



IMPORTANT INFORMATION FOR AVAILABLE CYANIDE SAMPLE COLLECTION

Two sample containers must be collected at each sample point. One container will be treated with lead carbonate and sodium hydroxide, and the second with only sodium hydroxide (see below and the attached flowchart). A form titled "Available Cyanide Sample Treatment Record" has been provided to document all field pre-treatment activities. Please complete it as you collect and treat each sample. If you have any questions on the treatment procedures described below, please contact your project chemist at 1-616-975-4500.

IMPORTANT: To avoid analyte loss it is **required** that all sample treatments occur within 15 minutes of sample collection.

CAUTION: All containers labeled as Sodium Hydroxide and Lead Carbonate/Sodium Hydroxide contain 1.3 mL of 10N sodium hydroxide. This solution is very caustic. Avoid skin contact. Handle with care.

CAUTION: All containers labeled as Lead Carbonate contain 0.25 g of solid lead carbonate. Avoid inhalation and skin contact.

1.0 Sample Collection Equipment

Per Sample

- One membrane filter
- One plastic powder funnel
- One sheet of filter paper
- One Lead Carbonate bottle
- One Lead Carbonate/Sodium Hydroxide bottle
- One Sodium Hydroxide bottle

A hand pump (not provided) is also required to perform this procedure

2.0 Collecting a Lead Carbonate/Sodium Hydroxide Pre-Treated Sample

If the sample contains particulates, begin with section 2.1. If the sample is particulate free, begin with section 2.2.

2.1 Sample Contains Particulate Matter

If the sample contains particulate matter that would be removed upon filtration, the sample must be filtered prior to the lead carbonate pre-treatment to avoid the loss of any cyanides associated with the particulate matter. Using a powder funnel and a sheet of filter paper, filter the sample into the bottle labeled Lead Carbonate. Filter enough sample to fill the bottle up to its neck. Place the used filter paper into the bottle labeled Lead Carbonate/Sodium Hydroxide. Cap the Lead Carbonate bottle and gently swirl to mix the sample and the lead carbonate. The sulfide will react with the lead carbonate and precipitate out as lead sulfide. The sample must now be filtered through a membrane filter to prevent the loss of any cyanide through reaction with the precipitated lead sulfide. Using a new membrane filter apparatus and a hand pump, filter the sample. Transfer the filtrate into the Lead Carbonate/Sodium Hydroxide bottle containing the used filter paper. Do not pre-rinse the container or fill to overflowing, as a loss of the particulate matter and sodium hydroxide will result. Proceed to section 3.0.

2.2 Sample Particulate Free

With a minimum of aeration, fill the 250 mL bottle labeled Lead Carbonate up to the neck with sample. Cap and gently swirl to mix the sample and the lead carbonate. The sulfide will react with the lead carbonate and precipitate out as lead sulfide. The sample must now be filtered through a membrane filter to prevent the loss of any cyanide through reaction with the precipitated lead sulfide. Using a new membrane filter apparatus and a hand pump, filter the sample. Transfer the filtrate collected into the bottle labeled Lead Carbonate/Sodium Hydroxide. Do not pre-rinse the container or fill to overflowing to avoid the loss of the sodium hydroxide.

