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# Handbook of Thermal Conductivity



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Volume 1

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Organic  
Compounds  
C<sub>1</sub> to C<sub>4</sub>

Carl L. Yaws

# Handbook of Thermal Conductivity



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Volume 1

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Organic  
Compounds  
C<sub>1</sub> to C<sub>4</sub>

# LIBRARY OF PHYSICO-CHEMICAL PROPERTY DATA



## Handbook of Vapor Pressure

- Volume 1: C<sub>1</sub> to C<sub>4</sub> Compounds (Product #5189)
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LIBRARY OF PHYSICO-CHEMICAL PROPERTY DATA

# Handbook of Thermal Conductivity



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Volume 1

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Organic  
Compounds  
C<sub>1</sub> to C<sub>4</sub>

Carl L. Yaws



Gulf Publishing Company  
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## **Handbook of Thermal Conductivity, Volume 1**

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### DISCLAIMER

This handbook presents a variety of thermodynamic and physical property data. It is incumbent upon the user to exercise judgment in the use of the data. The author and publisher do not provide any guarantee, express or implied, with regard to the general or specific applicability of the data, the range of errors that may be associated with any of the data, or the appropriateness of using any of the data in any subsequent calculation, design, or decision process. The author and publisher accept no responsibility for damages, if any, suffered by any reader or user of this handbook as a result of decisions made or actions taken on information contained herein.

# PREFACE

Thermal conductivity data are important in many engineering applications in the chemical processing and petroleum refining industries. The objective of this book is to provide the engineer with such data. The data are presented in graphs covering a wide temperature range to enable the engineer to quickly determine values at the temperatures of interest. The contents of the book are arranged in the following order: graphs, references, and appendixes.

The graphs for thermal conductivity as a function of temperature are arranged by carbon number and chemical formula to provide ease of use. Most of the graphs for the liquid cover a wide temperature range extending from melting point to boiling point to near the critical point. The graphs for gas cover a wide temperature range and are applicable at low pressure. Common units are used for thermal conductivity (W/m K). For those involved in English usage, each graph displays a conversion factor to provide the English units.

The coverage encompasses a wide range of organic compounds including hydrocarbons such as alkanes, olefins, acetylenes, and cycloalkanes; oxygenates such as alcohols, aldehydes, ketones, acids, ethers, glycols, and anhydrides; halogenates such as chlorinated, brominated, fluorinated, and iodinated compounds; nitrogenates such as nitriles, amines, cyanates, and amides; sulfur compounds such as mercaptans, sulfides, and sulfates; silicon compounds such as silanes and chlorosilanes; and many other chemical types.

The graphs for liquids are based on both experimental data and estimates. Estimates for liquid thermal conductivity were primarily based on modified Missenard and Pachaiyappan methods. Both experimental data and estimates were then regressed to provide the same equation with wide and extended temperature coverage for all compounds.

Very limited experimental data for liquid thermal conductivities are available at temperatures in the region of the melting point. Also, there are very few reliable data at temperatures above a reduced temperature of  $T_r = 0.65$ . Thus, the values in the regions of melting point and reduced temperatures above 0.65 should be considered rough approximations. The values in the intermediate region (above melting point and below reduced temperature of 0.65) are more accurate.

The graphs for gases are also based on both experimental data and estimates. In the absence of experimental data, estimates were primarily based on correlations of Roy and Thodos; Mistic and Thodos; and Stiel and Thodos and modified Eucken models. Experimental data and estimates were then regressed to provide the same equation for all compounds. The graphs are applicable for low pressure gas. The presented values may be adjusted to provide values at higher pressure using the methods in Reid, Prausnitz, and Poling (25).

Very limited experimental data for gases are available for highly polar and high molecular weight compounds. Also, very few experimental data are available for organic compounds at high temperatures above 600 K. Thus, the values for these compounds and high temperatures should be considered rough approximations.

The literature has been carefully searched in construction of the graphs. The references are given in the section following the graphs near the end of the book. The references provide documentation for the original sources used in preparing the work.

The equations for liquid and gas thermal conductivities are:

$$\begin{aligned}\log_{10} \lambda_{\text{liq}} &= A + B [1 - T/C]^{2/7} && \text{(liquid)} \\ \lambda_{\text{gas}} &= A + B T + C T^2 && \text{(gas)}\end{aligned}$$

The coefficients for the equations are provided in the appendix near the end of the book. The tabulated values are especially arranged for quick usage with hand calculator or computer. Computer programs, containing coefficients for all compounds, are available for liquid and gas.



Each program is in ASCII which can be accessed by other software. For information, contact Carl L. Yaws, Ph.D., P.O. Box 10053, Beaumont, Texas 77710, phone/fax (409) 880-8787.

A list of compounds is also given near the end of the book to aid the user in quickly locating the compound of interest by the chemical formula or name.

