

Pharmaceutical Batch Ovens

The Customer

The Company develops and produces generic drugs such as ear drops, scalp & body oils, liquid syrup, oral solids, nasal sprays & more. Products are offered to companies and patients worldwide.

The Process

The pharmaceutical process involves coating products with a mixture of solvents (IPA, ethanol & acetate) and then heating them in batch ovens. The solvents evaporate off in the heating process and are collected and fed into a main duct that feeds into the thermal oxidizer for destruction.



The Challenge

NFPA 86, the National Fire Protection Association's Standard for the Safe Operation of Ovens and Furnaces, defines direct-fired thermal oxidizers as Class A Furnaces mandating the use of continuous flammability analyzers on inlet streams exceeding 25% LFL. The analyzer's job is to activate warning and danger alarms before the inlet stream reaches 50% LFL. This can save the oxidizer from destruction by fire or explosion. Operation above 50% LFL is not permitted.

The Company wanted to use IR sensors to monitor the flammability of the batch oven exhaust streams going into the oxidizer.

The Solution

The application (multi-solvent), process conditions and purpose of the analyzer were the main considerations that led to the selection of the PreVEx Flammability Analyzers. These analyzers offered a number of advantages over the IR:

- heated sample train up to 250°C which effectively prevents condensation of high dew point vapors
- extremely short response times
- the unique ability to accurately measure most common process solvent vapors, including mixtures to within a few percent of the LFL without the need for recalibration
- rugged, industrial design and more resilient with difficult sample gases
- low maintenance and easy servicing featuring a "Service Needed" message and relay contact that anticipates the need for maintenance before faults occur
- failsafe operation

For maximum benefit and safety the Company installed PreVEx analyzers independently on each process to determine the LFL level from each source.

SIC Code

- 2834000 Pharmaceutical Preparations

NAICS Code

- 325412 Pharmaceutical Preparation