# PRODUCT INFORMATION

## Diclofenac (diethylamine)

*Item No. 22983*

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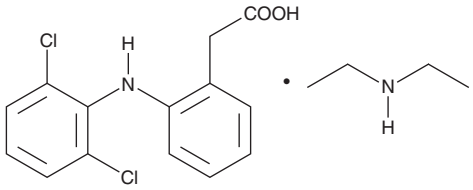
| **CAS Registry No.:** | 78213-16-8 |
| **Formal Name:** | 2-[(2,6-dichlorophenyl)amino]-benzeneacetic acid compd. with *N*-monoethylethanamine |
| **Synonyms:** | Diclofenac diethylammonium salt, Diclofenac diethylamine salt |
| **MF:** | $C_{14}H_{11}Cl_2NO_2 \bullet C_4H_{11}N$ |
| **FW:** | 369.3 |
| **Purity:** | ≥98% |
| **UV/Vis.:** | $\lambda_{max}$: 283 nm |
| **Supplied as:** | A crystalline solid |
| **Storage:** | 4°C |
| **Stability:** | ≥2 years |




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

### Laboratory Procedures

Diclofenac (diethylamine) is supplied as a crystalline solid. A stock solution may be made by dissolving the diclofenac (diethylamine) in the solvent of choice. Diclofenac (diethylamine) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of diclofenac (diethylamine) in DMSO is approximately 10 mg/ml and approximately 30 mg/ml in ethanol and DMF.

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 diclofenac (diethylamine) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of diclofenac (diethylamine) in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Diclofenac is a non-steroidal anti-inflammatory drug (NSAID) that inhibits human COX-1 and -2 with $IC_{50}$ values of 0.9-2.7 and 1.5-20 µM, respectively.[1-3] Formulations containing diclofenac reduce inflammation and pain associated with osteoarthritis, rheumatoid arthritis, gout, and ankylosing spondylitis.[1,2,4] Diclofenac (diethylamine) has increased *ex vivo* skin permeability over diclofenac (sodium salt) (Item No. 70680), and topical formulations containing diclofenac (diethylamine) have been used to decrease pain without the gastrointestinal side effects associated with oral administration in patients with rheumatoid arthritis.[1,4]

### References


1. Minghetti, P., Cilurzo, F., Casiraghi, A., *et al. J. Pharm. Sci.* **96(4)**, 814-823 (2007).
2. Laneuville, O., Breuer, D.K., DeWitt, D.L., *et al. J. Pharmacol. Exp. Ther.* **271(2)**, 927-934 (1994).
3. Barnett, J., Chow, J., Ives, D., *et al. Biochim Biophys. Acta.* **1209(1)**, 130-139 (1994).
4. Altman, R.B., Bosch, B., Brune, K., *et al. Drugs* **75(8)**, 859-877 (2015).





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