# Handbook of Thermal Conductivity



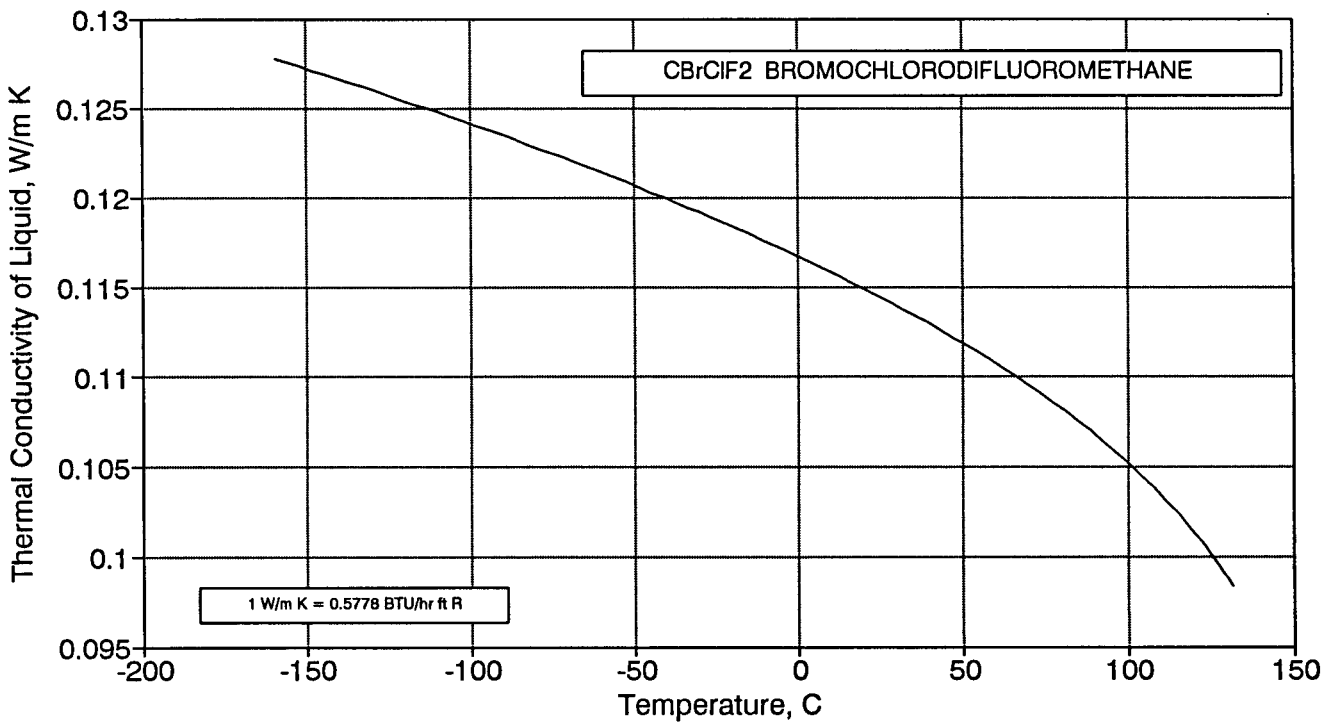
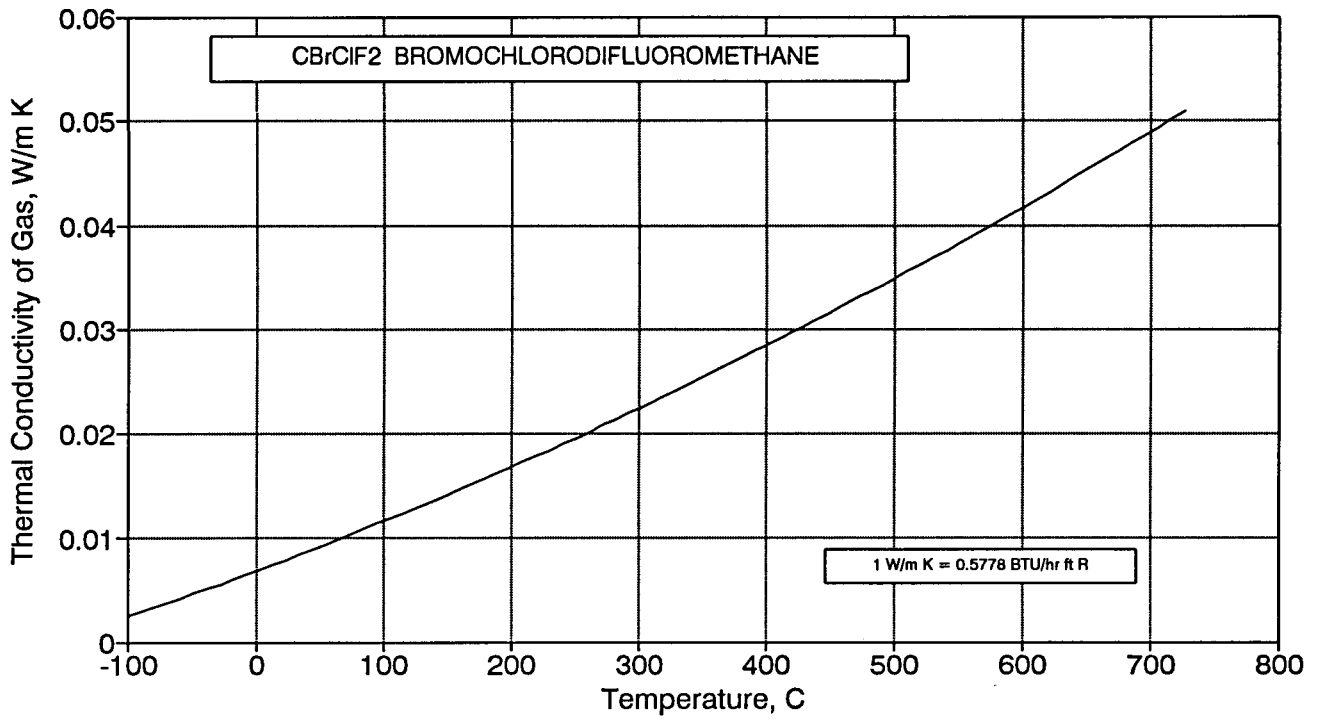
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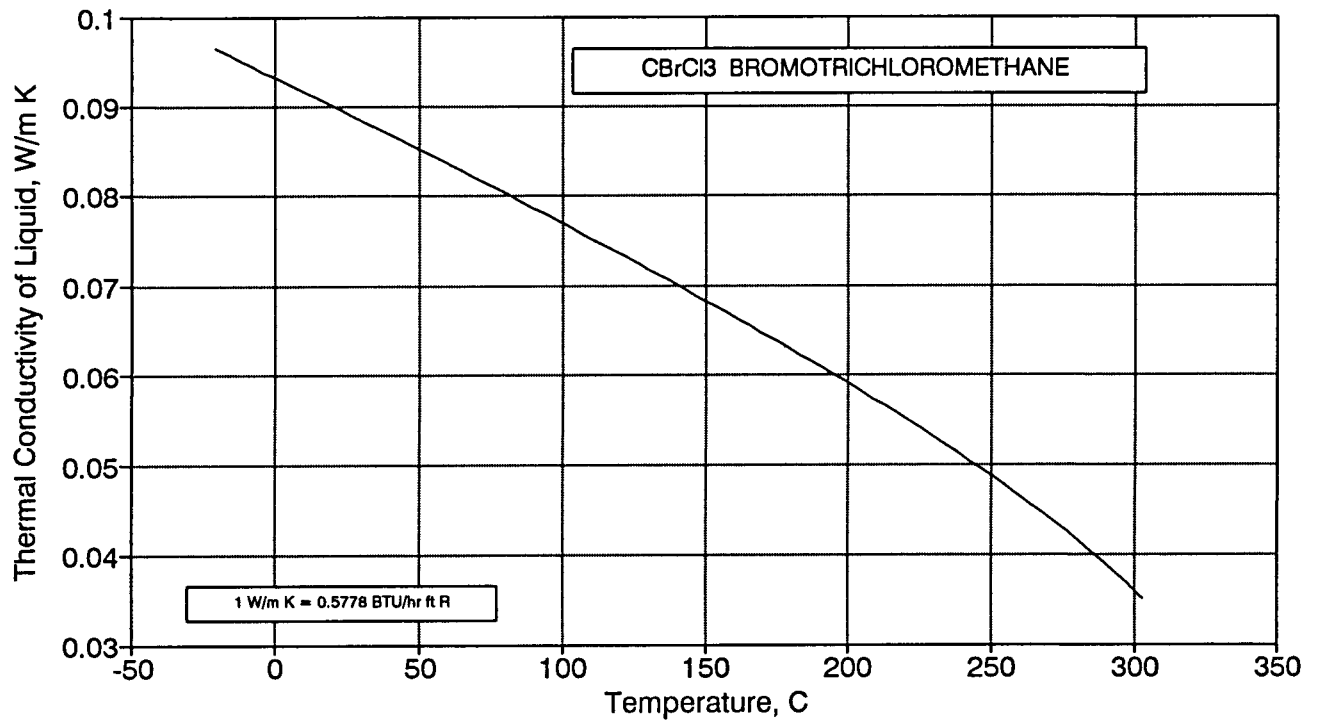
