Rideal-Walker Coefficient - Historical Method Interpretation

Experiment 13 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To calculate and critique a coefficient from a supplied historical test table.

Principle

The historical phenol-coefficient approach compares disinfectant and phenol performance at the method-defined endpoint. It is limited by its test conditions and is not a universal measure of real-world disinfection.

Requirements

- Instructor-prepared fixed slides, labelled images, demonstration records or coded teaching data for this practical.
- Activity form, microscope for prepared slides where applicable and calculator.

Procedure

1. Identify the teaching material

Record the slide, image or data code, method name and the assigned comparison. Use prepared material and supplied results for this exercise.

2. Read endpoint definitions

Identify the contact-time comparison and response definitions stated in the instructor-provided record.

3. Locate qualifying dilutions

Identify the highest qualifying disinfectant and phenol dilution denominators from the supplied table.

4. Calculate the ratio

Divide the qualifying disinfectant denominator by the qualifying phenol denominator.

5. Discuss applicability

Explain that organic load, surface, formulation and method affect performance; use the product-authorised method for actual disinfection.

6. Assess controls and limitations

Confirm the meaning of the positive, negative, blank or process controls supplied. State which conclusions the results support and which require additional evidence.

7. Complete the record

Enter observations separately from interpretations. Record units, method conditions given with the data and the instructor-reviewed conclusion.

Observations and Record

Record component	Entry
Supplied method / table code	_____
Disinfectant denominator	_____
Phenol denominator	_____
Coefficient	_____
Method limitation	_____

Worked Example

The numbers below are illustrative; enter your own observations in the record.

- Coefficient = qualifying disinfectant dilution denominator / qualifying phenol dilution denominator.
- Illustration: denominators 600 and 100 give a coefficient of 6. The example is a calculation from supplied data; no live-organism challenge is performed.

Result

Material / data code: ____. Observed result: ____. Control assessment: ____. Interpretation and limitation: ____.

Precautions

- This activity uses prepared material and data interpretation; it is not a live microbial culture or pathogen-handling procedure.
- Keep morphological, quantitative and clinical interpretations separate.
- Use the method-specific assigned quality controls and current interpretive criteria where relevant.

Viva Questions and Answers

1. Does a coefficient apply to every practical setting?

No. It depends on the defined historical test conditions.

2. What is compared?

The qualifying dilution endpoint of the test disinfectant with that of phenol in the same method.

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