3.0 Collecting a Sodium Hydroxide Pre-Treated Sample

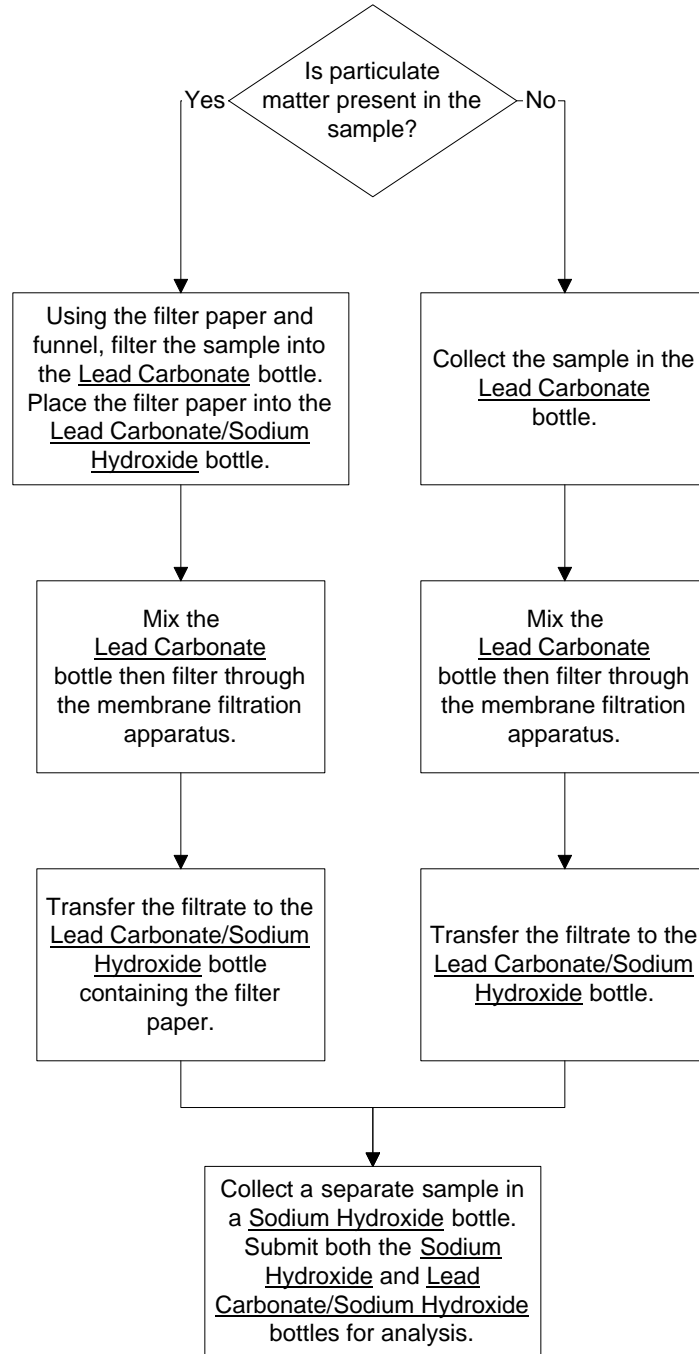
With a minimum of aeration fill the 250 mL bottle labeled Sodium Hydroxide with sample. Do not pre-rinse the container or fill to overflowing to avoid the loss of the sodium hydroxide.

4.0 Collect all Paperwork and Return the Samples to TriMatrix

Place all samples in the cooler. Surround the samples with ice. To avoid data qualification all samples must be received at a temperature of between 0 and 6° C. Seal all paperwork in the resealable bag. Place the sealed bag containing the paperwork. Place all plastic powder funnels and unopened membrane filters in the cooler. Seal the cooler and return it to TriMatrix.

If you have any questions, please call TriMatrix at 1-616-975-4500 and speak with your project chemist. Thank you.

Available Cyanide Sample Collection Flowchart





Available Cyanide Sample Treatment Record

Sampled By: _____		Company: _____				Date: _____		
	Sample ID	Time Collected	Did Sample Contain Particulate Matter and Require Filtration?	Sample Combined with Lead Carbonate	Filtrate Combined with Sodium Hydroxide	Time Treatment Completed	Treatment Completed within 15 minutes of Collection?	Preserved Sample Collected
1)			Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
2)			Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
3)			Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
4)			Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
5)			Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
6)			Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
7)			Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
8)			Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
9)			Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
10)			Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
11)			Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
12)			Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
13)			Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
14)			Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
15)			Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
16)			Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
17)			Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
18)			Yes / No	Yes / No	Yes / No		Yes / No	Yes / No
19)			Yes / No	Yes / No	Yes / No		Yes / No	Yes / No