

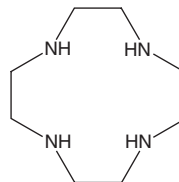
PRODUCT INFORMATION



Cyclen

Item No. 43902

CAS Registry No.: 294-90-6
Formal Name: 1,4,7,10-tetraazacyclododecane
Synonyms: NSC 629374, Tetraaza-12-Crown-4
MF: $C_8H_{20}N_4$
FW: 172.3
Purity: $\geq 95\%$
Supplied as: A solid
Storage: $-20^{\circ}C$
Stability: ≥ 4 years



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

Laboratory Procedures

Cyclen is supplied as a solid. A stock solution may be made by dissolving the cyclen in the solvent of choice, which should be purged with an inert gas. Cyclen is sparingly soluble (1-10 mg/ml) in ethanol.

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 cyclen can be prepared by directly dissolving the solid. Cyclen is sparingly soluble (1-10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

Cyclen is a starting material.¹ It has been used in the synthesis of cationic lipids for the generation of lipid nanoparticles (LNPs), sodium-, potassium-, rubidium-, and cesium-chelating tetraazamacrocyclic compounds, and zinc- and cadmium-specific fluorescent probes.¹⁻³

References

1. Huang, Q.-D., Zhong, G.-X., Zhang, Y., *et al.* Cyclen-based cationic lipids for highly efficient gene delivery towards tumor cells. *PLoS One* **6**(8), e23134 (2011).
2. Delgado, R., Siegfried, L.C., and Kaden, T.A. Protonation studies and complexation properties of tetraazamacrocyclic methylenephosphonates with earth-alkali ions. *Helvetica Chimica Acta* **73**, 140-148 (1990).
3. Shiraishi, Y., Kohno, Y., and Hirai, T. Fluorometric detection of pH and metal cations by 1,4,7,10-tetraazacyclododecane (cyclen) bearing two anthrylmethyl groups. *Ind. Eng. chem. Res.* **44**, 847-851 (2005).

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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