzylsilane in presence of O_2 and $\text{P}(\text{OMe})_3$; cleaves $(\text{Me}_3\text{Si})_2$ to $\text{Me}_3\text{Si}^{(-)}$ which can then subst. vinyl halides in presence of $\text{Pd}(0)$ → vinyl silanes

Physical Description: No phys. props. reported

References:

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Aldrich Library of FT-IR Spectra, 1st edn., 1985, **2**, 1113A, (ir)

U.S. Pat., 1976, 3 940 402; CA, **85**, 6388, (synth)

Noyori, R. *et al.*, J.A.C.S., 1980, **102**, 1223, (use)

Noyori, R. *et al.*, Tet. Lett., 1980, **21**, 2085, (use)

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RajanBabu, T.V. *et al.*, J.O.C., 1983, **48**, 652; 1984, **49**, 2083, (use, conjugate addn)

Hatanaka, Y. *et al.*, Tet. Lett., 1987, **28**, 4715; 1988, **29**, 97, (use, reaction with aryl and vinyl halides)

Vedejs, E.V. *et al.*, J.O.C., 1988, **53**, 1593, (use, hydroxylation)

Fujita, M. *et al.*, Tetrahedron, 1988, **44**, 4135, (use, reaction with α -haloalkylsilanes)