

# Stable Isotope Laboratory

## Nitrate & Ammonia Sampling Procedure

Please contact us to discuss your analysis needs prior to sending samples.

For isotope analysis of Nitrate and Ammonia our lab requires concentrations to be provided. You will need to send the samples to a laboratory of your choice for concentration analysis promptly, as we cannot begin to process your samples at our lab without these results.

We provide sampling kits free of charge within New Zealand.

Our sampling kit includes:

- 100 ml sample bottle(s) for 15N & 18O
- 10 ml sample bottle(s) for 2H & 18O
- 3ml disposable pipette
- Gloves
- 10% HCl and sulfanilic acid
- pH strips

You will need to source your own safety glasses and permanent marker. Sampling kits can be sent overseas at your expense, however we cannot include the acid.

1. Put on safety glasses and gloves
2. Rinse each bottle 3 times with water to be sampled. Cap and shake the bottle each time.
3. Fill both the 10 ml and 100 ml sample bottles with the sample. The 10ml bottle should be filled to the very top with as little head space as possible, ensure to screw the cap on tightly. The 100 ml bottle will need to have a small amount of space at the top of the bottle.
4. Add 1 ml of the 10% HCl plus sulfanilic acid to your 100 ml sample using the pipette. Cap & Shake. The HCl is used to get the sample to a pH of  $\leq 3$  to preserve the sample. The sulfanilic acid removes nitrite at low pH. Nitrite interferes with O isotope analysis of nitrate \*.
5. Unscrew the cap of the 100 ml sample and check the pH is  $\leq 3$  using the strips. If pH is high add more acid. Repeat this process until pH is  $\leq 3$ . Nitrate samples can be stored indefinitely at room temperature after the acid has been. Samples for 2H & 18O however are sensitive to evaporation and should be sent within 3 days or kept refrigerated/frozen.
6. Clearly label each sample bottle with the permanent marker.
7. Complete and email your sample submission form ensuring that the sample ID matches those written on the bottles. Please also ship your samples with a printed copy of the form.

\*if you require analysis of Nitrite please do not add Sulfanilic acid. Concentration of Nitrite needs to be higher than 50ppb for analysis.

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### Contact us



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