

IONIZATION POTENTIALS FOR COMMON INDUSTRIAL GASES

Many compounds not appearing in this list with an ionization potential of 11.7 eV or less may also be detectable.

Other sources of ionization potential data:

CRC Handbook of Chemistry and Physics

NIOSH Pocket Guide to Chemical Hazards

HYPERLINK <http://webbook.nist.gov/>

Chemical Name	IP (eV)
Acetaldehyde	10.22
Acetic Acid	10.66
Acetone	9.69
Acetylene	11.40
Acrolein	10.13
Acrylonitrile	10.91
Allene	9.83
Allyl Alcohol	9.63
Allyl Chloride	10.05
Aminoethanol	9.87
2-Amino Pyridine	8.00
Ammonia	10.18
Aniline	7.70
Arsine	9.89
Benzaldehyde	9.53
Benzene	9.24
Benzenethiol	8.33
Bromobenzene	8.98
1-Bromobutane	10.13
2-Bromobutane	9.98
1-Bromobutanone	9.54
1-Bromo-2-Chloroethane	10.63
Bromoethane	10.28
Bromoethene	9.80
Bromoform	10.48
1-Bromo-3-Hexanone	9.26
Bromomethane	10.53
Bromomethyl Ethyl Ether	10.08
1-Bromo-2-Methylpropane	10.09
2-Bromo-2-Methylpropane	9.89
1-Bromopentane	10.10

Chemical Name	IP (eV)
1-Bromopropane	10.18
2-Bromopropane	10.08
1-Bromo2propene	9.30
2-Bromopropene	10.06
3-Bromopropene	9.70
2-Bromothiophene	8.63
o-Bromotoluene	8.79
m-Bromotoluene	8.81
p-Bromotoluene	8.67
1,3-Butadiene	9.07
2,3-Butadiene	9.23
n-Butanal	9.83
s-Butanal	9.73
n-Butane	10.63
n-Butanol	10.04
s-Butanol	10.23
t-Butanol	10.25
2-Butanone	9.54
1-Butene	9.58
cis-2-Butene	9.10
3trans-2-Butene	9.13
n-Butyl Acetate	10.00
s-Butyl Acetate	9.91
t-Butyl Acetate	9.90
n-Butyl Alcohol	10.04
n-Butylamine	8.71
s-Butylamine	8.70
t-butylamine	8.64
n-Butylbenzene	8.69
t-Butylbenzene	8.68
Butyl Cellusolve	8.68

Chemical Name	IP (eV)
n-Butyl Mercaptan	9.15
t-Butyl Mercaptan	9.03
p-tert-Butyltoluene	8.28
1-Butyne	10.10
82-Butyne	9.85
n-Butyraldehyde	9.83
Carbon Disulfide	10.08
Carbon Tetrachloride	11.47
Chloroacetaldehyde	10.61
Chlorobenzene	9.07
1-Chloro-2-Bromoethane	10.63
1-Chlorobutane	10.67
2-Chlorobutane	10.65
1-Chlorobutanone	9.54
1-Chloro-2,3-Epoxypropane	10.60
Chloroethene	9.99
2-Chloroethoxyethene	10.61
1-Chloro-2-Fluorobenzene	9.16
1-Chloro-3-Fluorobenzene	9.21
cis-1-Chloro-2-Fluoroethene	9.87
trans-1-Chloro-2-Fluoroethene	9.87
Chloroform	11.42
o-Chloriodobenzene	8.35
Chloromethylethyl Ether	10.08
Chloromethylmethyl Ether	10.25
1-Chloro-2-Methylpropane	10.66
1-Chloropropane	10.82
2-Chloropropane	10.78
3-Chloropropene	10.04
2-Chlorothiophene	8.68
o-Chlorotoluene	8.83
m-Chlorotoluene	8.83
p-chlorotoluene	8.70
o-Cresol	8.93
m-Cresol	8.98
p-Cresol	8.97
Crotonaldehyde	9.73
Cumene	8.75
Cyanoethene	10.91

Chemical Name	IP (eV)
Cyanogen Bromide	10.91
3-Cyanopropene	10.39
Cyclobutane	10.50
Cyclohexane	9.88
Cyclohexanol	10.00
Cyclohexanone	9.14
Cyclohexene	8.95
Cyclo-Octatetraene	7.99
Cyclopentadiene	8.56
Cyclopentane	10.52
Cyclopentanone	9.26
Cyclopentene	9.01
Cyclopropane	10.06
2-Decanone	9.40
Dibromochloromethane	10.59
1,1-Dibromoethane	10.19
Dibromomethane	10.49
1,2-Dibromopropane	10.26
Dibutylamine	7.69
1,2-Dichlorobenzene	9.07
1,1-Dichloroethane	11.06
1,2-Dichloroethane	11.04
1,1-Dichloroethene	10.00
cis-1,2-Dichloroethene	9.65
trans-1,2-Dichloroethene	9.66
Dichloromethane	11.35
1,2-Dichloropropane	10.87
1,3-Dichloropropane	10.85
1,1-Dichloropropanone	9.71
2,3-Dichloropropene	9.82
Dicyclopentadiene	7.74
Diethoxymethane	9.70
Diethylamine	8.01
Diethylamino Ethanol	8.58
Diethyl Ether	9.53
Diethyl Ketone	9.32
Diethyl Sulfide	8.43
1,2-Difluorobenzene	9.31
1,4-Difluorobenzene	9.15

