>>**Entry Name: (2-Dimethylamino-2-oxoethyl)phosphonic acid,** 9Cl
Synonym(s): (Dimethylcarbamoylmethyl)phosphonic acid

$(HO)_2P(O)CH_2CONMe_2$

Molecular Formula: $C_4H_{10}NO_4P$
Molecular Weight: 167.101
Accurate Mass: 167.034746
Percentage Composition: C 28.75%; H 6.03%; N 8.38%; O 38.30%; P 18.54%

>>**Derivative:** Di-Me ester
Synonym(s): Dimethyl (dimethylcarbamoylmethyl)phosphonate. Dimethyl (2-dimethylamino-2-oxoethyl)phosphonate

CAS Registry Number: 62285-48-7
Type of Compound Code(s): AC5040
Molecular Formula: $C_6H_{14}NO_4P$
Molecular Weight: 195.155
Accurate Mass: 195.066046
Percentage Composition: C 36.93%; H 7.23%; N 7.18%; O 32.79%; P 15.87%
Physical Description: Liq.
Boiling Point: $Bp_{0.1}$ 120°

>>**Derivative:** Di-Et ester
Synonym(s): Diethyl (2-dimethylamino-2-oxoethyl)phosphonate. Diethyl (dimethylcarbamoylmethyl)phosphonate

CAS Registry Number: 3842-86-2
Type of Compound Code(s): AC5040
Molecular Formula: $C_8H_{18}NO_4P$
Molecular Weight: 223.208
Accurate Mass: 223.097346
Percentage Composition: C 43.05%; H 8.13%; N 6.28%; O 28.67%; P 13.88%
Physical Description: No phys. props. reported

>>**Derivative:** Dioctyl ester
Synonym(s): Dioctyl (dimethylcarbamoylmethyl)phosphonate. Dioctyl (2-dimethylamino-2-oxoethyl)phosphonate

CAS Registry Number: 83631-23-6
Type of Compound Code(s): AC5040
Molecular Formula: $C_{20}H_{42}NO_4P$
Molecular Weight: 391.53
Accurate Mass: 391.285146
Percentage Composition: C 61.35%; H 10.81%; N 3.58%; O 16.35%; P 7.91%
Use/Importance: Employed in the recovery of americium from nuclear fuels
Rare Chemicals Library: S86170-7

References:

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Kem, K.M. *et al.*, *J.O.C.*, 1981, **46**, 5188, *(synth, pmr, P-31 nmr)*
Bartlett, P.A. *et al.*, *J.O.C.*, 1982, **47**, 1284, *(synth, ir, pmr, cmr)*
Strzalko, T. *et al.*, *Can. J. Chem.*, 1988, **66**, 391, *(di-Et ester, complex, ir)*