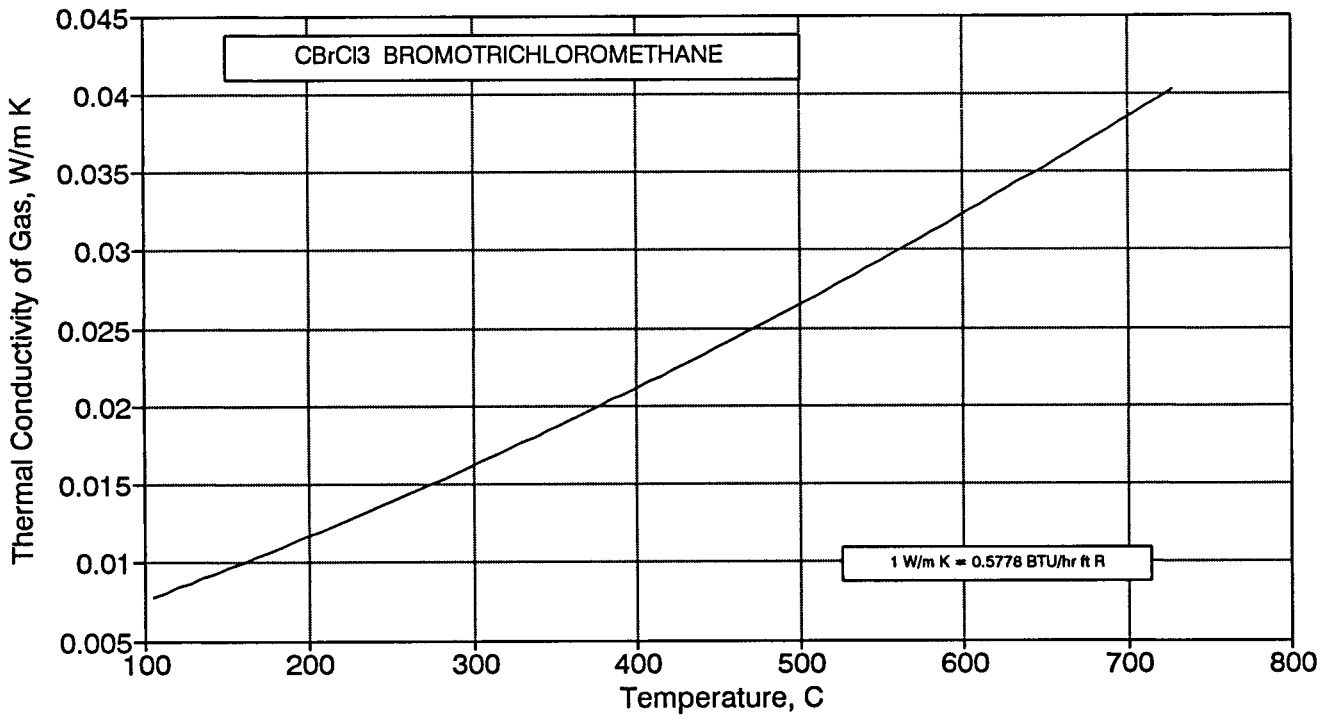
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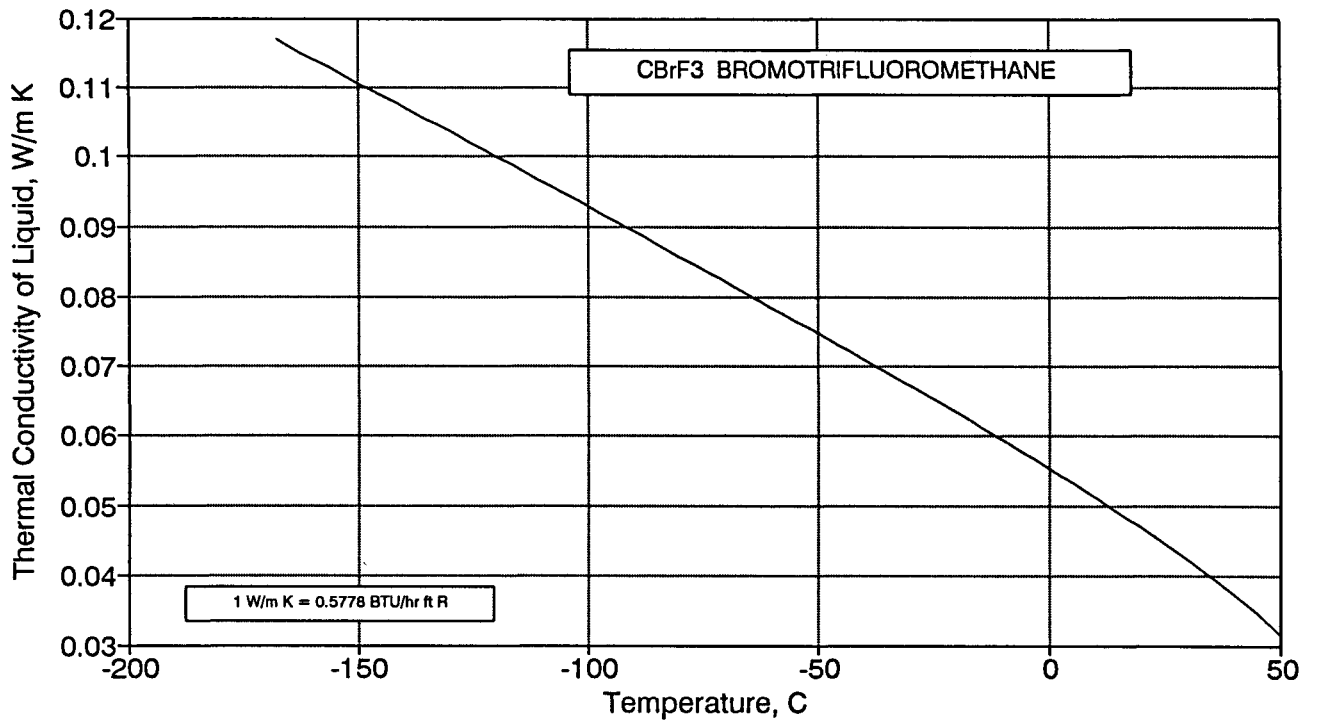
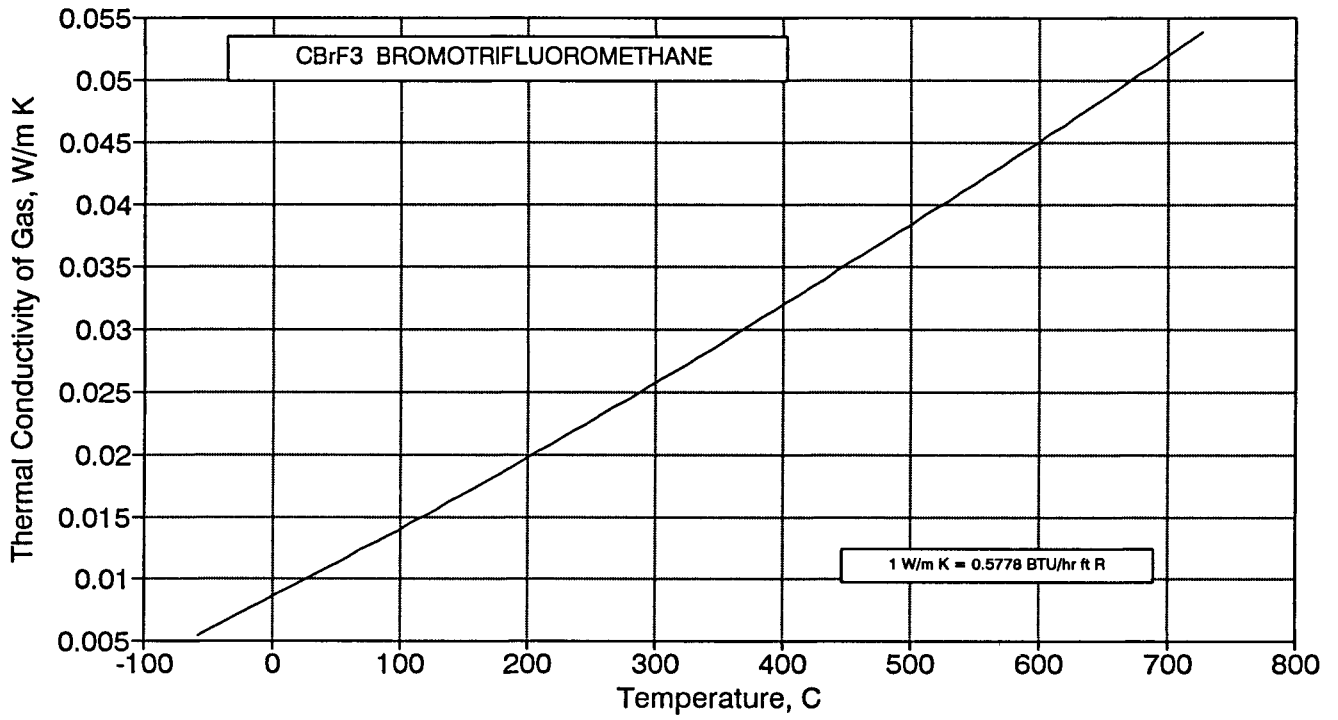
