**PRODUCT INFORMATION**

*(±)-Ibuprofen*

**Item No.** 70280

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**CAS Registry No.:** 15687-27-1  
**Formal Name:** *(±)-α-methyl-4-(2-methylpropyl)benzeneacetic acid*  
**Synonyms:** DL-Ibuprofen, NSC 256854, U-18753  
**MF:** C13H18O2  
**FW:** 206.3  
**Purity:** ≥99%  
**Supplied as:** A crystalline solid  
**Storage:** Room temperature  
**Stability:** ≥4 years

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

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**Laboratory Procedures**

*(±)-Ibuprofen* is supplied as a crystalline solid. A stock solution may be made by dissolving the *(±)-ibuprofen* in the solvent of choice, which should be purged with an inert gas. Ibuprofen is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of *(±)-ibuprofen* in these solvents is approximately 60, 50, and 45 mg/ml, respectively.

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

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**Description**

*(±)-Ibuprofen* is a non-steroidal anti-inflammatory drug (NSAID) and non-selective COX inhibitor (IC50s = 2.6 and 1.3 µM for human recombinant COX-1 and COX-2, respectively).1 In *vivo*, *(±)-ibuprofen* inhibits late-phase formalin-induced paw licking in mice (ED50 = 6.1 mg/kg).2 It also inhibits acetic acid-induced writhing in mice (ED50 = 0.47 mg/kg). Formulations containing *(±)-ibuprofen* have been used in the treatment of fever and mild to severe pain.

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**References**