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Indian Standard (Reaffirmed 1996)

METHODS OF SAMPLING AND TEST (PHYSICAL AND CHEMICAL) FOR WATER AND WASTE WATER

PART 7 TASTE THRESHOLD

(First Revision)

Water Sectional Committee, CDC 26 and Panel for Methods of Test for Water and Effluents, CDC 26 : P1 [Ref: Doc : CDC 26 (8853)]

1. Scope — Prescribes a method for the determination of taste threshold, for quantitative measurement of detectable taste.

1.1 This method is applicable only to water and not to waste water.

2. Apparatus

2.1 *Preparation of Dilutions* — System for dilution is same as that described for odour threshold tests.

2.2 For testing, blank and each dilution is transferred to 50-ml beaker and given to observer for testing.

3. Procedure — Prepare dilution series in the same way as in case of odour threshold testing. Take 15 ml sample in a 50-ml beaker and pair each sample with known blank sample and present to each panelist. Ask the panelist to hold water at 40°C in as much quantity as is comfortable for several seconds and discharge it without swallowing. Instruct the subject to record whether a taste or after-taste is detectable in the unknown sample. Submit the samples in an increasing order of concentration until the subject's taste threshold has been passed.

4. Precautions

4.1 Make taste tests only on samples known to be safe for ingestion.

4.2 Do not use samples that may be contaminated with bacteria, virus, parasites, or toxic chemicals such as arsenic, dechlorinating agents or that derived from an unesthetic source.

4.3 Do not make taste tests on waste water or similar untreated effluents.

4.4 Observe all sanitary and esthetic precautions with regard to apparatus and containers containing the sample. Practice hospital-level sanitation of these items.

4.5 Make analyses in a laboratory, free from interfering background odours. If possible, provide carbon-filtered air at constant temperature and humidity because without such precautions the test measures flavour and not taste.

5. Calculations - Calculate the individual threshold and threshold of panel in the same way as described in odour threshold tests.

EXPLANATORY NOTE

Taste, like odour is one of the chemical senses. The odour sensation is stimulated by vapours without physical contact with a water sample, while taste requires contact of the taste buds with the water sample to determine its palatability. Taste is simpler than odour as there may be only four basic taste sensations: Sour, sweet, salty and bitter. The complex sensation experienced in the mouth during the act of tasting is a combination of taste, odour, temperature and feel; this combination is often called flavour. Taste tests usually have to deal with this complex combination. If a water sample contains no detectable odour and is presented at near body temperature, the resulting sensation is predominantly true taste.

It may not be assumed that a tasteless water is most desirable, it has become almost oxiomatic that distilled water is less pleasant to drink than certain high quality waters. Accordingly there are two distinct purposes of taste tests. The first is to measure taste intensity by the taste threshold test. The test results are used to assess treatment required to convert a water source into a quality drinking water supply. The second purpose of taste testing is to evaluate the consumers judgement of the quality of a drinking water. This test involves a panel evaluation of undiluted samples presented as ordinarily consumed.

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