Chemical Name	IP (eV)
Difluoromethylbenzene	9.45
Diiodomethane	9.34
Diisobutyl Ketone	9.04
Diisopropylamine	7.73
1,1-Dimethoxyethane	9.65
Dimethoxymethane	10.00
Dymethylamine	8.24
Dimethylaniline	7.14
2,3-Dimethylbutadiene	8.72
2,2-Dimethylbutane	10.06
2,3-Dimethylbutane	10.02
2,2-Dimethylbutan-3-one	9.18
3,3-Dimethylbutanone	9.17
2,3-Dimethyl-2-Butene	8.30
Dimethyl Disulfide	8.46
Dimethyl Ether	10.00
3,5-Dimethyl-4-Heptanone	9.04
1,1-Dimethylhydrazine	8.05
2,2-Dimethyl-3-Pentanone	8.98
2,2-Dimethylpropane	10.35
Dimethyl Sulfide (DMS)	8.69
Di-n-Propylamine	7.84
Di-n-Propyl Disulfide	8.27
Di-n-Propyl Ether	9.27
Di-i-Propyl Ether	9.20
Di-n-Propyl Sulfide	8.30
Epichlorohydrin	10.60
Ethane	11.65
Ethanethiol (Ethyl Mercaptan)	9.29
Ethanol	10.62
Ethanolamine	9.87
Ethene (Ethylene)	10.52
Ethyl Acetate	10.01
Ethylamine	8.86
Ethyl Amyl Ketone	9.10
Ethylbenzene	8.76
Ethyl Bromide	10.29
Ethyl Butyl Ketone	9.02
Ethyl Chloroacetate	10.20

Chemical Name	IP (eV)
Ethyl Disulfide	8.27
Ethyl Ethanoate	10.10
Ethyl Ether	9.41
Ethylene Chlorohydrin	10.90
Ethylene Dibromide	9.45
Ethylene Oxide	10.56
Ethyl Formate	10.61
Ethyl Iodide	9.33
Ethyl Isothiocyanate	9.14
Ethyl Methanoate	10.61
Ethyl Methyl Sulfide	8.55
Ethyl Propanoate	10.00
Ethyl Trichloroacetate	10.44
mono-Fluorobenzene	9.20
mono-Fluoroethene	10.37
mono-Fluoromethanal	11.40
Fluorotribromomethane	10.67
o-Fluorotoluene	8.92
m-Fluorotoluene	8.92
p-Fluorotoluene	8.79
Furan	8.89
Furfura	19.21
n-Heptane	9.90
2-Heptanone	9.33
4-Heptanone	9.12
n-Hexane	10.18
2-Hexanone	9.44
1-Hexene	9.46
Hydrogen Selenide	9.88
Hydrogen Sulfide	10.46
Hydrogen Telluride	9.14
Iodobenzene	8.73
1-Iodobutane	9.21
2-Iodobutane	9.09
Iodoethane (Ethyl Iodide)	9.33
Iodomethane (Methyl Iodide)	9.54
1-Iodo-2-Methylpropane	9.23
1-Iodopentane	9.19
1-Iodopropane	9.26
2-Iodopropane	9.17

Chemical Name	IP (eV)
o-Iodotoluene	8.62
m-Iodotoluene	8.61
p-Iodotoluene	8.50
Isoamyl Acetate	9.90
Isoamyl Alcohol	10.16
Isobutane	10.74
Isobutanol	10.12
Isobutyl Acetate	9.97
Isobutyl Alcohol	10.12
Isobutylamine	8.70
Isobutylbenzene	8.68
Isobutylene	9.43
Isobutyl Ethanoate	9.95
Isobutyl Formate	10.46
Isobutyl Mercaptan	9.12
Isobutyl Methanoate	10.46
Isobutyraldehyde	9.74
Isopentane	10.32
Isoprene	8.85
Isopropyl Acetate	9.95
Isopropyl Alcohol	10.10
Isopropylamine	8.72
Isopropylbenzene	8.75
Isopropyl Ether	9.20
Isovaleraldehyde	9.71
Ketene	9.61
Mesitylene	8.40
Mesityl Oxide	9.08
Methyl Acetate	10.27
Methylamine	8.97
Methyl Bromide	10.54
2-Methyl-1,3-Butadiene	8.85
2-Methylbutanal	9.71
2-Methylbutane	10.31
2-Methyl-1-Butene	9.12
3-Methyl-1-Butene	9.51
3-Methyl-2-Butene	8.67
Methyl n-Butyl Ketone	9.34
Methyl Butyrate	10.07

