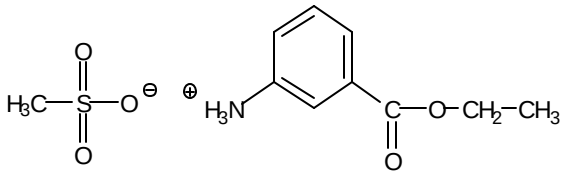
Saint Louis, Missouri 63103 USA
Telephone (800) 325-5832 (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

3-AMINOBENZOIC ACID ETHYL ESTER METHANESULFONATE
Sigma Prod. No. A5040

CAS NUMBER: 886-86-2

SYNONYMS: m-Aminobenzoic Acid Ethyl Ester Methanesulfonate; Ethyl m-Aminobenzoate Methanesulfonate; Finquel; Metacain; Metacaine; MS 222; Tricaine; Tricaine Mesylate; Tricaine Methanesulfonate; TS 222



PHYSICAL PROPERTIES:
Appearance: White powder with a yellow cast
Molecular Formula: $C_9H_{11}NO_2$ @ CH_4O_3S
Molecular Weight: 261.3
Melting Point: 149-150°C[1]

METHOD OF PREPARATION:

Please refer to the references below for published methods of preparation (not necessarily those of Sigma's supplier).[2,3]

STABILITY / STORAGE AS SUPPLIED:

Store at Room Temperature.

SOLUBILITY / SOLUTION STABILITY:

This product is soluble in water at a maximum concentration of 1 g in 0.8 mL of solvent. Aqueous solutions are stable to boiling.[1] Sigma tests the solubility in water at 50 mg/mL and obtains clear, colorless solutions. Anesthetic solutions should be made immediately prior to use, since they degrade upon standing; degradation is exacerbated by exposure to sunlight.[4]

APPLICATIONS / USAGE:

3-Aminobenzoic acid ethyl ester methanesulfonate is a derivative of an isomer of Benzocaine.[5] Although it has been used as a local anesthetic in human medicine, it is now mainly used as an anesthetic in fish, sharks, frogs, toads, salamanders, newts and worms.[1,4,6] Concentrations used in fish were generally 25-300 mg/L of water, with larger fish requiring higher concentrations.[4] *Bufo marimus* frogs required 1,000 mg/L, while *Rana pipens, R. temporaria* and *Xenopus leavis* required 300 mg/L for adequate anesthesia.[7]

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REFERENCES:

1. *Merck Index*, 12th ed., pp. 1640-1641, No. 9751 (1996).
2. Billeter, et. al., *U.S. pat. 1,678,317*, issued to Sandoz (1928).
3. *Ger. pat. 454,698* (1927).
4. D. W. Jolly, et. al., *Vet. Rec.*, 91, 424 (1972).
5. J.E.F. Reynolds, *Martindale The Extra Pharmacopeia*, 30th ed., p. 1018, The Pharmaceutical Press, London (1993).
6. *Report*, Crescent Research Chemicals, Inc. (no year given).
7. D.G. Smith, *Am. J. Physiol.*, 226(2), 367 (1974).