

PRESERVATION FOR VOLATILE ORGANIC COMPOUNDS IN WATER

KNOWING VOLATILE ORGANIC COMPOUNDS

Volatile Organic Compounds (VOCs) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and, subsequently, analyzed by gas chromatography. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They often are compounds of fuels, solvents, hydraulic fluids, paint thinners, and dry-cleaning agents commonly used in urban settings.

PROBLEMS OF VOCs

- Most VOCs result from human activity
- Exposure through the air, skin contact, food, drinking water
- Some VOCs are carcinogenic or suspected to be.
- Compounds with boiling point from 56.5 °C
- VOC vaporize very easily during samples manipulation
- Affect environment and human health

ALS METHOD CODE & INSTRUMENT

USEPA 5030/8260 P&T/GC/MS or HS/GC/MS

LEVEL OF REPORTING

Water – 5–50 ug/L (ppb)

METHOD REFERENCE

USEPA 5030B, 8260B / GCMS SCAN

FOR ENQUIRIES:

Email: marketing@alsglobal.com.my

Commercial: Chong – 0126987369

Aina / Ima – 0126987154

Technical: Doc Chin – 012-3793621

Lee Yiu Lay – 012-6987160

SAMPLE CONTAINER AND PRESERVATIVE THE RIGHT VIAL



THE RIGHT VOLUME

- Full vial filled without headspace.
- Any headspace in the vial means loss of VOC and leads to biased results.
- Two fully filled 40 ml vials with teflon lined cap are needed.
- A second fully filled vial without headspace is required in case of dilution or re-analysis. This procedure is the proper way to ensure right VOC results.

THE RIGHT PRESERVATION

- VOCs for water – *Hydrochloric acid (HCL) to pH <2, cool to 4±2°C.

***HCL is used to inhibit the biotransformation of the analyte of interest until the chemical analyses can be performed.**

THE RIGHT SAMPLING

- Label ALS vials with the appropriate sample identification.
- Do not rinse the vial with the water sample
- Fill the container with water until the vial is full
- Cap tightly (screw) and ensure that no headspace is present
- Shake briefly to dissolve the preservative
- Collect samples in duplicate
- Pack samples at temperature between 4±2°C before shipping to ALS Laboratory