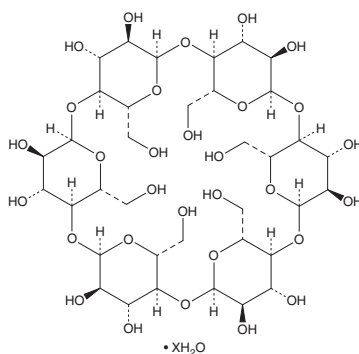


# PRODUCT INFORMATION

## $\alpha$ -Cyclodextrin (hydrate)

Item No. 31219

**CAS Registry No.:** 51211-51-9  
**Synonyms:**  $\alpha$ -CD, NSC 269470, Schardinger  $\alpha$ -Dextrin  
**MF:**  $C_{36}H_{60}O_{30} \cdot XH_2O$   
**FW:** 972.8  
**Purity:**  $\geq 95\%$   
**Supplied as:** A solid  
**Storage:**  $-20^\circ\text{C}$   
**Stability:**  $\geq 4$  years



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

### Laboratory Procedures

$\alpha$ -Cyclodextrin ( $\alpha$ -CD) (hydrate) is supplied as a solid. A stock solution may be made by dissolving the  $\alpha$ -CD (hydrate) in the solvent of choice, which should be purged with an inert gas.  $\alpha$ -CD (hydrate) is soluble in the organic solvent DMSO at a concentration of approximately 5 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. Organic solvent-free aqueous solutions of  $\alpha$ -CD (hydrate) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of  $\alpha$ -CD (hydrate) in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

$\alpha$ -CD is a saccharide comprised of six glucose subunits linked by  $\alpha$ -1,4 bonds, which results in a cone-shaped molecule.<sup>1</sup> It contains a hydrophobic interior and hydrophilic exterior, which allow it to form inclusion complexes with wide variety of molecules, conferring enhanced solubility and stabilization to the molecules.  $\alpha$ -CD has commonly been used in the separation and purification of chemicals on an industrial scale.<sup>1,2</sup> Formulations containing  $\alpha$ -CD have been used in the pharmaceutical industry to improve the physical and chemical properties of compounds, the food industry as flavor carriers and stabilizers in processed and ultra-processed foods and certain beverages, as well as in other industrial applications.

### References

- Li, S. and Purdy, W.C. Cyclodextrins and their applications in analytical chemistry. *Chem. Rev.* **92**(6), 1457-1470 (1992).
- Astray, G., Gonazalez-Barreiro, C., Mejuto, J.C., *et al.* A review on the use of cyclodextrins in foods. *Food Hydrocolloids* **23**(7), 1631-1640 (2009).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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