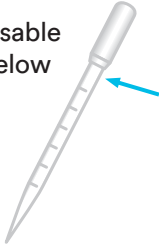
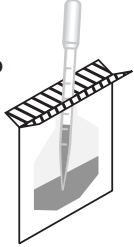


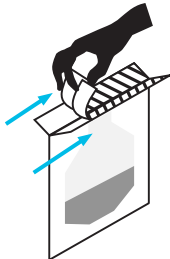
Quick Guide for the 3M™ Rapid SRB Detection Pouch


Inoculate in 4 easy steps

- 1** Fill sterile, disposable pipette to just below the bulb (3 mL).


- 2** Insert the pipette between the tabs to the bottom of the pouch. Dispense sample, ensuring the adhesive strip stays dry.


- 3** After removing pipette, bend tabs outward and peel off both liners simultaneously.


- 4** Seal across the top.



Incubate

Incubate pouch upright for up to 5 days and monitor every 24 hours for best population estimates.

Per NACE TM0194-2014, incubation should be within 5°C of the recorded water temperature at time of sampling. Incubation temperatures should be held constant ($\pm 2^\circ\text{C}$) for the best results.

For a video demonstration and instructions for use, visit:
3M.com/RapidSRBDetection

Interpret the results

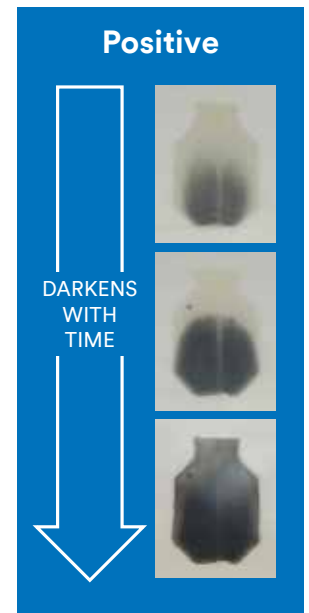
Sulfate-reducing bacteria (SRBs) are present if the pouch begins to blacken.

Population can be estimated by the time from inoculation to color change (see reverse side of this sheet).

Positive test results transition from gray to black over several hours.




Note: >10 ppm hydrogen sulfide will cause the pouch to turn black within five minutes, invalidating the result. See reverse for dilution instructions.

SRB population in CFUs/mL				
Days to positive				
1	2	3	4	5
$10^7 - 10^4$	$10^3 - 10^1$	<10	~ 1	Negative



Sulfate-reducing bacteria (SRB) quantitation estimates

Based on *D. desulfuricans* ATCC 29577 and *D. vulgaris* ATCC 29579 incubated at 30°C per NACE TM0194-2014*

		SRB CFU/mL							<10
		10 ⁶	10 ⁵	10 ⁴	10 ³	10 ²	10 ¹		
Hours from inoculation to observation		8	16	24	32	40	48	62 to 120	
		14	22	30	38	46	54		
		22	30	38	46	54	62		
		Day 1		Day 2		Day 3-5			

Storage and disposal

Store unopened foil packages at 4° to 8°C for maximum shelf life. Let foil packages come to room temperature before opening. Reseal opened foil package with zipper and store at room temperature.

Product is non-hazardous before inoculation. After use, pouches may contain microorganisms that could be a potential biohazard. Follow current local, national and industry standards for disposal.

*NACE TM0194-2014 (Latest Version), "Field Monitoring of Bacterial Growth in Oil and Gas Systems" (Houston, TX: NACE)

CAUTION To reduce the risks associated with exposure to water from the oil well which, if not avoided, could result in minor or moderate injury: *Always wear personal protective equipment per facility policies and procedures.*

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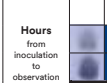

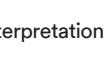
Dilution for high sulfide samples

If the sample contains high enough levels of H₂S that the test turns black within 5 minutes, a dilution can mitigate the problem. Dilute the sample by mixing one part sample with nine parts sterile, dechlorinated water and mix thoroughly. The pouch will give a result that is one tenth the original concentration, and the result should be adjusted accordingly. For example, if the original sample was 10⁵ CFU/mL, the diluted sample will be 10⁴ CFU/mL and the pouch will give that result, so after interpretation, the test result would be increased by an order of magnitude to give the original concentration.

How to understand the chart

- For chart use, first find the row with the picture that most closely corresponds to your pouch. Locate the number in the row that is closest to the number of hours from test initiation to observation. Follow this column to the top of the chart for the SRB population estimate in CFU/mL.

Interpreting Sample Results

		SRB CFU/mL							62 to 120
		10 ⁶	10 ⁵	10 ⁴	10 ³	10 ²	10 ¹		
Hours from inoculation to observation		8	16	24	30	40	48	62 to 120	
		14	22	30	38	46	54		
		22	30	38	46	54	62		
Days		1		2		3-5			

- SRB growth rates may vary based on factors including sample handling, SRB species, incubation temperature, and water chemistry. This guide may not represent the range of results observed in field samples.

- For additional information including videos on inoculation, interpretation and performing a dilution, visit: 3M.com/RapidSRBDetection

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