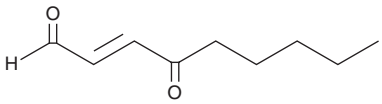
PRODUCT INFORMATION

4-oxo-2-Nonenal

Item No. 10185

CAS Registry No.: 103560-62-9
Formal Name: 4-oxo-2E-nonenal
Synonym: 4-ONE
MF: $C_9H_{14}O_2$
FW: 154.2
Purity: ≥98%
Supplied as: A solution in methyl acetate
Storage: -80°C
Stability: ≥1 year



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

4-oxo-2-Nonenal is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of 4-oxo-2-nonenal in these solvents is approximately 50 mg/ml.

4-oxo-2-Nonenal is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of 4-oxo-2-nonenal should be diluted with the aqueous buffer of choice. The solubility of 4-oxo-2-nonenal in PBS (pH 7.2) is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

4-hydroxy Nonenal is a lipid peroxidation product derived from oxidized ω-6 polyunsaturated fatty acids such as arachidonic acid and linoleic acid.[1,2] It exhibits various biological activities such as cytotoxicity, growth inhibiting activity, genotoxicity, and chemotactic activity and has been widely used as a marker of lipid peroxidation.[1-3] 4-oxo-2-Nonenal is a more recently identified product of lipid peroxidation.[4-6] It actively modifies histidine and lysine residues on proteins and causes protein cross-linking.[7,8] 4-oxo-2-Nonenal also modifies 2'-deoxyguanosine, further implicating lipid peroxidation in mutagenesis and carcinogenesis.[4]

References

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