



blacklinesafety

Sensor Cross-Sensitivities

Sensor	Cross Sensitivities	Additional Notes	Response Time
Cl₂	SO₂ : 20ppm sample can cause 3.5ppm reading. BR : 1ppm sample can cause 1ppm reading. ClO₂ : 1ppm sample can cause 0.5ppm reading. F₂ : 1ppm sample can cause 0.4ppm reading. O₃ : 0.25ppm sample can cause 0.05ppm reading.	<ul style="list-style-type: none"> Exposure to H₂S will poison the sensor, exposure to Cl₂ will re-activate the sensor. 	t50 <10 s t90 <60s
ClO₂	H₂S : 20ppm sample can cause -5ppm reading. Cl₂ : 1ppm sample can cause 0.6ppm reading. O₃ : 0.25ppm sample can cause 0.7ppm reading.		t50 <20 s t90 < 120s
CO	H₂ : 200ppm sample can cause 25ppm reading." H₂S : 20ppm sample can cause <5ppm reading. NO : 50ppm sample can cause 25ppm reading. C₂H₄ : 100ppm sample can cause 100ppm reading.	<ul style="list-style-type: none"> Solvent vapors can poison sensors. Alcohols from de-icing fluids, bug repellent, hand sanitizer, aerosol cans, antiseptics, windshield washer fluid, engine coolant, and any other source of ethanol, methanol, or propanol can poison the sensor. Poisoned sensors can be repaired in the field. For more information, contact Blackline Safety Customer Care. 	t90 <20 s
CO High-range	H₂ : 100ppm sample can cause 28ppm reading. NO : 48.6ppm sample can cause 14ppm reading. NO₂ : 19.5ppm sample can cause <0.5ppm reading. Cl₂ : 13.7ppm sample can cause <0.5ppm reading. C₂H₄ : 100ppm sample can cause 97ppm reading. C₂H₂ : 100ppm sample can cause 88ppm reading. C₂H₆ : 100ppm sample can cause 88ppm reading.	<ul style="list-style-type: none"> Solvent vapors can poison sensors. Alcohols from de-icing fluids, bug repellent, hand sanitizer, aerosol cans, antiseptics, windshield washer fluid, engine coolant, and any other source of ethanol, methanol, or propanol can poison the sensor. Poisoned sensors can be repaired in the field. For more information, contact Blackline Safety Customer Care. <p><i>NOTE: Activated carbon filter cloth removes SO₂, NO₂, and H₂S, and provides short term (<1000ppm hours) protection against methanol, ethanol, IPA.</i></p>	t90 ≤ 10s
COSH (CO + H₂S) (NA & Int'l)	CO Sensor: H₂ : 100ppm sample can cause 20ppm reading. H₂S : 15ppm sample can cause 0.6ppm reading. NO : 35ppm sample can cause <0.1ppm reading. NO₂ : 5ppm sample can cause <0.1ppm reading. H₂S Sensor: CO : 300ppm sample can cause <6ppm reading. H₂ : 100ppm sample can cause 0.03ppm reading. NO : 35ppm sample can cause <0.1ppm reading. NO₂ : 5ppm sample can cause -1ppm reading. SO₂ : 5ppm sample can cause <1ppm reading.	<ul style="list-style-type: none"> Alcohols from de-icing fluids, bug repellent, hand sanitizer, aerosol cans, antiseptics, windshield washer fluid, engine coolant, and any other source of ethanol, methanol, or propanol can poison the sensor. Poisoned sensors can be repaired in the field. For more information, contact Blackline Safety Customer Care. 	t90 CO <35 s t90 H ₂ S <35 s
COSH (CO + H₂S) (UK/EU)	CO Sensor: H₂S : 25ppm sample of H ₂ S can cause <5ppm CO reading. SO₂ : 5ppm sample of SO ₂ can cause 0ppm CO reading. H₂ : 100ppm sample H ₂ can cause <30ppm CO reading. NO : 35ppm sample NO can cause <0.01ppm CO reading. NO₂ : 5ppm sample NO ₂ can cause <0.1ppm CO reading. Cl₂ : 15ppm sample Cl ₂ can cause 0ppm CO reading. H₂S Sensor: SO₂ : 5ppm sample can cause < 1ppm H ₂ S reading. H₂ : 100ppm sample can cause <0.05 ppm H ₂ S reading. NO : 35 ppm sample can cause <1ppm H ₂ S reading. CO : 300ppm sample can cause <5ppm H ₂ S reading. Cl₂ : 15ppm sample can cause 0ppm H ₂ S reading.	<ul style="list-style-type: none"> Alcohols from de-icing fluids, bug repellent, hand sanitizer, aerosol cans, antiseptics, windshield washer fluid, engine coolant, and any other source of ethanol, methanol, or propanol can poison the sensor. Poisoned sensors can be repaired in the field. For more information, contact Blackline Safety Customer Care. 	t90 CO <35 s t90 H ₂ S <35 s

