

# Remove H<sub>2</sub>S from gas samples

## Each sampling kit includes:

- 1 H<sub>2</sub>S IsoScrubber<sup>®</sup>
- 1 60 ml syringe (valve & needle included)
- 1 gas sampling bag
- Connector (to attach IsoScrubber to gas bag)
- Shipper (including paint can) for return shipment to the lab
- Sampling instructions
- Guidelines for return shipment



*Strips toxic hydrogen sulfide (H<sub>2</sub>S) from natural gas for easier shipping to the lab, and allows for chemical and isotopic analysis of the light hydrocarbons*

**CAUTION: HYDROGEN SULFIDE IS A HIGHLY TOXIC GAS EVEN AT LOW CONCENTRATIONS. ALL NECESSARY PRECAUTIONS ASSOCIATED WITH THE COLLECTION OF SAMPLES CONTAINING HYDROGEN SULFIDE, MUST BE TAKEN PRIOR TO COLLECTING SAMPLES USING THE H<sub>2</sub>S ISO SCRUBBER.**

Encountering natural gases that contain H<sub>2</sub>S is an increasingly common occurrence. Unfortunately, collecting samples of these gases in the field and getting them back to the laboratory for analysis can be very problematic as H<sub>2</sub>S is highly toxic and cannot be transported by air. Similarly, some laboratories will not accept samples containing H<sub>2</sub>S above certain concentrations (e.g. Isotech's limit for accepting samples containing H<sub>2</sub>S is 50 ppm). Additionally, samples containing H<sub>2</sub>S often require expensive, specially treated containers for shipment as hydrogen sulfide is also quite corrosive.

Isotech's H<sub>2</sub>S IsoScrubber<sup>®</sup> provides a solution to these challenges:

- Removes hydrogen sulfide from a gas sample without adversely affecting either the light hydrocarbon isotope values, or the ratios of one light hydrocarbon to another.
- By flushing gas through the H<sub>2</sub>S IsoScrubber, the resulting sample can then be packaged in the provided shipper, and safely returned to the laboratory without need for HAZMAT shipping.
- Up to 180 milliliters of H<sub>2</sub>S laden gas can be flushed through an H<sub>2</sub>S IsoScrubber into the provided gas bag (maximum H<sub>2</sub>S concentration: 50% H<sub>2</sub>S. NOTE: CO<sub>2</sub> will be affected both chemically and isotopically.)



**For questions, please call us at (877) 362-4190.**

### Effects on δ<sup>13</sup>C (‰)

	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	iC <sub>4</sub>	nC <sub>4</sub>	iC <sub>5</sub>	nC <sub>5</sub>
<b>BEFORE</b>	-39.7	-29.9	-33.4	-31.8	-34.4	-29.0	-28.4
<b>AFTER</b>	-39.8	-29.9	-33.5	-31.8	-34.1	-28.6	-27.9
<i>Difference</i>	-0.1	0.0	-0.1	0.0	0.3	0.4	0.5

*C<sub>1</sub>, C<sub>2</sub> & C<sub>3</sub> are unaffected isotopically (+/- 0.3 ‰). C<sub>4</sub> & C<sub>5</sub> showed some isotopic change (+/- 1 ‰). C<sub>1</sub> & C<sub>2</sub> were unaffected chemically. C<sub>3</sub> showed some depletion in concentration and C<sub>4</sub>' and C<sub>5</sub> showed significant decline in concentration. General rule: the higher the hydrocarbon concentration, the more reliable the result isotopically.*

### Effects on Hydrocarbon Ratios

	C <sub>1</sub> /(C <sub>2</sub> +C <sub>3</sub> )	iC <sub>4</sub> /nC <sub>4</sub>
<b>BEFORE</b>	20.61	1.06
<b>AFTER</b>	21.57	1.15
<i>Difference</i>	0.96	0.09

*The effect of the IsoScrubber on hydrocarbon ratios is minimal.*