

ALTAIR® 5X Multigas Detector

Electrochemical Sensor Cross-sensitivity Data*

It is quite common for electrochemical sensors to be cross-sensitive to specific gases other than the target gas of interest. Cross-sensitivities are limited as much as possible by sensor design, but some interactions still exist. The tables below are a general guide to these common cross-sensitivities. In some cases, these percentages are used to determine an approximate concentration of a gas other than the target. In other cases, these percentages can be used to correct for possible errors in readings if one cross-sensitive gas is present together with the target gas.



MSA XCell® Electrochemical Sensor Cross-sensitivity Tables

XCell Hydrogen Sulfide (H ₂ S) Sensor	
Gas Applied	Approximate % Cross-sensitivity
H ₂ S	100%
CO	1%
NO	25%
NO ₂	-1%
SO ₂	14%
Cl ₂	-14%
HCN	-3%
NH ₃	-1%
Isopropanol	-3%

XCell Carbon Monoxide (CO) Sensor	
Gas Applied	Approximate % Cross-sensitivity
CO	100%
NO	84%
SO ₂	-4%
HCN	-5%
Isopropanol	-8%
H ₂	48%

XCell Ammonia (NH ₃) Sensor	
Gas Applied	Approximate % Cross-sensitivity
NH ₃	100%
H ₂ S	75%
NO ₂	-50%
SO ₂	40%

XCell Sulfur Dioxide (SO ₂) Sensor	
Gas Applied	Approximate % Cross-sensitivity
SO ₂	100%

XCell Chlorine (Cl ₂) Sensor	
Gas Applied	Approximate % Cross-sensitivity
Cl ₂	100%
NO ₂	27%
SO ₂	-2%

XCell Oxygen (O ₂) Sensor	
Gas Applied	Approximate % Cross-sensitivity
O ₂	100%

20mm Toxic Electrochemical Sensor Cross-sensitivity Tables

Nitrogen Dioxide (NO₂) Sensor

Gas Applied	Approximate % Cross-sensitivity
NO ₂	100%
H ₂ S	8%
Cl ₂	90%

Chlorine Dioxide (ClO₂) Sensor

Gas Applied	Approximate % Cross-sensitivity
ClO ₂	100%
Cl ₂ S	60%
O ₃	280%
H ₂ S	-25%

Phosphine (PH₃)

Gas Applied	Approximate % Cross-sensitivity
PH ₃	100%
AsH ₃	80%
NO ₂	-16%
Cl ₂	-6%
B ₂ H ₆	5%
SiH ₄	11%
HCN	2%

Hydrogen Cyanide (HCN) Sensor

Gas Applied	Approximate % Cross-sensitivity
HCN	100%
H ₂ S	400%
NO ₂	-150%
SO ₂	180%
Cl ₂	150%
NO	2%
NH ₃	1%

* **Please note:** These cross-sensitivity values are intended for reference only and may change under varying environmental conditions, varying concentrations, varying sensor lots, and varying sensor age. These tables do not contain a complete or inclusive list of cross-sensitive gases, but rather is a sampling of the most common examples.

For additional information regarding electrochemical sensor cross-contamination, consult your instrument instruction manual or call MSA Customer Service at 800-MSA-2222.

Note: This bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.



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