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Produktinformation

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Zuschläge

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- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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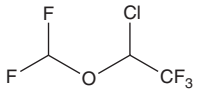
PRODUCT INFORMATION

Isoflurane

Item No. 23989

CAS Registry No.: 26675-46-7
Formal Name: 2-chloro-2-(difluoromethoxy)-1,1,1-trifluoro-ethane
Synonym: (±)-Isoflurane
MF: $C_3H_2ClF_5O$
FW: 184.5
Purity: ≥98%
Supplied as: A neat oil
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Isoflurane is supplied as a neat oil. A stock solution may be made by dissolving the isoflurane in the solvent of choice, which should be purged with an inert gas. Isoflurane is miscible in organic solvents such as ethanol, DMSO, and dimethyl formamide.

Isoflurane is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, isoflurane should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Isoflurane has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Isoflurane is a halogenated ether with anesthetic properties.[1] While the mechanism of isoflurane anesthesia is not fully understood, mice resistant to isoflurane anesthesia have an 86% decrease in gene expression for the $GABA_A$ receptor subunit β_1 compared with isoflurane-sensitive mice, indicating that the $GABA_A$ receptor may be required for its anesthetic effect. In mice, isoflurane (1.5% for 4 hours) impairs spatial recognition memory in the spontaneous alternation test and Y-maze and increases levels of phosphorylated Jnk1/2 for at least 24 hours.[2] Formulations containing isoflurane have been used as anesthetics.

References

1. Wang, X., Song, Z.G., Huang, D.X., *et al*. A single nucleotide polymorphism in $GABA_A$ receptor isoforms is potentially responsible for isoflurane sensitivity in mice. *Genet. Mol. Res.* **15(2)**, gmr.15027340 (2016).
2. Jiang, S., Miao, B., and Chen, Y. Prolonged duration of isoflurane anesthesia impairs spatial recognition memory through the activation of JNK1/2 in the hippocampus of mice. *Neuroreport*. **28(7)**, 386-390 (2017).

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