Chemical Name	IP (eV)
Methyl Chloroacetate	10.35
Methylchloroform	11.00
Methylcyclohexane	9.85
Methylcyclohexanol	9.80
Methylcyclohexanone	9.05
4-Methylcyclohexene	8.91
Methylcyclopropane	9.52
Methyl Dichloroacetate	10.44
Methyl Ethanoate	10.27
Methyl Ethyl Ketone	9.53
Methyl Ethyl Sulfide	8.55
2-Methyl Furan	8.39
Methyl Iodide	9.54
Methyl Isobutyl Ketone	9.28
Methyl Isobutyrate	9.98
Methyl Isopropyl Ketone	9.32
Methyl Mercaptan	9.44
Methyl Methacrylate	9.70
2-Methylpentane	10.12
3-Methylpentane	10.08
2-Methylpropanal	9.74
2-Methylpropane	10.56
2-Methyl-2-Propano	19.70
2-Methylpropene	9.23
Methyl n-Propyl Ketone	9.39
Methyl Styrene	8.35
Napthalene	8.12
Nitric Oxide	9.27
Nitrobenzene	9.92
p-Nitrochlorobenzene	9.96
5-Nonanone	9.10
3-Octanone	9.19
4-Octanone	9.10
1-Octene	9.52
cis-1,3-Pentadiene	8.59
trans-1,3-Pentadiene	8.56
n-Pentanal	9.82
n-Pentane	10.34
2,4-Pentanedione	8.87

Chemical Name	IP (eV)
2-Pentanone	9.39
3-Pentanone	9.32
1-Pentene	9.50
Perfluoro-1-Heptene	10.48
n-Perfluoropropyl Iodide	10.36
n-Perfluoropropyl-Iodomethane	9.96
n-Perfluoropropyl-Methyl Ketone	10.58
Phenol	8.50
Phenyl Ether	8.09
Phenyl Isocyanate	8.77
Phosphine	9.96
Pinene	8.07
Propadiene	10.19
n-Propanal	9.95
Propane	11.07
1-Propanethiol (n-Propyl Mercaptan)	9.20
n-Propanol	10.51
Propanone	9.69
Propene	9.73
Prop-1-ene-2-ol	8.20
Prop-2-ene-1-ol	9.67
Propionaldehyde	9.98
n-Propyl Acetate	10.04
n-Propyl Alcohol	10.15
n-Propylamine	8.78
n-Propylbenzene	8.72
Propylene	9.73
Propylene Imine	9.00
Propylene Oxide	9.81
n-Propyl Ether	9.27
n-Propyl Formate	10.54
Propyne	10.36
Pyridine	9.27
Styrene	8.40
Tetrachloroethylene (PCE)	9.32
Tetrafluoroethene	10.12
Tetrahydrofuran	9.45

Chemical Name	IP (eV)
Thioethanol	9.29
Thiomethanol	9.44
Thiophene	8.86
1-Thiopropanol	9.20
Toluene	8.82
o-Toluidine	7.44
Tribromoethene	9.27
1,1,1-Trichlorobutanone	9.54
1,1,1-Trichloroethane	11.25
Trichloroethylene (TCE)	9.45
Trichloromethyl Ethyl Ether	10.08
Triethylamine	7.50
1,2,4-Trifluorobenzene	9.37
1,3,5-Trifluorobenzene	9.32
Trifluoroethene	10.14
1,1,1-Trifluoro-2-Iodoethane	10.10
Trifluoroiodomethane	10.40
Trifluoromethylbenzene	9.68
Trifluoromethylcyclohexane	10.46
1,1,1-Trifluoropropene	10.90
Trimethylamine	7.82
2,2,4-Trimethyl Pentane	9.86
2,2,4-Trimethyl-3-Pentanone	8.82
n-Valeraldehyde	9.82
Vinyl Acetate	9.19
Vinyl Bromide	9.80
Vinyl Chloride	10.00
4-Vinylcyclohexene	8.93
Vinyl Ethanoate	9.19
Vinyl Fluoride	10.37
Vinyl Methyl Ether	8.93
o-Vinyl Toluene	8.20
o-Xylene	8.56
m-Xylene	8.56
p-Xylene	8.45
2,4-Xylidine	7.65