CO-H (Hydrogen resistant)	H2: 100ppm sample can cause -5 to 5ppm reading. H2S: 15ppm sample can cause -0.5 to 0.5ppm reading. NO: 35ppm sample can cause 12ppm reading. NO2: 5ppm sample can cause <0.5ppm reading. C2H4: 100ppm sample can cause 60ppm reading.	<ul style="list-style-type: none"> • Solvent vapors can poison sensor. • Alcohols from de-icing fluids, bug repellent, hand sanitizer, aerosol cans, antiseptics, windshield washer fluid, engine coolant, and any other source of ethanol, methanol, or propanol can poison the sensor. • Poisoned sensors can be repaired in the field. For more information, contact Blackline Safety Customer Care. 	t90 <17 s
H2	H2S: 20ppm sample can cause 44ppm reading. <i>NOTE: Continuous high-level exposure may reduce the efficiency of the filter material.</i>		t50 <40 s t90 <60 s
H2S	CO: 100ppm sample can cause <2ppm reading.	<ul style="list-style-type: none"> • Solvent vapors can poison sensor. 	T90: <30 s
H2S High-range	CO: 100ppm sample can cause <2ppm reading. C2H4: Can affect reading. C3H8: Can affect reading.	<ul style="list-style-type: none"> • Solvent vapors can poison sensor. 	
HCN	H2: Short gas exposure in minute range; after filter saturation: approx. 40 ppm reading. NO: 100ppm sample can cause 5ppm reading. NO2: 10ppm sample can cause 7ppm reading.		t50 <25s t90 <50s
LEL-MPS	CO2 >5000ppm @ 1.75% LEL per 1000ppm. Breathing directly into sensor can result in false LEL detection. O2: O2 >~21.8%vol can result in 9.7%LEL.	<ul style="list-style-type: none"> • Does not detect H2S. • Single-gas calibration bottles with a N2 balance (e.g., SO2 balance N2), will cause persistent cross readings and require a power cycle of the device. • Exposing the MPS sensor to <10% O2 will cause erroneous readings and require a power cycle of the device. 	t90 <20 s
NH3	H2S: 20ppm sample can cause reading of 2ppm.		t50 <20 s t90 <60 s
NH3 High-range	CO: 5% sample can cause -4ppm reading. H2S: 20 ppm can cause reading of 5ppm.		t50 <30 s t90 <90 s
NO2	H2S: 15ppm sample can cause ~ 1.2ppm reading. Cl2: 1ppm sample can cause 1ppm reading. O3: 0.8ppm can cause NO2 readings adding up to 2.3ppm after 30 seconds. After gas is stopped, the readings go back to zero after a minute.	<ul style="list-style-type: none"> • Solvent vapors can poison sensor. 	t90 < 25s
O2		<ul style="list-style-type: none"> • Solvent vapors can poison sensor. 	t90 <15 s t97 <35 s
O3	H2S: 20ppm sample can cause -1.6ppm reading exposure >30 min can blind sensor. NO2: 10ppm sample can cause 6ppm reading 10ppm can cause over limit. After gas is stopped, O3 readings go to under limit, then back to zero after a few seconds. Cl2: 1ppm sample can cause 1.2ppm reading. Br: Can affect reading. I2: Can affect reading. ClO2: 1ppm sample can cause 1.5ppm reading.		t50 <15 s t90 <60 s
PID MiniPID 2	CH4: Can decrease accuracy. C2H6: Can decrease accuracy.	<ul style="list-style-type: none"> • Sensor accuracy decrease with increased RH% and temperature. exposure of the sensor to very humid, acidic (sour) and salty environments. • This may cause inorganic salts to accumulate on PID enclosure walls, which ultimately compromises the screening potential of the MiniPID 2 fence electrode. 	t90 <3 s
SO2	CO: 300ppm sample can cause <1ppm reading H2: 400ppm sample can cause <1ppm reading H2S: 25ppm sample can cause <0.1ppm reading NO: 50ppm sample can cause 0 5ppm reading NO2: 6ppm sample can cause < 10ppm reading Cl2: 5ppm sample can cause <-2ppm reading C2H4: 50ppm sample can cause <45ppm reading C2H2: 10ppm sample can cause <30ppm reading C2H6: 10ppm sample can cause <30ppm reading	<ul style="list-style-type: none"> • Solvent vapors can poison sensor. 	t90 <25 s