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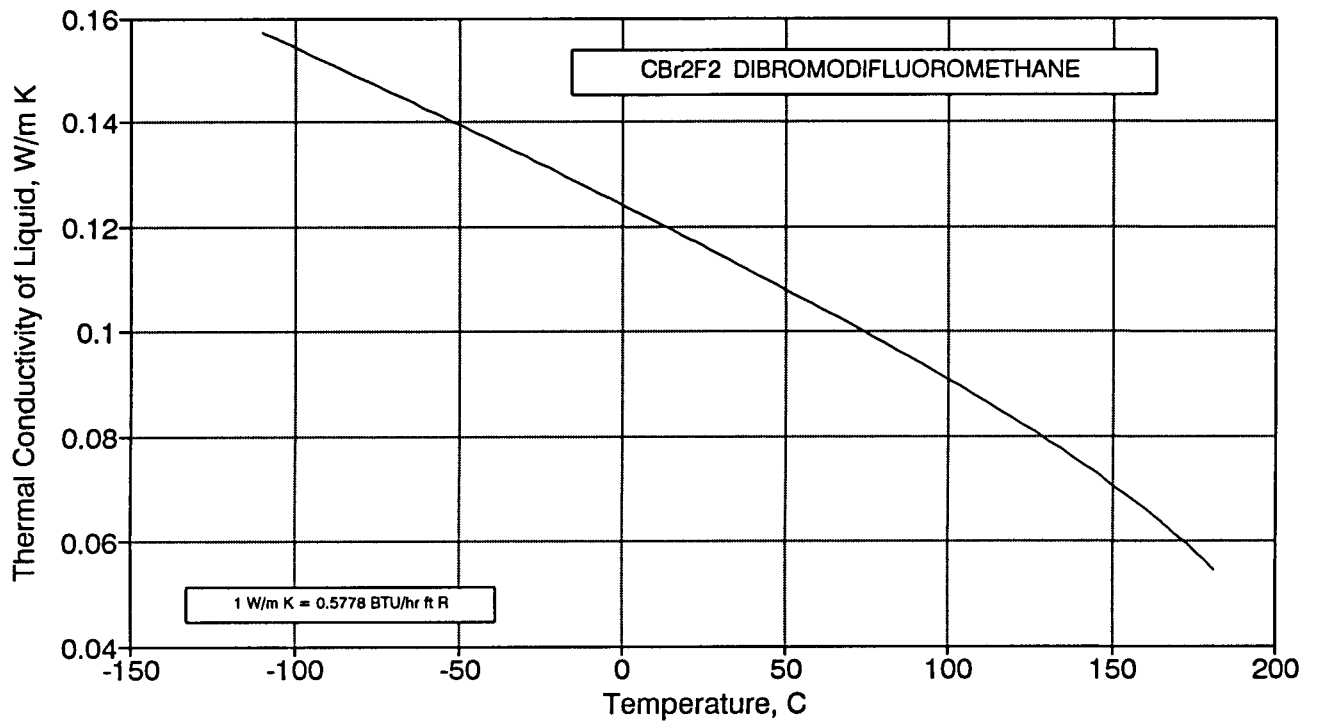
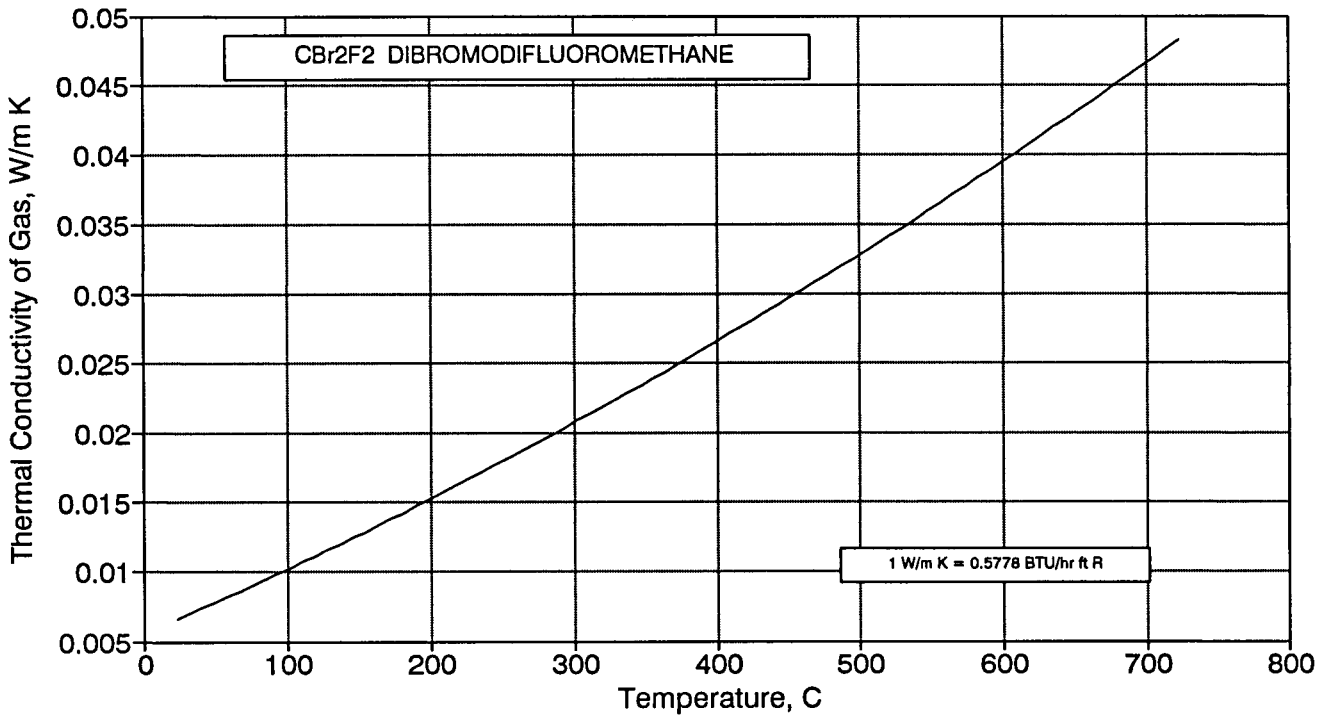
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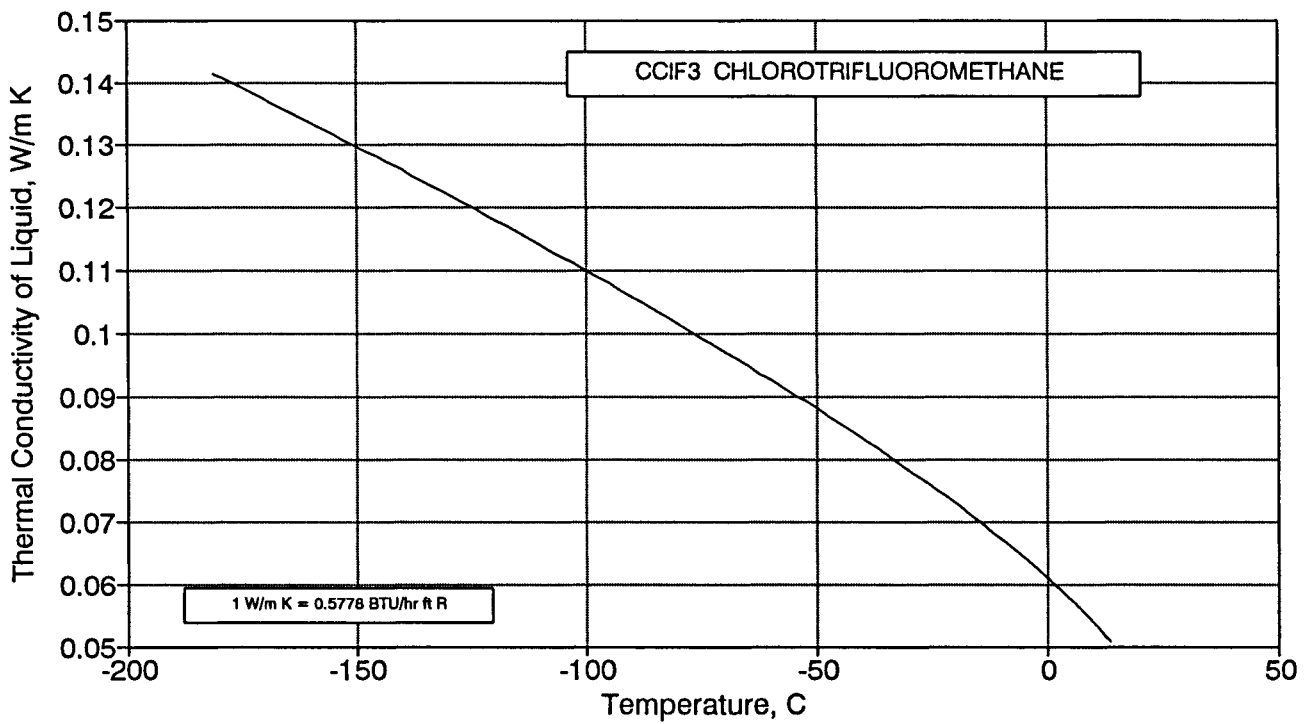
