



>>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  $\text{SiMe}_3\text{Cl}$  + 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  $\alpha$ -haloalkylsilanes →  $\alpha$ -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  $\text{O}_2$  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 Pd(0) → vinyl silanes

Physical Description: No phys. props. reported

#### References:

Aldrich Library of  $^{13}\text{C}$  and  $^1\text{H}$  FT NMR Spectra, 1992, **3**, 690B, (nmr)

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)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1982, **10**, 452; 1984, **11**, 590; 1986, **12**, 558, (synth, use)

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  $\alpha$ -haloalkylsilanes)