

Sampling

Sampling procedure for water stable isotopes is slightly different on source of water sample:

1. For any surface water follow these steps: Rinse the bottle with sample and fill it up to 80% full and seal it tightly.
2. Groundwater samples should be taken after purging the well. In general, three well volumes should be pumped out before samples are collected. After purging is complete, the well is ready for field measurements of conductivity, temperature, pH, dissolved oxygen and alkalinity. After these measurements are stabilized, rinse the bottle and fill it with sample leaving ~20% empty.
3. Precipitation can be taken directly, however, if Vaseline oil, petroleum or any other oils or hydrocarbons are used to prevent evaporation in precipitation collector, the sample should be purified before filling the sample bottle. Make sure the bottles are tightly capped. Snow samples must be melted in room temperature in larger closed container before filling the bottle.

During sampling, storage and transportation to the laboratory, take care to avoid evaporation of the sample. Keep it refrigerated until it is delivered to laboratory.

Material

Bottles should be HDPE (High-density polyethylene) plastic or dark glass bottles (glass is fragile and much heavier).

Sealing.

The best solution is double sealed bottles; however, Nalgene bottle sealing is as well good. Just make sure that bottles are tightly closed. If there are doubts about sealing, adhesive tape can be wrapped around sealing cap to prevent evaporation.

Size

Preferable size of bottles are ~20 ml. The amount is big enough for repeated measurements and evaporation, if take place, is less affecting results. There is no need for larger container as it takes more space in refrigerator.

Transport

Until shipping to laboratory samples should be kept in cold, if shipping take less than a day or during colder season, no special requirements needed.

Before shipping verify that bottle caps are closed properly, as they may unscrew because of temperature fluctuations.

If glass bottles are used, take care that package is labeled as "fragile."

Labeling

For laboratory there should be written easy identifiable sample number (consecutive numbering) written on the bottle or label. Make sure that labels do not wash away of paper labels are attached well, preferably, they are secured with transparent tape. Additional information can be written, however,

reporting of the results will be according to this number (not compilation of date, place, and numbers)
2) label number must be mentioned in the list as supplementary document to samples, preferably, digital format sent to email (.xlsx .csv or similar).

Supplementary information

It is obligatory to provide information about contaminated samples with hydrocarbons or alcohols. As this may lead not only to erroneous results but may damage laboratory equipment.

As well it should be advisable that in the sample list information about elevated other contaminants, organic matter and salinity should be provided.