



Quantitative Optical Gas Imaging Response Factors

CAS registry number*	Chemical name	Response factor†
431-89-0	1_1_1_2_3_3_3-Heptafluoropropane	0.103
630-20-6	1_1_1_2-Tetrachloroethane	0.132
75-68-3	1_1_1-Chlorodifluoroethane	0.117
71-55-6	1_1_1-Trichloroethane	0.121
421-50-1	1_1_1-Trifluoroacetone	0.086
420-46-2	1_1_1-Trifluoroethane	0.106
354-14-3	1_1_2_2-Tetrachloro-1-fluoroethane	0.046
79-34-5	1_1_2_2-Tetrachloroethane	0.069
79-00-5	1_1_2-Trichloroethane	0.102
1717-00-6	1_1-Dichloro-1-fluoroethane	0.12
75-34-3	1_1-Dichloroethane	0.272
75-35-4	1_1-Dichloroethene	0.017
471-43-2	1_1-Difluoro-2_2-dichloroethane	0.352
73-37-6	1_1-Difluoroethane	0.535
57-14-7	1_1-Dimethylhydrazine	0.897
119-64-2	1_2_3_4-Tetrahydronaphthalene	2.439
488-23-3	1_2_3_4-Tetramethylbenzene	1.484
527-53-7	1_2_3_5-Tetramethylbenzene	1.402
124-73-2	1_2-Dibromotetrafluoroethane	0.001
354-23-4	1_2-Dichloro-1_1_2-trifluoroethane	0.068
430-57-9	1_2-Dichloro-1-fluoroethane	0.164
107-06-2	1_2-Dichloroethane	0.27
540-59-0	1_2-Dichloroethene	0.145
78-87-5	1_2-Dichloropropane	0.461
431-06-1	1_2-Difluoro-1_2-dichloroethane	0.121
76-12-0	1_2-Difluorotetrachloroethane	0
110-71-4	1_2-Dimethoxyethane	2.215
106-89-8	1_2-Epoxy-3-chloropropane	0.667
106-88-7	1_2-Epoxybutane	1.191
75-56-9	1_2-Epoxypropane	1.046
106-99-0	1_3-Butadiene	0.665
142-28-9	1_3-Dichloropropane	0.547
123-91-1	1_4-Dioxane	0.782
106-94-5	1-Bromopropane	0.823
25167-67-3	1-Butene	2.321
107-00-6	1-Butyne	0.749
354-25-6	1-Chloro-1_1_2_2-tetrafluoroethane	0.157
513-36-0	1-Chloro-2-methylpropane	0.86
109-69-3	1-Chlorobutane	0.934
543-59-9	1-Chloropentane	0.991
373-14-8	1-Fluorohexane	0.989
111-70-6	1-Heptanol	2.002
142-62-1	1-Hexanoic_acid	0.896
111-27-3	1-Hexanol	0.965
592-41-6	1-Hexene	1.258
108-03-2	1-Nitropropane	0.763
124-11-8	1-Nonene	1.278
111-66-0	1-Octene	1.279
109-67-1	1-Pentene	1.086
71-23-8	1-Propanol	0.947

