

DEoS DATABASE

EXPLOSIVES	238	CHNO Composition (mol/100g)	Other elements (% weight X)	hierarchy	[C+H+P+S] as inerts	Average values	Q_{DEoS} (cal/g)		w (m/s per kg/m ³)	Do (m/s)	C (m/s per cal/g)	$W = \left(\frac{\partial D}{\partial \rho_0}\right)_Q$										
							Q_{DEoS} (cal/g)	Q_{th} (cal/g)				Φ_i (KJ)	Do (DEoS)	w (DEoS)	C (DEoS)							
Acronym	Name	ΔH°_{298} (cal/g)	reference	C	H	N	O	X: (Cl+H+P+S)	Comp.	type (Xiong)	C (s)	H2O (g)	CO2 (g)	N2 (g)	H2 (g)	O2 (g)	Q_{DEoS} (cal/g)	Q_{th} (cal/g)	Φ_i (KJ)	Do (DEoS)	w (DEoS)	C (DEoS)
abh	azobis(2,2',4,4',6,6'-hexanitrobiophenyl)	133	[8]	2.745	0.686	1.601	2.745	0.0	CHNO	3.0	1.544	0.343	1.201	0.801	0.000	0.000	1306	1460	5.28	2368	2.9	0.9
AFX902	AFX902	-299	[c]	1.046	3.745	3.651	3.745	3.3	CHNOX	3.0	1.046	1.826	0.800	1.826	0.007	0.000	652	756		1672	3.7	1.3
bchmxy	o,s-1,3,4,6-tetranitrooctahydroimidazo-[4,5-d]imidazole	192	[3]	1.360	2.040	2.720	2.720	0.0	CHNO	2.0	0.510	1.020	0.850	1.360	0.000	0.000	1520	1581	6.92	2563	3.4	0.8
BCHMX/GAP (84/16)	BCHMX/GAP (84/16)	335	[4]	1.671	2.669	2.706	2.459	0.0	CHNO	3.0	1.109	1.334	0.562	1.353	0.000	0.000	1525	1635	6.79	2588	3.4	0.8
BCHMX/PiB (91/9)	BCHMX/PiB (91/9)	487	[c]	1.827	2.976	2.475	2.525	0.0	CHNO	3.0	1.308	1.488	0.518	1.238	0.000	0.000	1365	1496	6.39	2420	3.4	0.9
BCHMX/SYLWARD (85/15)	BCHMX/SYLWARD (85/15)	-49	[3]	1.549	2.883	2.346	2.502	5.6	CHNOX	3.0	1.018	1.442	0.530	1.173	0.000	0.000	1133	1235		2205	3.4	1.0
BCHMX/VITON (95/5)	BCHMX/VITON (95/5)	94	[c]	1.426	2.031	2.584	2.584	3.3	CHNOX	3.0	0.641	1.016	0.784	1.292	0.000	0.000	1354	1418		2411	3.4	0.9
BCHMX/VITON (97/3)	BCHMX/VITON (97/3)	133	[c]	1.399	2.035	2.638	2.638	2.0	CHNOX	3.0	0.589	1.017	0.810	1.319	0.000	0.000	1424	1483		2473	3.4	0.9
bif	benzotris[1,2,5]oxadiazole-1,4,7-trioxide	551	[47]	2.380	0.000	2.380	2.380	0.0	CNO	3.0	1.190	0.000	1.190	1.190	0.000	0.000	1551	1670	5.84	2580	3.2	0.8
btne	bis(2,2,2-trinitroethyl) nitramine	-17	[48]	1.031	1.031	2.061	3.607	0.0	CHNO	1.0	0.000	0.515	1.031	1.031	0.000	0.515	1250	1250	6.22	2317	3.2	0.9
BTNEN/BTF (60/40)	BTNEN/BTF (60/40)	210	[c]	1.570	0.618	1.189	3.116	0.0	CHNO	2.0	0.167	0.309	1.404	1.094	0.000	0.000	1692	1709	6.86	2695	3.2	0.8
BTNEN/HMX (30/70)	BTNEN/HMX (30/70)	37	[c]	1.255	2.100	2.509	2.973	0.0	CHNO	2.0	0.318	1.100	0.936	1.255	0.000	0.000	1522	1554	7.01	2556	3.4	0.8
BTNEN/HMX (32/68)	BTNEN/HMX (32/68)	36	[c]	1.248	2.167	2.496	2.991	0.0	CHNO	2.0	0.294	1.083	0.954	1.248	0.000	0.000	1530	1559	7.03	2562	3.4	0.8
BTNEN/RDX (56/44)	BTNEN/RDX (56/44)	20	[c]	1.171	1.766	2.343	3.209	0.0	CHNO	2.0	0.009	0.883	1.163	1.171	0.000	0.000	1623	1624	7.22	2639	3.4	0.8
btneu	bis(trinitroethyl) urea	-199	[48]	1.295	1.554	2.072	3.367	0.0	CHNO	1.0	0.000	0.777	1.295	1.036	0.000	0.000	1468	1468	6.75	2510	3.3	0.9
btcc	bis-(2,2,2-trinitroethyl)-carbonate	-388	[48]	1.288	1.031	1.546	3.865	0.0	CHNO	1.0	0.000	0.515	1.288	0.773	0.000	0.386	1122	1122	5.77	2194	3.1	1.0
cl-20	hexanitrohexaazaisowurtzitane	448	[4]	1.369	1.369	2.739	2.739	0.0	CHNO	2.0	0.342	0.685	1.027	1.369	0.000	0.000	1776	1810	7.31	2761	3.4	0.8
CL20/GAP (84/16)	CL20/GAP (84/16)	320	[4]	1.675	2.092	2.691	2.505	0.0	CHNO	3.0	0.946	1.046	0.729	1.346	0.000	0.000	1516	1611	6.68	2551	3.4	0.8
CL-20/HTPB (91/9)	CL-20/HTPB (91/9)	407	[c]	1.890	2.258	2.500	2.500	0.0	CHNO	3.0	1.205	1.129	0.685	1.250	0.000	0.000	1584	1705	6.68	2608	3.3	0.8
CL-20/HTPB (92/8)	CL-20/HTPB (92/8)	412	[c]	1.832	2.159	2.527	2.526	0.0	CHNO	3.0	1.109	1.080	0.723	1.263	0.000	0.000	1605	1716	6.75	2625	3.3	0.8
CL-20/PiB (91/9)	CL-20/PiB (91/9)	381	[c]	1.835	2.366	2.492	2.542	0.0	CHNO	3.0	1.156	1.183	0.679	1.246	0.000	0.000	1588	1704	6.75	2611	3.3	0.8
CL20/SYLWARD (85/15)	CL20/SYLWARD (85/15)	-46	[3]	1.545	2.298	2.365	2.540	5.4	CHNOX	3.0	0.849	1.149	0.696	1.182	0.000	0.000	1187	1272		2257	3.4	1.0
COMP B	COMP B	10	[c]	2.032	2.637	2.177	2.653	0.0	CHNO	3.0	1.364	1.318	0.667	1.089	0.000	0.000	1263	1399	6.00	2328	3.3	0.9
COMP C3	composition c3 (as single)	-14	[8][10]average	1.899	2.829	2.339	2.599	0.0	CHNO	3.0	1.307	1.414	0.592	1.169	0.000	0.000	1230	1361	6.04	2298	3.3	0.9
COMP C4	COMP C4	33	[c]	1.818	3.578	2.458	2.508	0.0	CHNO	3.0	1.459	1.789	0.359	1.229	0.000	0.000	1260	1405	6.26	2325	3.4	0.9
daaf	3,3'-diamino-4,4'-azoxyfuran	500	[35]	1.886	1.886	3.771	1.414	0.0	CHNO	3.0	1.650	0.943	0.236	1.886	0.000	0.000	1101	1266	5.58	2174	3.4	1.0
DAAF/HMX/VITON (45/50/5)	DAAF/HMX/VITON (45/50/5)	166	[c]	1.658	2.293	3.048	1.987	3.3	CHNOX	3.0	1.237	1.146	0.420	1.524	0.000	0.000	1100	1224	5.24	2173	3.4	1.0
DAAF/HMX/VITON (60/35/5)	DAAF/HMX/VITON (60/35/5)	232	[c]	1.738	2.170	3.208	1.794	3.3	CHNOX	3.0	1.383	1.085	0.354	1.604	0.000	0.000	1054	1193		2127	3.4	1.0
DAAF/HMX/VITON (80/15/5)	DAAF/HMX/VITON (80/15/5)	320	[c]	1.845	2.007	3.422	1.537	3.3	CHNOX	3.0	1.578	1.004	0.266	1.711	0.000	0.000	993	1151		2064	3.4	1.0
DAAF/RDX/VITON (60/35/5)	DAAF/RDX/VITON (60/35/5)	234	[c]	1.738	2.170	3.208	1.794	3.3	CHNOX	3.0	1.383	1.085	0.354	1.604	0.000	0.000	1056	1195		2129	3.4	1.0
DAAF/RDX/VITON (80/15/5)	DAAF/RDX/VITON (80/15/5)	321	[c]	1.845	2.007	3.422	1.537	3.3	CHNOX	3.0	1.578	1.004	0.266	1.711	0.000	0.000	994	1151		2065	3.4	1.0
DAAF/VITON (95/5)	DAAF/VITON (95/5)	386	[c]	1.925	1.885	3.583	1.344	3.3	CHNOX	3.0	1.724	0.942	0.201	1.791	0.000	0.000	947	1119		2016	3.4	1.1
datb	1,3-diamino-2,4,6-trinitrobenzene	-120	[8]	2.468	2.056	2.056	2.468	0.0	CHNO	3.0	1.748	1.028	0.720	1.028	0.000	0.000	976	1151	5.02	2047	3.1	1.0
degn	diethyleneglycol dinitrate	-507	[8]	2.040	4.079	1.020	3.569	0.0	CHNO	3.0	1.275	2.040	0.765	0.510	0.000	0.000	1264	1391	6.25	2329	3.3	0.9
dina	di(2-nitroethyl)-nitramine	-314	[8]	1.666	3.32	1.666	3.32	0.0	CHNO	3.0	0.833	1.666	0.833	0.833	0.000	0.000	1349	1432	6.55	2406	3.4	0.9
dipam	(2,2',4,4',6,6'-hexanitro-1,1'-biphenyl)-3,3'-diamine	-44	[8]	2.642	1.321	1.761	2.642	0.0	CHNO	3.0	1.651	0.660	0.991	0.881	0.000	0.000	1104	1269	5.08	2177	3.0	1.0
dipetn	dipentaerythritol hexanitrate	-446	[8]	1.907	3.052	1.144	3.624	0.0	CHNO	2.0	0.858	1.526	1.049	0.572	0.000	0.000	1307	1423	6.34	2395	3.2	0.9
dipicrylamine	hexanitrodiphenylamine	-23	[48]	2.732	1.138	1.594	2.732	0.0	CHNO	3.0	1.651	0.569	1.081	0.797	0.000	0.000	1204	1369	5.18	2273	2.9	0.9
dmitnb	dinitrophenoxylethylnitrate	-243	[48]	2.929	2.563	1.098	2.929	0.0	CHNO	3.0	2.105	1.281	0.824	0.549	0.000	0.000	1062	1272	5.02	2135	3.0	1.0
dmitp	ethyl picrate	-187	[48]	3.111	2.722	1.777	2.722	0.0	CHNO	3.0	2.430	1.361	0.681	0.583	0.000	0.000	997	1240	4.80	2069	2.9	1.0
dnaf	dinitrodiazefuroxan	554	[47]	1.388	0.000	2.777	2.777	0.0	CHNO	1.0	0.000	0.000	1.388	1.388	0.000	0.000	1860	1860	7.19	2825	3.5	0.8
DNAM/RDX/NTO (40/20/40)	DNAM/RDX/NTO (40/20/40)	-163	[c]	2.298	2.367	2.174	2.472	0.0	CHNO	3.0	1.654	1.183	0.644	1.087	0.000	0.000	1127	1272	5.13	2032	3.2	1.1
dnb	dinitrobenzol	-37	[8]	3.569	2.379	1.190	2.379	0.0	CHNO	3.0	2.974	1.190	0.595	0.595	0.000	0.000	913	1210	4.30	1979	2.8	1.1
dnmdo	n,n'-dinitro-n,n'-dimethylouamide	-355	[48]	1.941	2.911	1.941	2.911	0.0	CHNO	3.0	1.213	1.455	0.728	0.970	0.000	0.000	1050	1171	5.62	2123	3.3	1.0
dnmf	3,4-bis(4-nitrofuran-3-yl)furoxan	503	[35]	1.922	0.000	2.563	2.563	0.0	CNO	2.0	0.641	0.000	1.282	1.282	0.000	0.000	1644	1708	6.36	2657	3.3	0.8
dnmt	1-methyl-3,5-dinitro-1,2,4-triazole	253	[35]	1.733	1.733	2.889	2.311	0.0	CHNO	3.0	1.011	0.867	0.722	1.444	0.000	0.000	1332	1433	6.18	2391	3.3	0.9
DNMT/HMX (49.5/50.5)	DNMT/HMX (49.5/50.5)	156	[c]	1.540	2.222	2.794	2.508	0.0	CHNO	3.0	0.842	1.111	0.699	1.397	0.000	0.000	1371	1455	6.48	2425	3.4	0.9
dnp	3,4-dinitroproprazole	182	[35]	1.898	1.265	2.530	2.530	0.0	CHNO	3.0	0.949	0.633	0.949	1.265	0.000	0.000	1345	1440	6.03	2403	3.2	0.9
dng	dinitroguanidine	0	[47]	0.671	2.013	3.354	2.683	0.0	CHNO	1.0	0.000	1.006	0.671	1.677	0.000	0.168	1213	1213	6.53	2281	3.6	0.9
dntfx	dinitrofuroxanyl	389	[56]	1.538	0.000	2.307	3.076	0.0	CNO	1.0	0.000	0.000	1.538	1.153	0.000	0.000	1835	1835	7.03	2807	3.4	0.8
dp12	dp12	-228	[8]	1.428	2.856	0.952	1.904	36.2	CHNOX	3.0	1.190	1.428	0.238	0.476	0.000	0.000	702	821		1735	3.3	1.2
edad	ethylenediamine dinitrate	-837	[48]	1.075	5.373	2.149	3.224	0.0	CHNO	3.0	0.806	2.686	0.269	1.075	0.000	0.000	888	968	5.94	1952	3.7	

PREDICTIVE MODEL FOR EXPLOSIVE DETONATION PARAMETERS FROM AN EQUATION OF STATE BASED ON DETONATION VELOCITY. Physical Chemistry Chemical Physics 2022