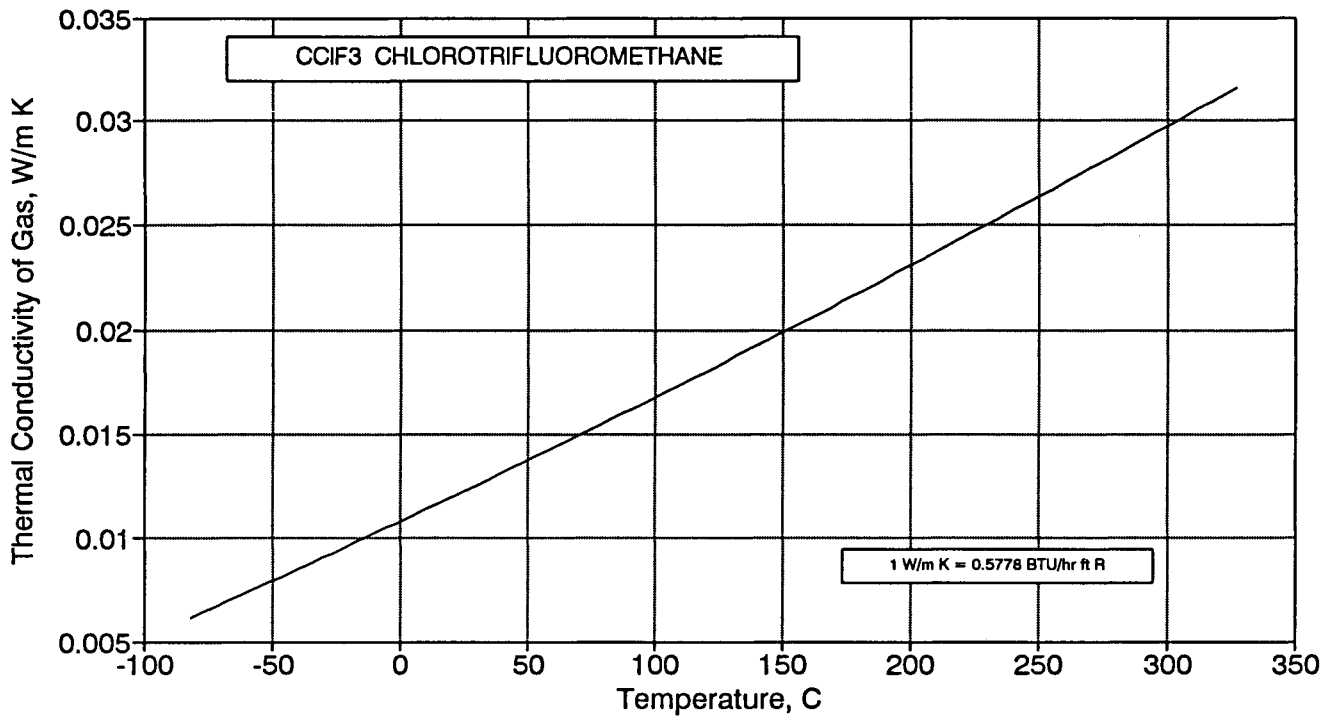
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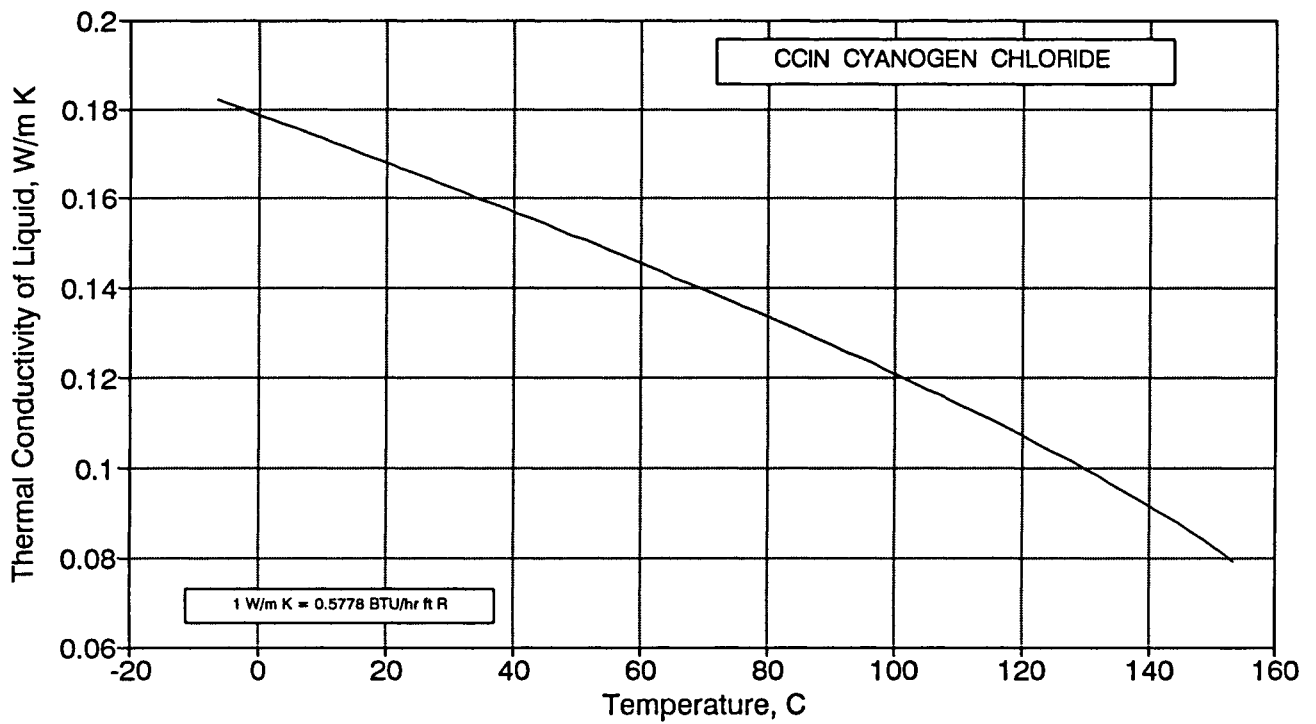
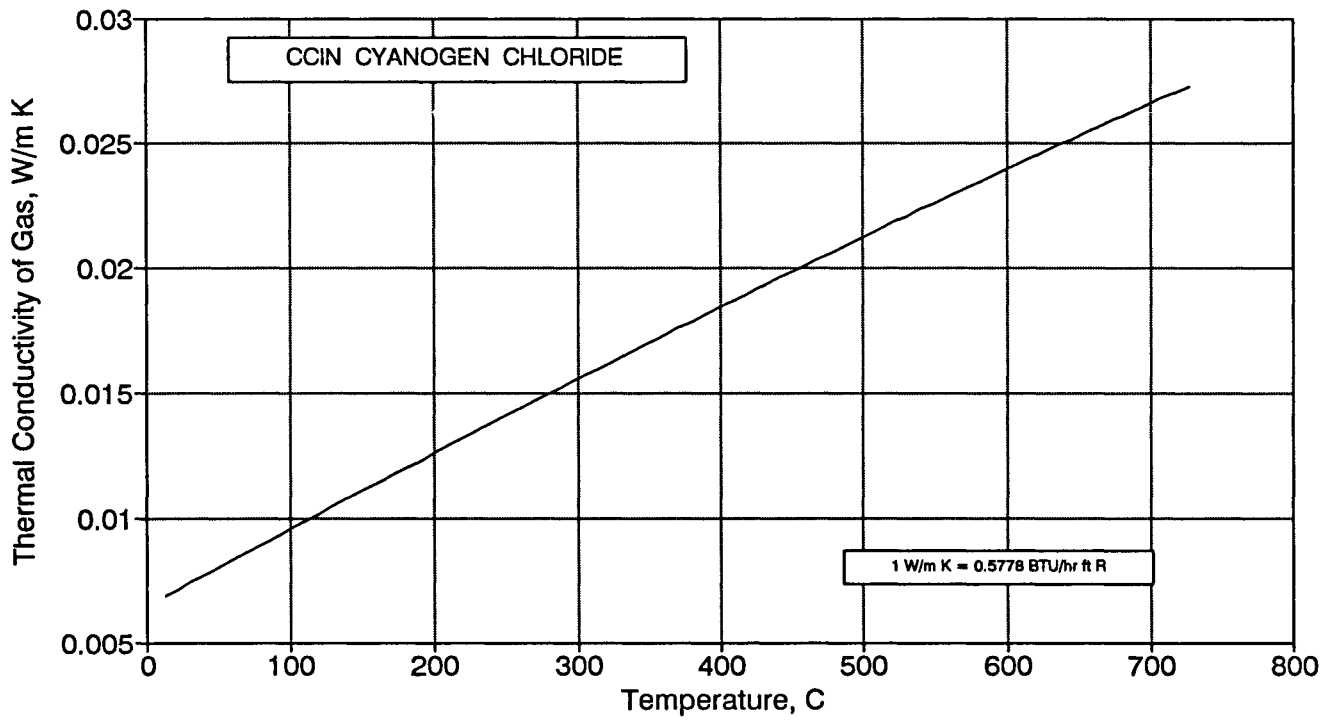