CAS registry number*	Chemical name	Response factor†
75-89-8	2_2_2-Trifluoroethanol	0.326
25256-77-4	2_2_4-Trimethyl-1_3-pentanediol	1.086
107-40-4	2_2_4-Trimethyl-2-pentene	1.262
306-83-2	2_2-Dichloro-1_1_1-trifluoroethane	0.047
76-11-9	2_2-Difluorotetrachloroethane	0
75-83-2	2_2-Dimethyl_butane	1.944
431-03-8	2_3-Butanedione	0.274
78-88-6	2_3-Dichloro-1-propene	0.279
79-29-8	2_3-Dimethylbutane	1.014
107-39-1	2_4_4-Trimethyl-1-pentene	1.212
584-84-9	2_4-Diisocyanatetoluene	0.895
87-62-7	2_6-Dimethylaniline	1.308
75-26-3	2-Bromopropane	0.733
107-01-7	2-Butene	1.204
111-76-2	2-Butoxyethanol	1.962
554-61-0	2-Carene	1.286
75-88-7	2-Chloro-1_1_1-trifluoroethane	0.1
107-07-3	2-Chloroethanol	0.593
628-34-2	2-Chloroethyl_ether	0.966
75-29-6	2-Chloropropane	0.734
95-49-8	2-Chlorotoluene	0.781
111-15-9	2-Ethoxyethyl_acetate	1.071
104-76-7	2-Ethyl-1-hexanol	1.028
611-14-3	2-Ethyltoluene	1.424
371-62-0	2-Fluoroethanol	0.735
138495-42-8	2H 3H-Perfluoropentane	0.084
626-93-7	2-Hexanol	0.988
591-78-6	2-Hexanone	2.015
558-17-6	2-Iodo-2-methylpropane	1.708
75-30-9	2-Iodopropane	0.729
109-86-4	2-Methoxyethanol	0.977
563-46-2	2-Methyl-1-butene	1.202
763-29-1	2-Methyl-1-pentene	1.22
78-84-2	2-Methyl-1-propanal	0.809
513-44-0	2-Methyl-1-propanethiol	0.818
78-85-3	2-Methyl-2-propanal	0.546
534-22-5	2-Methylfuran	0.516
79-46-9	2-Nitropropane	1.305
821-55-6	2-Nonanone	1.07
3777-69-3	2-Pentylfuran	0.944
109-06-8	2-Picoline	0.892
100-69-6	2-Vinylpyridine	0.727
760-23-6	3_4-Dichloro-1-butene	0.37
108-41-8	3-Chlorotoluene	1.609
620-14-4	3-Ethyltoluene	1.429
563-45-1	3-Methyl-1-butene	1.134
565-61-7	3-Methyl-2-pentanone	1.013
930-27-8	3-methylfuran	0.596
589-34-4	3-Methylhexane	1.051
96-14-0	3-Methylpentane	1.044

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CAS registry number*	Chemical name	Response factor†
584-02-1	3-Pentanol	0.994
108-99-6	3-Picoline	0.992
106-43-4	4-Chlorotoluene	0.815
622-96-8	4-Ethyltoluene	1.426
626-89-1	4-Methyl-1-pentanol	0.872
691-37-2	4-Methyl-1-pentene	1.209
108-89-4	4-Picoline	0.995
100-40-3	4-Vinyl-1-cyclohexene	1.275
623-93-8	5-nonanol	1.021
64-19-7	Acetic_acid	0.238
108-24-7	Acetic_anhydride	0.244
6993-75-7	Acetid_acid_dimer	2.217
116-09-6	Acetol	0.368
67-64-1	Acetone	0.546
75-86-5	Acetone_cyanohydrin	0.543
75-05-8	Acetonitrile	0.074
75-36-5	Acetyl_chloride	0.079
75-07-0	Acetylaldehyde	0.31
74-86-2	Acetylene	0.001
107-02-8	Acrolein	0.212
814-68-6	Acrylol_chloride	0.076
107-13-1	Acrylonitrile	0.052
463-49-0	Allene	0.305
107-18-6	Allyl_alcohol	0.801
106-95-6	Allyl_bromide	0.405
107-05-1	Allyl_chloride	0.482
818-92-8	Allyl_fluoride	0.768
556-56-9	Allyl_iodide	0.759
57-06-7	Allyl_isothiocyanate	0.599
7785-26-4	alpha-Pinene (-)	1.269
7664-41-7	Ammonia_anhydrous	0.003
1002-16-0	Amyl_nitrate	0.956
62-53-3	Aniline	0.67
7784-42-1	Arsine	0.011
100-52-7	Benzaldehyde	0.506
71-43-2	Benzene	0.638
108-98-5	Benzenethiol	0.466
100-47-0	Benzonitrile	0.306
100-51-6	Benzyl_alcohol	1.912
100-39-0	Benzyl_bromide	0.643
100-44-7	Benzyl_chloride	0.652
18172-67-3	beta-Pinene	1.256
111-44-4	bis(2-Chloroethyl)_ether	0.801
10294-34-5	Boron_trichloride	0
7637-07-2	Boron_trifluoride	0.041
353-59-3	Bromochlorodifluoromethane	0.001
74-97-5	Bromochloromethane	0.071
75-63-8	Bromotrifluoromethane	0.001
123-86-4	Butyl_acetate	2.021
123-72-8	Butyraldehyde	1.72

