



Certificate of analysis

Product name: Carmustin

Cas number: 154-93-8

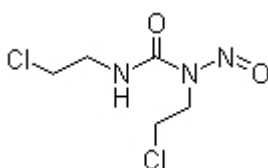
Molecular Formula: C₅H₉Cl₂N₃O₂

Molecular Weight: 214.05

Date of production: Apr. 12, 2015

Batch NO: 20150412

Exp Date: Apr. 11, 2017



Chemical structure:

Items	Specifications	Results
Appearance	Light yellow crystalline powder	Conforms
Solubility	Soluble in methanol, ethanol. Hardly soluble in water	Conforms
Melting Point	30 °C~32 °C	30.6°C~31.8°C
Identification By IR	The IR spectra of standard and sample is concordant.	Conforms
Identification By H NMR	The H NMR spectra of standard and sample is concordant	Conforms
Clarify and color	Be Conform	Conforms
Heavy metals	Not more than 20ppm	Conforms
Water	Not more than 0.5 percent	0.20%
Retated Substance	Limit of ether-insoluble substance: NMT 0.1% Carmustine related compound A: NMT 0.5% Any unspecified impurity: NMT 0.1% 2-Chloroethylamine: NMT 0.2% 2-Chloroethanol: NMT 0.1% Acetaldehyde: NMT 0.1% Ethanol NMT 0.5%	Conforms
Assay(hplc)	98.0%~102.0(on the dried basis)	99.5%
BET test	NMT 0.95Eu/mg	Conforms

Conclusion: It complies with the USP37 Standard.

Analyst: Zhao

Checker: Liu

Q.C Director: Fang

