

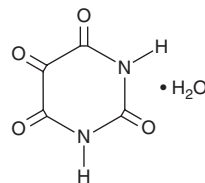
PRODUCT INFORMATION



Alloxan (hydrate)

Item No. 9002196

CAS Registry No.: 2244-11-3
Formal Name: 2,4,5,6(1H,3H)-pyrimidinetetrone, monohydrate
MF: $C_4H_2N_2O_4 \cdot H_2O$
FW: 160.1
Purity: $\geq 98\%$
Supplied as: A crystalline 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

Alloxan (hydrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the alloxan (hydrate) in the solvent of choice, which should be purged with an inert gas. Alloxan (hydrate) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of alloxan (hydrate) in these solvents is 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 alloxan (hydrate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of alloxan (hydrate) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Alloxan is a toxin that selectively eliminates pancreatic β -cells in mice, rats, and certain other animals, and is used to model type 1 diabetes in humans.¹ Reduction of alloxan within beta cells precedes the generation of reactive oxygen species, which in turn contribute to β -cell death.² The dose of alloxan needed to destroy β -cells, and thus induce diabetes, depends on the animal species, route of administration, and nutritional status.²⁻⁴

References

1. Dunn, J.S., Duffy, E., Gilmour, M.K., *et al.* Further observations on the effects of alloxan on the pancreatic islets. *J. Physiol.* **103(2)**, 233-243 (1944).
2. Szkudelski, T. The mechanism of alloxan and streptozotocin action in B cells of the rat pancreas. *Physiol. Res.* **50**, 536-546 (2001).
3. Eizirik, D.L., Pipeleers, D.G., Ling, Z., *et al.* Major species differences between humans and rodents in the susceptibility to pancreatic β -cell injury. *Proc. Natl. Acad. Sci. USA* **91(20)**, 9253-9256 (1994).
4. Tyberg, B., Andersson, A., and Borg, L.A. Species differences in susceptibility of transplanted and cultured pancreatic islets to the β -cell toxin alloxan. *Gen. Comp. Endocrinol.* **122**, 238-251 (2001).

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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 10/07/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM