Bacteria, Slime-forming

DOC316.53.01327

Visual determination

Semi-quantitative

SLYM-BART™[1]

Scope and application: For the determination of slime-forming bacteria in brine solutions, produced waters and hydraulic fracturing waters.

[1] SLYM-BART is a trademark of Droycon Bioconcepts Inc.

Test preparation

Before starting

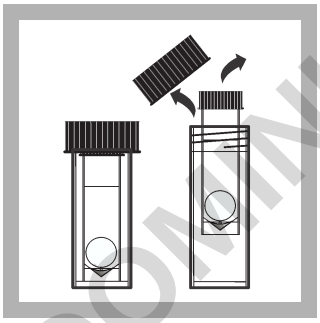
Do not touch the inner surface of the tube or lid. Keep contamination out of the tube and lid. Use the aseptic technique.
Set the caps on a clean surface with the flat surface down.
Review the Safety Data Sheets (MSDS/SDS) for the chemicals that are used. Use the recommended personal protective equipment.
Dispose of reacted solutions according to local, state and federal regulations. Refer to the Safety Data Sheets for disposal information for unused reagents. Refer to the environmental, health and safety staff for your facility and/or local regulatory agencies for further disposal information.
Sterilize the reacted sample before disposal. Refer to Disposal on page 3.

Items to collect

Description	Quantity
BART Test for slime-forming bacteria (SLYM)	1

Refer to Consumables and replacement items on page 4 for order information.

Test procedure



1. Remove the inner tube from the outer tube.

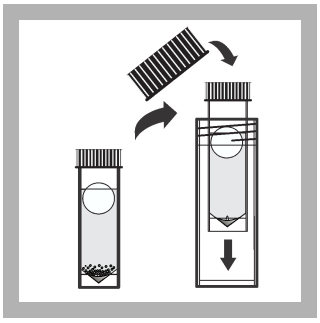


2. Pour at least 20 mL of sample in the outer tube.



3. Fill the inner tube to the fill line with the sample that is in the outer tube. Tighten the cap on the inner tube.

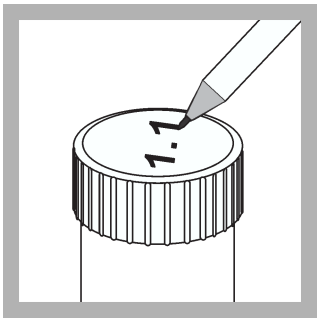
Discard the unused sample in the outer tube.



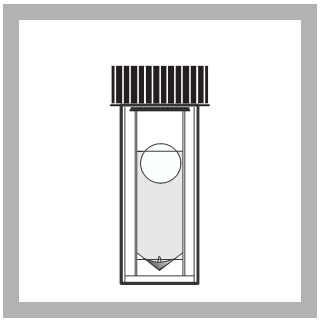
4. Put the inner tube in the empty outer tube. Tighten the cap on the outer tube.

Do not shake or swirl the tubes after the sample is added. Let the ball float to the top with no help.

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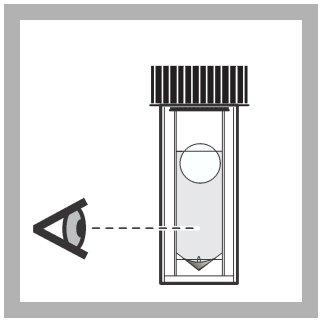


5. Write the date and sample name on the outer tube.



6. Keep the tube at room temperature and away from direct sunlight for 8 days.

Do not move the tube.



7. Examine the tube each day. Record the date when a reaction is first seen. Refer to Test results on page 2.

Test results

Presence/Absence

When slime-forming bacteria are in the sample, the solution becomes cloudy. Refer to Figure 1.

Figure 1 Negative versus positive test results



Negative (absent/non-aggressive)

The solution stays clear with no visible growth or glow under UV light.



Positive (present/aggressive)

The solution is cloudy. A glowing ring is seen under UV light and/or there is slime growth at the bottom of the tube.

Make an estimate of the bacteria population

If the test result is positive, make an estimate of the bacteria population and the aggressivity. Refer to Table 1. A faster reaction occurs when the bacteria population is high.