DEoS DATABASE

EXPLOSIVES		238		CHNO Composition (mol/100g)			Other elements (% weight X)		hierarchy			[C+H+P+S] as inerts			Average values							
Acronym	Name	ΔH^0_{298} (cal/g)	reference	C	H	N	O	X: (Cl+F+P+S)	Comp.	type (Xlong)	C (s)	H2O (g)	CO2 (g)	N2 (g)	H2 (g)	O2 (g)	Q_DEoS (cal/g)	Q _{0i} (cal/g)	Phi (kJ)	Do (DEoS)	w (DEoS)	C (DEoS)
HAC/W (69/31)	HAC/W (69/31)	-164	[c]	0.000	5.080	4.783	1.743	0.0	HNO	5.0	0.000	1.743	0.000	2.391	0.797	0.000	843	843	6.45	1903	4.3	1.1
HAC/W (78/26)	HAC/W (78/26)	354	[c]	0.000	4.220	5.466	1.199	0.0	HNO	5.0	0.000	1.199	0.000	2.733	0.911	0.000	1047	1047	7.12	2120	4.4	1.0
HAC/W (88/12)	HAC/W (88/12)	873	[c]	0.000	3.360	6.149	0.655	0.0	HNO	5.0	0.000	0.655	0.000	3.075	1.025	0.000	1251	1251	7.71	2317	4.4	0.9
HAC/W (93/7)	HAC/W (93/7)	1132	[c]	0.000	2.930	6.491	0.383	0.0	HNO	5.0	0.000	0.383	0.000	3.246	1.082	0.000	1353	1353	7.98	2410	4.4	0.9
HAC/W (98/2)	HAC/W (98/2)	1407	[c]	0.000	2.473	6.854	0.094	0.0	HNO	5.0	0.000	0.094	0.000	3.427	1.142	0.000	1461	1461	8.26	2504	4.4	0.9
hco	1,3,3,5,7,7-hexanitro-1,5-diazacyclooctane	-17	[33]	1.562	2.082	2.082	3.124	0.0	CHNO	2.0	0.521	1.041	1.041	0.000	0.000	0.000	1512	1564	6.77	2547	3.3	0.8
hmx	cyclotetramethylenetetrantramine	61	[8]	1.351	2.701	2.701	2.701	0.0	CHNO	3.0	0.675	1.351	1.351	0.000	0.000	0.000	1409	1476	6.77	2459	3.5	0.9
HMV/EXON (91/9)	HMV/EXON (91/9)	-31	[c]	1.448	2.648	2.446	2.446	0.6	CHNOX	3.0	0.887	1.324	0.561	1.223	0.000	0.000	1173	1262	6.77	2244	3.4	1.0
HMV/GAP (84/16)	HMV/GAP (84/16)	208	[4]	1.642	2.877	2.714	2.460	0.6	CHNO	3.0	1.132	1.439	0.511	1.357	0.000	0.000	1407	1520	6.59	2457	3.4	0.9
HMV/HN (75/25)	HMV/HN (75/25)	-110	[c]	1.013	3.341	2.815	2.815	0.0	CHNO	2.0	0.441	1.670	0.572	1.407	0.000	0.000	1350	1394	6.94	2407	3.6	0.9
HMV/PIB (91/9)	HMV/PIB (91/9)	28	[c]	1.818	3.578	2.458	2.508	0.0	CHNO	3.0	1.459	1.789	0.359	1.229	0.000	0.000	1254	1400	6.25	2320	3.4	0.9
HMV/SVLGARD (85/15)	HMV/SVLGARD (85/15)	-203	[3]	1.535	3.424	2.325	2.505	5.5	CHNOX	3.0	1.138	1.712	0.397	1.163	0.000	0.000	1046	1160	6.25	2119	3.5	1.0
HMV/TATB/VITON (10/80/10)	HMV/TATB/VITON (10/80/10)	-286	[c]	2.262	2.317	2.130	2.130	6.6	CHNOX	3.0	1.776	1.158	0.486	1.065	0.000	0.000	663	840	6.86	1686	3.2	1.3
HMV/TATB/VITON (20/70/10)	HMV/TATB/VITON (20/70/10)	-266	[c]	2.164	2.354	2.167	2.167	6.6	CHNOX	3.0	1.669	1.177	0.495	1.084	0.000	0.000	713	880	6.86	1750	3.2	1.2
HMV/TATB/VITON (30/60/10)	HMV/TATB/VITON (30/60/10)	-245	[c]	2.067	2.392	2.205	2.205	6.6	CHNOX	3.0	1.563	1.196	0.504	1.102	0.000	0.000	764	920	6.86	1811	3.2	1.2
HMV/TATB/VITON (40/50/10)	HMV/TATB/VITON (40/50/10)	-225	[c]	1.970	2.430	2.243	2.243	6.6	CHNOX	3.0	1.456	1.215	0.514	1.121	0.000	0.000	815	960	6.86	1870	3.3	1.1
HMV/TATB/VITON (50/40/10)	HMV/TATB/VITON (50/40/10)	-205	[c]	1.872	2.467	2.280	2.280	6.6	CHNOX	3.0	1.349	1.234	0.523	1.140	0.000	0.000	866	1001	6.86	1928	3.3	1.1
HMV/TATB/VITON (60/30/10)	HMV/TATB/VITON (60/30/10)	-184	[c]	1.775	2.505	2.318	2.318	6.6	CHNOX	3.0	1.242	1.253	0.533	1.159	0.000	0.000	916	1041	6.86	1983	3.3	1.1
HMV/TATB/VITON (70/20/10)	HMV/TATB/VITON (70/20/10)	-164	[c]	1.678	2.543	2.356	2.356	6.6	CHNOX	3.0	1.135	1.271	0.542	1.178	0.000	0.000	967	1081	6.86	2037	3.4	1.1
HMV/TATB/VITON (80/10/10)	HMV/TATB/VITON (80/10/10)	-144	[c]	1.580	2.581	2.393	2.393	6.6	CHNOX	3.0	1.029	1.290	0.552	1.197	0.000	0.000	1018	1121	6.86	2090	3.4	1.0
HMV/TNT (60/40)	HMV/TNT (60/40)	5	[c]	2.043	2.501	2.149	2.677	0.0	CHNO	3.0	1.330	1.251	0.713	1.075	0.000	0.000	1266	1399	5.98	2331	3.3	0.9
HMV/TNT (70/30)	HMV/TNT (70/30)	19	[c]	1.870	2.551	2.287	2.683	0.0	CHNO	3.0	1.166	1.276	0.704	1.144	0.000	0.000	1302	1418	6.17	2364	3.3	0.9
HMV/TNT (75/25)	HMV/TNT (75/25)	26	[c]	1.783	2.576	2.356	2.686	0.0	CHNO	3.0	1.084	1.288	0.699	1.178	0.000	0.000	1319	1428	6.27	2380	3.3	0.9
HMV/TNT (78/22)	HMV/TNT (78/22)	30	[c]	1.732	2.591	2.398	2.688	0.0	CHNO	3.0	1.035	1.296	0.696	1.199	0.000	0.000	1330	1434	6.33	2389	3.4	0.9
HMV/TNT (80/20)	HMV/TNT (80/20)	33	[c]	1.697	2.601	2.425	2.689	0.0	CHNO	3.0	1.003	1.301	0.694	1.213	0.000	0.000	1337	1438	6.37	2396	3.4	0.9
HMV/TNT (89/11)	HMV/TNT (89/11)	45	[c]	1.541	2.646	2.549	2.695	0.0	CHNO	3.0	0.855	1.323	0.686	1.275	0.000	0.000	1369	1455	6.55	2424	3.4	0.9
HMV/TNT (90/10)	HMV/TNT (90/10)	47	[c]	1.524	2.651	2.563	2.695	0.0	CHNO	3.0	0.839	1.326	0.685	1.282	0.000	0.000	1373	1457	6.57	2428	3.4	0.9
hn	hydrazine nitrate	-621	[8]	0.000	5.260	3.156	3.156	0.0	HNO	1.0	0.000	2.630	0.000	1.578	0.000	0.263	899	899	6.34	1965	3.9	1.1
hnab	2,2',4,4',6,6'-hexanitrozobenzene	150	[8]	2.654	0.885	1.769	2.654	0.0	HNO	3.0	1.548	0.442	1.106	0.885	0.000	0.000	1291	1446	5.35	2354	3.0	0.9
hnb	hexanitrobenzene	136	[47]	1.724	0.900	1.724	3.447	0.0	CNO	1.0	0.000	0.000	1.724	0.862	0.000	0.000	1758	1758	6.74	2747	3.3	0.8
hnbp	2,2',4,4',6,6'-hexanitrobiphenyl	34	[48]	2.829	0.943	1.414	2.829	0.0	CHNO	3.0	1.650	0.471	1.179	0.707	0.000	0.000	1250	1415	5.17	2317	2.9	0.9
hnetn	hexanitroethane	67	[47]	0.667	0.000	2.000	3.999	0.0	CNO	1.0	0.000	0.000	0.667	1.000	0.000	1.333	694	694	4.56	1725	3.1	1.2
hns	2,2',4,4',6,6'-hexanitrostilbene	42	[8]	3.109	1.333	1.333	2.665	0.0	CHNO	3.0	2.110	0.666	0.999	0.666	0.000	0.000	1156	1269	4.88	2227	2.9	1.0
HZ/HN (21/79)	HZ/HN (21/79)	-411	[c]	0.000	6.777	3.804	2.493	0.0	HNO	5.0	0.000	2.493	0.000	1.902	0.895	0.000	1030	1030	7.38	2102	4.4	1.0
HZ/HN (70/30)	HZ/HN (70/30)	77	[c]	0.000	10.316	5.316	0.947	0.0	HNO	5.0	0.000	0.947	0.000	2.658	4.211	0.000	624	624	6.99	1637	5.5	1.3
IMX-104	IMX-104	-175	[c]	2.142	2.188	2.363	2.436	0.0	CHNO	3.0	1.471	1.094	0.671	1.182	0.000	0.000	941	1088	5.14	2010	3.2	1.1
ipn	isopropyl nitrate	-523	[48]	2.855	6.661	0.952	2.855	0.0	CHNO	4.0	2.855	2.855	0.000	0.476	0.476	0.000	842	1127	5.31	1901	3.4	1.1
LLM-105/VITON (95/5)	LLM-105/VITON (95/5)	498	[c]	2.275	0.807	2.856	1.785	3.3	CHNOX	3.0	1.585	0.404	0.691	1.428	0.000	0.000	1222	1381	6.95	2497	3.4	0.9
LLM-175/VITON (95/5)	LLM-175/VITON (95/5)	498	[c]	2.275	0.807	2.856	1.785	3.3	CHNOX	3.0	1.585	0.404	0.691	1.428	0.000	0.000	1222	1381	6.95	2497	3.4	0.9
LX-01	LX-01	-265	[c]	1.525	3.727	1.694	3.388	0.0	CHNO	3.0	0.763	1.864	0.762	0.847	0.000	0.000	1453	1529	6.95	2497	3.4	0.9
LX-04	LX-04	-215	[c]	1.549	2.577	2.296	2.296	9.9	CHNOX	3.0	1.045	1.288	0.504	1.148	0.000	0.000	899	1003	6.95	1964	3.4	1.1
LX-07	LX-07	-123	[c]	1.483	2.618	2.431	2.431	6.6	CHNOX	3.0	0.922	1.309	0.561	1.216	0.000	0.000	1069	1161	6.17	2142	3.4	1.0
LX-09	LX-09	20	[c]	1.425	2.736	2.592	2.721	0.3	CHNOX	3.0	0.749	1.368	0.677	1.296	0.000	0.000	1372	1447	6.37	2427	3.5	0.9
LX-10	LX-10	-31	[c]	1.417	2.660	2.566	2.566	3.3	CHNOX	3.0	0.799	1.330	0.618	1.283	0.000	0.000	1239	1319	6.37	2306	3.5	0.9
LX-11	LX-11	-307	[c]	1.615	2.535	2.161	2.161	13.2	CHNOX	3.0	1.168	1.268	0.447	1.081	0.000	0.000	729	846	6.17	1769	3.4	1.2
LX-14	LX-14	15	[c]	1.521	2.917	2.588	2.659	0.0	CHNO	3.0	0.921	1.459	0.600	1.294	0.000	0.000	1331	1423	6.51	2390	3.4	0.9
LX-15	LX-15	-30	[c]	3.051	1.290	1.266	2.532	3.8	CHNOX	3.0	2.107	0.645	0.943	0.633	0.000	0.000	1019	1230	6.95	2091	2.8	1.0
LX-17	LX-17	-237	[c]	2.295	2.186	2.150	2.150	5.7	CHNOX	3.0	1.767	1.093	0.528	1.075	0.000	0.000	71					

PREDICTIVE MODEL FOR EXPLOSIVE DETONATION PARAMETERS FROM AN EQUATION OF STATE BASED ON DETONATION VELOCITY. Physical Chemistry Chemical Physics 2022

DEoS DATABASE

Average values

$$W = \left(\frac{\partial D}{\partial \rho_o} \right) Q$$

Q_{DeoS} (cal/g) 1160
 w (m/s per kg/m³) 3.37
 Do (m/s) 2215
 C (m/s per cal/g) 1.0
 $C = \left(\frac{\partial D}{\partial Q} \right) \rho_o$

