

MX6 10.6eV PID Response Factor Table

The table below lists response factors for various gases detected by the MX6 10.6eV PID when calibrated to isobutylene.

NOTE: PID sensor response factor accuracy is +/-30%

Updated on 9/21/2018

Chemical name	Synonym	CAS #	Formula	IP (eV)	TWA (ppm)	RF
Acetaldehyde		75-07-0	C ₂ H ₄ O	10.23		10.80
Acetic acid	Ethanoic acid	64-19-7	C ₂ H ₄ O ₂	10.66	10	11.00
Acetic Anhydride	Ethanoic acid Anhydride	108-24-7	C ₂ H ₄ O	10.14	5	6.10
Acetone	2 - Propanone	67-64-1	C ₃ H ₆ O	9.71	500	1.20
Acetophenone		98-86-2	C ₈ H ₈ O			0.59
Allyl Alcohol		107-18-6	C ₃ H ₆ O	9.67	2	2.50
Ammonia		7664-41-7	NH ₃	10.16	25	9.40
Amyl Acetate	mix of n-Pentyl acetate & 2-Methylbutyl acetate	628-63-7	C ₇ H ₁₄ O ₂	<9.9	100	3.50
Arsine	Arsenic trihydride	7784-42-1	AsH ₃	9.89	0.05	2.60
Benzene		71-43-2	C ₆ H ₆	9.25	0.5	0.53
Bromine		7726-95-6	Br ₂	10.51	0.1	1.30
Butanediol, 1,4-	BDO	110-63-4	C ₄ H ₁₀ O ₂			37.20
Butadiene	1,3-Butadiene, Vinyl ethylene	106-99-0	C ₄ H ₆		2	0.69
Butanol, 1-	Butyl alcohol, n-Butanol	71-36-3	C ₄ H ₁₀ O	9.99		3.40
Butanol, t-	tert-Butanol, t-Buty alcohol	75-65-0	C ₄ H ₁₀ O	9.9	100	3.40
Butoxyethanol, 2-	Butyl Cellosolve, Ethylene glycol monobutyl ether	111-76-2	C ₆ H ₁₄ O ₂	<10	25	1.30
Butyl acetate, n-		123-86-4	C ₆ H ₁₂ O ₂	10	150	2.40
Butylamine, t-	2-butylamine	513-49-5	C ₄ H ₁₁ N			0.71
Butyl mercaptan	1-Butanethiol	109-79-5	C ₄ H ₁₀ S	9.14	0.5	0.55
Butyrolactone			C ₄ H ₆ O ₂			3.01
Carbon disulfide		75-15-0	CS ₂	10.07	10	1.20
Chlorobenzene	Monochlorobenzene	108-90-7	C ₆ H ₅ Cl	9.06	10	0.40
Cumene	Isopropylbenzene	98-82-8	C ₉ H ₁₂	8.73		0.54
Cyclohexane		110-82-7	C ₆ H ₁₂	9.86	50	1.50
Cyclohexanone		108-94-1	C ₆ H ₁₀ O	9.14	300	0.82
Cyclohexene		110-83-8	C ₆ H ₁₀	8.95	10	0.80
Decane		124-18-5	C ₁₀ H ₂₂	9.65	50	1.60
Diacetone alcohol	4-Methyl-4-hydroxy-2-pentanone	123-42-2	C ₆ H ₁₂ O ₂	9.65		0.55
Dibromoethane, 1,2-	EDB, Ethylene dibromide, Ethylene bromide	106-93-4	C ₂ H ₄ Br ₂	10.37		11.70

Dichlorobenzene, o-	1,2-Dichlorobenzene	95-50-1	C6H4Cl2	9.08	25	0.50
Dichloroethene, t-1,2-	t-1,2-DCE, tris-Dichloroethylene	156-60-5	C2H2Cl2	9.65	200	0.45
Diesel fuel #1		68334-30-5				0.90
Diethylamine		109-89-7	C4H11N	8.01	5	1.00
Dimethoxymethane	Methylal	109-87-5	C3H8O2			11.30
Dimethylacetamide, N,N-	DMA	127-19-5	C4H9NO	8.81	10	0.73
Dimethylformamide, N,N-	DMF	68-12-2	C3H7NO	9.13	10	0.80
Dimethyl sulfoxide	DMSO, Methyl sulfoxide	67-68-5	C2H6OS	9.1		0.30
Dioxane, 1,4-		123-91-1	C4H8O2	9.19	25	1.40
Epichlorohydrin	ECH Chloromethyloxirane, 1-chloro2,3-epoxypropane	106-89-8	C2H5ClO	10.2	0.5	7.60
Ethanol	Ethyl alcohol	64-17-5	C2H6O	10.47	1000	10.00
Ethene	Ethylene	74-85-1	C2H4	10.51		10.10
Ethyl acetate		141-78-6	C4H8O2	10.01	400	4.20
Ethylacetoacetate	EAA	141-97-9	C6H10O3			0.90
Ethylbenzene		100-41-4	C8H10	8.77	100	0.51
Ethylene glycol	1,2-Ethanediol	107-21-1	C2H6O2	10.16	100	15.70
Ethylene oxide	Oxirane, Epocycethane	75-21-8	C2H4O	10.57	1	19.50
Ethyl ether	Deithyl ether	60-29-7	C4H10O	9.51	400	1.20
Heptane, n-		142-82-5	C7H16	9.92	400	2.50
Hexane, n-		110-54-3	C6H14	10.13	50	4.50
Hydrazine		302-01-2	H4N2	8.1	0.01	2.60
Hydrogen sulfide		7783-06-4	H2S	10.45	10	3.20
Iodine		7553-56-2	I2	9.4		0.14
Isoamyl acetate	Isopentyl acetate	123-92-2	C7H14O2	<10	100	1.80
Isobutanol	2-Methyl-1propanol	78-83-1	C4H10O	10.02	50	4.70
Isobutene	Isobutylene	115-11-7	C4H8	9.24		1.00
Isooctane	2,2,4-Trimethylpentane	540-84-1	C8H18	9.86		1.30
Isophorone		78-59-1	C9H14O	9.07		0.74
Isopropanol	Isopropyl alcohol, 2-propanol	67-63-0	C3H8O	10.12	400	5.60
Isopropylamine	2-Aminopropane	75-31-0	C3H9N			0.90
Isopropyl ether	Diisopropyl ether	108-20-3	C6H14O	9.2	250	0.80
Jet fuel JP-5 & JP-8	Jet 5, Kerosene type aviation fuel	8008-20-6	m.w. 167		15	0.48
Jet A	Jet A-1, Kerosene type	8008-20-6	m.w. 165		15	0.40
Jet A1						0.40
Mesityloxide	Isopropylidene acetone	141-79-7	C6H10O			0.47
Methoxyethanol, 2-		109-86-4	C3H8O2	10.1	5	2.50