Table 1 Approximate bacteria population

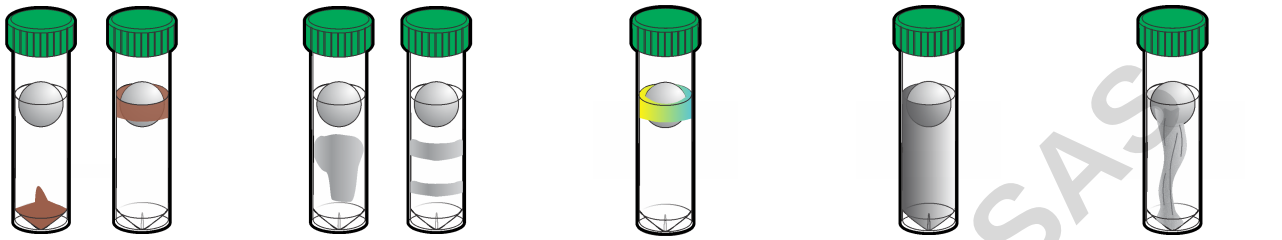
Days to reaction	Approximate slime population (cfu/mL)	Aggressivity
1	1,750,000	Very high
2	440,000	High
3	67,000	High
4	13,000	Moderate
5	2500	Moderate
6	500	Moderate
7	100	Low
8	Less than 20	Low

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Advanced test information

If the test result is positive, examine the tubes for dominant bacteria. Refer to Figure 2. If the dominant bacteria is enteric or pseudomonads and has a high or very high aggressivity, a fecal coliform test is recommended on a fresh sample to determine if there is a hygiene risk.

Figure 2 Dominant bacteria



Dense slime bacteria	Slime-forming bacteria	Fluorescing pseudomonads	Pseudomonads and enterics	Tight slime bacteria
Dense slime in bottom or slime ring around ball	Cloudy growth or layered plates	Glows pale blue under UV light	Blackened liquid	Thread-like strands

Summary of method

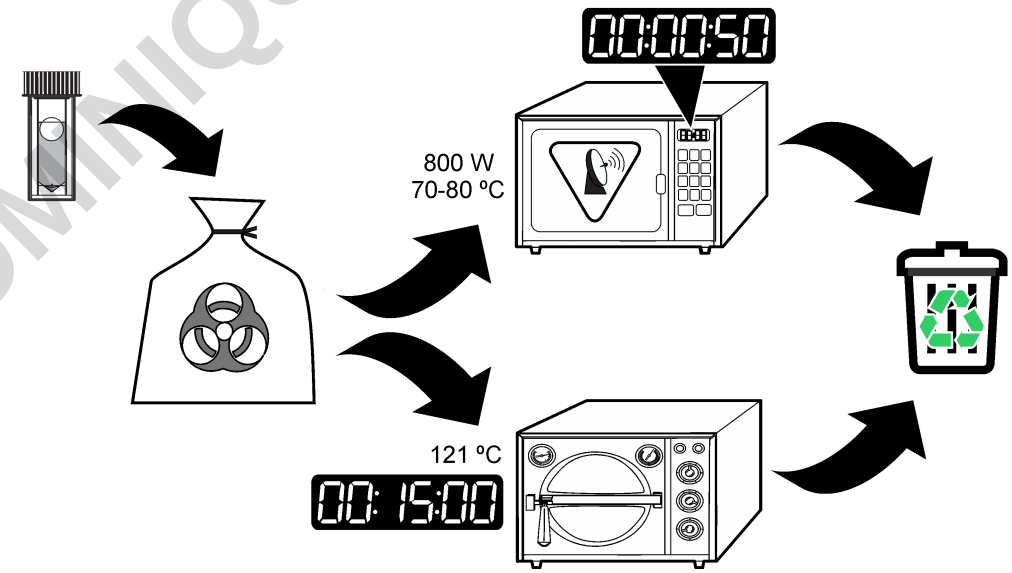
When slime-forming bacteria are in the sample, one or more types of slime grow in the SLYM-BART tube during incubation. The slime is typically seen as a cloudy or gel-like growth, which can be in one location or occur through all the sample. Slime growths are usually white, grey, yellow or beige in color and can darken over time. Slime-forming bacteria typically produce the thickest slime in aerobic (oxidative) conditions, which occur around the floating ball.

Iron-related bacteria also produce slime, but it is typically thinner and various forms of iron accumulate. Slime-forming bacteria can make large amounts of slime without iron.

Disposal

Sterilize the reacted sample before disposal. Refer to Figure 3.

Figure 3 Disposal



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Consumables and replacement items

Required reagents

Description	Quantity/Test	Unit	Item no.
BART Test for slime-forming bacteria (SLYM)	1	9/pkg	2432509
BART Test for slime-forming bacteria (SLYM)	1	27/pkg	2432527

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FOR TECHNICAL ASSISTANCE, PRICE INFORMATION AND ORDERING:
In the U.S.A. – **Call toll-free 800-227-4224**
Outside the U.S.A. – **Contact the HACH office or distributor serving you.**
On the Worldwide Web – **www.hach.com**; E-mail – **techhelp@hach.com**

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