EXPLOSIVES		238		CHNO Composition (mol/100g)				Other elements (% weight X)		hierarchy				[C+H+P+S] as inerts								
Acronym	Name	ΔH_{298}° (cal/g)	reference	C	H	N	O	X: (C+H+P+S)	Comp.	type (Xlong)	C (s)	H2O (g)	CO2 (g)	N2 (g)	HZ (g)	O2 (g)	Q_{DeoS} (cal/g)	Q_{G} (cal/g)	Phi (kJ)	Do (DEoS)	w (DEoS)	C (DEoS)
PBX-9007	PBX-9007	65	[c]	1.970	3.218	2.431	2.440	0.0	CHNO	3.0	1.554	1.609	0.416	1.216	0.000	0.000	1230	1386	6.04	2298	3.4	0.9
PBX-9010	PBX-9010	-80	[c]	1.409	2.480	2.431	2.431	7.6	CHNOX	3.0	0.813	1.240	0.596	1.216	0.000	0.000	1115	1197		2188	3.4	1.0
PBX-9011	PBX-9011	-40	[c]	1.729	3.181	2.450	2.607	0.0	CHNO	3.0	1.220	1.590	0.508	1.225	0.000	0.000	1235	1357	6.20	2302	3.4	0.9
PBX-9205	PBX-9205	58	[c]	1.826	3.141	2.485	2.506	0.0	CHNO	3.0	1.359	1.570	0.468	1.243	0.000	0.000	1270	1406	6.21	2334	3.4	0.9
PBX-9404	PBX-9404	8	[c]	1.401	2.745	2.565	2.690	1.4	CHNOX	3.0	0.743	1.373	0.659	1.282	0.000	0.000	1346	1420		2400	3.5	0.9
PBX-9407	PBX-9407	8	[c]	1.412	2.668	2.539	2.539	4.2	CHNOX	3.0	0.810	1.334	0.603	1.270	0.000	0.000	1265	1346		2330	3.5	0.9
PBX-9408	PBX-9408	12	[c]	1.426	2.781	2.574	2.679	1.2	CHNOX	3.0	0.782	1.391	0.644	1.287	0.000	0.000	1344	1422		2401	3.5	0.9
PBX9501	PBX9501	22	[c]	1.467	2.850	2.603	2.690	0.0	CHNO	3.0	0.835	1.425	0.633	1.301	0.000	0.000	1358	1441	6.60	2414	3.5	0.9
PBX9502	PBX9502	-206	[c]	2.305	2.722	2.208	2.208	3.8	CHNOX	3.0	1.759	1.116	0.546	1.104	0.000	0.000	777	953		1826	3.2	1.2
PBX9503	PBX9503	-375	[c]	2.159	2.289	2.265	2.265	3.8	CHNOX	3.0	1.599	1.144	0.560	1.132	0.000	0.000	853	1013		1914	3.2	1.1
pent	penterythritol tetranitrate	-407	[8]	1.582	2.531	1.265	3.796	0.0	CHNO	2.0	0.316	1.265	1.165	0.633	0.000	0.000	1483	1514	6.79	2523	3.3	0.9
PENTOLITE	PENTOLITE	-243	[c]	2.332	2.366	1.293	3.219	0.0	CHNO	3.0	1.314	1.183	1.018	0.647	0.000	0.000	1267	1398		2332	3.1	0.9
PETN/TNT (20/80)	PETN/TNT (20/80)	-144	[c]	2.782	2.267	1.310	2.872	0.0	CHNO	3.0	1.912	1.134	0.869	0.655	0.000	0.000	1168	1329	5.22	2210	3.0	1.0
PETN/TNT (60/40)	PETN/TNT (60/40)	-276	[c]	2.182	2.399	1.287	3.334	0.0	CHNO	3.0	1.114	1.199	1.067	0.644	0.000	0.000	1310	1422		2371	3.1	0.9
PETN/TNT/RDX (20/30/50)	PETN/TNT/RDX (20/30/50)	-72	[c]	1.916	2.517	2.000	2.902	0.0	CHNO	3.0	1.094	1.259	0.822	1.000	0.000	0.000	1319	1429	6.18	2379	3.3	0.9
pf	1-fluoro-2,4,6-trinitrobenzene	-268	[8]	2.596	0.865	1.298	2.596	8.2	CHNOX	3.0	1.515	0.433	1.082	0.649	0.000	0.000	848	999		1908	2.9	1.1
PICRATOL	PICRATOL	-236	[c]	2.747	2.324	1.479	2.747	0.0	CHNO	3.0	1.955	1.162	0.792	0.740	0.000	0.000	985	1181	4.93	2056	3.0	1.0
picric	trinitrophenol	-224	[8]	2.619	1.309	1.309	3.055	0.0	CHNO	3.0	1.419	0.655	1.200	0.655	0.000	0.000	1142	1283	5.17	2213	3.0	1.0
ppam	n-(2,2-nitropropyl)-n,2,2-trinitro-1-propanamine	-170	[48]	1.839	3.066	1.839	3.066	0.0	CHNO	3.0	1.073	1.533	0.766	0.920	0.000	0.000	1330	1437	6.35	2389	3.3	0.9
PRNO/HMX/CARNAUBA (30/68/2)	PRNO/HMX/CARNAUBA (30/68/2)	-73	[c]	1.882	4.175	2.658	2.247	0.0	CHNO	3.0	1.802	2.087	0.080	1.329	0.000	0.000	1029	1209	5.76	2101	3.5	1.0
PRNO/NQ/HMX (34/35/31)	PRNO/NQ/HMX (34/35/31)	-179	[c]	1.686	4.509	3.113	1.975	0.0	CHNO	5.0	1.686	1.975	0.000	1.557	0.279	0.000	794	962	5.41	1846	3.6	1.2
PYX/PE (95/5)	PYX/PE (95/5)	35	[c]	2.902	1.625	1.682	2.497	0.0	CHNO	3.0	2.060	0.813	0.842	0.841	0.000	0.000	1091	1297	4.94	2164	3.0	1.0
rdx	cyclodimethylenetetramine	66	[8]	1.351	2.701	2.701	2.701	0.0	CHNO	3.0	0.675	1.351	0.675	1.351	0.000	0.000	1415	1482	6.78	2464	3.5	0.9
RDX/ESTANE (80/20)	RDX/ESTANE (80/20)	-137	[c]	2.107	3.660	2.199	2.513	0.0	CHNO	3.0	1.766	1.830	0.341	1.099	0.000	0.000	1065	1242	5.66	2138	3.3	1.0
RDX/EVA (80/20)	RDX/EVA (80/20)	66	[c]	2.291	4.380	2.161	2.363	0.0	CHNO	3.0	2.204	2.190	0.086	1.081	0.000	0.000	1192	1450	5.90	2262	3.4	0.9
RDX/EVA (95/5)	RDX/EVA (95/5)	66	[c]	1.586	3.121	2.566	2.617	0.0	CHNO	3.0	1.058	1.560	0.528	1.283	0.000	0.000	1359	1465	6.57	2415	3.4	0.9
RDX/EXON (90/10)	RDX/EXON (90/10)	-30	[c]	1.452	2.646	2.434	2.434	6.9	CHNOX	3.0	0.897	1.323	0.555	1.217	0.000	0.000	1168	1257		2239	3.4	1.0
RDX/GAP (84/16)	RDX/GAP (84/16)	214	[4]	1.657	3.214	2.708	2.433	0.0	CHNO	3.0	1.244	1.607	0.413	1.354	0.000	0.000	1407	1531	6.63	2457	3.5	0.9
RDX/HTPB (80/20)	RDX/HTPB (80/20)	52	[c]	2.512	4.410	2.180	2.178	0.0	CHNO	4.0	2.512	2.178	0.000	1.090	0.027	0.000	1060	1311	5.49	2133	3.3	1.0
RDX/HTPB (82/18)	RDX/HTPB (82/18)	25	[c]	2.352	4.243	2.228	2.266	0.0	CHNO	3.0	2.280	2.121	0.072	1.114	0.000	0.000	1092	1320	5.63	2165	3.3	1.0
RDX/HTPB (85/15)	RDX/HTPB (85/15)	56	[c]	2.222	3.983	2.310	2.309	0.0	CHNO	3.0	2.063	1.992	0.159	1.155	0.000	0.000	1150	1356	5.81	2221	3.4	1.0
RDX/PIB (91/9)	RDX/PIB (91/9)	33	[c]	1.818	3.578	2.458	2.508	0.0	CHNO	3.0	1.459	1.789	0.359	1.229	0.000	0.000	1260	1405	6.26	2325	3.4	0.9
RDX/SYLGARD (85/15)	RDX/SYLGARD (85/15)	-224	[3]	1.529	3.407	2.487	2.487	6.1	CHNOX	3.0	1.137	1.704	0.322	1.155	0.000	0.000	1016	1130		2098	3.5	1.0
RDX/TATB/HTPB (65/20/15)	RDX/TATB/HTPB (65/20/15)	14	[c]	2.417	3.908	2.235	2.234	0.0	CHNO	3.0	2.277	1.954	0.140	1.117	0.000	0.000	1047	1275	5.45	2120	3.3	1.0
RDX/TATB/HTPB (70/15/15)	RDX/TATB/HTPB (70/15/15)	24	[c]	2.368	3.927	2.253	2.252	0.0	CHNO	3.0	2.223	1.963	0.145	1.127	0.000	0.000	1073	1295	5.54	2146	3.3	1.0
RDX/TATB/HTPB (75/10/15)	RDX/TATB/HTPB (75/10/15)	35	[c]	2.319	3.945	2.272	2.271	0.0	CHNO	3.0	2.170	1.973	0.149	1.136	0.000	0.000	1098	1315	5.63	2171	3.3	1.0
RDX/TFNA (65/35)	RDX/TFNA (65/35)	-189	[c]	1.512	2.643	2.263	2.516	7.2	CHNOX	3.0	0.914	1.322	0.597	1.131	0.000	0.000	1045	1137		2118	3.4	1.0
RDX/TNT (30/70)	RDX/TNT (30/70)	-35	[c]	2.563	2.351	1.735	2.660	0.0	CHNO	3.0	1.821	1.176	0.742	0.867	0.000	0.000	1160	1342	5.40	2232	3.1	1.0
RDX/TNT (50/50)	RDX/TNT (50/50)	-6	[c]	2.216	2.451	2.011	2.671	0.0	CHNO	3.0	1.493	1.226	0.723	1.006	0.000	0.000	1233	1382	5.79	2300	3.2	0.9
RDX/TNT (60/40)	RDX/TNT (60/40)	8	[c]	2.043	2.501	2.149	2.677	0.0	CHNO	3.0	1.330	1.251	0.713	1.075	0.000	0.000	1269	1402	5.98	2334	3.3	0.9
RDX/TNT (64/36)	RDX/TNT (64/36)	14	[c]	1.974	2.521	2.204	2.680	0.0	CHNO	3.0	1.264	1.261	0.710	1.102	0.000	0.000	1284	1410	6.06	2347	3.3	0.9
RDX/TNT (65/35)	RDX/TNT (65/35)	16	[c]	1.957	2.526	2.218	2.680	0.0	CHNO	3.0	1.248	1.263	0.709	1.109	0.000	0.000	1287	1412	6.08	2351	3.3	0.9
RDX/TNT (70/30)	RDX/TNT (70/30)	23	[c]	1.870	2.551	2.287	2.683	0.0	CHNO	3.0	1.166	1.276	0.704	1.144	0.000	0.000	1306	1422	6.18	2367	3.3	0.9
RDX/TNT (75/25)	RDX/TNT (75/25)	30	[c]	1.783	2.576	2.356	2.686	0.0	CHNO	3.0	1.084	1.288	0.699	1.178	0.000	0.000	1324	1432	6.28	2384	3.3	0.9
RDX/TNT (77/23)	RDX/TNT (77/23)	33	[c]	1.749	2.586	2.384	2.688	0.0	CHNO	3.0	1.052	1.293	0.697	1.192	0.000	0.000	1331	1436	6.32	2390	3.4	0.9
RDX/TNT (78/22)	RDX/TNT (78/22)	34	[c]	1.732	2.591	2.398	2.688	0.0	CHNO	3.0	1.035	1.296	0.696	1.199	0.000	0.000	1335	1438	6.34	2393	3.4	0.9
RDX/TNT (80/20)	RDX/TNT (80/20)	37	[c]	1.697	2.601	2.425	2.699	0.0	CHNO	3.0	1.003	1.301	0.694	1.213	0.000	0.000	1342	1442	6.38	2400	3.4	0.9
RDX/TNT (90/10)	RDX/TNT (90/10)	52	[c]	1.524	2.651	2.563	2.695	0.0	CHNO													

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EXPLOSIVES		238	CHNO Composition (mol/100g)				Other elements (% weight X)		Comp.		Hierarchy		[C+F+P+Si] as inerts		Average values		$W = \left(\frac{\partial D}{\partial \rho_0}\right)_Q$ $C = \left(\frac{\partial D}{\partial Q}\right)_{\rho_0}$					
Acronym	Name	ΔH_{298}^0 (cal/g)	reference	C	H	N	O	X: (C F P Si)	type (Xiong)	C (s)	H2O (g)	CO2 (g)	N2 (g)	H2 (g)	O2 (g)	Q_DEoS (cal/g)	Q _{0i} (cal/g)	Phi (KJ)	Do (DEoS)	w (DEoS)	C (DEoS)	
tmm	tetranitromethane	45	[47]	0.510	0.000	2.040	4.081	0.0	CNO	1.0	0.000	0.000	0.510	1.020	0.000	1.530	525	525	4.01	1501	3.1	1.4
TNM/BENZ (76.4/23.6)	TNM/BENZ (76.4/23.6)	70	[c]	2.202	1.813	1.559	3.118	0.0	CHNO	2.0	1.097	0.906	1.106	0.779	0.000	0.000	1524	1634	6.29	2557	3.1	0.8
TNM/NM (0.071/1)	TNM/NM (0.071/1)	-352	[c]	1.429	4.002	1.713	3.426	0.0	CHNO	3.0	0.716	2.001	0.712	0.856	0.000	0.000	1403	1474	6.94	2454	3.5	0.9
TNM/NM (0.25/1)	TNM/NM (0.25/1)	-226	[c]	1.136	2.726	1.817	3.635	0.0	CHNO	2.0	0.000	1.363	1.136	0.909	0.000	0.000	1630	1630	7.45	2645	3.4	0.8
TNM/NM (0.5/1)	TNM/NM (0.5/1)	-142	[c]	0.943	1.886	1.886	3.772	0.0	CHNO	1.0	0.000	0.943	0.943	0.943	0.000	0.472	1290	1290	6.52	2353	3.3	0.9
TNM/NM (60/40)	TNM/NM (60/40)	-684	[c]	1.554	4.993	1.224	3.697	0.0	CHNO	3.0	0.954	2.497	0.600	0.612	0.000	0.000	1228	1323	6.59	2295	3.5	0.9
TNM/NM (70/30)	TNM/NM (70/30)	-502	[c]	1.293	3.745	1.428	3.793	0.0	CHNO	2.0	0.333	1.873	0.960	0.714	0.000	0.000	1450	1483	7.11	2495	3.4	0.9
TNM/NM (80/20)	TNM/NM (80/20)	-320	[c]	1.032	2.497	1.632	3.889	0.0	CHNO	1.0	0.000	1.248	1.032	0.816	0.000	0.288	1373	1373	6.82	2427	3.3	0.9
TNM/NM (90/10)	TNM/NM (90/10)	-137	[c]	0.771	1.248	1.836	3.985	0.0	CHNO	1.0	0.000	0.624	0.771	0.918	0.000	0.909	949	949	5.53	2018	3.1	1.1
tnt	2,4,6-trinitrotoluene	-78	[47]	3.082	2.201	1.321	2.642	0.0	CHNO	3.0	2.311	1.101	0.770	0.660	0.000	0.000	1051	1282	4.84	2124	2.9	1.0
TNT/FOX-12(50/50)	TNT/FOX-12(50/50)	-242	[c]	2.019	2.774	2.334	2.516	0.0	CHNO	3.0	1.455	1.387	0.565	1.167	0.000	0.000	945	1090	5.30	2014	3.3	1.1
tntab	trinitrotriazidobenzene	803	[8]	1.785	0.000	3.570	1.785	0.0	CNO	3.0	0.892	0.000	0.892	1.785	0.000	0.000	1553	1643	6.27	2582	3.5	0.8
tntmta	trinitrosotrimethylenetriamine	387	[48]	1.723	3.446	3.446	1.723	0.0	CHNO	4.0	1.723	1.723	0.000	1.723	0.000	0.000	1211	1383	6.15	2279	3.5	0.9
TO/NM (14.5/85.5)	TO/NM (14.5/85.5)	-374	[c]	2.502	5.461	1.401	2.801	0.0	CHNO	3.0	2.467	2.731	0.035	0.700	0.000	0.000	991	1238	5.49	2062	3.3	1.0
tnh	1,3,4,6-tetranitroglycouril	31	[48]	1.242	0.621	2.484	3.105	0.0	CHNO	1.0	0.000	0.310	1.242	1.242	0.000	0.155	1378	1378	6.38	2432	3.3	0.9
X-0341	X-0341	-196	[c]	2.259	2.250	2.226	2.226	3.8	CHNOX	1.708	1.125	0.550	1.113	0.000	0.000	801	972	1854	3.2	1.2		
X-0342	X-0342	-186	[c]	2.212	2.268	2.244	2.244	3.8	CHNOX	1.657	1.134	0.555	1.122	0.000	0.000	825	991	1882	3.2	1.1		
X-0343	X-0343	-177	[c]	2.166	2.286	2.262	2.262	3.8	CHNOX	1.607	1.143	0.559	1.131	0.000	0.000	850	1010	1909	3.2	1.1		
X-0344	X-0344	-157	[c]	2.074	2.322	2.298	2.298	3.8	CHNOX	1.505	1.161	0.568	1.149	0.000	0.000	898	1048	1963	3.3	1.1		

DEoS DATABASE

Number of Explosives 238

Number of Explosives	Number of data		residuals D			residuals P			Gamma (γ) correlation (CHNO explosives)			Jones and Grüneisen parameters (DEoS Model)		
	D	P	Statistics velocity			Statistics pressure			r		average values	α	Γ	
KJ (only CHNO)	449	224	RMRS	3.4%	1.7%	RMRS	7.0%	6.0%	0.44	0.53	0.27	0.60		
DEoS	519	263	MAPR	2.5%	1.3%	MAPR	5.6%	4.9%			0.02	0.06		
			P97.5	8.2%	3.9%	P97.5	17.0%	12.6%						

