

# Series 8900GC Application Note

## Ethylene Oxide



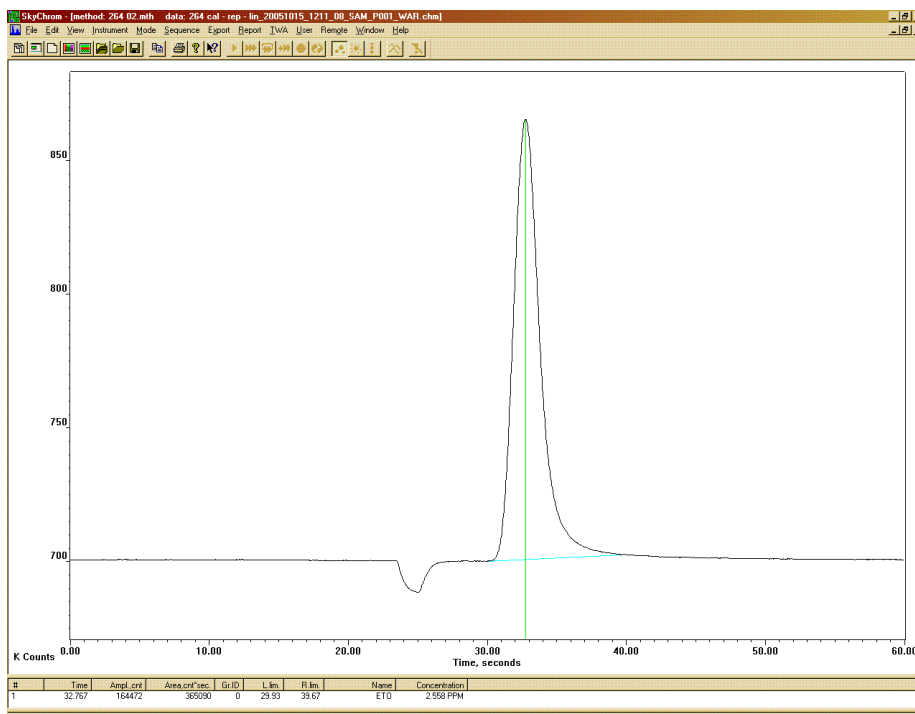
### Analyzer

The Series 8900 Ethylene Oxide Analyzer combines the selectivity of gas chromatography with the sensitivity of a Photoionization Detector (PID) providing interference free response to Ethylene Oxide (EtO) at levels below 0.05 ppm. This analytical method is referenced in OSHA's "Occupational Exposure to Ethylene Oxide: Final Standard" 29 CFR Part 1910.

The system documents exposure levels including: time-weighted averages (TWA), short-term exposure limits (STEL) and instantaneous alarms.

Areas that are typically monitored include; EtO Sources - gas storage areas, sterilizer doors, aeration doors, and the General Work Area - decontamination, packaging and preparation and sterile product storage areas.

The 8900 EtO Analyzer uses a dual column configuration with timed backflush to vent which is used to strip off moisture and heavier hydrocarbons. At sample injection a fixed sample volume is carried to the pre-cut column. Backflush of the pre-cut column is timed from sample injection so that only EtO and other similar components are eluted from the pre-cut column to the analytical column. Contaminates on the pre-cut column are then vented. EtO is separated from potentially interfering components on the analytical column and elutes to the photoionization detector (PID) and/or flame ionization detector (FID) for analysis.



### Application

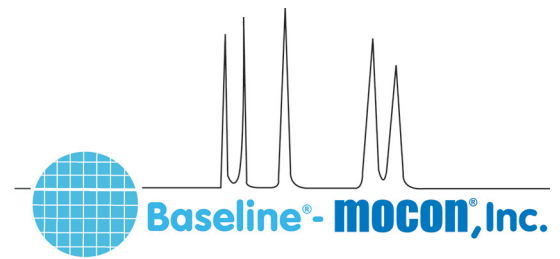
- Monitoring workplace exposure limits in and around sterilization facilities

### Features

- Direct measurement of Ethylene Oxide
- Interference free response
- Automatic baseline adjustment for long-term stability
- Automatic calibration to a known EtO standard
- Reports exposure levels, TWA, STEL, and instantaneous alarms
- Analog output ranges are user selectable
- Graphic display of current or historical concentrations
- Multipoint sampling options
- RS-232 and optional LAN

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### Specifications

**Analysis Time:** <60 seconds

**Detector:** PID (FID or High-sensitivity PID Optional)

**Column:** Packed

**Oven Temperature:** 80 °C, Nominal

**Carrier Gas:** Nitrogen, 40 cc/min, Nominal

**Lower Detection Limit:** 0.01ppm EtO

**Accuracy:** 1% @ 1ppm

**Precision:** 2% of Measured Value

**Span Drift (24HR):** <2% of Full-scale

**Sample Flow Rate:** 250-500cc/min, typical

### Output:

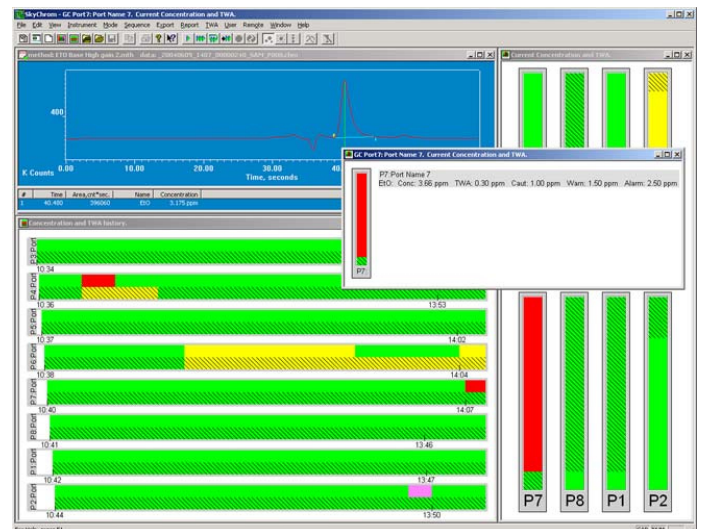
**Analog:** (1) 0-20ma or 4-20ma loop power supplied, isolated. Selectable for: gas concentration, unintegrated detector signal. Options for up to 20 additional programmable 0-20ma, 4-20ma or voltage outputs: 0-1V, 0-5V, or 0-10V.

**Digital:** RS-232, optional Local Area Network

**Relays:** (5) User programmable relays for concentration and diagnostic alarms (1A @ 30Vdc). Options for up to 32 additional relays available.

**Inputs:** Optional digital input board for 3 contact closure inputs. Supports start analysis, start calibration, and analyze calibration gas sample.

This application note is an only an example based on customer or market specifications. These parameters are variable and therefore do not reflect all of the versatility and options of Series 8900 GC. Please contact Baseline regarding your specific application



SkyChrom Display; Chromatogram, Current Concentration and TWA & Concentration and TWA history

A012.3

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