>>**Entry Name: Chloromethanesulfonic acid**

CAS Registry Number: 40104-07-2
$ClCH_2SO_3H$

Molecular Formula: CH_3ClO_3S
Molecular Weight: 130.552
Accurate Mass: 129.949142
Percentage Composition: C 9.20%; H 2.32%; Cl 27.16%; O 36.77%; S 24.56%

>>**Derivative:** Na salt

CAS Registry Number: 10352-63-3
Physical Description: Cryst. (MeOH)
Melting Point: Mp 261-262.5°

>>**Derivative:** Benzylthiouronium salt

Physical Description: Cryst. (H_2O)
Melting Point: Mp 97-98°

>>**Derivative:** Chloride
Synonym(s): Chloromethanesulfonyl chloride

CAS Registry Number: 3518-65-8
Molecular Formula: $CH_2Cl_2O_2S$
Molecular Weight: 148.997
Accurate Mass: 147.915254
Percentage Composition: C 8.06%; H 1.35%; Cl 47.59%; O 21.48%; S 21.52%
Physical Description: Liq.
Boiling Point: Bp_{25} 80-81°
Hazard & Toxicity: Lachrymator, severe skin and eye irritant. LD_{50} (rat, orl) 372 mg/kg

Rare Chemicals Library: S61687-7

>>**Derivative:** Bromide
Synonym(s): Chloromethanesulfonyl bromide

Molecular Formula: CH_2BrClO_2S
Molecular Weight: 193.448
Accurate Mass: 191.884738
Percentage Composition: C 6.21%; H 1.04%; Br 41.31%; Cl 18.33%; O 16.54%; S 16.58%
Physical Description: Oil
Boiling Point: $Bp_{0.6}$ 50-54°

References:

Smith, T.L. *et al.*, *J.A.C.S.*, 1953, **75**, 3566, *(synth)*
Org. Synth., Coll. Vol., 5, 1973, 231, *(deriv, synth)*
Silhanek, J. *et al.*, *Coll. Czech. Chem. Comm.*, 1977, **42**, 524, *(synth, pmr)*
Block, E. *et al.*, *J.A.C.S.*, 1986, **108**, 4568, *(deriv, synth, ir, pmr, use)*
Lewis, R.J.*, Sax's Dangerous Properties of Industrial Materials, 8th edn., Van Nostrand Reinhold*, 1992, CHY000