



>>Entry Name: **Methanedisulfonic acid**, 9Cl, 8Cl

Synonym(s): Methionic acid

CAS Registry Number: 503-40-2

$\text{CH}_2(\text{SO}_3\text{H})_2$

Molecular Formula: $\text{CH}_4\text{O}_6\text{S}_2$

Molecular Weight: 176.171

Accurate Mass: 175.94493

Percentage Composition: C 6.82%; H 2.29%; O 54.49%; S 36.40%

Use/Importance: Strong dibasic acid. Used as a catalyst in numerous processes e.g. alkoxylation of alcohols and phenols, polym. reactions

Physical Description: Needles

Other Data: Dec. on attempted dist. under reduced press.

>>Derivative: Di-Me ester

CAS Registry Number: 22063-28-1

Molecular Formula: $\text{C}_3\text{H}_8\text{O}_6\text{S}_2$

Molecular Weight: 204.225

Accurate Mass: 203.97623

Percentage Composition: C 17.64%; H 3.95%; O 47.01%; S 31.40%

Physical Description: Needles

Melting Point: Mp 47°

Boiling Point: Bp₁₆ 194-200°

Solubility: Sol. CHCl_3 , C_6H_6 ; spar. sol. Et_2O

Other Data: Hydrol. by hot H_2O

>>Derivative: Di-Ph ester

Synonym(s): Diphenyl methanedisulfonate. Methionol

CAS Registry Number: 2997-54-8

Molecular Formula: $\text{C}_{13}\text{H}_{12}\text{O}_6\text{S}_2$

Molecular Weight: 328.366

Accurate Mass: 328.00753

Percentage Composition: C 47.55%; H 3.68%; O 29.23%; S 19.53%

Physical Description: Needles (CCl_4)

Melting Point: Mp 82°

pKa Value: $\text{p}K_{\text{a}1}$ 7.66

Other Data: Forms metallic salts

>>Derivative: Difluoride

CAS Registry Number: 42148-23-2

Molecular Formula: $\text{CH}_2\text{F}_2\text{O}_4\text{S}_2$

Molecular Weight: 180.153

Accurate Mass: 179.936256

Percentage Composition: C 6.67%; H 1.12%; F 21.09%; O 35.52%; S 35.60%

Physical Description: Liq.

Boiling Point: Bp₁₅ 56-58°

>>Derivative: Dichloride

CAS Registry Number: 5799-68-8

Molecular Formula: $\text{CH}_2\text{Cl}_2\text{O}_4\text{S}_2$

Molecular Weight: 213.062

Accurate Mass: 211.877154

Percentage Composition: C 5.64%; H 0.95%; Cl 33.28%; O 30.04%; S 30.10%

Physical Description: Prisms (CCl_4)

Melting Point: Mp 36-37°

Boiling Point: Bp₁₀ 133°

Other Data: A lower-melting form, Mp 8°, also exists

>>Derivative: Diamide