Acr	experimental data			calculated D						calculated P				$\gamma_{experimental}$	γ_{KJ}	γ_{DEoS}	α	Γ
	density (g/cc)	Dexp (m/s)	Pexp (kbar)	reference	DKI (m/s)	D_DEoS (m/s)	RRD_KJ	RRD_DEoS	Pki (kbar)	P_DEoS (kbar)	RRP_KJ	RRP_DEoS						
abh	1.64	7200	nan	[8]	7269	7138	1.0%	-0.9%	221	223						0.25	0.54	
abh	1.78	7600	nan	[48]	7692	7545	1.2%	-0.7%	261	267						0.25	0.57	
AFX902	1.74	8340	290	[8]		8191		-1.8%		279		-3.9%				0.33	0.80	
bchmx	1.78	8780	nan	[40]	8807	8660	0.3%	-1.4%	342	346						0.26	0.60	
bchmx	1.79	8650	nan	[4]	8842	8694	2.2%	0.5%	346	350						0.26	0.60	
BCHMX/GAP (84/16)	1.62	8292	nan	[4]	8173	8078	-1.4%	-2.6%	278	279						0.25	0.57	
BCHMX/PIB (91/9)	1.66	8266	nan	[44]	8066	8023	-2.4%	-2.9%	275	278						0.26	0.59	
BCHMX/SVLGARD (85/15)	1.58	7858	nan	[3]		7612		-3.1%		236						0.27	0.61	
BCHMX/VITON (95/5)	1.78	8520	nan	[24]		8464		-0.7%		328						0.27	0.61	
BCHMX/VITON (95/5)	1.82	8740	nan	[24]		8600		-1.6%		344						0.27	0.62	
BCHMX/VITON (97/3)**	1.79	8650	nan	[3]		8578		-0.8%		339						0.27	0.61	
btf	1.76	8260	nan	[8]	8023	8250	-2.9%	-0.1%	282	315						0.26	0.57	
btf	1.82	NaN	338	[2]	8213	8443			301	339	-10.9%	0.3%				0.26	0.58	
btf	1.84	NaN	345	[2]	8276	8507			308	347	-10.8%	0.7%				0.26	0.58	
btf	1.85	8490	340	[8]	8308	8539	-2.1%	0.6%	311	351	-8.5%	3.4%	2.92	3.10	2.84	0.26	0.59	
btf	1.86	8490	360	[8]	8340	8572	-1.8%	1.0%	315	356	-12.6%	-1.2%	2.72	3.11	2.84	0.26	0.59	
btf	1.90	8620	nan	[46]	8467	8701	-1.8%	0.9%	328	373						0.26	0.60	
btneu	1.27	6130	nan	[30]	6676	6354	8.9%	3.7%	156	140						0.24	0.51	
btneu	1.41	6880	nan	[30]	7135	6800	3.7%	-1.2%	193	175						0.24	0.53	
btneu	1.63	7650	nan	[30]	7855	7499	2.7%	-2.0%	257	240						0.26	0.58	
btneu	1.84	8460	nan	[50]	8556	8179	1.1%	-3.3%	329	316						0.27	0.62	
btneu	1.87	8500	nan	[30]	8641	8262	1.7%	-2.8%	339	327						0.27	0.62	
btneu	1.88	NaN	364	[29]	8677	8297			343	331	-5.8%	-9.0%				0.27	0.62	
btneu	1.91	8660	nan	[30]	8772	8389	1.3%	-3.1%	353	343						0.27	0.63	
btneu	1.92	8780	nan	[50]	8805	8421	0.3%	-4.1%	357	347						0.28	0.63	
btneu	1.93	8657	357.6	[55]	8821	8437	1.9%	-2.5%	359	349	0.4%	-2.4%	3.03	3.17	2.93	0.28	0.63	
btneu	1.95	8800	nan	[30]	8903	8516	1.2%	-3.2%	368	359						0.28	0.64	
btneu	1.96	8850	nan	[48]	8936	8548	1.0%	-3.4%	372	364						0.28	0.64	
BTNEU/BTF (60/40)	1.86	8700	nan	[50]	9043	8676	3.9%	-0.3%	370	367						0.26	0.57	
BTNEU/HMX (30/70)	1.91	9020	nan	[50]	9316	9125	3.3%	1.2%	399	407						0.27	0.62	
BTNEU/HMX (32/68)	1.88	8884	nan	[55]	9229	9030	3.9%	1.6%	388	394						0.27	0.62	
BTNEU/RDX (56/44)	1.85	8701	nan	[55]	9226	8923	6.0%	2.6%	383	381						0.26	0.60	
btneu	1.86	9000	nan	[48]	8971	8714	-0.3%	-3.2%	364	364						0.27	0.61	
bttc	1.85	8060	nan	[48]	8258	7957	2.5%	-1.3%	307	299						0.27	0.63	
cl-20	1.96	9440	nan	[44]	9690	9369	2.6%	-0.7%	438	446						0.26	0.60	
cl-20	1.98	9473	nan	[4]	9761	9437	3.0%	-0.4%	447	456						0.27	0.60	
CL20/GAP (84/16)	1.73	8676	nan	[4]	8479	8362	-2.3%	-3.6%	311	316						0.26	0.58	
CL-20/HTPB (91/9)	1.84	8850	nan	[9]	8857	8692	0.1%	-1.8%	353	362						0.26	0.59	
CL-20/HTPB (92/8)	1.86	9052	nan	[9]	8975	8793	-0.8%	-2.9%	364	374						0.26	0.59	
CL-20/PIB (91/9)	1.77	8594	nan	[44]	8664	8499	0.8%	-1.1%	330	334						0.26	0.58	
CL20/SVLGARD (85/15)	1.66	8277	nan	[3]		7861		-5.0%		264						0.27	0.61	
COMP B	1.56	7480	nan	[10]	7490	7436	0.1%	-0.6%	227	227						0.26	0.57	
COMP B	1.61	7670	nan	[10]	7651	7600	-0.3%	-0.9%	242	243						0.26	0.58	
COMP B	1.67	7868	272	[34]	7843	7796	-0.3%	-0.9%	261	264	-4.2%	-3.0%	2.80	2.94	2.85	0.26	0.59	
COMP B	1.67	7690	256.5	[34]	7847	7800	2.0%	1.4%	261	264	1.7%	3.0%	2.85	2.94	2.85	0.26	0.59	
COMP B	1.67	7890	267	[34]	7856	7810	-0.4%	-1.0%	262	265	-1.9%	-0.7%	2.90	2.95	2.85	0.26	0.59	
COMP B	1.69	7840	267.5	[34]	7914	7868	0.9%	0.4%	268	272	0.0%	1.5%	2.89	2.96	2.86	0.26	0.60	
COMP B	1.70	7850	283	[34]	7940	7895	1.1%	0.6%	270	274	-4.6%	-3.0%	2.70	2.97	2.86	0.26	0.60	
COMP B	1.70	7750	272	[34]	7950	7904	2.6%	2.0%	271	276	-0.4%	1.3%	2.76	2.97	2.86	0.26	0.60	
COMP B	1.71	8022	293	[34]	7979	7934	-0.5%	-1.1%	274	279	-6.5%	-4.8%	2.76	2.98	2.87	0.26	0.60	
COMP B	1.72	7920	295	[8]	8004	7960	1.1%	0.5%	276	282	-6.3%	-4.5%	2.66	2.99	2.87	0.27	0.60	
COMP B	1.72	7990	nan	[10]	8004	7960	0.2%	-0.4%	276	282						0.27	0.60	
COMP B	1.73	7980	297.7	[34]	8033	7990	0.7%	0.1%	279	285	-6.2%	-4.2%	2.70	2.99	2.87	0.27	0.60	
COMP B	1.73	7950	263	[34]	8036	7993	1.1%	0.5%	280	285	6.3%	8.5%	3.16	3.00	2.87	0.27	0.60	
COMP B	1.73	7886	275	[34]	8036	7993	1.9%	1.4%	280	285	1.7%	3.8%	2.91	3.00	2.87	0.27	0.60	
COMP B	1.73	8000	300	[34]	8046	8003	0.6%	0.0%	281	287	-6.5%	-4.5%	2.70	3.00	2.87	0.27	0.60	
COMP C3	1.60	7630	nan	[8]	7643	7633	0.2%	0.0%	241	243						0.26	0.59	
COMP C4	1.66	8370	nan	[8]	7979	8007	-4.7%	-4.3%	269	275						0.27	0.61	
daaf	1.69	7930	306	[17]	7611	7913	-4.0%	-0.2%	247	269	-19.4%	-12.2%	2.46	2.96	2.93	0.28	0.63	
DAAF/HMX/VITON (45/50/5)	1.72	8120	nan	[35]		8054		-0.8%		283						0.28	0.64	
DAAF/HMX/VITON (60/35/5)	1.70	7970	nan	[35]		7921		-0.6%		270						0.28	0.64	
DAAF/HMX/VITON (80/15/5)	1.67	7760	nan	[35]		7731		-0.4%		253						0.28	0.65	
DAAF/RDX/VITON (60/35/5)	1.67	7910	nan	[35]		7820		-1.1%		260						0.28	0.64	
DAAF/RDX/VITON (80/15/5)	1.66	7760	nan	[35]		7698		-0.8%		249						0.28	0.64	
DAAF/VITON (95/5)	1.65	7660	nan	[35]		7596		-0.8%		241						0.28	0.65	
datb	1.78	7600	251	[8]		7605	-1.3%	0.1%	248	261	-1.2%	4.0%	3.10	3.04	2.94	0.28	0.64	
datb	1.79	7520	259	[10]		7526	0.1%	1.5%	250	264	-3.4%	1.8%	2.90	3.05	2.95	0.28	0.64	
datb	1.79	7585	257	[34]		7532	-0.7%	0.7%	251	264	-2.4%	2.9%	3.01	3.05	2.95	0.28	0.64	
datb	1.80	7600	251	[8]		7562	-0.5%	0.9%	254	268	1.0%	6.7%	3.14	3.06	2.95	0.28	0.65	

DEoS DATABASE

Number of Explosives 238

	Number of data	
	D	P
KJ (only CHNO)	449	224
DEoS	519	263

residuals D

Statistics	velocity	
	KJ	DEoS
RMRS	3.4%	1.7%
MAPR	2.5%	1.3%
P97.5	8.2%	3.9%

residuals P

Statistics	pressure	
	KJ	DEoS
RMRS	7.0%	6.0%
MAPR	5.6%	4.9%
P97.5	17.0%	12.6%

Gamma (γ) correlation (CHNO explosives)

r 0.44 0.53

Jones and Grüneisen parameters (DEoS Model)

average values	α	Γ
	0.27	0.60
standard deviation	0.02	0.06

Acr	experimental data			reference	calculated D				calculated P				Y _{experimental}	Y _{KJ}	Y _{DEoS}
	density (g/cc)	Dexp (m/s)	Pexp (kbar)		D _{KJ} (m/s)	D _{DEoS} (m/s)	RRD _{KJ}	RRD _{DEoS}	P _{KJ} (kbar)	P _{DEoS} (kbar)	RRP _{KJ}	RRP _{DEoS}			
datb	1.84	7690	nan	[48]	7679	7793	-0.1%	1.3%	265	282					
degn	1.38	6760	nan	[8]	7054	6843	4.4%	1.2%	185	174					
degn	1.38	6600	nan	[48]	7068	6856	7.1%	3.9%	186	175					
dina	1.00	5950	nan	[33]	5947	5763	-0.1%	-3.1%	102	94					
dina	1.36	7000	nan	[16]	7157	6971	2.2%	-0.4%	189	178					
dina	1.48	7400	nan	[16]	7560	7374	2.2%	-0.4%	224	214					
dina	1.55	7580	nan	[16]	7795	7609	2.8%	0.4%	245	236					
dina	1.60	7720	nan	[23]	7963	7777	3.1%	0.7%	261	254					
dina	1.64	7800	nan	[16]	8098	7911	3.8%	1.4%	275	268					
dina	1.67	8000	nan	[48]	8198	8011	2.5%	0.1%	285	279					
dipam	1.76	7400	nan	[8]	7482	7452	1.1%	0.7%	245	253					
dipam	1.79	7500	nan	[48]	7570	7542	0.9%	0.6%	253	262					
dipetn	1.63	7530	nan	[48]	7930	7661	5.3%	1.7%	262	251					
dipicrylamine	1.60	7140	nan	[48]	7082	6988	-0.8%	-2.1%	207	207					
dmtnb	1.60	6820	nan	[48]	6972	6884	2.2%	0.9%	200	199					
dmttp	1.60	6800	nan	[48]	6816	6786	0.2%	-0.2%	191	192					
dnaf	1.77	9100	nan	[47]	8938	9005	-1.8%	-1.0%	351	377					
dnaf	1.88	9450	nan	[47]	9325	9389	-1.3%	-0.6%	396	431					
dnaf	1.94	9700	nan	[21]	9536	9598	-1.7%	-1.0%	421	463					
DNAN/RDX/NT0 (40/20/40)	1.64	7190	220	[53]	7151	7256	-0.5%	0.9%	214	220	-2.9%	0.1%	2.84	2.91	2.91
dnb	1.49	6100	nan	[48]	6158	6195	1.0%	1.6%	149	151					
dndmo	1.52	7100	nan	[48]	7124	7126	0.3%	0.4%	202	200					
dnff	1.86	8930	nan	[35]	8704	8880	-2.5%	-0.6%	343	381					
dnmt	1.56	7850	nan	[35]	7602	7598	-3.2%	-3.2%	234	237					
DNMT/HMX (49.5/50.5)	1.73	8390	nan	[35]	8351	8322	-0.5%	-0.8%	302	309					
dnp	1.75	8100	nan	[35]	8121	8055	0.3%	-0.6%	288	295					
dnq	1.88	9200	nan	[56]	8892	9010	-3.3%	-2.1%	360	382					
dntfx	1.96	9660	nan	[56]	9500	9483	-1.7%	-1.8%	421	457					
dp12	1.26	5970	125	[8]		5903		-1.1%		114				-9.1%	
edad	1.30	6660	nan	[33]	6620	6754	-0.6%	1.4%	156	153					
edad	1.60	7670	nan	[48]	7579	7862	-1.2%	2.5%	237	246					
EDC-11	1.78	8213	315	[14]	8309	8255	1.2%	0.5%	304	312	-3.4%	-0.9%	2.82	3.04	2.89
EDC-24	1.78	8710	nan	[14]	8476	8491	-2.7%	-2.5%	316	327					
edna	1.66	8240	nan	[48]	8122	8218	-1.4%	-0.3%	278	286					
etdn	1.48	7300	nan	[48]	7971	7576	9.2%	3.8%	249	229					
etn	1.65	7940	nan	[32]	8244	7825	3.8%	-1.5%	286	267					
etn	1.68	7887	nan	[51]	8354	7928	5.9%	0.5%	297	278					
etn	1.70	8027	nan	[32]	8415	7986	4.8%	-0.5%	303	285					
etn	1.70	7994	nan	[51]	8428	7999	5.4%	0.1%	305	286					
explosive d	1.48	6700	nan	[8]	6595	6604	-1.6%	-1.4%	170	168					
explosive d	1.55	6850	nan	[8]	6801	6822	-0.7%	-0.4%	187	186					
explosive d	1.63	7150	nan	[48]	7035	7071	-1.6%	-1.1%	206	209					
fefo	1.59	7500	250	[8]		7148		-4.7%		209				-16.5%	
fefo	1.61	7450	245	[8]		7212		-3.2%		215				-12.4%	
FM1	1.51	6570	190	[8]		6976		6.2%		191				0.7%	
fox-12	1.67	7970	261.1	[20]	7539	8025	-5.4%	0.7%	240	264	-7.9%	1.2%	3.05	2.94	3.06
fox-7	1.78	8375	284	[54]	8268	8395	-1.3%	0.2%	301	316	6.0%	11.3%	3.40	3.04	2.97
fox-7	1.78	8405	292	[54]	8268	8395	-1.6%	-0.1%	301	316	3.1%	8.3%	3.31	3.04	2.97
fox-7	1.89	8870	nan	[56]	8608	8760	-3.0%	-1.2%	338	361					
FOX-7/EVA (95.1/4.9)	1.69	8110	251	[26]	7855	7978	-3.1%	-1.6%	263	273	4.8%	8.6%	3.42	2.96	2.94
FOX-7/EVA (95/5)	1.65	7730	241	[26]	7725	7838	-0.1%	1.4%	250	258	3.9%	7.0%	3.08	2.92	2.92
FOX-7/TNT (30/70)	1.62	7060	nan	[52]	7175	7160	1.6%	1.4%	214	216					
FOX-7/TNT (60/40)	1.70	7600	nan	[52]	7679	7712	1.0%	1.5%	253	259					
FOX-7/VITON (95/5)	1.85	8400	nan	[35]		8434		0.4%		326					
FOX-7/WAX (98.5/1.5)	1.76	8335	nan	[1]	8136	8273	-2.4%	-0.7%	289	303					
H2O2/H2O (90.5/9.5) [*]	1.39	6140	nan	[37]	5297	5731	-13.7%	-6.7%	105	107					
ha	1.20	7320	nan	[19]	6311	7706	-13.8%	5.3%	134	169					
hac	1.13	7570	166	[39]	7191	7498	-5.0%	-1.0%	165	170	-0.6%	2.3%	2.89	2.53	2.73
HAC/W (60/40)	1.09	6270	nan	[39]	5861	6380	-6.5%	1.8%	107	112					
HAC/W (62/38)	1.09	6350	nan	[39]	5951	6446	-6.3%	1.5%	110	115					
HAC/W (69/31)	1.10	6630	nan	[39]	6226	6655	-6.1%	0.4%	121	125					
HAC/W (78/26)	1.11	7070	nan	[39]	6574	6938	-7.0%	-1.9%	136	139					
HAC/W (88/12)	1.12	7390	nan	[39]	6875	7201	-7.0%	-2.6%	150	153					
HAC/W (93/7)	1.12	7470	nan	[39]	7013	7328	-6.1%	-1.9%	156	160					
HAC/W (98/2)	1.13	7540	nan	[39]	7146	7454	-5.2%	-1.1%	163	167					
hco	1.79	8520	nan	[33]	8748	8499	2.7%	-0.2%	339	337					
hmx	1.00	5800	110	[8]	6043	5937	4.2%	2.4%	105	100	-4.1%	-9.1%	2.06	2.46	2.52
hmx	1.18	6670	155	[8]	6658	6563	-0.2%	-1.6%	147	140	-5.3%	-9.6%	2.39	2.56	2.63
hmx	1.20	6580	160	[8]	6727	6632	2.2%	0.8%	152	145	-5.1%	-9.3%	2.25	2.58	2.64