CAS registry number*	Chemical name	Response factor†
107-92-6	Butyric_acid	0.789
462-94-2	Cadaverine	0.804
124-38-9	Carbon_dioxide	0
75-15-0	Carbon_disulfide	0.001
630-08-0	Carbon_monoxide	0
353-50-4	Carbonyl_fluoride	0.02
463-58-1	Carbonyl_sulfide	0.087
108-90-7	Chlorobenzene	0.715
75-45-6	Chlorodifluoromethane	0.287
75-00-3	Chloroethane	0.686
67-66-3	Chloroform	0.006
3188-13-4	Chloromethyl_ethyl_ether	1.881
107-30-2	Chloromethyl_methyl_ether	0.851
76-15-3	Chloropentafluoroethane	0.001
76-06-2	Chloropicrin	0.09
79-38-9	Chlorotrifluoroethylene	0.026
75-72-9	Chlorotrifluoromethane	0.002
156-59-2	cis-1_2-Dichloroethylene	0.147
10061-01-5	cis-1_3-Dichloropropene	0.232
627-20-3	cis-2-Pentene	1.269
691-38-3	cis-4-Methyl-2-pentene	1.257
98-82-8	Cumene	1.357
2074-87-5	Cyanogen	0.001
506-77-4	Cyanogen_chloride	0.018
293-96-9	Cyclodecane	2.164
291-64-5	Cycloheptane	1.458
628-92-2	Cycloheptene	1.033
108-93-0	Cyclohexanol	0.67
108-94-1	Cyclohexanone	0.798
110-83-8	Cyclohexene	2.117
292-64-8	Cyclooctane	1.664
287-92-3	Cyclopentane	1.006
142-29-0	Cyclopentene	1.126
75-19-4	Cyclopropane	0.724
123-42-2	Diacetone_alcohol	0.859
19287-45-7	Diborane	0.005
74-95-3	Dibromomethane	0.054
75-43-4	Dichlorofluoromethane	0.028
75-09-2	Dichloromethane	0.104
676-83-5	Dichloromethylphosphine	0.057
4109-96-0	Dichlorosilane	0.019
64-67-5	Diethyl_sulfate	0.89
352-93-2	Diethyl_sulfide	0.954
109-89-7	Diethylamine	1.012
96-22-0	Diethylketone	0.986
75-61-6	Difluorodibromomethane	0.001
75-10-5	Difluoromethane	0.671
75-11-6	Diiodomethane	0.046
108-20-3	Diisopropyl_ether	0.996
108-18-9	Diisopropylamine	0.973

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109-87-5	Dimethoxymethane	1.17
616-38-6	Dimethyl_carbonate	0.981
624-92-0	Dimethyl_disulfide	0.52
115-10-6	Dimethyl_ether	1.048
77-78-1	Dimethyl_sulfate	0.736
75-18-3	Dimethyl_sulfide	0.738
67-68-5	Dimethyl_sulfoxide	0.312
124-40-3	Dimethylamine	0.929
79-44-7	Dimethylcarbamoyl_chloride	0.882
111-43-3	Dipropyl_ether	1.068
34590-94-8	Dipropylene_glycol_methyl_ether	1.083
5989-27-5	d-Limonene	1.406
74-84-0	Ethane	1.082
141-78-6	Ethyl_acetate	0.857
140-88-5	Ethyl_acrylate	0.85
64-17-5	Ethyl_alcohol	0.913
100-41-4	Ethyl_benzene	1.327
74-96-4	Ethyl_bromide	0.622
105-54-4	Ethyl_butyrate	1.048
541-41-3	Ethyl_chloroformate	0.626
107-12-0	Ethyl_cyanide	0.567
109-94-4	Ethyl_formate	0.913
75-08-1	Ethyl_mercaptan	0.714
540-67-0	Ethyl_methyl_ether	1.077
109-95-5	Ethyl_nitrite	0.738
637-92-3	Ethyl_tert-butyl_ether	1.037
383-63-1	Ethyl_trifluoroacetate	0.598
75-04-7	Ethylamine	0.884
74-85-1	Ethylene	0.44
75-21-8	Ethylene_oxide	0.83
420-12-2	Ethylene_sulfide	0.36
107-15-3	Ethylenediamine	0.628
75-03-6	Ethyl iodide	0.572
430-51-3	Fluoroacetone	0.394
462-06-6	Fluorobenzene	0.367
64-18-6	Formic_acid	0.38
14523-98-9	Formic_acid dimer	2.203
76-14-2	Freon-114	0
75-71-8	Freon-12	0
811-97-2	Freon-134a	0.245
76-19-7	Freon-218	0.001
98-01-1	Furfural	0.065
98-00-0	Furfuryl_alcohol	0.874
7782-65-2	Germane	0.036
107-22-2	Glyoxal	0.139
90-05-1	Guaiaicol	0.992
87-68-3	Hexachloro-1_3-butadiene	0.002
684-16-2	Hexafluoroacetone	0.012
392-56-3	Hexafluorobenzene	0.07
76-16-4	Hexafluoroethane	0.003

