



# SZABO SCANDIC

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## Produktinformation



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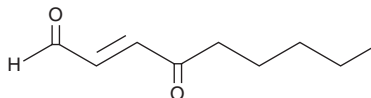
# PRODUCT INFORMATION



## 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:  $\geq 98\%$   
Stability:  $\geq 6$  months at  $-80^\circ C$   
Supplied as: A solution in methyl acetate



### Laboratory Procedures

For long term storage, we suggest that 4-oxo-2-nonenal be stored as supplied at  $-80^\circ C$ . It should be stable for at least six months.

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.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of 4-oxo-2-nonenal is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of 4-oxo-2-nonenal in PBS (pH 7.2) is approximately 0.5 mg/ml. Store aqueous solutions of 4-oxo-2-nonenal on ice and use within 12 hours of preparation. Although the aqueous solutions of 4-oxo-2-nonenal may be stable for more than 12 hours, we strongly recommend using a fresh preparation each day.

### Description

4-hydroxy Nonenal is a lipid peroxidation product derived from oxidized  $\omega$ -6 polyunsaturated fatty acids such as arachidonic acid and linoleic acid.<sup>1,2</sup> 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.<sup>1-3</sup> 4-oxo-2-Nonenal is a more recently identified product of lipid peroxidation.<sup>4-6</sup> It actively modifies histidine and lysine residues on proteins and causes protein cross-linking.<sup>7,8</sup> 4-oxo-2-Nonenal also modifies 2'-deoxyguanosine, further implicating lipid peroxidation in mutagenesis and carcinogenesis.<sup>4</sup>

### References

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4. Rindgen, D., Nakajima, M., Wehrli, S., et al. *Chem. Res. Toxicol.* **12**, 1195-1204 (1999).
5. Lee, S.H. and Blair, I.A. *Chem. Res. Toxicol.* **13**, 698-702 (2000).
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8. Zhang, W.-H., Liu, J., Xu, G., et al. *Chem. Res. Toxicol.* **16**, 512-523 (2003).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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