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## Product Data Sheet

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Product Name: Urea-15N2

Cat. No.: GC63865

### Chemical Properties

Cas. No. 2067-80-3

Formula CH415N2O

M.Wt 62.04

Solubility DMSO : 100 mg/mL (1611.86 mM; Need ultrasonic) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure

### Background

Urea-15N2 (Carbamide-15N2) is the 15N-labeled Urea. Urea is a powerful protein denaturant via both direct and indirect mechanisms[1]. A potent emollient and keratolytic agent[2]. Used as a diuretic agent. Blood urea nitrogen (BUN) has been utilized to evaluate renal function[3]. Widely used in fertilizers as a source of nitrogen and is an important raw material for the chemical industry.

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1].

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019;53(2):211-216. [2]. Bennion BJ, et al. The molecular basis for the chemical denaturation of proteins by urea. *Proc Natl Acad Sci U S A.* 2003 Apr 29;100(9):5142-7.

[3]. Pan M, et al. Urea: a comprehensive review of the clinical literature. *Dermatol Online J.* 2013 Nov 15;19(11):20392.

[4]. Wang H, et al. Urea. *Subcell Biochem.* 2014;73:7-29.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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