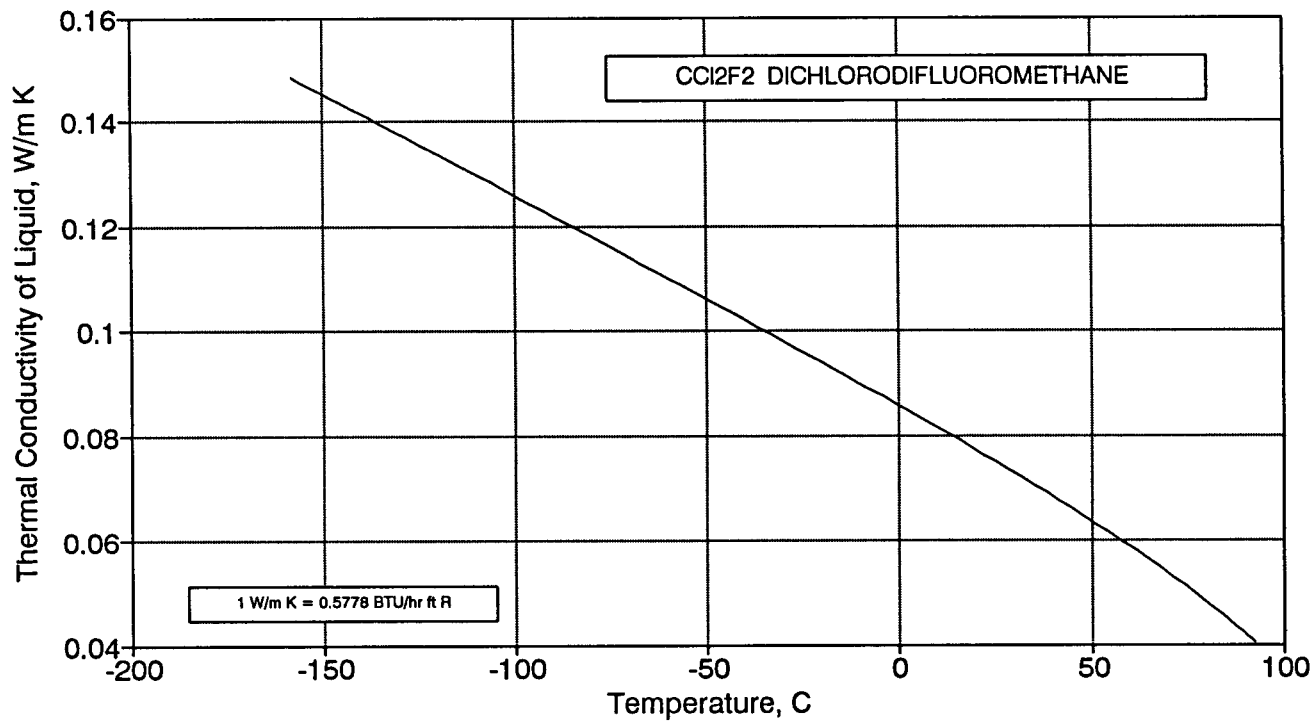
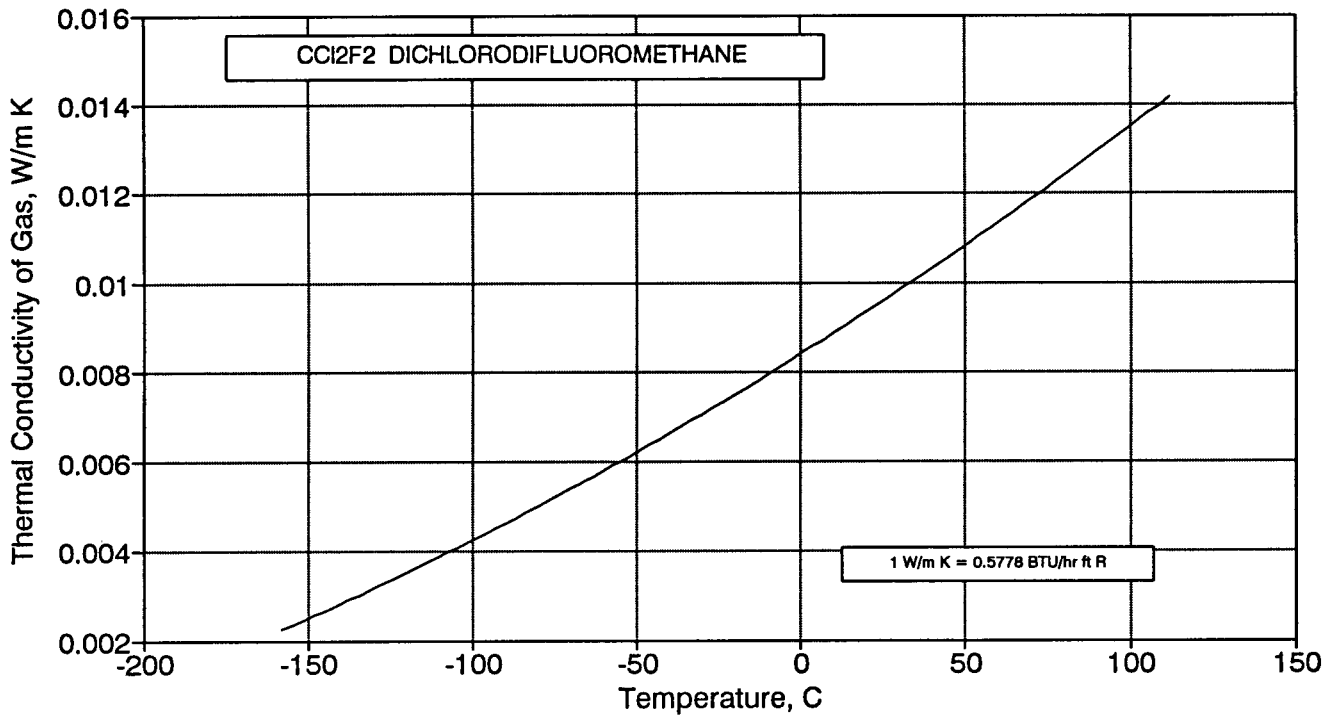


