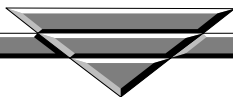


# TechTIPs

The latest from PerkinElmer Photovac

Volume 3, Number 2



## MicroFID Response Factors

Compound	Response Factor	Compound	Response Factor
Acetaldehyde	6.9 <sup>C</sup>	Epichlorohydrin	2.4 <sup>L</sup>
Acetone	2.7 <sup>G</sup>	Ethanol	5.2 <sup>C</sup>
Acetonitrile (Methyl Cyanide)	1.0 <sup>C</sup>	Ethyl Acrylate	2.7 <sup>C</sup>
Acrolein (2-Propenal)	6.9 <sup>C</sup>	Ethylbenzene	1.0 <sup>L</sup>
Acrylonitrile (Vinyl Cyanide)	1.3 <sup>C</sup>	Ethyl Cellosolve (2-Ethoxyethanol)	4.3 <sup>L</sup>
Allyl Chloride (3-Chloro-1-Propene)	2.7 <sup>C</sup>	Ethyl Chloride (Chloroethane)	1.9 <sup>C</sup>
Aniline (Benzenamine)	3.0 <sup>L</sup>	Ethyl Mercaptan (Ethanethiol)	3.7 <sup>L</sup>
Benzene	0.7 <sup>C</sup>	Ethylene	2.2 <sup>G</sup>
Benzyl Chloride (Chloromethyl Benzene)	1.2 <sup>L</sup>	Ethylene Dibromide (1,2-Dibromoethane)	2.0 <sup>L</sup>
Bromoform (Tribromomethane)	7.2 <sup>L</sup>	Ethylene Dichloride (1,2-Dichloroethane)	1.7 <sup>C</sup>
1,3-Butadiene	2.7 <sup>C</sup>	n-Heptane	1.3 <sup>L</sup>
iso-Butane	1.8 <sup>G</sup>	n-Hexane	1.6 <sup>G</sup>
n-Butane	1.9 <sup>G</sup>	Isobutylene	2.2 <sup>C</sup>
n-Butanol	2.6 <sup>L</sup>	Isoprene (2-Methyl-1,3-Butadiene)	2.2 <sup>L</sup>
n-Butyl Mercaptan (Butanethiol)	2.6 <sup>L</sup>	Isopropanol	2.4 <sup>C</sup>
Carbon Tetrachloride	25.9 <sup>C</sup>	Methanol	23.8 <sup>L</sup>
Chlorobenzene	0.8 <sup>C</sup>	Methyl Bromide (Bromomethane)	3.9 <sup>C</sup>
Chloroform (Trichloromethane)	3.5 <sup>L</sup>	Methyl Ethyl Ketone (2-Butanone)	1.9 <sup>C</sup>
Cumene (Isopropyl Benzene)	1.0 <sup>L</sup>	Methyl Isobutyl Ketone	1.9 <sup>L</sup>
Cyclohexane	1.4 <sup>C</sup>	Methyl Methacrylate	2.8 <sup>L</sup>
1,2-Dichlorobenzene (ortho-)	0.7 <sup>L</sup>	Methyl tert-Butyl Ether (MTBE)	2.0 <sup>C</sup>
cis-1,2-Dichloroethylene	2.6 <sup>C</sup>	Methyl Cellosolve (2-Methoxyethanol)	9.1 <sup>L</sup>
trans-1,2-Dichloroethylene	2.7 <sup>C</sup>	Methylene Chloride (Dichloromethane)	1.4 <sup>C</sup>
N,N-Dimethylformamide (DMF)	2.3 <sup>L</sup>	n-Nonane	1.1 <sup>L</sup>
1,4-Dioxane	4.6 <sup>C</sup>	iso-Octane (2,2,4-Trimethylpentane)	1.2 <sup>L</sup>

Compound	Response Factor	Compound	Response Factor
n-Pentane	1.6 <sup>L</sup>	1,1,2-Trichloroethane	1.7 <sup>L</sup>
Propane	1.8 <sup>G</sup>	Trichloroethylene (TCE)	2.8 <sup>C</sup>
Propionaldehyde (Propanal)	3.6 <sup>C</sup>	Triethylamine	1.1 <sup>L</sup>
Propylene	2.6 <sup>G</sup>	Vinyl Acetate	4.4 <sup>L</sup>
Propylene Dichloride (1,2-DCP)	2.0 <sup>C</sup>	Vinyl Bromide	1.5 <sup>C</sup>
Propylene Oxide	2.5 <sup>C</sup>	Vinyl Chloride (Chloroethylene)	2.1 <sup>C</sup>
Styrene	1.2 <sup>L</sup>	Vinylidene Chloride (1,1-DCE)	2.6 <sup>C</sup>
1,1,2,2-Tetrachloroethane	1.8 <sup>L</sup>	ortho-Xylene	1.1 <sup>L</sup>
Tetrachloroethylene (Perchloroethylene)	2.9 <sup>C</sup>	meta-Xylene	1.2 <sup>L</sup>
Toluene	0.9 <sup>C</sup>	para-Xylene	1.2 <sup>L</sup>
1,1,1-Trichloroethane	1.4 <sup>C</sup>		
1,2,4 Trichlorobenzene	1.1		

This list of *MicroFID* Response Factors was determined at (nominally) 500 PPM, based on a 500 PPM Methane calibration. Methane RF = 1.0. The following formula was used for calculation of Response Factors:

$$\text{Response Factor} = \frac{\text{Actual Concentration}}{\text{MicroFID Response}}$$

A Response Factor less than 1.0 indicates a compound response better than that of Methane. A Response Factor greater than 1.0 indicates a lower response than that of Methane.

**When using Response Factors, results are expected to be accurate to +/- 10 PPM or +/- 25%, whichever is greater.**

Standards used for determination of *MicroFID* Response Factors were derived from a variety of sources as referenced below:

- C - Certified gas cylinder, +/- 2% analytical accuracy (Isobutylene +/- 5% analytical accuracy)
- G - From standard prepared by dilution of neat gas into Zero Air, accuracy unknown
- L - From standard prepared by addition of neat liquid to Zero Air, accuracy unknown

For further information contact your area representative or the nearest Photovac office:

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