α	Γ
0.28	0.66
0.24	0.53
0.24	0.53
0.22	0.45
0.24	0.53
0.25	0.55
0.25	0.57
0.26	0.58
0.26	0.58
0.26	0.59
0.27	0.60
0.27	0.61
0.26	0.57
0.25	0.55
0.26	0.57
0.26	0.58
0.25	0.57
0.26	0.59
0.26	0.60
0.27	0.62
0.25	0.56
0.26	0.59
0.26	0.59
0.25	0.57
0.26	0.59
0.27	0.60
0.26	0.59
0.29	0.67
0.26	0.60
0.26	0.60
0.27	0.61
0.29	0.68
0.27	0.61
0.27	0.63
0.27	0.63
0.24	0.53
0.27	0.63
0.25	0.56
0.25	0.57
0.26	0.57
0.26	0.57
0.26	0.59
0.27	0.60
0.27	0.62
0.27	0.62
0.26	0.59
0.30	0.70
0.28	0.65
0.35	0.85
0.34	0.82
0.24	0.54
0.28	0.65
0.28	0.64
0.27	0.61
0.26	0.58
0.25	0.56
0.25	0.55
0.25	0.54
0.26	0.59
0.22	0.46
0.23	0.50
0.23	0.50

DEoS DATABASE

Number of Explosives	Number of data		residuals D				residuals P				Gamma (γ) correlation (CHNO explosives)		Jones and Grüneisen parameters (DEoS Model)	
	D	P	Statistics		RMRS	Statistics		RMRS	r	0.44	0.53	α	Γ	
			velocity	pressure		velocity	pressure							
KJ (only CHNO)	449	224	KJ	DEoS	3.4%	1.7%	KJ	DEoS	7.0%	6.0%	average values	0.27	0.60	
DEoS	519	263	MAPR	P97.5	2.5%	1.3%	MAPR	P97.5	5.6%	4.9%	standard deviation	0.02	0.06	
					8.2%	3.9%			17.0%	12.6%				

Acr	experimental data			reference	calculated D				calculated P				Y _{experimental}	Y _{KJ}	Y _{DEoS}	α	Γ
	density (g/cc)	Dexp (m/s)	Pexp (kbar)		D _{KJ} (m/s)	D _{DEoS} (m/s)	RRD _{KJ}	RRD _{DEoS}	P _{KJ} (kbar)	P _{DEoS}	RRP _{KJ}	RRP _{DEoS}					
hmxx	1.40	7300	210	[8]	7410	7328	1.5%	0.4%	207	201	-1.6%	-4.2%	2.55	2.72	2.74	0.25	0.54
hmxx	1.60	7910	280	[8]	8093	8024	2.3%	1.4%	270	269	-3.6%	-3.8%	2.58	2.88	2.82	0.26	0.58
hmxx	1.72	8480	nan	[29]	8503	8441	0.3%	-0.5%	312	316						0.27	0.60
hmxx	1.77	8500	323	[38]	8674	8615	2.0%	1.4%	330	338	2.3%	4.5%	2.96	3.03	2.89	0.27	0.61
hmxx	1.80	NaN	361	[2]	8776	8719			342	351	-5.4%	-2.9%				0.27	0.62
hmxx	1.81	8780	nan	[29]	8817	8761	0.4%	-0.2%	346	356						0.27	0.62
hmxx	1.88	9050	nan	[50]	9032	8980	-0.2%	-0.8%	371	385						0.28	0.63
hmxx	1.89	9100	405	[8]	9083	9032	-0.2%	-0.7%	377	392	-7.0%	-3.2%	2.86	3.14	2.93	0.28	0.64
hmxx	1.89	9110	390	[8]	9083	9032	-0.3%	-0.9%	377	392	-3.4%	0.5%	3.02	3.14	2.93	0.28	0.64
hmxx	1.90	9110	393	[31]	9118	9067	0.1%	-0.5%	381	397	-3.1%	0.9%	3.01	3.15	2.94	0.28	0.64
hmxx	1.90	9150	nan	[48]	9118	9067	-0.4%	-0.9%	381	397						0.28	0.64
HMXX/EXON (91/9)	1.83	8665	343	[14]		8545		-1.4%	337			-1.6%				0.28	0.66
HMXX/GAP (84/16)	1.64	8384	nan	[4]	8120	8083	-3.1%	-3.6%	276	280						0.26	0.58
HMXX/HH (75/25)	1.86	9100	nan	[14]	9096	9126	0.0%	0.3%	374	391						0.28	0.65
HMXX/PIB (91/9)	1.67	8318	nan	[44]	8004	8037	-3.8%	-3.4%	271	278						0.27	0.61
HMXX/SYLGARD (85/15)	1.59	7936	nan	[3]		7633		-3.8%	237							0.27	0.63
HMXX/TATB/VIITON (10/80/10)	1.84	7400	245	[5]		7554		2.1%	255			4.2%				0.31	0.74
HMXX/TATB/VIITON (20/70/10)	1.84	7410	253	[5]		7671		3.5%	265			4.6%				0.31	0.73
HMXX/TATB/VIITON (30/60/10)	1.82	7640	260	[5]		7722		1.1%	267			2.6%				0.30	0.72
HMXX/TATB/VIITON (40/50/10)	1.83	7730	278	[5]		7868		1.8%	279			0.5%				0.30	0.71
HMXX/TATB/VIITON (50/40/10)	1.83	7910	290	[5]		7979		0.9%	288			-0.6%				0.30	0.70
HMXX/TATB/VIITON (60/30/10)	1.83	8120	300	[5]		8089		-0.4%	297			-0.9%				0.30	0.69
HMXX/TATB/VIITON (70/20/10)	1.83	8190	304	[5]		8198		0.1%	306			0.7%				0.29	0.68
HMXX/TATB/VIITON (80/10/10)	1.84	8240	312	[5]		8339		1.2%	319			2.3%				0.29	0.68
HMXX/TNT (60/40)	1.60	7360	216	[38]	7605	7544	3.3%	2.5%	238	239	10.4%	10.4%	3.01	2.88	2.82	0.26	0.58
HMXX/TNT (60/40)	1.63	7550	226	[38]	7701	7642	2.0%	1.2%	247	249	9.5%	10.0%	3.11	2.91	2.83	0.26	0.58
HMXX/TNT (60/40)	1.67	7590	241	[38]	7829	7772	3.2%	2.4%	260	262	7.7%	8.9%	2.99	2.94	2.85	0.26	0.59
HMXX/TNT (60/40)	1.70	7680	253	[38]	7926	7870	3.2%	2.5%	269	273	6.4%	7.9%	2.96	2.97	2.86	0.26	0.60
HMXX/TNT (60/40)	1.75	8000	nan	[52]	8086	8033	1.1%	0.4%	285	291						0.27	0.61
HMXX/TNT (60/40)	1.80	8160	320	[8]	8247	8196	1.1%	0.4%	302	310	-5.7%	-3.0%	2.75	3.06	2.89	0.27	0.62
HMXX/TNT (70/30)	1.60	7520	227	[38]	7728	7665	2.8%	1.9%	246	246	8.4%	8.4%	2.99	2.88	2.82	0.26	0.58
HMXX/TNT (70/30)	1.64	7680	243	[38]	7858	7797	2.3%	1.5%	259	260	6.4%	7.0%	2.98	2.92	2.83	0.26	0.59
HMXX/TNT (70/30)	1.68	7810	257	[38]	7989	7930	2.3%	1.5%	271	274	5.6%	6.7%	2.99	2.95	2.85	0.26	0.59
HMXX/TNT (70/30)	1.70	7900	267	[38]	8054	7996	2.0%	1.2%	278	282	4.1%	5.5%	2.97	2.97	2.86	0.26	0.60
HMXX/TNT (70/30)	1.77	8192	295	[45]	8283	8228	1.1%	0.4%	301	308	2.1%	4.6%	3.03	3.03	2.89	0.27	0.61
HMXX/TNT (75/25)	1.82	8550	306.5	[34]	8516	8463	-0.4%	-1.0%	324	334	5.7%	9.0%	3.34	3.08	2.90	0.27	0.62
HMXX/TNT (75/25)	1.81	8480	nan	[8]	8480	8426	0.0%	-0.6%	320	329						0.27	0.62
HMXX/TNT (78/22)	1.82	NaN	342	[8]	8553	8499			327	337	-4.5%	-1.6%				0.27	0.62
HMXX/TNT (80/20)	1.61	7730	242	[38]	7884	7818	2.0%	1.1%	257	257	6.3%	6.3%	2.98	2.89	2.82	0.26	0.58
HMXX/TNT (80/20)	1.64	7820	251	[38]	7983	7919	2.1%	1.3%	267	268	6.3%	6.8%	3.00	2.92	2.84	0.26	0.59
HMXX/TNT (80/20)	1.68	7950	265	[38]	8116	8054	2.1%	1.3%	280	283	5.7%	6.7%	3.01	2.95	2.85	0.26	0.59
HMXX/TNT (80/20)	1.71	8050	278	[38]	8215	8155	2.0%	1.3%	290	294	4.4%	5.9%	2.99	2.98	2.86	0.26	0.60
HMXX/TNT (80/20)	1.82	8523	331	[45]	8579	8526	0.7%	0.0%	329	339	-0.7%	2.3%	2.99	3.08	2.91	0.27	0.62
HMXX/TNT (89/11)	1.84	8778	352	[45]	8766	8713	-0.1%	-0.7%	345	357	-1.9%	1.4%	3.03	3.09	2.91	0.27	0.63
HMXX/TNT (90/10)	1.60	7850	247	[38]	7972	7904	1.6%	0.7%	262	262	6.0%	5.9%	2.99	2.88	2.82	0.26	0.58
HMXX/TNT (90/10)	1.65	8000	266	[38]	8140	8076	1.8%	0.9%	279	280	4.7%	5.3%	2.97	2.92	2.84	0.26	0.59
HMXX/TNT (90/10)	1.71	8200	288	[38]	8342	8281	1.7%	1.0%	299	303	3.9%	5.3%	2.99	2.98	2.87	0.27	0.60
HMXX/TNT (90/10)	1.75	8320	303	[38]	8477	8418	1.9%	1.2%	313	319	3.4%	5.4%	3.00	3.01	2.88	0.27	0.61
hn	1.63	8691	nan	[14]	7920	8354	-8.9%	-3.9%	261	279						0.30	0.71
hnab	1.60	7310	205	[8]	7196	7091	-1.6%	-3.0%	213	215	4.1%	4.7%	3.17	2.88	2.75	0.25	0.54
hnb	1.97	9340	430	[8]	9338	9250	0.0%	-1.0%	408	437	-5.2%	1.7%	3.00	3.21	2.85	0.26	0.59
hnb	1.97	9300	420	[55]	9348	9260	0.5%	-0.4%	409	439	-2.7%	4.5%	3.06	3.22	2.86	0.26	0.60
hnb	1.97	9335	400	[34]	9348	9260	0.1%	-0.8%	409	439	2.2%	9.7%	3.00	3.22	2.86	0.26	0.60
hnb	2.00	9500	nan	[46]	9440	9349	-0.6%	-1.6%	420	452						0.26	0.60
hnbp	1.60	7100	nan	[48]	7075	6945	-0.4%	-2.2%	206	206						0.25	0.54
hnetn	1.86	7580	nan	[46]	7373	7496	-2.7%	-1.1%	246	256						0.31	0.73
hns	1.00	5100	73	[8]	5131	5082	0.6%	-0.3%	76	75	4.1%	2.2%	2.56	2.46	2.46	0.22	0.44
hns	1.20	5740	115	[8]	5711	5653	-0.5%	-1.5%	109	107	-4.8%	-6.7%	2.44	2.58	2.58	0.23	0.48
hns	1.40	6340	160	[8]	6291	6224	-0.8%	-1.8%	149	148	-6.9%	-7.7%	2.52	2.72	2.67	0.24	0.51
hns	1.60	6800	nan	[8]	6871	6795	1.0%	-0.1%	195	196						0.25	0.55
hns	1.66	7030	215	[8]	7045	6967	0.2%	-0.9%	209	213	-2.6%	-1.0%	2.82	2.93	2.78	0.25	0.56
hns	1.70	7000	210	[38]	7161	7081	2.3%	1.2%	220	224	4.6%	6.8%	2.97	2.97	2.80	0.25	0.57
hns	1.70	7000	nan	[8]	7161	7081	2.3%	1.2%	220	224						0.25	0.57
hns	1.74	7130	nan	[48]	7277	7195	2.1%	0.9%	230	236						0.26	0.58
HZ/HH (21/79)	1.44	8600	nan	[14]	7888	8425	-8.3%	-2.0%	239	255						0.29	0.68
HZ/HH (70/30)	1.14	8025	nan	[14]	6625	7904	-17.4%	-1.5%	141	170						0.33	0.79
IMX-104	1.72	7705	nan	[36]	7414	7578	-3.8%	-1.6%	237	250						0.28	0.65
IMX-104	1.76	7714	nan	[43]	7512	7685	-2.6%	-0.4%	247	261						0.28	0.66
ign	1.04	5400	nan	[48]	5474	5429	1.4%	0.5%	89	83						0.24	0.52

DEoS DATABASE

Number of Explosives 238

	Number of data	
	D	P
KJ (only CHNO)	449	224
DEoS	519	263

residuals D	
Statistics	velocity
RMRS	3.4%
MAPR	2.5%
P97.5	8.2%

residuals P	
Statistics	pressure
RMRS	7.0%
MAPR	5.6%
P97.5	17.0%

Gamma (γ) correlation (CHNO explosives)

