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Identification of Dimethyl Disulfide-Forming Bacteria Isolated from Activated Sludge.

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Twenty-four strains with high dimethyl disulfide (DMDS)-forming ability were isolated from activated sludge and identified to the genus level. These bacteria were classified into four groups (A, B, C and D) by the API ZYM System. Group A (three strains) was identified as genus *Lactobacillus*, and group B (eight strains) as genus *Corynebacterium*. Group C (one strain) was suggested to belong to genus *Corynebacterium*. Group D (twelve strains) was identified as genus *Pseudomonas*. Formation of DMDS from DL-methionine and S-methyl-L-cysteine was tested. DMDS forming bacteria isolated from activated sludge formed DMDS from both precursors.

[Eisei Kagaku, 33, 11 (1987)]

Relations between the Test Methods for Eco-toxicity.

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The relationships between the various eco-toxicity tests with use of 6 animals (activated sludge, *Daphnia carinata*, *Oryzias latipes*, *Eisenia foetida*, *Tetrahymena pyriformis* and *Dugesia japonica*) and 3 water plants (*Porphyra yezoensis*, *Lemnasiae* and *Chlorella vulgaris*). The high correlation were observed between the test results of the various determining manners by the use of the same animals (*D. carinata*, *O. latipes* or *D. japonica*). The reproduction test by *D. carinata* gave the most sensitive results in average among the 9 tests examined. The tests by activated sludge, *E. foetida* and water plants were not sensitive. The correlations between the water plants and the animals were generally low, and this showed a peculiarity of water plants in assessing eco-toxicity.

[Eisei Kagaku, 33, 243 (1987)]

Studies on the Control Index of Activated Sludge. VIII. Relationship between Dimethyl Disulfide-Forming Ability and the State of Activated Sludge.

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The causes of the appreciable increase of dimethyl disulfide (DMDS)-forming bacteria in abnormally conditioned activated sludge were investigated. It became clear that environmental conditions of weak alkalinity and high BOD, due to abnormally conditioned activated sludge, were suitable for the growth of DMDS-forming bacteria, and DMDS was consequently detected in the aeration tank. It appears that DMDS could be a useful index for evaluating the state of activated sludge.