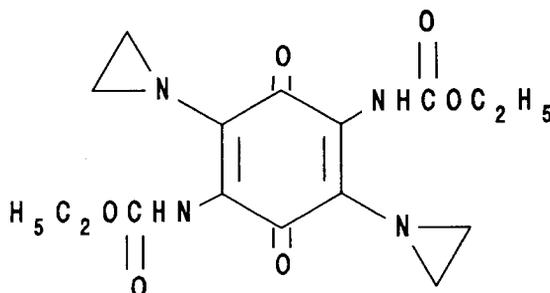


# DIAZQUONE

NSC - 182986



**Chemical Name:** [2,5-Bis(1-aziridinyl)-3,6-dioxo-1,4-cyclohexadiene-1,4-dicarbamic acid, diethyl ester

**Other Names:** Aziridinyl Benzoquinone; AZQ, Diaziquone (USAN)

**CAS Registry Number:** 57998-68-2

**Molecular Formula:** C<sub>16</sub>H<sub>20</sub>N<sub>4</sub>O<sub>6</sub>

**M.W.:** 364.4

**How Supplied:** Diaziquone is provided in a tripack containing the following:

1. **NSC - 182986** A 10 mL amber vial containing in dry form 10 mg of sterile diaziquone.
2. **NSC - 3138** A 1 mL flint ampule of sterile anhydrous N,N-dimethyl-acetamide for use as a solvent.
3. **NSC - 650762** A flint vial containing 9.0 mL of sterile 0.01 M, pH 6.5 phosphate buffer (8.02 mg sodium phosphate dibasic heptahydrate and 9.04 mg sodium phosphate monobasic monohydrate in water for injection) for use as a diluent.

**CAUTION:** The diluent system was changed slightly to increase the N,N-dimethyl-acetamide added initially from 0.5 mL to 1.0 mL. The phosphate buffer was diminished from 9.5 mL to 9.0 mL to maintain the 1 mg/mL final concentration of AZQ.

**Solution Preparation:** 10 mg/vial : Completely dissolve the contents of the vial of diaziquone with one milliliter of sterile N,N-dimethylacetamide. Further dilute this solution with 9 milliliters of sterile 0.01 M, pH 6.5 phosphate buffer. The resultant solution contains 1 mg/mL of diaziquone and 5% (v/v) N,N-dimethylacetamide in pH 6.5 phosphate buffer.

**NOTE:** It is important that all of the diaziquone be completely in solution in the N,N-dimethylacetamide before proceeding with the addition of the buffer. Dissolution of diaziquone particles in the DMA/buffer mixture is extremely slow and most likely will not occur.

**NOTE:** Contact of the undiluted N,N-dimethylacetamide solvent with plastic items, including filters and syringes, should be avoided. The use of glass syringes is recommended.

**Storage:** Store the tripacks containing intact vials and ampules room temperature.

**Stability:** The product bears an expiration date.

Solutions of diaziqone are most stable in the pH range of 6.0 to 7.0. A study of diaziqone in 5% N,N-dimethylacetamide over a pH range of 3.0 to 8.0 at 25 °C yielded the following half-life results:

pH	Approx. $t_{1/2}$
3.0	1 hr
5.0	24 hr
6.0	19 days
7.0	17 days
8.0	3.5 days

Constitution of diaziqone with the two component vehicles as directed results in a solution which exhibits 3% decomposition in 24 hours and 10% decomposition in 84 hours (1) at room temperature (22-25 °C).

Further dilution to a concentration of 0.02 mg/mL in the following intravenous infusion solutions at room temperature resulted in 10% drug decomposition in the time periods indicated:

5% Dextrose Injection, USP	36 hrs
0.9% Sodium Chloride Injection, USP	44 hrs
Lactated Ringer's Injection, USP	60 hrs

**CAUTION:** This single-use product contains no antibacterial preservatives. Therefore, it is advised that the vials be discarded within 8 hours of initial entry.

**Route of Administration:** Intravenous

**Reference:**

1. Poochikian GK and Cradock JC: 2,5-Diaziridinyl-3,6-bis(carboethoxyamino)-1,4-benzoquinone I: Kinetics in aqueous solutions by high-performance liquid chromatography, *J Pharm Sci* 70: 159-162, 1981.