

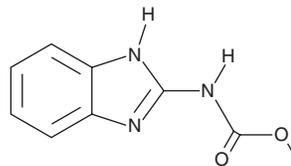
# PRODUCT INFORMATION



## Carbendazim

Item No. 23852

**CAS Registry No.:** 10605-21-7  
**Formal Name:** N-1H-benzimidazol-2-yl-carbamic acid, methyl ester  
**Synonyms:** A-118, methyl Benzimidazol-2-yl-carbamate, methyl 2-Benzimidazolecarbamate, MBC, NSC 109874, U-32104  
**MF:** C<sub>9</sub>H<sub>9</sub>N<sub>3</sub>O<sub>2</sub>  
**FW:** 191.2  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 244, 281, 287 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

Carbendazim is supplied as a crystalline solid. A stock solution may be made by dissolving the carbendazim in the solvent of choice, which should be purged with an inert gas. Carbendazim is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of carbendazim in these solvents is approximately 5, 25, and 30 mg/ml, respectively.

Carbendazim is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, carbendazim should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Carbendazim has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Carbendazim is a carbamate fungicide and an active metabolite of benomyl (Item No. 34634) and thiophanate-methyl (Item No. 35402).<sup>1,2</sup> It is also a degradation product of benomyl.<sup>3</sup> Carbendazim is active against the plant pathogenic fungi *N. parvum*, *B. dothidea*, *D. seriata*, and *L. theobromae* *in vitro* (EC<sub>50</sub>s = 0.01-0.07 mg/L) and protects grapevines from pruning wounds caused by *D. seriata* or *D. mutila* *in vivo*.<sup>4</sup> Carbendazim (100 µM) inhibits the growth of, and microtubule polymerization in, *S. cerevisiae*.<sup>5</sup> It impairs meiosis and steroidogenesis in rat seminiferous tubules *ex vivo* and increases prostate weight in rats when administered at a dose of 100 mg/kg but does not affect other testosterone-dependent or estrogen-dependent tissues.<sup>6,7</sup> It has been found as a contaminant in various jellies and jams and in wastewater influent and effluent.<sup>8,9</sup> Formulations containing carbendazim have been used as preservatives for wood and other materials, as well as fungicides in agricultural and residential areas.

### References

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#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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