CAS registry number*	Chemical name	Response factor†
381-10-5	Hexafluoroisobutylene	0.015
116-15-4	Hexafluoropropene	0.027
142-92-7	Hexyl_acetate	1.082
7647-01-0	Hydrogen_chloride anhydrous	0.104
74-90-8	Hydrogen_cyanide	0.001
7664-39-3	Hydrogen_fluoride anhydrous	0.006
7722-84-1	Hydrogen_peroxide	0
2148878	Hydrogen_sulfide	0
13463-40-6	Iron_pentacarbonyl	0.005
123-51-3	Isoamyl_alcohol	0.924
75-28-5	Isobutane	0.879
115-11-7	Isobutene	1.104
110-19-0	Isobutyl_acetate	0.945
103-65-1	Isocumene	1.406
540-84-1	Isooctane	1.018
78-78-4	Isopentane	0.979
123-92-2	Isopentyl_acetate	1.019
78-59-1	Isophorone	1.012
108-21-4	Isopropyl_acetate	0.831
590-86-3	Isovaleraldehyde	0.852
108-39-4	m-Cresol	0.964
920-46-7	Methacryloyl_chloride	0.72
74-82-8	Methane	0.297
124-63-0	Methanesulfonyl_chloride	0.019
79-20-9	Methyl_acetate	1.524
105-45-3	Methyl_acetoacetate	0.903
96-33-3	Methyl_acrylate	0.757
126-98-7	Methyl_acrylonitrile	0.375
93-58-3	Methyl_benzoate	0.999
74-83-9	Methyl_bromide	0.276
628-28-4	Methyl_butyl_ether	1.102
74-87-3	Methyl_chloride	0.402
593-53-3	Methyl_fluoride	0.765
107-31-3	Methyl_formate	0.83
74-88-4	Methyl_iodide	0.182
110-12-3	Methyl_isoamyl_ketone	0.996
108-10-1	Methyl_isobutyl_ketone	0.988
547-63-7	Methyl_isobutyrate	1.065
563-80-4	Methyl_isopropyl_ketone	1.874
74-93-1	Methyl_mercaptan	0.422
80-62-6	Methyl_methacrylate	0.962
624-91-9	Methyl_nitrite	0.556
598-98-1	Methyl_pivalate	1.111
554-12-1	Methyl_propionate	1.992
107-87-9	methyl_propyl_ketone	2.958
119-36-8	Methyl_salicylate	1.11
74-89-5	Methylamine	0.796
78-93-3	Methylethyl_ketone	0.89
78-98-8	Methylglyoxal	0.196
75-79-6	Methyltrichlorosilane	0.053

