



## Product Information

### N-tert-Butyl- $\alpha$ -phenylnitronone

Product Number **B 7263**

Storage Temperature -0 °C

#### Product Description

Molecular Formula: C<sub>11</sub>H<sub>15</sub>NO

Molecular Weight: 177.2

CAS Number: 3376-24-7

Melting Point: 74-75 °C

N-tert-butyl- $\alpha$ -phenylnitronone (PBN) is a commonly used free-radical spin trapping agent.<sup>1-3</sup> The technique of spin trapping is used in electron spin resonance (ESR) and makes use of a diamagnetic compound (the spin trap), such as PBN, which reacts with a free radical (the spin), giving rise to a relatively stable ESR-observable free radical (spin adduct).<sup>3</sup> PBN has been shown to reduce the number of emboli-induced cerebral microinfarctions in the rabbit cortex and prevent neoplasia by its radical scavenging activity and its ability to inhibit cyclooxygenase-2 activity at the catalytic level.<sup>4,5</sup> PBN in a dose of 100 mg/kg i.p. reduced necrosis of the substantia nigra, pars reticulata in fluoroethyl-induced status epilepticus in rats. The lethal dose of PBN in rats was found to be approximately 100 mg/100 g body weight (0.564 mmol/100g).<sup>6,7</sup> PBN has also been used to generate nitric oxide via light-induced decomposition<sup>8</sup> and to investigate free radical generation during cardiac dysfunction. There was a linear, direct relationship between the magnitude of the PBN adduct production and the degree of ischemic flow reduction.<sup>9</sup>

#### Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

#### Preparation Instructions

PBN is soluble in DMSO. For infusion into animals, a 5 mg/ml solution was prepared in a solution of 80% normal saline and 20% water.<sup>9</sup> The product is also soluble in chloroform (50 mg/ml).

#### Storage/Stability

PBN is sensitive to light, especially in solution.<sup>10</sup>

#### References

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