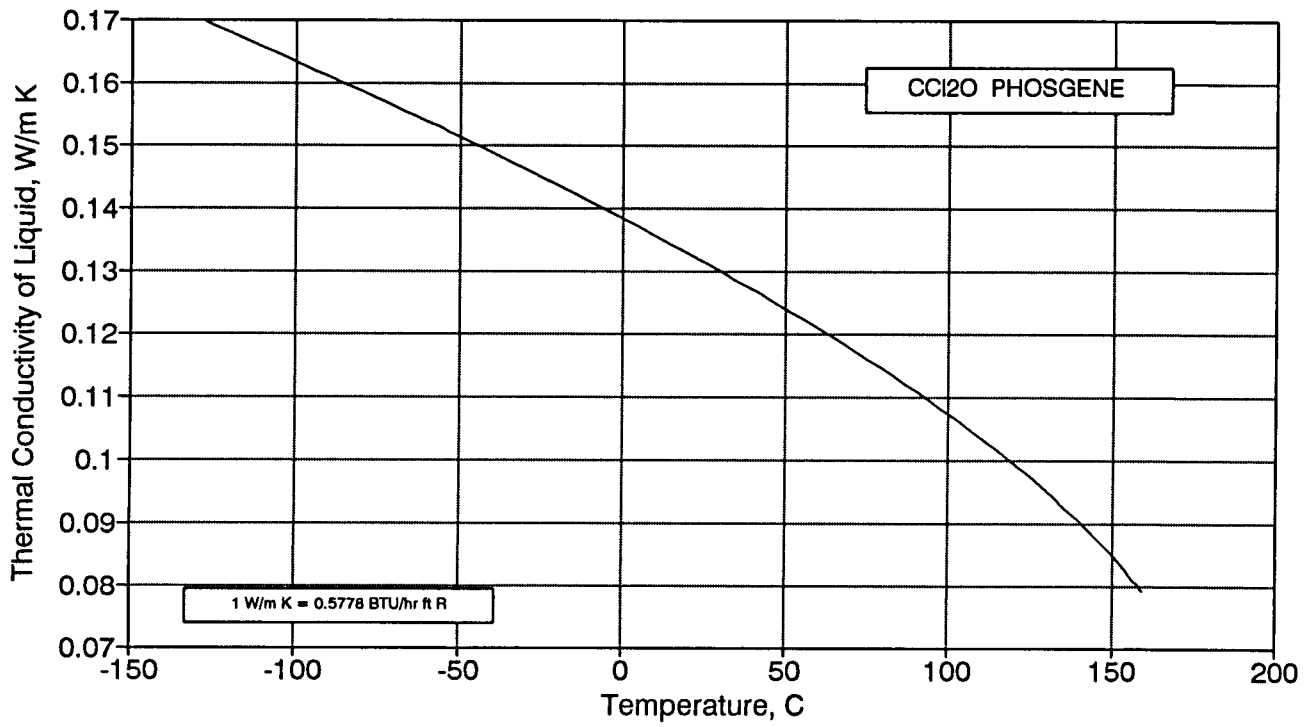
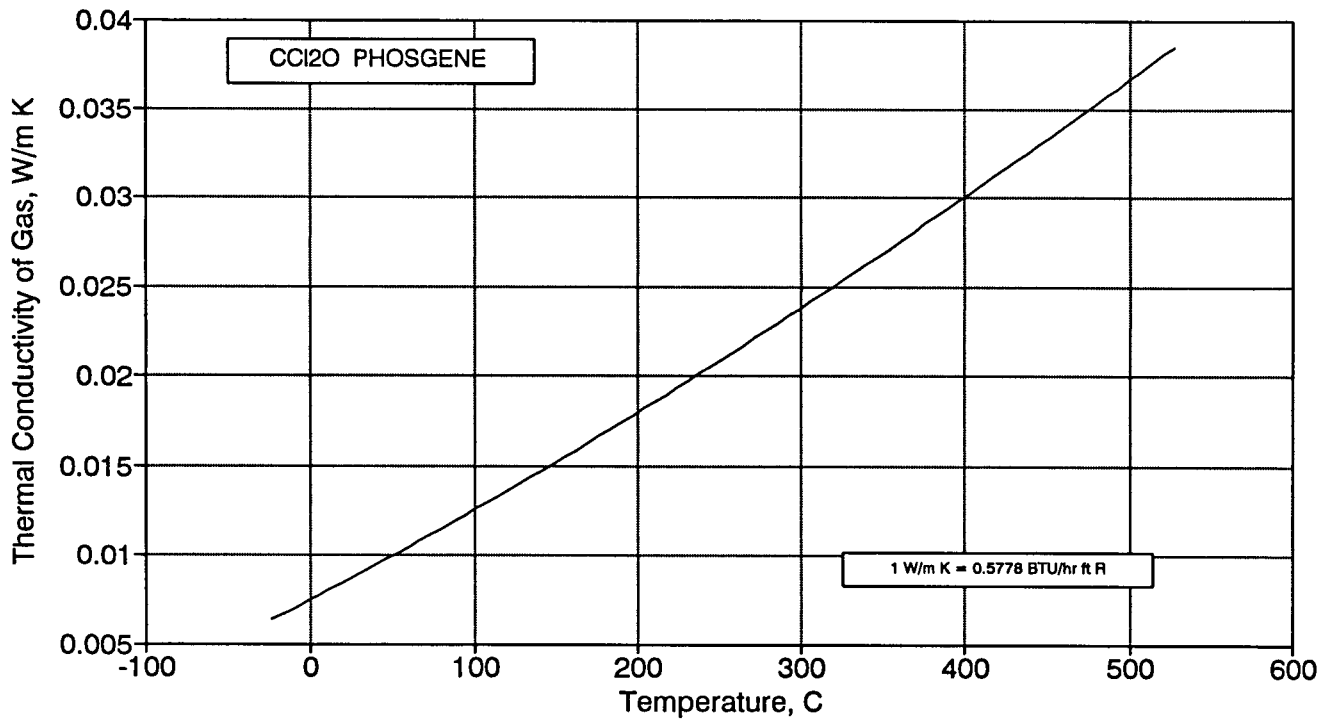


