



>>Entry Name: **Methylarsonic acid**, 9Cl, BSI

Synonym(s): Methanearsonic acid, 8Cl. Dihydroxymethylarsine oxide. Many other names

CAS Registry Number: 124-58-3

Related CAS Registry Numbers(s): 5967-62-4

MeAsO(OH)₂

Molecular Formula: CH₃AsO₃

Molecular Weight: 139.97

Accurate Mass: 139.945464

Percentage Composition: C 8.58%; H 3.60%; As 53.53%; O 34.29%

Source/Synthesis: Occurs in some oil shales. Metabolite of arsenite. Formed during arsenic detoxification in humans and by bacteria. Synth. from Me₂SO₄ or MeI and Na₃AsO₃

Use/Importance: Herbicide. Antibacterial agent

Physical Description: Plates (EtOH or Me₂CO)

Melting Point: Mp 159.8°

Solubility: Sol. H₂O (28 g per 100 cm³), EtOH

pKa Value: pK_{a1} 4.58; pK_{a2} 7.82 (25°, H₂O)

Other Data: Reaction with NaBH₄ gives MeAsH₂

Hazard & Toxicity: LD₅₀ (rat, orl) 961 mg/kg

>>Derivative: Mono-Na salt

Synonym(s): Monosodium methylarsonate, 9Cl. MSMA

CAS Registry Number: 2163-80-6

Molecular Formula: CH₄AsNaO₃

Molecular Weight: 161.952

Accurate Mass: 161.927406

Percentage Composition: C 7.42%; H 2.49%; As 46.26%; Na 14.20%; O 29.64%

Use/Importance: Herbicide

Physical Description: Cryst. + 1½H₂O

Melting Point: Mp 113-116°

Solubility: V. sol. H₂O; sol. MeOH; insol. most org. solvs.

Hazard & Toxicity: Eye and skin irritant. LD₅₀ (rat, orl) 700 mg/kg

>>Derivative: Di-Na salt

Synonym(s): Arrhenal. DSMA

CAS Registry Number: 144-21-8

Molecular Formula: CH₃AsNa₂O₃

Molecular Weight: 183.934

Accurate Mass: 183.909348

Percentage Composition: C 6.53%; H 1.64%; As 40.73%; Na 25.00%; O 26.10%

Use/Importance: Herbicide

Physical Description: Solid + 6H₂O

Melting Point: Mp 132-139° (hexahydrate)

Solubility: Sol. H₂O, MeOH; pract. insol. most org. solvs.

Hazard & Toxicity: LD₅₀ (rat, orl) 821 mg/kg. Embryotoxic

>>Derivative: Ca salt

CAS Registry Number: 5902-95-4

Molecular Formula: CH₃AsCaO₃

Molecular Weight: 178.033

Accurate Mass: 177.892405

Percentage Composition: C 6.75%; H 1.70%; As 42.08%; Ca 22.51%; O 26.96%

>>Derivative: Di-Me ester

Synonym(s): Dimethoxymethylarsine oxide