Telluracycloalkanes were fluorinated with XeF₂ and the resulting tellurium(IV) fluorides were reacted with (CH₃)₃SiN₃ to obtain the corresponding tellurium(IV) azides. The products, (CH₂)₅TeF₂, (CH₂)₄TeF₂, (CH₂)₅Te(N₃)₂ and (CH₂)₄Te(N₃)₂, were characterized by spectroscopic methods. The molecular structure of (CH₂)₄TeF₂ as well as the structure of an oxygen bridged species, [(CH₂)₅TeN₃]₂O, have been determined by X-ray diffraction.

Key words: Tellurium Fluorides, Tellurium Azides, Multinuclear NMR Spectroscopy, X-Ray Crystallography