KJ	DEoS
r	0.44

Jones and Grüneisen parameters (DEoS Model)

average values	α	Γ
	0.27	0.60
standard deviation	0.02	0.06

Acr	experimental data			reference	calculated D				calculated P				Y _{experimental}	Y _{KJ}	Y _{DEoS}
	density (g/cc)	Dexp (m/s)	Pexp (kbar)		D _{KJ} (m/s)	D _{DEoS} (m/s)	RRD _{KJ}	RRD _{DEoS}	P _{KJ} (kbar)	P _{DEoS} (kbar)	RRP _{KJ}	RRP _{DEoS}			
LLM-105/VITON (95/5)	1.78	7980	nan	[35]		7880			285						
LLM-175/VITON (95/5)	1.65	7730	nan	[35]		7472			241						
LX-01	1.24	6840	nan	[8]	6952	6739	1.6%		166	155					
LX-01	1.31	NaN	156	[10]	7195	6979			186	174	19.0%	11.3%			
LX-04	1.86	8460	350	[8]		8281			314	314		-10.2%			
LX-04	1.87	8480	320	[13]		8308			317	317		-0.8%			
LX-04	1.87	8480	345	[34]		8305			317	317		-8.1%			
LX-04	1.87	8540	nan	[10]		8315			318	318					
LX-07	1.85	8590	377.3	[34]		8479			332	332		-11.9%			
LX-07	1.87	8640	nan	[8]		8547			341	341					
LX-09	1.86	8820	366.3	[34]		8855			371	371		1.4%			
LX-09	1.84	8810	377	[8]		8783			362	362		-4.0%			
LX-10	1.84	8810	372	[34]		8662			349	349		-6.1%			
LX-10	1.86	8820	375	[8]		8728			358	358		-4.6%			
LX-10	1.87	8850	375	[10]		8762			362	362		-3.4%			
LX-11	1.86	8320	nan	[8]		8027			291	291					
LX-14	1.81	8760	nan	[14]	8643	8629	-1.3%		332	344					
LX-14	1.83	8800	370	[8]	8710	8698	-1.0%		340	353	-8.2%	-4.7%	2.83	3.09	2.93
LX-14	1.84	8830	370	[8]	8743	8733	-1.0%		344	357	-7.1%	-3.5%	2.88	3.09	2.93
LX-14	1.87	8840	nan	[9]	8844	8836	0.0%		355	371					
LX-15	1.58	6840	nan	[8]		6591			181	181					
LX-17	1.91	7630	260	[8]		7807			283	283		8.9%			
manitrol	1.75	8260	nan	[48]	8522	8068	3.2%		317	298					
md	1.73	9000	nan	[48]	8849	8804	-1.7%		339	344					
MEN-II	1.02	5490	nan	[8]	5626	5590	2.5%		93	86					
metn	1.46	7180	nan	[48]	7378	7145	2.8%		211	199					
nag	1.65	8600	nan	[48]	7904	8505	-8.1%		263	293					
ng	1.59	7650	253	[10]	8133	7726	6.3%		272	252	7.3%	-0.3%	2.68	2.87	2.76
ng	1.59	7580	nan	[14]	8133	7726	7.3%		272	252					
ng	1.60	7700	253	[8]	8168	7759	6.1%		275	256	8.7%	1.1%	2.75	2.88	2.77
ng	1.60	7740	nan	[48]	8168	7759	5.5%		275	256					
nm	1.13	6250	128	[31]	6372	6238	2.0%		130	121	1.3%	-5.8%	2.44	2.53	2.64
nm	1.13	6250	133	[31]	6372	6238	2.0%		130	121	-2.5%	-9.4%	2.31	2.53	2.64
nm	1.13	6370	125	[34]	6379	6245	0.1%		130	121	4.1%	-3.2%	2.67	2.53	2.64
nm	1.13	6280	120	[8]	6379	6245	1.6%		130	121	8.5%	0.8%	2.71	2.53	2.64
nm	1.13	6350	125	[8]	6379	6245	0.5%		130	121	4.1%	-3.2%	2.65	2.53	2.64
nm	1.13	6299	134	[34]	6389	6256	1.4%		131	122	-2.3%	-9.2%	2.35	2.53	2.64
nm	1.14	6370	nan	[48]	6413	6280	0.7%		132	123					
nm	1.21	6750	nan	[48]	7031	6728	4.2%		167	152					
no	1.30	5620	103	[14]	5785	5613	2.9%		119	106	15.9%	2.6%	2.99	2.64	2.88
nona	1.70	7400	nan	[8]	7359	7217	-0.6%		232	234					
nona	1.78	7560	nan	[48]	7597	7448	0.5%		254	259					
nq	1.00	5460	nan	[33]	5448	5612	-0.2%		86	84					
nq	1.40	NaN	158	[18]	6680	7119			168	178	6.3%	12.9%			
nq	1.51	7540	nan	[15]	7031	7549	-6.8%		196	214					
nq	1.55	7650	nan	[8]	7142	7684	-6.6%		206	226					
nq	1.62	7930	nan	[8]	7357	7948	-7.2%		225	251					
nq	1.63	7980	nan	[15]	7385	7982	-7.5%		227	254					
nq	1.63	NaN	256	[29]	7385	7982			227	254	-11.2%	-0.7%			
nq	1.64	7940	nan	[29]	7403	8004	-6.8%		229	257					
nq	1.65	7980	nan	[29]	7453	8065	-6.6%		234	263					
nq	1.70	8200	nan	[48]	7604	8249	-7.3%		248	281					
nq	1.72	NaN	245	[8]	7665	8325			254	289	3.5%	18.1%			
nq	1.78	8590	nan	[8]	7850	8551	-8.6%		272	314					
NQ/ESTANE (95/5)	1.70	8280	268	[14]	7460	8128	-9.9%		238	272	-11.0%	1.4%	3.35	2.97	3.13
NQ/TNT(35/65)	1.66	NaN	212	[18]	7243	7373			221	230	4.4%	8.4%			
NQ/TNT(50/50)	1.67	NaN	221	[18]	7340	7564			228	240	3.1%	8.7%			
NQ/TNT(50/50)	1.66	7400	nan	[18]	7334	7557	-0.9%		227	240					
NQ/TNT(50/50)	1.64	7280	nan	[18]	7274	7490	-0.1%		222	233					
NQ/TNT(50/50)	1.64	7620	nan	[18]	7259	7474	-4.7%		220	231					
NQ/TNT(50/50)	1.64	7430	nan	[18]	7253	7467	-2.4%		220	231					
NQ/TNT(80/20)	1.69	7833	nan	[18]	7528	7987	-3.9%		242	266					
NQ/TNT(90/10)	1.70	8022	nan	[18]	7585	8136	-5.5%		246	276					
NQ/TNT(95/5)	1.69	8056	nan	[18]	7564	8156	-6.1%		244	275					
nto	1.00	5269	nan	[33]	5275	5321	0.1%		80	77					
nto	1.80	8020	nan	[35]	7660	8028	-4.5%		260	287					
nto	1.83	8090	nan	[35]	7749	8129	-4.2%		269	298					
nto	1.86	8200	nan	[35]	7839	8231	-4.4%		278	310					
nto	1.87	8180	nan	[35]	7868	8264	-3.8%		281	314					

α	Γ
0.27	0.60
0.26	0.58
0.23	0.50
0.24	0.51
0.30	0.71
0.30	0.71
0.30	0.71
0.30	0.71
0.29	0.68
0.29	0.68
0.28	0.63
0.27	0.63
0.28	0.65
0.28	0.65
0.28	0.65
0.32	0.75
0.27	0.63
0.28	0.63
0.28	0.63
0.28	0.64
0.25	0.56
0.31	0.74
0.26	0.58
0.27	0.62
0.24	0.54
0.25	0.54
0.30	0.71
0.25	0.55
0.25	0.55
0.25	0.55
0.25	0.55
0.23	0.50
0.23	0.50
0.23	0.50
0.23	0.50
0.23	0.50
0.23	0.50
0.23	0.50
0.23	0.50
0.23	0.50
0.27	0.61
0.25	0.56
0.26	0.57
0.25	0.55
0.29	0.66
0.30	0.69
0.30	0.70
0.31	0.72
0.31	0.72
0.31	0.72
0.31	0.73
0.31	0.73
0.31	0.74
0.32	0.75
0.32	0.76
0.32	0.76
0.28	0.63
0.28	0.65
0.28	0.65
0.28	0.65
0.28	0.65
0.30	0.71
0.31	0.73
0.31	0.73
0.30	0.71
0.30	0.71
0.30	0.71
0.30	0.71

DEoS DATABASE

Number of Explosives 238

	Number of data	
	D	P
KJ (only CHNO)	449	224
DEoS	519	263

residuals D	
Statistics	velocity
RMRS	3.4%
MAPR	2.5%
P97.5	8.2%

residuals P	
Statistics	pressure
RMRS	7.0%
MAPR	5.6%
P97.5	17.0%

Gamma (γ) correlation (CHNO explosives)

	KJ	DEoS
r	0.44	0.53

Jones and Grüneisen parameters (DEoS Model)

	α	Γ
average values	0.27	0.60
standard deviation	0.02	0.06

Acr	experimental data			reference	calculated D				calculated P				Y _{experimental}	Y _{KJ}	Y _{DEoS}	α	Γ
	density (g/cc)	Dexp (m/s)	Pexp (kbar)		D _{KJ} (m/s)	D _{DEoS} (m/s)	RRD _{KJ}	RRD _{DEoS}	P _{KJ} (kbar)	P _{DEoS} (kbar)	RRP _{KJ}	RRP _{DEoS}					
nto	1.87	8220	nan	[35]	7868	8264	-4.3%	0.5%	281	314						0.30	0.72
NTO/RDX/TNT (50/12/38)	1.79	7660	265	[22]	7722	7852	0.8%	2.5%	264	279	-0.5%	5.3%	2.97	3.05	2.96	0.28	0.65
NTO/TNT (30/70)	1.64	6900	nan	[52]	7060	7097	2.3%	2.9%	209	213						0.27	0.60
NTO/TNT (50/50)	1.71	7370	226	[22]	7317	7430	-0.7%	0.8%	230	240	1.9%	6.3%	3.11	2.98	2.93	0.28	0.63
NTO/TNT (60/40)	1.69	7300	nan	[52]	7279	7425	-0.3%	1.7%	226	237						0.28	0.64
NTO/TNT (60/40)	1.78	7840	256	[22]	7546	7713	-3.8%	-1.6%	251	267	-2.0%	4.1%	3.27	3.04	2.97	0.28	0.66
OCTOL	1.81	8476	343	[14]	8494	8440	0.2%	-0.4%	321	330	-6.4%	-3.7%	2.79	3.07	2.90	0.27	0.62
OCTOL	1.81	8450	338	[8]	8497	8443	0.6%	-0.1%	321	331	-4.9%	-2.1%	2.82	3.07	2.90	0.27	0.62
ont	1.80	7330	nan	[48]	7457	7360	1.7%	0.4%	247	254						0.26	0.58
PAX-41	1.70	7830	nan	[35]	7843	7825	0.2%	-0.1%	264	269						0.27	0.60
PBX-9007	1.64	8090	nan	[8]	7776	7807	-3.9%	-3.5%	253	259						0.26	0.60
PBX-9007	1.60	NaN	265	[10]	7647	7673			241	245	-9.0%	-7.6%				0.26	0.59
PBX-9010	1.78	8363	319	[55]		8301		-0.7%		310						0.28	0.65
PBX-9010	1.78	8370	328	[8]		8297		-0.9%		309						0.28	0.65
PBX-9011	1.77	8500	324	[8]	8304	8337	-2.3%	-1.9%	303	314	-6.5%	-3.2%	2.95	3.03	2.92	0.27	0.63
PBX-9205	1.67	8170	nan	[8]	7982	7994	-2.3%	-2.1%	270	276						0.27	0.60
PBX-9404	1.84	8800	365	[14]		8769		-0.4%		360						0.28	0.63
PBX-9404	1.84	8800	375	[8]		8769		-0.4%		360						0.28	0.63
PBX-9407	1.60	7910	287	[8]		7855		-0.7%		256						0.26	0.60
PBX-9408	1.84	8787	nan	[14]		8770		-0.2%		361						0.28	0.63
PBX9501	1.83	8802	nan	[7]	8774	8743	-0.3%	-0.7%	345	357						0.27	0.63
PBX9501	1.84	8830	nan	[8]	8801	8771	-0.3%	-0.7%	348	361						0.28	0.63
PBX9502	1.91	7710	nan	[8]		7906		2.5%		292						0.31	0.72
PBX9502	1.90	7710	289	[10]		7858		1.9%		287						0.31	0.72
PBX9503	1.90	7710	nan	[8]		8043		4.3%		303						0.30	0.71
pent	1.23	6370	139	[8]	6839	6546	7.4%	2.8%	160	146	15.1%	5.3%	2.59	2.60	2.60	0.23	0.48
pent	1.23	6364	143.2	[25]	6832	6539	7.4%	2.7%	159	146	11.4%	1.9%	2.47	2.59	2.60	0.23	0.48
pent	1.26	6590	160	[8]	6942	6644	5.3%	0.8%	168	154	4.9%	-3.8%	2.42	2.62	2.61	0.23	0.49
pent	1.38	6910	173	[34]	7352	7036	6.4%	1.8%	201	186	16.4%	7.5%	2.81	2.70	2.67	0.24	0.51
pent	1.45	7178	207.4	[25]	7585	7259	5.7%	1.1%	222	206	6.9%	-0.7%	2.60	2.76	2.70	0.24	0.53
pent	1.45	7180	208	[8]	7592	7265	5.7%	1.2%	222	207	6.9%	-0.7%	2.59	2.76	2.70	0.24	0.53
pent	1.50	7480	240	[8]	7763	7429	3.8%	-0.7%	238	222	-0.9%	-7.4%	2.50	2.80	2.73	0.24	0.53
pent	1.53	7490	225	[34]	7865	7527	5.0%	0.5%	248	232	10.0%	3.0%	2.81	2.82	2.74	0.25	0.54
pent	1.60	7737	263.7	[34]	8095	7746	4.6%	0.1%	270	254	2.3%	-3.5%	2.63	2.88	2.77	0.25	0.55
pent	1.60	7900	nan	[10]	8105	7756	2.6%	-1.8%	271	255						0.25	0.55
pent	1.60	7750	266	[8]	8105	7756	4.6%	0.1%	271	255	1.8%	-4.0%	2.61	2.88	2.77	0.25	0.55
pent	1.66	7926	nan	[51]	8320	7962	5.0%	0.5%	292	278						0.25	0.56
pent	1.67	7980	300	[10]	8344	7985	4.6%	0.1%	295	280	-1.7%	-6.5%	2.54	2.94	2.80	0.25	0.57
pent	1.70	8070	307	[8]	8447	8083	4.7%	0.2%	306	292	-0.4%	-5.0%	2.61	2.97	2.81	0.26	0.57
pent	1.70	8082	302.1	[25]	8457	8093	4.6%	0.1%	307	293	1.5%	-3.1%	2.68	2.97	2.81	0.26	0.57
pent	1.76	8260	nan	[10]	8652	8279	4.7%	0.2%	328	315						0.26	0.58
pent	1.76	8270	310	[8]	8652	8279	4.6%	0.1%	328	315	5.7%	1.6%	2.88	3.02	2.83	0.26	0.58
pent	1.76	8270	337	[8]	8652	8279	4.6%	0.1%	328	315	-2.8%	-6.5%	2.57	3.02	2.83	0.26	0.58
pent	1.76	8263	314.3	[25]	8662	8289	4.8%	0.3%	329	316	4.6%	0.6%	2.83	3.02	2.83	0.26	0.58
pent	1.77	8300	335	[14]	8686	8312	4.7%	0.1%	331	319	-1.1%	-4.8%	2.64	3.03	2.83	0.26	0.58
PENTOLITE	1.64	7530	nan	[8]	7612	7416	1.1%	-1.5%	243	237						0.25	0.57
PENTOLITE	1.64	7520	256.3	[34]	7625	7428	1.4%	-1.2%	244	239	-4.9%	-6.9%	2.63	2.92	2.80	0.25	0.57
PENTOLITE	1.64	7520	252	[34]	7625	7428	1.4%	-1.2%	244	239	-3.2%	-5.3%	2.69	2.92	2.80	0.25	0.57
PENTOLITE	1.65	7465	nan	[14]	7644	7447	2.4%	-0.2%	246	241						0.26	0.57
PENTOLITE	1.66	7448	241	[34]	7675	7478	3.1%	0.4%	249	244	3.2%	1.1%	2.82	2.93	2.81	0.26	0.57
PENTOLITE	1.68	7650	251	[8]	7739	7540	1.2%	-1.4%	255	250	1.4%	-0.3%	2.92	2.95	2.82	0.26	0.58
PENTOLITE	1.68	7520	nan	[10]	7739	7540	2.9%	0.3%	255	250						0.26	0.58
PENTOLITE	1.70	7530	nan	[8]	7802	7602	3.6%	1.0%	261	257						0.26	0.58
PENTOLITE	1.71	7750	nan	[8]	7833	7633	1.1%	-1.5%	264	260						0.26	0.58
PETN/TNT (20/80)	1.59	6980	180	[45]	7075	6975	1.4%	-0.1%	205	204	14.1%	13.3%	3.30	2.87	2.79	0.25	0.57
PETN/TNT (60/40)	1.65	7530	242	[45]	7772	7542	3.2%	0.2%	254	247	4.9%	2.1%	2.87	2.92	2.80	0.25	0.57
PETN/TNT (60/40)	1.67	7525	231	[45]	7836	7605	4.1%	1.1%	260	254	12.6%	9.8%	3.09	2.94	2.81	0.26	0.57
PETN/TNT (60/40)	1.68	7610	248	[45]	7868	7636	3.4%	0.3%	263	257	6.1%	3.6%	2.92	2.95	2.81	0.26	0.57
PETN/TNT/RDX (20/30/50)	1.71	7890	266.5	[45]	8094	7974	2.6%	1.1%	282	282	5.7%	6.0%	2.99	2.98	2.85	0.26	0.59
pf	1.83	7290	270	[8]		7201		-1.2%		240						0.28	0.65
PICRATOL	1.63	6970	nan	[8]	6997	6989	0.4%	0.3%	204	206						0.26	0.60
picric	1.60	7100	nan	[8]	7073	6943	-0.4%	-2.2%	206	204						0.25	0.56
picric	1.71	7350	nan	[48]	7401	7268	0.7%	-1.1%	236	236						0.26	0.58
picric	1.71	7260	nan	[8]	7401	7268	1.9%	0.1%	236	236						0.26	0.58
picric	1.76	7570	nan	[8]	7550	7416	-0.3%	-2.0%	249	251						0.26	0.59
ppam	1.73	8100	nan	[48]	8268	8125	2.1%	0.3%	296	296						0.26	0.60
PRNQ/HMX/CARNAUBA (30/68/2)	1.64	7900	nan	[35]	7589	7803	-3.9%	-1.2%	241	253						0.28	0.64
PRNQ/NQ/HMX (34/35/31)	1.59	7710	nan	[35]	7204	7647	-6.6%	-0.8%	213	230						0.30	0.70
PYX/PE (95/5)	1.56	7097	nan	[14]	6782	6766	-4.4%	-4.7%	186	188						0.25	0.56

