# SAMPLING SOLUTIONS

## For Hydraulic Fracturing (Fracking) Exposure at Oil and Gas Sites

## Recognition

Hydraulic fracturing (fracking) is the process of injecting large volumes of water mixed with sand and chemicals into the ground at high pressure to fracture the shale and allow gas and oil to flow freely. Through this process, workers are exposed to respiratory and other health hazards from respirable crystalline silica in the sand, aromatic hydrocarbons such as benzene in flowback fluids, glutaraldehyde in biocides, methanol in fracking fluids, hydrogen sulfide, and diesel particulate matter (DPM).

SKC offers active and passive solutions for sampling compounds to which oil and gas workers are exposed during fracking. SKC active samplers require an air sample pump to collect hazardous gases, vapors, and particulates in air; passive samplers collect hazardous vapors by diffusion without the use of an air sample pump.

***See the SKC air sampling equipment recommended for sampling:***

- Benzene and other aromatic hydrocarbons
- DPM
- Glutaraldehyde
- Hydrogen sulfide
- Methanol
- Respirable crystalline silica (*also see Sampling Solutions for Respirable Crystalline Silica*)

## Evaluation with SKC Sampling Solutions

For over 60 years, SKC has led the research, design, and manufacture of quality sampling equipment and media to aid health and safety professionals in the evaluation of occupational and environmental hazards.
Choose from the many SKC sampling solutions for fracking at oil and gas sites, including air sample pumps, active and passive samplers, sorbent tubes, and filter cassettes following agency methods and established protocols.

***See reverse side for specific method and sampling equipment/media information.***

Notice: This publication is intended for general information only and should not be used as a substitute for reviewing applicable government regulations, equipment operating instructions, or legal standards. The information contained in this document should not be construed as legal advice or opinion nor as a final authority on legal or regulatory procedures.

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## Sample Collection

### Active Air Sampling Solutions

| Target Compound | Select Methods* | SKC Sample Collection Media and Cat. No. | SKC Sample Pump and Cat. No. | Notes |
|---|---|---|---|---|
| Benzene and other aromatic hydrocarbons | NIOSH 1501<br>OSHA 1005 | Sorbent tube 226-01 | Pocket Pump TOUCH 220-1000TC | |
| Diesel particulate matter | NIOSH 5040 | DPM cassette 225-317 with GS cyclone 225 Series | AirChek TOUCH, Essential, Essential+, Connect | Preloaded quartz filter without internal impactor available as 225-401 |
| Glutaraldehyde | OSHA 64 | Preloaded coated filter cassette 225-9003 | AirChek TOUCH, Essential, Essential+, Connect | During sampling, use open-face cassette. |
| Hydrogen sulfide | OSHA 1008 | Sorbent tube 226-177 | Pocket Pump TOUCH 220-1000TC | |
| Methanol (methyl alcohol) | NIOSH 2000 | Sorbent tube 226-51 | Pocket Pump TOUCH 220-1000TC | |
| | OSHA 5001 | Sorbent tube 226-82 | Pocket Pump TOUCH 220-1000TC | Two tubes in series |
| Respirable crystalline silica | NIOSH 7500<br>NIOSH 7602<br>OSHA ID 142 | Preloaded PVC filter cassette 225-803 and cyclone 225-01-02 or 225-100<br>OR<br>Parallel Particle Impactor 225-385 with PVC filter 225-5-37 and support pad 225-27 | AirChek TOUCH, Essential, Essential+, Connect | These cyclones have flow rates of 2.5 L/min and 2.75 L/min, respectively. |

### Passive Air Sampling Solutions

| Target Compound | Select Methods*/SKC Validation | SKC Sample Collection Media and Cat. No. | Notes |
|---|---|---|---|
| Benzene and other aromatic hydrocarbons | OSHA 1005 | VOC Chek® 575-002 | Follow the SKC operating instructions depending on the VOC. |
| | Various | VOC Chek 575-001 or 575-002 | |
| Methanol (methyl alcohol) | Research Report 1895 | VOC Chek 575-007 | Sampler includes (and requires) a secondary diffusion barrier. |

* Other methods may apply. SKC recommends those listed.

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