284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Alliance Contract: CHEM02

Lab Code: ACE SDG No.: Q3702

Instrument ID: MSVOA_X Calibration Date(s): 11/07/2025 11/07/2025

Heated Purge: (Y/N) N Calibration Time(s): 13:35 16:29

GC Column: DB-624UI ID: 0.18 (mm)

LAB FILE ID: RRF001 = VX048516.D RRF005 = VX048517.D RRF020 = VX048518.D
RRF100 = VX048520.D RRF150 = VX048521.D RRF050 = VX048524.D

COMPOUND	RRF001	RRF005	RRF020	RRF100	RRF150	RRF050	$\overline{RRF}$	% RSD
Dichlorodifluoromethane	0.365	0.364	0.352	0.452	0.474	0.424	0.405	12.8
Chloromethane	0.603	0.457	0.425	0.581	0.565	0.592	0.537	14.2
Vinyl Chloride	0.666	0.579	0.608	0.601	0.597	0.600	0.608	4.9
Ethyl Acetate	0.748	0.901	0.676	0.648	0.639	0.667	0.713	14
Bromomethane		0.468	0.417	0.323	0.287	0.426	0.384	19.8
Chloroethane	0.465	0.419	0.397	0.370	0.357	0.383	0.398	9.8
Trichlorofluoromethane	0.982	1.030	1.019	0.919	0.939	0.886	0.963	6
1,1,2-Trichlorotrifluoroethane	0.552	0.556	0.616	0.546	0.558	0.515	0.557	5.9
Tert butyl alcohol		0.129	0.133	0.132	0.127	0.138	0.132	3.2
1,1-Dichloroethene	0.669	0.584	0.591	0.555	0.548	0.545	0.582	8
Acrolein		0.023	0.015	0.017	0.020	0.020	0.019	16.4
Acrylonitrile	0.405	0.383	0.395	0.370	0.356	0.403	0.385	5.1
Acetone	0.383	0.318	0.318	0.317	0.313	0.330	0.330	8.1
Carbon Disulfide	2.045	1.739	1.609	1.468	1.477	1.489	1.638	13.7
Methyl tert-butyl Ether	2.163	2.158	2.049	1.984	1.861	2.117	2.055	5.7
Methyl Acetate	1.195	0.876	0.857	0.818	0.823	0.869	0.906	15.8
Methylene Chloride	0.845	0.689	0.663	0.624	0.595	0.653	0.678	13
trans-1,2-Dichloroethene	0.700	0.650	0.612	0.585	0.557	0.598	0.617	8.3
Vinyl Acetate	1.912	1.901	1.838	1.747	1.710	1.827	1.822	4.4
1,1-Dichloroethane	1.255	1.247	1.124	1.083	1.041	1.102	1.142	7.8
Cyclohexane		1.001	1.004	0.896	0.910	0.867	0.936	6.7
2-Butanone	0.474	0.502	0.511	0.470	0.465	0.506	0.488	4.2
Carbon Tetrachloride	0.640	0.766	0.546	0.520	0.504	0.486	0.577	18.6
2,2-Dichloropropane	1.079	1.044	0.975	0.934	0.925	0.883	0.973	7.7
cis-1,2-Dichloroethene	0.888	0.787	0.737	0.703	0.684	0.725	0.754	9.9
Bromochloromethane	0.640	0.630	0.533	0.522	0.497	0.543	0.561	10.6
Chloroform	1.357	1.277	1.162	1.105	1.052	1.120	1.179	9.8
1,1,1-Trichloroethane	1.160	1.087	1.026	0.979	0.947	0.973	1.029	7.9
Methylcyclohexane	0.585	0.607	0.558	0.561	0.592	0.510	0.569	6
1,1-Dichloropropene	0.548	0.664	0.499	0.453	0.449	0.427	0.507	17.5