DEoS DATABASE

Number of Explosives 238

	Number of data		residuals D		residuals P		Gamma (γ) correlation (CHNO explosives)		Jones and Grüneisen parameters (DEoS Model)		
	D	P	velocity	pressure	velocity	pressure	r	α	Γ		
KJ (only CHNO)	449	224	RMRS	3.4%	7.0%	6.0%	0.44	0.53	average values	0.27	0.60
DEoS	519	263	MAPR	2.5%	5.6%	4.9%					
			P97.5	8.2%	17.0%	12.6%					

Acr	experimental data			reference	calculated D					calculated P					Y			α	Γ
	density (g/cc)	Dexp (m/s)	Pexp (kbar)		D _{KJ} (m/s)	D _{DEoS} (m/s)	RRD _{KJ}	RRD _{DEoS}	P _{KJ} (kbar)	P _{DEoS} (kbar)	RRP _{KJ}	RRP _{DEoS}	Y _{experimental}	Y _{KJ}	Y _{DEoS}				
rdx	1.00	5981	nan	[14]	6049	5942	1.1%	-0.7%	106	100							0.22	0.46	
rdx	1.00	6100	89	[8]	6049	5942	-0.8%	-2.6%	106	100	18.7%	12.6%	3.18	2.46	2.52		0.22	0.46	
rdx	1.00	6030	108	[38]	6049	5942	0.3%	-1.5%	106	100	-2.2%	-7.2%	2.37	2.46	2.52		0.22	0.46	
rdx	1.07	6260	116	[34]	6289	6185	0.5%	-1.2%	121	115	4.3%	-1.0%	2.61	2.50	2.56		0.23	0.47	
rdx	1.10	6180	122	[8]	6391	6290	3.4%	1.8%	128	121	4.8%	-0.4%	2.44	2.51	2.58		0.23	0.48	
rdx	1.10	6115	112.7	[34]	6391	6290	4.5%	2.9%	128	121	13.4%	7.8%	2.65	2.51	2.58		0.23	0.48	
rdx	1.17	6648	134.4	[34]	6641	6543	-0.1%	-1.6%	145	139	8.2%	3.1%	2.86	2.56	2.62		0.23	0.49	
rdx	1.20	6770	152	[8]	6733	6637	-0.5%	-2.0%	152	145	0.1%	-4.4%	2.62	2.58	2.64		0.23	0.50	
rdx	1.22	6609	148.9	[34]	6788	6693	2.7%	1.3%	156	149	4.9%	0.3%	2.57	2.59	2.65		0.23	0.50	
rdx	1.29	7000	164	[34]	7041	6950	0.6%	-0.7%	176	169	7.2%	3.2%	2.85	2.64	2.68		0.24	0.52	
rdx	1.29	7036	166.2	[38]	7041	6950	0.1%	-1.2%	176	169	5.8%	1.8%	2.84	2.64	2.68		0.24	0.52	
rdx	1.29	7000	166	[8]	7041	6950	0.6%	-0.7%	176	169	5.9%	1.9%	2.81	2.64	2.68		0.24	0.52	
rdx	1.40	7460	213	[8]	7417	7333	-0.6%	-1.7%	207	201	-2.8%	-5.4%	2.66	2.72	2.74		0.25	0.54	
rdx	1.46	7600	211	[8]	7622	7542	0.3%	-0.8%	225	221	6.7%	4.6%	3.00	2.77	2.76		0.25	0.55	
rdx	1.46	7600	208	[34]	7622	7542	0.3%	-0.8%	225	221	8.3%	6.1%	3.05	2.77	2.76		0.25	0.55	
rdx	1.46	7626	209.8	[38]	7622	7542	-0.1%	-1.1%	225	221	7.3%	5.2%	3.05	2.77	2.76		0.25	0.55	
rdx	1.59	8077	259	[38]	8066	7994	-0.1%	-1.0%	267	266	3.1%	2.7%	3.00	2.87	2.82		0.26	0.58	
rdx	1.60	8250	nan	[10]	8101	8029	-1.8%	-2.7%	270	270							0.26	0.58	
rdx	1.60	8130	263	[8]	8101	8029	-0.4%	-1.2%	270	270	2.8%	2.6%	3.02	2.88	2.82		0.26	0.58	
rdx	1.66	8240	nan	[8]	8306	8237	0.8%	0.0%	291	293							0.26	0.59	
rdx	1.71	NaN	314	[2]	8477	8411			309	313	-1.6%	-0.4%					0.27	0.60	
rdx	1.72	8460	313	[8]	8511	8446	0.6%	-0.2%	313	317	-0.1%	1.3%	2.93	2.99	2.87		0.27	0.60	
rdx	1.72	8528	310	[38]	8511	8446	-0.2%	-1.0%	313	317	0.8%	2.3%	3.04	2.99	2.87		0.27	0.60	
rdx	1.72	8460	308.5	[34]	8511	8446	0.6%	-0.2%	313	317	1.3%	2.7%	2.99	2.99	2.87		0.27	0.60	
rdx	1.76	8622	325	[34]	8655	8592	0.4%	-0.3%	328	335	0.9%	3.0%	3.03	3.02	2.89		0.27	0.61	
rdx	1.77	8700	338	[8]	8682	8620	-0.2%	-0.9%	331	338	-2.1%	0.0%	2.96	3.03	2.89		0.27	0.61	
rdx	1.80	8750	341	[8]	8785	8724	0.4%	-0.3%	342	351	0.4%	3.0%	3.04	3.06	2.90		0.27	0.62	
rdx	1.80	8754	347	[31]	8785	8724	0.3%	-0.3%	342	351	-1.4%	1.2%	2.98	3.06	2.90		0.27	0.62	
rdx	1.80	8800	nan	[48]	8785	8724	-0.2%	-0.9%	342	351							0.27	0.62	
rdx	1.80	NaN	350	[31]	8785	8724			342	351	-2.2%	0.3%					0.27	0.62	
rdx	1.80	NaN	385	[31]	8785	8724			342	351	-11.1%	-8.8%					0.27	0.62	
RDV/ESTANE (80/20)	1.20	6290	nan	[28]	6150	6148	-2.2%	-2.3%	127	123							0.24	0.52	
RDV/EVA (80/20)	1.28	6500	nan	[28]	6538	6557	0.6%	0.9%	151	148							0.24	0.53	
RDV/EVA (95/5)	1.56	7630	nan	[22]	7847	7803	2.8%	2.3%	250	249							0.26	0.58	
RDV/EVA (95/5)	1.63	8248	269	[26]	8065	8027	-2.2%	-2.7%	271	273	0.8%	1.5%	3.12	2.91	2.84		0.26	0.59	
RDV/EXON (90/10)	1.79	8404	320	[14]		8374		-0.4%		317		-0.9%					0.28	0.65	
RDV/GAP (84/16)	1.59	8074	nan	[4]	7976	7949	-1.2%	-1.6%	261	263							0.26	0.58	
RDV/HTPB (80/20)	1.43	7200	nan	[28]	6767	6878	-6.0%	-4.5%	175	177							0.26	0.57	
RDV/HTPB (82/18)	1.52	7526	nan	[4]	7132	7239	-5.2%	-3.8%	203	207							0.26	0.59	
RDV/HTPB (85/15)	1.43	7200	nan	[28]	6958	7017	-3.4%	-2.5%	185	186							0.25	0.57	
RDV/PIB (91/9)	1.61	8055	nan	[44]	7814	7836	-3.0%	-2.7%	253	256							0.26	0.59	
RDV/SYLGARD (85/15)	1.54	7682	nan	[3]		7429		-3.3%		218							0.27	0.62	
RDV/TATB/HTPB (65/20/15)	1.49	7100	nan	[28]	6927	7035	-2.4%	-0.9%	189	192							0.26	0.59	
RDV/TATB/HTPB (70/15/15)	1.47	7120	nan	[28]	6921	7015	-2.8%	-1.5%	187	189							0.26	0.58	
RDV/TATB/HTPB (75/10/15)	1.45	7150	nan	[28]	6913	6994	-3.3%	-2.2%	184	186							0.26	0.57	
RDV/TFNA (65/35)	1.75	8220	324	[14]		8088		-1.6%		289		-10.8%					0.28	0.66	
RDV/TNT (30/70)	1.64	7230	nan	[52]	7354	7305	1.7%	1.0%	226	229							0.26	0.58	
RDV/TNT (50/50)	1.63	7660	231	[8]	7579	7522	-1.1%	-1.8%	240	241	3.7%	4.3%	3.14	2.91	2.83		0.26	0.58	
RDV/TNT (50/50)	1.65	7540	251	[45]	7642	7586	1.4%	0.6%	246	248	-2.2%	-1.3%	2.74	2.92	2.83		0.26	0.58	
RDV/TNT (60/40)	1.49	7195	192	[38]	7256	7189	0.8%	-0.1%	207	204	7.8%	6.4%	3.02	2.79	2.77		0.25	0.55	
RDV/TNT (60/40)	1.52	7250	200	[38]	7352	7287	1.4%	0.5%	215	213	7.7%	6.7%	2.99	2.82	2.78		0.25	0.56	
RDV/TNT (60/40)	1.54	7300	206	[38]	7417	7352	1.6%	0.7%	221	220	7.3%	6.6%	2.98	2.83	2.79		0.25	0.56	
RDV/TNT (60/40)	1.59	7415	219	[38]	7577	7515	2.2%	1.3%	236	236	7.6%	7.6%	2.99	2.87	2.81		0.26	0.57	
RDV/TNT (60/40)	1.68	7640	nan	[52]	7866	7808	3.0%	2.2%	263	266							0.26	0.59	
RDV/TNT (60/40)	1.72	7890	287	[8]	7995	7938	1.3%	0.6%	276	281	-3.9%	-2.3%	2.73	2.99	2.86		0.26	0.60	
RDV/TNT (60/40)	1.72	7840	287	[22]	7995	7938	2.0%	1.3%	276	281	-3.9%	-2.3%	2.68	2.99	2.86		0.26	0.60	
RDV/TNT (60/40)	1.73	NaN	268	[31]	8027	7971			279	284	4.1%	6.0%					0.27	0.60	
RDV/TNT (60/40)	1.73	7977	275	[31]	8027	7971	0.6%	-0.1%	279	284	1.5%	3.4%	3.00	3.00	2.87		0.27	0.60	
RDV/TNT (60/40)	1.73	NaN	292	[31]	8027	7971			279	284	-4.5%	-2.7%					0.27	0.60	
RDV/TNT (60/40)	1.74	8090	nan	[8]	8059	8003	-0.4%	-1.1%	282	288							0.27	0.60	
RDV/TNT (60/40)	1.79	8130	309	[45]	8220	8166	1.1%	0.4%	299	307	-3.3%	-0.7%	2.83	3.05	2.89		0.27	0.61	
RDV/TNT (64/36)	1.71	8030	294	[14]	8024	7966	-0.1%	-0.8%	277	282	-5.7%	-4.2%	2.76	2.98	2.86		0.26	0.60	
RDV/TNT (65/35)	1.72	8040	292	[8]	8060	8002	0.2%	-0.5%	280	285	-4.0%	-2.4%	2.81	2.99	2.86		0.26	0.60	
RDV/TNT (70/30)	1.49	7290	197	[38]	7374	7304	1.2%	0.2%	214	211	8.5%	7.0%	3.02	2.79	2.77		0.25	0.55	
RDV/TNT (70/30)	1.52	7370	207	[38]	7472	7403	1.4%	0.5%	222	220	7.5%	6.3%	2.99	2.82	2.78		0.25	0.56	
RDV/TNT (70/30)	1.55	7460	216	[38]	7570	7503	1.5%	0.6%	231	230	7.1%	6.4%	2.99	2.84	2.80		0.25	0.57	
RDV/TNT (70/30)	1.59	7580	227	[38]	7701	7635	1.6%	0.7%	243	243	7.2%	7.1%	3.02	2.87	2.81		0.26	0.57	
RDV/TNT (70/30)	1.59	7580	216	[45]	7701	7635	1.6%	0.7%	243	243	12.7%	12.5%	3.23	2.87	2.81		0.26	0.57	
RDV/TNT (70/30)	1.73	8060	nan	[8]	8158	8099	1.2%	0.5%	288	293							0.27	0.60	

DEoS DATABASE

Number of Explosives 238

Statistics	Number of data		residuals D		residuals P		Gamma (γ) correlation (CHNO explosives)		Jones and Grüneisen parameters (DEoS Model)		
	D	P	KJ velocity	DEoS	KJ pressure	DEoS	r	0.44	0.53	α	Γ
KJ (only CHNO)	449	224	RMRS 3.4%	1.7%	RMRS 7.0%	6.0%				average values 0.27	0.60
DEoS	519	263	MAPR 2.5%	1.3%	MAPR 5.6%	4.9%				standard deviation 0.02	0.06
			P97.5 8.2%	3.9%	P97.5 17.0%	12.6%					

