

# PID SENSORS FOR GAS DETECTORS



\*Ionization detectors were primarily sourced from P.J. Linstrom and W.G. Mallard, Eds., NIST Chemical WebBook, Reference Database Number 69, National Institute of Standards and Technology, Gaithersburg MD, 20899, http://webbook.nist.gov. (revised and updated from June 19, 2014).

Chemical Name	Formula	CAS no.	EW	11.7 eV	10.6 eV	10.0 eV	Chemical Name	Formula	CAS no.	EW	11.7 eV	10.6 eV	10.0 eV
Acenaphthene	C12H10	83-32-9	7.80	0.7			Decane	C10H22	123-18-1	8.5	0.7	1.2	4.2
Acenaphthylene	C12H8	83-32-9	7.80	0.7			Decalin, trans-4	C10H18	65405-70-1	9.1	1.2	1.4	2.4
Acetaldehyde	C2H4O	75-07-0	10.23	2.0	2.0	2.0	Decalin, cis-1,2	C10H18	872-05-9	9.5	NA	0.8	NA
Acetamide	C2H5NO	63-05-1	9.89	1.6	2.0	2.0	Decalin, 1,8	C10H18	78-93-2	9.81	0.43	0.43	0.43
Acetic acid	C2H4O2	64-19-7	10.64	2.0	2.0	2.0	Dechlorane	C12Cl6	57041-67-5	-1.1	2.0	2.0	2.0
Acetic anhydride	C4H6O3	108-24-7	10.14	2.0	2.0	2.0	Dechlorane oxide	DZO	7789-20-0	13.60	2.0	2.0	2.0
Acetonitrile	C2H3N	121-33-5	10.23	1.4	2.0	2.0	Dechlorane, 1,1,1,1-tetra	C12Cl4	6819-92-9	9.8	1.2	0.9	0.84
Acetone	C3H6O	67-64-1	9.89	1.7	1.7	1.7	Diazine, 1,2-	C4H4N2	288-85-2	9.65	NA	3.0	NA
Acetone cyanohydrin	C4H7NO	75-86-1	11.90	2.0	2.0	2.0	Diazine, 1,3-	C4H4N2	289-82-2	9.33	NA	3.0	NA
Acepromazine	C17H19N3	123-88-9	12.30	2.0	2.0	2.0	Diazole, 1,2,4-	C3H3N3	1027-46-7	11.38	NA	2.0	2.0
Acetophenone	C8H8O	98-86-2	9.29	0.8	0.8	0.8	Dibromochloromethane	CBr2Cl	124-48-1	10.99	0.7	1.0	2.0
Acylic bromide	C2H3Br	506-57-2	11.5	2.0	2.0	2.0	Dibromodichloromethane, 1,2-	CBr2Cl2	5816-5-3	10.92	NA	3.0	NA
Acylic chloride	C2H3Cl	7486-22	11.40	2.0	2.0	2.0	Dibromodifluoromethane, 1,2-	CBr2F2	33547-17-0	10.06	NA	3.0	NA
Acrylonitrile	C3H3.5N	107-13-1	10.91	1.6	1.7	1.7	Dibromodifluoroethane, 1,1,1,1-tetra	C2Br2F4	101-01-1	10.06	NA	3.0	NA
Adipic acid	C6H10O4	141-82-1	10.23	2.0	2.0	2.0	Dibromodifluoroethane, 1,1,2,2-tetra	C2Br2F4	101-01-1	10.06	NA	3.0	NA
Allyl acetate	C5H8O2	107-11-9	10.60	3.0	2.1	2.1	Dibromodifluoroethane, 1,2-	C2Br2F4	101-01-1	10.06	NA	3.0	NA
Allyl alcohol	C3H6O	107-13-1	10.91	1.6	1.7	1.7	Dibromodifluoroethane, 1,2,2,2-tetra	C2Br2F4	101-01-1	10.06	NA	3.0	NA
Allyl bromide	C3H5Br	106-94-8	11.5	2.0	2.0	2.0	Dibromodifluoroethane, 1,2,2,2-tetra	C2Br2F4	101-01-1	10.06	NA	3.0	NA
Allyl chloride	C3H5Cl	107-05-1	10.09	0.9	3.3	3.6	Dichloro-1,1,1-trifluoroethane, 2,2-	C2Cl2F4	306-43-2	11.50	NA	2.0	2.0
Allyl glycidyl ether	C6H10O2	106-93-1	10.23	2.0	2.0	2.0	Dichloro-1,1,2-trifluoroethane, 1,2-	C2Cl2F4	1649-07-7	11.7	2.0	2.0	2.0
Amyl acetate	C8H18O2	1179-28-3	10.23	2.0	2.0	2.0	Dichloro-1,2,2-trifluoroethane, 1,2-	C2Cl2F4	3524-1	11.5	2.0	2.0	2.0
Amyl alcohol	C5H12O	71-41-0	10.00	0.75	2.6	2.0	Dichloro-1,2-difluoroethane, 1,2-	C2Cl2F4	431-06-1	11.5	2.0	2.0	2.0
Amyl alcohol, tert-	C5H12O	75-84-4	9.80	1.0	1.8	2.0	Dichloro-1,2-difluoroethane, 1,1,1,1-tetra	C2Cl2F4	388-88-9	10.20	NA	2.0	2.0
Amyl salicylate	C12H18O2	101-84-1	10.23	2.0	2.0	2.0	Dichloro-1,2-difluoroethane, 1,1,2,2-tetra	C2Cl2F4	388-88-9	10.20	NA	2.0	2.0
Anethole	C10H12O	104-46-1	9.9	NA	NA	NA	Dichloro-2,2-difluoroethane, 1,1-	C2Cl2F4	79-35-6	9.69	1.1	NA	NA
Aniline	C6H7N	106-42-3	11.70	2.0	2.0	2.0	Dichloro-2,2-difluoroethane, 1,2-	C2Cl2F4	79-35-6	9.69	1.1	NA	NA
Anisole	C7H8O	100-66-3	9.21	0.97	0.59	0.59	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Anisyl aldehyde	C8H8O2	1231-11-5	9.9	0.9	0.9	0.9	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Anisyl nitrite	C8H9NO2	103-27-1	9.8	2.0	2.0	2.0	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Aromatic hydrocarbons, C8		90999-38-1	-8.7	0.55	0.5	0.5	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Asphalt, petroleum fumes	C7H6O	90999-38-1	-8.7	0.55	0.5	0.5	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Azobenzene	C12H10N2	71-43-2	9.24	0.63	0.50	0.54	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzene	C6H6	71-43-2	9.24	0.63	0.50	0.54	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzonitrile	C7H5N	105-53-8	9.80	0.6	0.6	0.6	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Bromo-2-chloroethane, 1,2-	C2H4ClBr	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin	C14H12O2	107-47-6	9.62	0.6	0.5	0.5	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin benzoate	C18H16O2	83-33-1	9.30	NA	1.0	NA	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin chloride	C14H11ClO	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin dibromide	C14H11Br2O	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diiodide	C14H11I2O	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-butene, trans-1,4-	C2Cl2F4	110-7-6	9.5	1.0	2.0	2.0
Benzoin diphosphate, 1,1,1,1-tetra	C14H11O7P2	106-92-2	9.30	0.7	0.7	0.7	Dichloro-2-but						