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

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COMPOUND	RRF001	RRF005	RRF020	RRF100	RRF150	RRF050	$\overline{RRF}$	% RSD
Benzene	1.745	2.038	1.468	1.396	1.369	1.408	1.571	17
1,2-Dichloroethane	0.540	0.721	0.525	0.489	0.473	0.481	0.538	17.3
Trichloroethene	0.423	0.390	0.356	0.366	0.363	0.355	0.375	7.1
1,2-Dichloropropane	0.417	0.381	0.319	0.352	0.340	0.358	0.361	9.5
Dibromomethane	0.278	0.303	0.217	0.264	0.251	0.268	0.263	10.8
Bromodichloromethane	0.517	0.598	0.446	0.539	0.510	0.543	0.526	9.5
4-Methyl-2-Pentanone	0.505	0.667	0.514	0.573	0.546	0.620	0.571	11
Toluene	0.709	0.955	0.710	0.868	0.843	0.877	0.827	11.9
t-1,3-Dichloropropene	0.513	0.609	0.452	0.561	0.542	0.572	0.541	10
cis-1,3-Dichloropropene	0.472	0.633	0.481	0.595	0.578	0.606	0.561	12.1
1,1,2-Trichloroethane	0.289	0.373	0.286	0.345	0.329	0.361	0.330	11.1
1,3-Dichloropropane	0.529	0.674	0.498	0.581	0.551	0.618	0.575	11.1
2-Chloroethyl Vinyl ether	0.229	0.301	0.251	0.327	0.311	0.354	0.296	15.9
2-Hexanone	0.360	0.487	0.390	0.429	0.416	0.464	0.425	11
Dibromochloromethane	0.347	0.468	0.351	0.428	0.404	0.436	0.406	12
1,2-Dibromoethane	0.309	0.417	0.308	0.374	0.358	0.381	0.358	11.9
Tetrachloroethene	0.444	0.364	0.352	0.344	0.348	0.327	0.363	11.4
Chlorobenzene	1.406	1.245	1.153	1.112	1.105	1.101	1.187	10.1
1,1,1,2-Tetrachloroethane	0.396	0.420	0.389	0.398	0.391	0.392	0.398	2.9
Hexachloroethane	0.679	0.611	0.600	0.597	0.596	0.551	0.606	6.8
Ethyl Benzene	2.253	2.045	1.976	1.899	1.898	1.887	1.993	7.1
m/p-Xylenes	0.764	0.793	0.758	0.736	0.733	0.720	0.751	3.5
o-Xylene	0.795	0.746	0.721	0.714	0.726	0.703	0.734	4.5
Styrene	1.228	1.256	1.227	1.226	1.244	1.210	1.232	1.3
Bromoform	0.427	0.350	0.345	0.359	0.373	0.348	0.367	8.4
Isopropylbenzene	3.857	3.727	3.683	3.551	3.492	3.466	3.629	4.2
1,1,2,2-Tetrachloroethane	1.544	1.284	1.230	1.207	1.185	1.229	1.280	10.4
1,2,3-Trichloropropane	1.270	1.113	1.134	1.128	1.112	1.010	1.128	7.4
Bromobenzene	1.054	0.961	0.913	0.909	0.877	0.909	0.937	6.7
n-propylbenzene	4.682	4.356	4.371	4.097	4.073	4.027	4.268	5.9

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COMPOUND	RRF001	RRF005	RRF020	RRF100	RRF150	RRF050	$\overline{RRF}$	% RSD
2-Chlorotoluene	2.995	2.601	2.565	2.493	2.382	2.437	2.579	8.5
1,3,5-Trimethylbenzene	3.172	2.990	3.003	2.913	2.855	2.819	2.959	4.3
4-Chlorotoluene	3.437	3.105	2.985	2.916	2.842	2.866	3.025	7.4
tert-Butylbenzene	3.231	3.058	3.080	3.036	3.010	2.945	3.060	3.1
1,2,4-Trimethylbenzene	3.224	2.963	2.991	2.951	2.886	2.897	2.985	4.1
sec-Butylbenzene	4.137	3.883	3.841	3.643	3.693	3.496	3.782	5.9
p-Isopropyltoluene	3.445	3.138	3.226	3.123	3.159	2.988	3.180	4.8
1,3-Dichlorobenzene	2.076	1.785	1.686	1.680	1.668	1.644	1.756	9.3
1,4-Dichlorobenzene	2.329	1.860	1.676	1.671	1.672	1.678	1.814	14.5
n-Butylbenzene	3.281	3.038	3.007	2.883	2.972	2.718	2.983	6.2
1,2-Dichlorobenzene	1.944	1.695	1.611	1.627	1.616	1.624	1.686	7.7
1,2-Dibromo-3-Chloropropane	0.304	0.308	0.294	0.298	0.285	0.297	0.297	2.7
1,2,4-Trichlorobenzene	1.353	1.032	1.057	1.097	1.117	1.066	1.120	10.5
Hexachlorobutadiene	0.611	0.467	0.450	0.421	0.455	0.406	0.468	15.7
Naphthalene	3.675	3.299	3.529	3.732	3.682	3.700	3.603	4.6
1,2,3-Trichlorobenzene	1.170	0.973	0.994	1.049	1.051	1.016	1.042	6.7
1,2-Dichloroethane-d4		0.775	0.723	0.677	0.623	0.685	0.697	8.1
Dibromofluoromethane		0.484	0.374	0.356	0.327	0.351	0.378	16.2
Toluene-d8		1.341	1.021	1.210	1.128	1.202	1.180	10
4-Bromofluorobenzene		0.523	0.365	0.445	0.423	0.443	0.440	12.9

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