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AMINOMETHANESULFONIC ACID AND ITS N-ALKYLATED DERIVATIVES. SYNTHESIS, CHARACTERIZATION AND TOXICITY STUDIES

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Abstract. Aminomethanesulfonic acid (**1a)**, and its N-methyl (**2a**), N-n-propyl (**3a**), N-tert-butyl (**4a**) derivatives have been synthesized (**3a** was not previously described) and characterized by means of X-ray diffraction analysis, IR spectroscopy, and mass spectrometry. The aqueous solutions of sodium salts (**1b**–**4b**) were prepared by reacting NaOH with the corresponding **1a**-**4a** acids in equimolar amounts. The toxicity of **1b**-**4b** has been studied on 132 mice. The aminomethansulfonic acid derivatives belong to almost non-toxic compounds (V category of toxicity) following both intraperitoneal and oral administration in mice. According to the LD50 values, the compounds could be ranked in the following order: **3b** (2110 mg/kg) < 2b (2925 mg/kg) < **4b** (3020 mg/kg) < **1b** (3470 mg/kg). Aminomethansulfonic acid derivatives may be safely used in buffer solution as well as for further investigation as potential medicine agents.

Keywords: aminomethanesulfonic acid, synthesis, crystal structure, lethal toxicity.