Methoxyethoxyethanol, 2-	Methyl Carbitol	111-77-3	C7H16O	<10		2.42
1- Methoxy-2-propanol	PGME (propylene glycol monomethyl ether)	107-98-2	C4H10O2			1.40
Methyl acetate		79-20-9	C3H6O2	10.27	200	7.00
Methyl Acetoacetate	MAA	105-45-3	C5H8O3			1.10
Methyl acrylate	Methyl 2-propenoate, acrylic acid methyl ester	96-33-3	C4H6O2	9.9	2	3.40
Methylamine	Aminomethane	74-89-5	CH5N	8.97	5	1.20
Methylbenzoate		93-58-3	C8H8O2			0.93
Methyl benzyl alcohol	STYRENE ALCOHOL	13323-81-4	C8H10O			0.80
Methyl t-butyl ether	MTBE, tert-Butyl methyl ether	1634-04-4	C5H12O	9.24	40	0.86
MEK (Methyl ethyl ketone)	2-Butanone	78-93-3	C4H8O	9.51	200	0.90
Methyl isobutyl ketone	MIBK, 4-Methyl-2-pentanone	108-10-1	C6H12O	9.3	50	1.10
Methyl mercaptan	Methanethiol	74-93-1	CH4S	9.44		0.60
Methyl methacrylate		80-62-6	C5H8O2	9.7		1.50
Meth-2-pyrrolidone, N-	NMP, N-Methylpyrrolidone, 1-Methyl-2-pyrrolidinone	872-50-4	C5H9NO	9.17	ne	1.02
Naphthalene	Mothballs	91-20-3	C10H8	8.13	10	0.37
Nitrobenzene		98-95-3	C6H5NO2	9.81	1	1.90
Octane, n-		111-65-9	C8H18	9.82	300	2.20
Pentane		109-66-0	C5H12	10.35	600	9.70
Methyl propyl ketone	MPK, 2-Pentanone	107-87-9	C5H12O	9.38		0.78
Phenol	Hydroxybenzene	108-95-2	C6H6O	8.51	5	1.00
phenylethylalcohol	Phenethyl alcohol	60-12-8	C8H10O			9.04
Phosphine		7803-51-2	PH3	9.87	0.3	2.80
Picoline, 2-	2-Methylpyridine	109-06-8	C6H7N			0.57
Picoline, 3-	3-Methylpyridine	108-99-6	C6H7N	9.04		0.90
Propanol, n-	Propyl alcohol	71-23-8	C3H8O	10.22	200	5.70
Propene	Propylene	115-07-1	C3H6	9.73		1.30
Propylene oxide	Methyloxirane	75-56-9	C3H6O	10.22	20	6.50
Pyridine		110-86-1	C5H5N	9.25	5	0.79
Quinoline		91-22-5	C9H7N			0.72
Styrene		100-42-5	C8H8	8.43	20	0.40
Tetrachloroethylene		127-18-4	C2Cl4			0.56
Tetrahydrofuran	THF	109-99-9	C4H8O	9.41	200	1.60
Thiophene	Thiofuran	110-02-1	C4H4S			0.47
Toluene	Methylbenzene	108-88-3	C7H8	8.82	50	0.53
Trichloroethylene	TCE, Trichloroethylene	79-01-6	C2HCl3	9.47	50	0.50
Trimethylbenzene, 1,2,3	Hemellitilol	526-73-8	C9H12			0.49

Trimethylbenzene, 1,2,4	Pseudocumene	95-63-6	C9H12		25	0.43
Trimethylbenzene, 1,3,5	Mesitylene	108-67-8	C9H12			0.34
Turpentine	Pinenes (85%) + other diisoprenes	8006-64-2	C10H16	8	100	0.45
Vinyl acetate		108-05-4	C4H6O2	9.19	10	1.30
Vinyl cyclohexone	VCH	695-12-5				0.54
Vinylidene chloride	VDC, 1,1-Dichloroethylene, 1,1-DCE	75-35-4	C2H2Cl2			0.80
Xylene, m-	1,3- Dimethylbenzene	108-38-3	C8H10	8.56	100	0.53
Xylene, o-	1,2- Dimethylbenzene	95-47-6	C8H10	8.56	100	0.54
Xylene, p-	1,4- Dimethylbenzene	106-42-3	C8H10	8.44	100	0.50

Abbreviations:

CAS#: Chemical Abstract Service Number

IP: Ionization Potential

TWA: Threshold limit of Time Weighted Average by the American Conference of Governmental Industrial Hygienists (ACGIH)

RF: Response Factor