

### The Customer

The Company is a leading manufacturer of sand-based products used by oil and gas exploration and production companies in hydraulic fracturing. They developed a proprietary coating for their products which would enable their Customers to achieve better production rates by recovering more hydrocarbons.

### The Process

Sand or other man made materials are coated with a proprietary solvent based coating at 120°F. The coated material is then moved to a two zone dryer where it is heated to 240°F and 140°F respectively. The dryers evaporate off the solvents leaving the finished product.

### The Problem

They were informed by their System Integrator that because of the potential hazard of an explosion from the buildup of flammable solvent vapors in their dryers, they needed monitoring.

The design specification for safe operation of solvent ovens and dryers is outlined in safety and fire codes. The codes limit the maximum solvent concentration allowable to 25% of the LFL under worst case operation. However if a flammable vapor analyzer is installed as a safety control the maximum allowable concentration is 50% LFL.

The Company instructed their System Integrator to research the technologies available for solvent vapor monitoring.

### The Solution

The System Integrator investigated the different technologies available for this application: Catalytic, Infrared and Flame Temperature. The PrevEx flame temperature technology was recommended over Catalytic and Infrared due to its ability to handle the tough sample environment. The constituents of the sample could coat or corrode a catalytic sensor and foul the optics of the IR, resulting in false or unreliable readings. In addition to its rugged industrial design, fast response and operating simplicity, the PrevEx analyzer is free from poisoning by resins, plasticizers and silicones. It gives consistent and reliable readings with multiple solvent concentrations and runs at a temperature high enough to keep all the dryer atmosphere elements in the vapor state. In addition, the PrevEx analyzers are the only analyzers that meet all the requirements of the NFPA 86 standards.



### SIC Code

- 1446: Industrial Sand

### NAICS

- 212322: Industrial Sand Mining