THIOCYANATE (SCN^-) ION TEST KIT
OFI Part No. 144-94

Thiocyanate ion (SCN^-) is used as a tracer in water base drilling fluids. This test kit provides all of the necessary supplies and reagents to determine the amount of Thiocyanate ion in a drill stem test fluid or mud filtrate. For colored filtrates it is necessary to also prepare a blank sample which is helpful in determining the color of the end point.

Equipment:

#153-14	Cylinder, Graduated, 50 x 1 ml, glass
#153-34	Pipette, 1 ml x 1/100 ml, glass
#153-36	Pipette, 2 ml x 1/10 ml, glass
#153-38	Pipette, 5 ml x 1/10 ml, glass
#153-50-1	Flask, Erlenmeyer, 125 ml, glass
#153-60	Syringe, Disposable, 3 ml
#154-75	Scoop, Brass
	Reagents:
#145-551	Starch Indicator sol'n, 2 oz
#206-01	Distilled Water, 8 oz
#144-941	*Bromine Water, 8 oz (UN1744)
#144-942	*Orthophosphoric Acid, 20% sol'n, 8 oz (UN1805)
#144-943	*Phenol solution, 5%, 8 oz (UN2821)
#144-944	Potassium Iodide Crystals, 50 grams
#262-05	Sodium Thiosulfate solution, 0.01N, 8 oz
	Case:
#144-35	Case, stainless steel, diagonal design
#163-28	Clip, large

Procedure:

1. Pipette 5 ml of filtrate into a 125 ml Erlenmeyer Flask and add about 45 ml of Distilled Water.

2. Pipette 5 ml of 20% Orthophosphoric acid solution and mix by swirling the contents.

3. Add Bromine water dropwise while mixing until a deep yellow color persists and allow the mixture to stand for 5 minutes.

4. Add 2 ml of 5% Phenol solution and mix until the deep yellow color disappears.
   Note: Add <u>all</u> of the 5% Phenol solution <u>at once</u>.

5. Add one full scoop of Potassium Iodide crystals and mix until dissolved.

6. Allow the mixture to stand for 5 minutes.

7. Add 10 - 20 drops of Starch Indicator solution.

8. Titrate with 0.01N Sodium Thiosulfate solution to a colorless end point.
   Note: Colored filtrates require the preparation of a blank sample to determine the color of the end point. Omit steps 5 - 8 of the procedure for the blank sample and titrate the test sample to the same end point color as the color of the blank sample after step 4.

Calculation:

Thiocyanate Ion (SCN^-) = Sodium Thiocyanate, ml x 58.1

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