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78-94-4	Methylvinyl_ketone	0.435
60-34-4	Monomethyl_hydrazine	0.582
110-91-8	Morpholine	0.793
108-38-3	m-Xylene	1.292
123-35-3	Myrcene	1.396
617-84-5	N_N-diethyl_formamide	1.01
97-66-7	N_N-Diethylaniline	1.506
628-63-7	n-Amyl_acetate	1.048
106-97-8	n-Butane	1.011
71-36-3	n-Butyl_alcohol	1.929
111-36-4	n-Butyl_isocyanate	0.979
109-73-9	n-Butylamine	0.933
124-18-5	n-Decane	1.088
75-84-3	Neopentyl_alcohol	1.777
142-82-5	n-Heptane	2.074
592-76-7	n-Heptene	1.278
110-54-3	n-Hexane	1.027
13463-39-3	Nickel_carbonyl	0.007
7697-37-3	Nitric_acid anhydrous	0.135
10102-43-9	Nitric_oxide	0
98-95-3	Nitrobenzene	0.644
10102-44-0	Nitrogen_dioxide	0.123
10544-72-6	Nitrogen_dioxide_and_dinitrogen_	0.425
7783-54-2	Nitrogen_trifluoride	0
75-52-5	Nitromethane	0.173
2696-92-6	Nitrosyl_chloride	0.001
7782-77-6	Nitrous_acid	0.142
111-84-2	n-Nonane	1.068
629-62-9	n-Pentadecane	0.988
629-50-5	n-Tridecane	1.095
1120-21-4	n-Undecane	1.101
111-65-9	Octane	1.053
124-07-2	Octanoic_acid	1.976
95-53-4	o-Toluidine	2.22
95-47-6	o-Xylene	1.347
123-63-7	Paraldehyde	0.712
354-33-6	Pentafluoroethane	0.168
594-42-3	Perchloromethyl_mercaptan	0.001
355-25-9	Perfluorobutane	0
382-21-8	Perfluoroisobutylene	0.015
108-95-2	Phenol	0.516
10025-87-3	Phosphorous_oxychloride	0
110-89-4	Piperidine	0.67
74-98-6	Propane	1
107-19-7	Propargyl_alcohol	0.317
624-65-7	Propargyl_chloride	0.113
115-07-1	Propene	0.976
123-38-6	Propionaldehyde	1.506
79-09-4	Propionic_acid	0.709
109-06-4	Propyl_acetate	1.94

CAS registry number*	Chemical name	Response factor†
109-06-4	Propylene_carbonate	0.802
57-55-6	Propylene_glycol	0.874
75-55-8	Propylenimine	1.077
74-99-7	Propyne	0.654
106-42-3	p-Xylene	2.633
110-86-1	Pyridine	0.633
91-22-5	Quinoline	0.762
625-30-9	sec-Amylamine	0.95
78-92-2	sec-Butyl_alcohol	0.952
138-98-9	sec-Butylbenzene	1.436
7803-62-5	Silane	0.04
100-42-5	Styrene	0.813
96-09-3	Styrene_oxide	0.997
2025884	Sulfur_dioxide	0
2025949	Sulfur_trioxide	0.001
2699-79-8	Sulfuryl_fluoride	0.003
75-65-0	t-Butyl_alcohol	1.735
994-05-8	tert-Amyl_methyl_ether	1.117
594-39-8	tert-Amylamine	0.972
540-88-5	tert-Butyl_acetate	1.007
1634-04-4	tert-Butyl_methyl_ether	1.039
98-06-6	tert-Butylbenzene	1.411
127-18-4	Tetrachloroethylene	0.002
75-73-0	Tetrafluoromethane	0.001
110-01-0	Tetrahydrothiophene	1.437
110-02-1	Thiophene	0.252
463-71-8	Thiophosgene	0
7550-45-0	Titanium_tetrachloride	0.001
156-60-5	trans-1_2-Dichloroethene	0.262
646-04-8	trans-2-Pentene	1.22
75-25-2	Tribromomethane	0.043
75-69-4	Trichlorofluoromethane	0
359-29-5	Trichlorofluoroethylene	0.005
121-44-8	Triethylamine	2.217
75-05-1	Trifluoroacetic_acid	2.009
407-25-0	Trifluoroacetic_anhydride	0.021
75-46-7	Trifluoromethane	0.554
373-80-8	Trifluoromethylsulfur_pentafluoride	0.002
334-99-6	Trifluoronitrosomethane	0.016
75-50-3	Trimethylamine	0.938
7783-82-6	Tungsten_hexafluoride	0
110-62-3	Valeraldehyde	0.91
108-15-4	Vinyl_acetate	0.304
593-60-2	Vinyl_bromide	0.099
75-02-5	Vinyl_fluoride	0.096
100-80-1	Vinyl_toluene	1.242
7732-18-5	Water	0.003
14940-63-7	Water-d1	0.005

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