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**Pyrolytic Products of N-Alkyl-N'-(4-methyl-2-thiazolyl)-
S-methylisothiourreas***

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We reported previously that pyrolysis of N,N-dimethyl-N'-(4-methyl-2-thiazolyl)-S-methylisothiourrea at 155°C for 14 h gave N,N-dimethyl-N'-(3,4-dimethyl-2(3H)thiazolylidene)thiourea as the main product. The pyrolysis proceeded smoothly without any solvent. In the pyrolysis of other N,N-dialkyl-N'-(2-thiazolyl)-S-methylisothiourreas, a similar migration of the methyl group from the isothiourrea sulfur atom to the thiazole nitrogen atom was observed.

In contrast, the pyrolysis of an N-nonomethyl analog, N-methyl-N'-(4-methyl-2-thiazolyl)-S-methylisothiourrea (**1a**), under the same conditions gave N-methyl-N',N''-bis-(4-methyl-2-thiazolyl)guanidine (**2a**) as a product. The S→N methyl migrated compounds such as N-methyl-N'-(3,4-dimethyl-2(3H)thiazolylidene)thiourea and N-methyl-N'-(3,4-dimethyl-2-thiazolyl)-N''-(4-methyl-2-thiazolyl)guanidine (**6a**) were not formed in the pyrolysis. Similarly, a pyrolytic product of an N-ethyl analog of **1a**, N-ethyl-N'-(4-methyl-2-thiazolyl)-S-methylisothiourrea (**2b**), was identified as an N-ethyl analog of **2a**, N-ethyl-N',N''-bis(4-methyl-2-thiazolyl)guanidine (**2b**).

The difference in the pyrolytic behavior between the N,N-dialkyl- and N-monoalkyl-N'-(2-thiazolyl)-S-methylisothiourreas were interpreted in terms of the basicity of the thiazole nitrogen atom and the predominant chemical species.

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