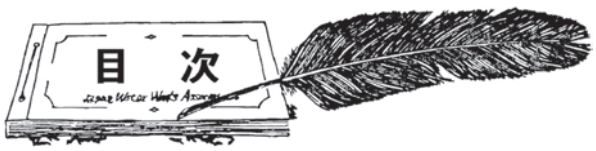

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Contents

A resin-like odor observed in tap water from Kawasaki City was investigated using gas chromatography with an odor-sniffing technique. The study estimated that 1-Hexen-3-one is the causative agent, which originates from diatoms such as the genus *Aulacoseira* found in raw water at the water purification plant. 1-Hexen-3-one was detected in a sample in which *Aulacoseira granulata var. angustissima* was mono-cultured from raw water and subsequently the cells were disrupted by ultrasonic waves. Furthermore, the concentration of 1-Hexen-3-one increased due to chlorination. Therefore, it was decided to develop a test method to determine the formation potential of 1-Hexen-3-one as an indicator for monitoring raw water. Regarding the control of odor, 1-Hexen-3-one was confirmed to be removed by powdered activated carbon. It should be noted that 1-Hexen-3-one is likely to be removed equivalently or less compared with 2-methyl-isoborneol.

We investigated whether plastic bottles could be used as water sampling containers for water quality test items where glass water sampling containers are specified in the testing method of organic substance. In a survey for water utilities, although some water utilities expressed concerns about adsorption and durability, approximately 80% of water utilities wished the use of plastic bottles, indicating that there is a strong need. For the investigation, we used high-density polyethylene (HDPE) bottle, which have high availability and chemical resistance and are used as water sampling containers for water quality testing for inorganic substances. In a comparative test using samples in which the target substance was added to tap water, we confirmed that TOC, formaldehyde, phenols, and haloacetic acids were comparable to glass bottles. However, in a carryover test targeting formaldehyde and phenols, carryover was observed in phenols when HDPE bottles were used. Additionally, during the investigation, we confirmed that the acetone cleaning specified in the testing methods for formaldehyde and phenols is not necessarily necessary when using glass bottles. Based on the above results, we made a proposal to the Ministry of Health, Labor and Welfare's Water Quality Testing Method Review Committee to revise the testing methods.