Acr	experimental data			reference	calculated D				calculated P				$\gamma_{experimental}$	γ_{KJ}	γ_{DEoS}	α	Γ
	density (g/cc)	Dexp (m/s)	Pexp (kbar)		D _{KJ} (m/s)	D _{DEoS} (m/s)	RRD _{KJ}	RRD _{DEoS}	P _{KJ} (kbar)	P _{DEoS} (kbar)	RRP _{KJ}	RRP _{DEoS}					
RDX/TNT (75/25)	1.62	7950	265	[8]	7861	7795	-1.1%	-1.9%	257	257	-3.1%	-2.9%	2.86	2.90	2.83	0.26	0.58
RDX/TNT (75/25)	1.74	8200	316	[10]	8256	8196	0.7%	0.0%	296	302	-6.3%	-4.5%	2.70	3.00	2.87	0.27	0.60
RDX/TNT (75/25)	1.76	8300	323.3	[34]	8312	8253	0.1%	-0.6%	302	308	-6.6%	-4.6%	2.74	3.02	2.88	0.27	0.61
RDX/TNT (75/25)	1.76	8300	316	[8]	8322	8263	0.3%	-0.4%	303	310	-4.1%	-2.0%	2.84	3.02	2.88	0.27	0.61
RDX/TNT (77/23)	1.74	8250	313	[8]	8282	8222	0.4%	-0.3%	298	304	-4.8%	-3.0%	2.78	3.00	2.87	0.27	0.60
RDX/TNT (77/23)	1.75	8274	316	[34]	8321	8262	0.6%	-0.1%	302	308	-4.4%	-2.4%	2.80	3.01	2.88	0.27	0.61
RDX/TNT (77/23)	1.76	8290	313	[34]	8331	8272	0.5%	-0.2%	303	310	-3.1%	-1.1%	2.85	3.02	2.88	0.27	0.61
RDX/TNT (78/22)	1.76	8310	317	[8]	8361	8302	0.6%	-0.1%	306	312	-3.5%	-1.4%	2.83	3.02	2.88	0.27	0.61
RDX/TNT (80/20)	1.50	7500	210	[38]	7525	7452	0.3%	-0.6%	224	221	6.5%	5.0%	3.02	2.80	2.78	0.25	0.56
RDX/TNT (80/20)	1.53	7570	222	[38]	7624	7553	0.7%	-0.2%	233	230	4.8%	3.7%	2.95	2.82	2.79	0.25	0.56
RDX/TNT (80/20)	1.56	7675	231	[38]	7724	7654	0.6%	-0.3%	242	240	4.7%	4.0%	2.98	2.85	2.80	0.26	0.57
RDX/TNT (80/20)	1.60	7745	242	[38]	7857	7789	1.4%	0.6%	254	254	5.1%	5.0%	2.97	2.88	2.82	0.26	0.58
RDX/TNT (90/10)	1.51	7570	217	[38]	7676	7601	1.4%	0.4%	234	231	7.7%	6.2%	2.99	2.81	2.78	0.25	0.56
RDX/TNT (90/10)	1.55	7740	231	[38]	7811	7738	0.9%	0.0%	246	244	6.6%	5.7%	3.02	2.84	2.80	0.25	0.57
RDX/TNT (90/10)	1.59	7840	247	[38]	7945	7875	1.3%	0.4%	259	258	4.9%	4.6%	2.96	2.87	2.82	0.26	0.58
RDX/TNT (90/10)	1.61	7910	256	[38]	8013	7943	1.3%	0.4%	266	266	3.8%	3.7%	2.93	2.89	2.83	0.26	0.58
RDX/VITON (95/5)	1.76	8424	nan	[44]	8387			-0.4%								0.28	0.63
RDX/WAX (94/6)	1.66	8380	nan	[24]	8055	8068	-3.9%	-3.7%	274	279						0.27	0.60
RDX/WAX (95/5)	1.64	8100	nan	[24]	8031	8027	-0.9%	-0.9%	270	274						0.26	0.60
RX23	1.42	8640	258	[8]	7811	8343	-9.6%	-3.4%	232	247	-10.1%	-4.4%	3.11	2.73	3.01	0.29	0.68
RX26	1.84	8240	340	[8]	8172	8285	-0.8%	0.5%	300	318	-11.7%	-6.4%	2.67	3.09	2.97	0.28	0.66
RX27	1.64	6930	200	[8]	6673			-3.7%		189					0.27	0.60	
RX36	1.83	8510	335	[8]	8295			-2.5%		323					0.27	0.61	
RX41	1.86	8810	350	[8]	8595			-2.4%		348					0.28	0.64	
RX45	1.75	7710	250	[8]	7871			2.1%		263					0.32	0.75	
RX47	1.82	7660	260	[8]	7638			-0.3%		267					0.29	0.66	
RX48	1.85	7760	263	[8]	7696			-0.8%		278					0.28	0.64	
RX52AE	1.78	7570	nan	[10]	7665			1.3%		263					0.29	0.66	
schembl	1.64	8190	nan	[48]	8119			4.9%		309					0.25	0.54	
tacot	1.85	7250	nan	[8]	7440			2.6%		250					0.27	0.61	
tat	1.02	5500	nan	[41]	5301			-3.6%		83					0.24	0.52	
tat	1.50	7300	nan	[27]	6723			-7.9%		178					0.28	0.64	
tat	1.54	7500	nan	[11]	6842			-8.8%		188					0.28	0.65	
tatb	1.83	7580	260	[8]	7608			0.4%		259					0.29	0.68	
tatb	1.85	7660	259	[8]	7667			0.1%		265					0.29	0.68	
tatb	1.88	7760	nan	[8]	7755			-0.1%		274					0.30	0.69	
tatb	1.90	7860	315	[14]	7799			-0.8%		278					0.30	0.69	
tatb	1.94	7990	nan	[48]	7930			-0.7%		291					0.30	0.70	
TATB/KELF (90/10)	1.91	7630	nan	[14]	7728			1.3%		276					0.32	0.76	
TATB/TNT (30/70)	1.65	6930	nan	[52]	7028			1.4%		208					0.26	0.60	
tetryl	1.20	6340	nan	[8]	6139			-3.2%		126					0.23	0.48	
tetryl	1.36	6680	142	[8]	6638			-0.6%		162					0.24	0.51	
tetryl	1.44	6875	nan	[10]	6887			0.2%		182					0.24	0.53	
tetryl	1.61	7580	226	[8]	7417			-2.1%		228					0.25	0.56	
tetryl	1.68	7500	239	[8]	7635			1.8%		248					0.26	0.57	
tetryl	1.70	7560	nan	[48]	7698			0.1%		254					0.26	0.57	
tetryl	1.71	7850	nan	[8]	7729			-1.5%		257					0.26	0.58	
tetryl	1.73	7720	nan	[8]	7791			0.9%		263					0.26	0.58	
TKX-50/VITON (95/5)	1.77	8690	nan	[35]	8926			2.7%		352					0.29	0.68	
tna	1.72	7300	nan	[48]	7382			1.1%		235					0.27	0.60	
tnan	1.61	6800	nan	[48]	7046			3.6%		205					0.25	0.57	
tnb	1.69	7350	nan	[48]	7429			1.1%		236					0.25	0.56	
tneof	1.80	8160	nan	[48]	8489			4.0%		320					0.26	0.60	
tnetb	1.23	6280	nan	[49]	6739			7.3%		155					0.23	0.48	
tnetb	1.33	6640	nan	[49]	7076			6.6%		182					0.23	0.50	
tnetb	1.39	6860	nan	[49]	7278			6.1%		198					0.24	0.51	
tnetb	1.45	7090	nan	[42]	7480			5.5%		216					0.24	0.52	
tnetb	1.48	7180	nan	[49]	7582			5.6%		225					0.24	0.53	
tnetb	1.50	7240	nan	[42]	7649			5.6%		231					0.24	0.53	
tnetb	1.54	7390	nan	[42]	7784			5.3%		244					0.25	0.54	
tnetb	1.55	7400	nan	[42]	7818			5.6%		247					0.25	0.54	
tnetb	1.56	7450	nan	[42]	7851			5.4%		250					0.25	0.54	
tnetb	1.58	7550	nan	[42]	7919			4.9%		256					0.25	0.55	
tnetb	1.60	7700	nan	[42]	7986			3.7%		263					0.25	0.55	
tnetb	1.61	7740	nan	[42]	8020			3.6%		266					0.25	0.55	
tnetb	1.65	7870	nan	[42]	8155			3.6%		280					0.25	0.56	
tnetb	1.67	7960	nan	[42]	8222			3.3%		286					0.25	0.56	
tnetb	1.68	7990	nan	[49]	8256			3.3%		290					0.25	0.57	
tnetb	1.70	8050	nan	[42]	8323			3.4%		297					0.25	0.57	

DEoS DATABASE

Number of Explosives	Number of data		residuals D				residuals P				Gamma (γ) correlation (CHNO explosives)		Jones and Grüneisen parameters (DEoS Model)				
	D	P	Statistics		velocity		Statistics		pressure		r	0.44	0.53	average values	α	Γ	
			KJ	DEoS	KJ	DEoS	KJ	DEoS	KJ	DEoS							
KJ (only CHNO)	449	224	RMRS	3.4%	1.7%	RMRS	7.0%	6.0%									
DEoS	519	263	MAPR	2.5%	1.3%	MAPR	5.6%	4.9%						0.27	0.60		
			P97.5	8.2%	3.9%	P97.5	17.0%	12.6%						0.02	0.06		
experimental data			calculated D				calculated P										
Acr	density (g/cc)	Dexp (m/s)	Pexp (kbar)	reference	D _{KJ} (m/s)	D _{DEoS} (m/s)	RRD _{KJ}	RRD _{DEoS}	P _{KJ} (kbar)	P _{DEoS} (kbar)	RRP _{KJ}	RRP _{DEoS}	Y _{experimental}	Y _{KJ}	Y _{DEoS}	α	Γ
tnetb	1.71	8100	nan	[49]	8357	8031	3.2%	-0.9%	300	290						0.26	0.57
tnetb	1.74	8210	nan	[42]	8458	8127	3.0%	-1.0%	311	301						0.26	0.58
tnetb	1.76	8290	nan	[42]	8525	8192	2.8%	-1.2%	318	309						0.26	0.58
tnetb	1.77	8310	nan	[42]	8559	8224	3.0%	-1.0%	322	313						0.26	0.58
tnetb	1.78	8300	nan	[48]	8593	8257	3.5%	-0.5%	325	317						0.26	0.58
tnetb	1.78	8260	nan	[42]	8593	8257	4.0%	0.0%	325	317						0.26	0.58
tnetb	1.78	8460	nan	[10]	8593	8257	1.6%	-2.4%	325	317						0.26	0.58
tnetb	1.79	8270	nan	[34]	8626	8289	4.3%	0.2%	329	321						0.26	0.59
tnm	1.64	6360	159	[8]	6332	6540	-0.4%	2.8%	168	172	5.6%	7.9%	3.17	2.92	3.09	0.31	0.73
tnm	1.64	6480	165	[14]	6332	6540	-2.3%	0.9%	168	172	1.8%	4.0%	3.17	2.92	3.09	0.31	0.73
tnm	1.65	6450	155	[8]	6359	6571	-1.4%	1.9%	170	174	9.7%	12.3%	3.43	2.92	3.09	0.31	0.73
TNM/BENZ (76.4/23.6)	1.36	6850	nan	[14]	7019	6794	2.5%	-0.8%	182	173						0.23	0.49
TNM/NM (0.071/1)	1.20	6570	138	[14]	6799	6602	3.5%	0.5%	155	143	12.2%	4.0%	2.74	2.57	2.64	0.23	0.50
TNM/NM (0.25/1)	1.31	6880	156	[14]	7453	7148	8.3%	3.9%	199	184	27.8%	17.9%	2.97	2.65	2.64	0.23	0.50
TNM/NM (0.5/1)	1.40	6780	168	[14]	7265	6911	7.2%	1.9%	198	179	18.1%	6.7%	2.82	2.72	2.72	0.24	0.53
TNM/NM (60/40)	1.15	6360	132	[31]	6470	6284	1.7%	-1.2%	136	124	2.9%	-5.8%	2.52	2.54	2.65	0.24	0.51
TNM/NM (70/30)	1.24	6790	160	[6]	7033	6767	3.6%	-0.3%	170	156	6.4%	-2.6%	2.57	2.60	2.64	0.23	0.50
TNM/NM (80/20)	1.35	6790	180	[6]	7265	6919	7.0%	1.9%	194	175	7.5%	-2.8%	2.46	2.68	2.69	0.24	0.52
TNM/NM (90/10)	1.48	6760	187	[6]	6944	6605	2.7%	-2.3%	189	169	0.9%	-9.8%	2.62	2.78	2.83	0.26	0.58
tnt	1.00	5111	64	[38]	5112	5053	0.0%	-1.1%	75	73	17.9%	13.8%	3.08	2.46	2.51	0.22	0.45
tnt	1.00	5000	67	[8]	5112	5053	2.2%	1.1%	75	73	12.6%	8.7%	2.73	2.46	2.51	0.22	0.45
tnt	1.33	6076	nan	[38]	6063	6017	-0.2%	-1.0%	133	130						0.24	0.52
tnt	1.36	6200	124	[8]	6152	6107	-0.8%	-1.5%	140	137	12.5%	10.5%	3.22	2.69	2.70	0.24	0.52
tnt	1.38	6212	nan	[31]	6201	6157	-0.2%	-0.9%	143	141						0.24	0.53
tnt	1.42	6363	nan	[31]	6320	6277	-0.7%	-1.3%	152	150						0.24	0.54
tnt	1.45	NaN	161	[38]	6398	6356			158	156	-2.1%	-3.1%				0.25	0.54
tnt	1.45	6500	144	[8]	6412	6371	-1.3%	-2.0%	159	157	10.2%	9.2%	3.25	2.76	2.74	0.25	0.54
tnt	1.54	6736	nan	[34]	6681	6643	-0.8%	-1.4%	180	180						0.25	0.56
tnt	1.57	6814	nan	[34]	6747	6711	-1.0%	-1.5%	185	186						0.25	0.57
tnt	1.58	6880	184	[34]	6788	6752	-1.3%	-1.9%	188	190	2.4%	3.0%	3.06	2.87	2.80	0.25	0.57
tnt	1.59	6872	nan	[10]	6814	6778	-0.8%	-1.4%	191	192						0.26	0.57
tnt	1.59	6940	202	[38]	6817	6781	-1.8%	-2.3%	191	192	-5.6%	-4.8%	2.79	2.87	2.80	0.26	0.57
tnt	1.59	6950	nan	[34]	6817	6781	-1.9%	-2.4%	191	192						0.26	0.57
tnt	1.59	6940	176.5	[10]	6817	6781	-1.8%	-2.3%	191	192	8.1%	8.9%	3.34	2.87	2.80	0.26	0.57
tnt	1.60	6700	189	[53]	6831	6796	2.0%	1.4%	192	194	1.6%	2.4%	2.79	2.88	2.81	0.26	0.57
tnt	1.61	6842	nan	[34]	6860	6825	0.3%	-0.2%	194	196						0.26	0.57
tnt	1.62	6883	nan	[10]	6889	6854	0.1%	-0.4%	197	199						0.26	0.57
tnt	1.63	NaN	210	[34]	6932	6898			200	203	-4.5%	-3.3%				0.26	0.58
tnt	1.63	7070	205	[8]	6932	6898	-1.9%	-2.4%	200	203	-2.2%	-1.0%	2.97	2.91	2.82	0.26	0.58
tnt	1.63	6940	190	[34]	6938	6904	0.0%	-0.5%	201	204	5.8%	7.2%	3.14	2.91	2.82	0.26	0.58
tnt	1.63	7070	205	[34]	6938	6904	-1.9%	-2.3%	201	204	-2.0%	-0.7%	2.98	2.91	2.82	0.26	0.58
tnt	1.64	6940	nan	[48]	6961	6928	0.3%	-0.2%	203	206						0.26	0.58
tnt	1.64	6930	210	[8]	6961	6928	0.5%	0.0%	203	206	-3.4%	-2.0%	2.75	2.92	2.82	0.26	0.58
tnt	1.64	6950	190	[31]	6961	6928	0.2%	-0.3%	203	206	6.8%	8.3%	3.17	2.92	2.82	0.26	0.58
tnt	1.64	6958	192	[31]	6961	6928	0.0%	-0.4%	203	206	5.7%	7.2%	3.14	2.92	2.82	0.26	0.58
tnt	1.64	NaN	195	[53]	6961	6928			203	206	4.1%	5.5%				0.26	0.58
tnt	1.64	NaN	217	[14]	6961	6928			203	206	-6.5%	-5.2%				0.26	0.58
TNT/FOX-12(50/50)	1.65	7120	221	[18]	7317	7471	2.8%	4.9%	225	234	1.9%	5.8%	2.79	2.93	2.94	0.28	0.64
tnstab	1.74	8580	nan	[8]	8247	8647	-3.9%	0.8%	296	338						0.26	0.59
tnmtnta	1.49	7300	nan	[14]	7355	7542	0.8%	3.3%	213	221						0.26	0.59
tnmtnta	1.57	7800	nan	[48]	7615	7825	-2.4%	0.3%	236	248						0.27	0.60
TO/NM (14.5/85.5)	1.09	5840	100	[14]	5716	5674	-2.1%	-2.8%	101	96	1.3%	-4.3%	2.71	2.51	2.66	0.24	0.51
ttnh	2.01	9150	nan	[48]	8991	9214	0.7%	-1.7%	401	412						0.28	0.64
X-0341	1.90	7816	nan	[7]		7931		1.5%								0.31	0.72
X-0342	1.90	7866	nan	[7]		7979		1.4%								0.30	0.71
X-0343	1.90	7915	nan	[7]		8029		1.4%								0.30	0.71
X-0344	1.89	8046	nan	[7]		8121		0.9%								0.30	0.70

[*] D_{KJ} = 6482 m/s and D_{TW} = 6266 m/s with H2O(l) instead of H2O(g)
 [**] 3% of Viton B in the composition as 3% Viton A in the calculation

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[c] calculated value