

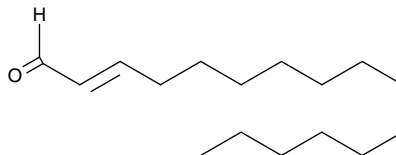
# Product Information



## (E)-2-Hexadecenal

Item No. 17566

**CAS Registry No.:** 22644-96-8  
**Formal Name:** (2E)-2-hexadecenal  
**Synonym:** *trans*-2-Hexadecenal  
**MF:** C<sub>16</sub>H<sub>30</sub>O  
**FW:** 238.4  
**Purity:** ≥95%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A crystalline solid  
**UV/Vis.:** λ<sub>max</sub>: 218 nm



### Laboratory Procedures

For long term storage, we suggest that (E)-2-hexadecenal be stored as supplied at -20°C. It should be stable for at least two years.

(E)-2-Hexadecenal is supplied as a crystalline solid. A stock solution may be made by dissolving the (E)-2-hexadecenal in the solvent of choice. (E)-2-Hexadecenal is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of (E)-2-hexadecenal in ethanol and DMF is approximately 30 mg/ml and approximately 10 mg/ml DMSO.

(E)-2-Hexadecenal is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (E)-2-hexadecenal should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. (E)-2-Hexadecenal has a solubility of approximately 0.3 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Sphingosine-1-phosphate (S1P), a bioactive lipid involved in many signaling processes, is irreversibly degraded by the membrane-bound S1P lyase. (E)-2-Hexadecenal is a sphingolipid degradation product resulting from the action of S1P lyase. It can be further oxidized to (2E)-hexadecenoic acid by long-chain fatty aldehyde dehydrogenase prior to activation *via* coupling to coenzyme A. (E)-2-Hexadecenal has been shown to induce cytoskeletal reorganization that results in cell rounding, detachment, activation of downstream JNK targets, and eventual apoptosis in various cell types.<sup>1</sup> It reacts readily with deoxyguanosine and DNA to form aldehyde-derived DNA adducts.<sup>2</sup>

### References

1. Kumar, A., Byun, H.-S., Bittman, R., *et al.* The sphingolipid degradation product *trans*-2-hexadecenal induces cytoskeletal reorganization and apoptosis in a JNK-dependent manner. *Cell. Signal.* **23**(7), 1144-1152 (2011).
2. Upadhyaya, P., Kumar, A., Byun, H.-S., *et al.* The sphingolipid degradation product *trans*-2-hexadecenal forms adducts with DNA. *Biochem. Biophys. Res. Commun.* **424**(1), 18-21 (2012).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/17566](http://www.caymanchem.com/catalog/17566)

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

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