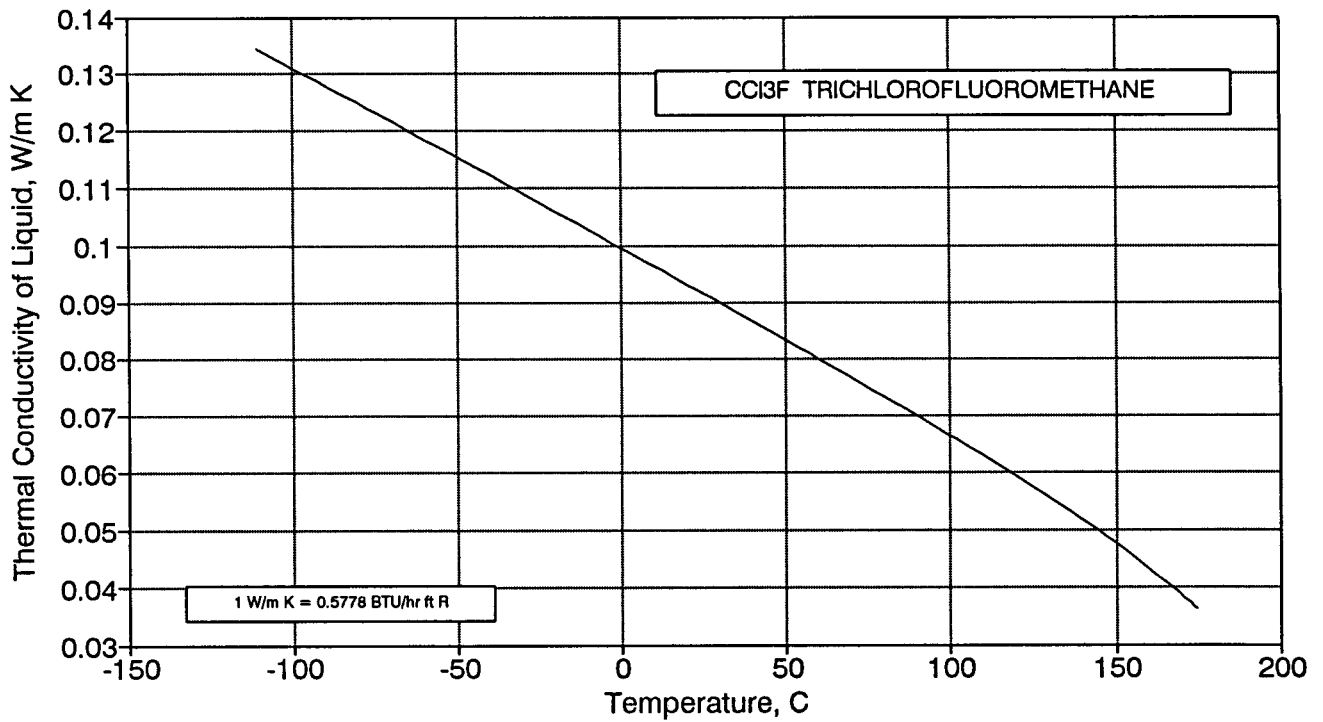
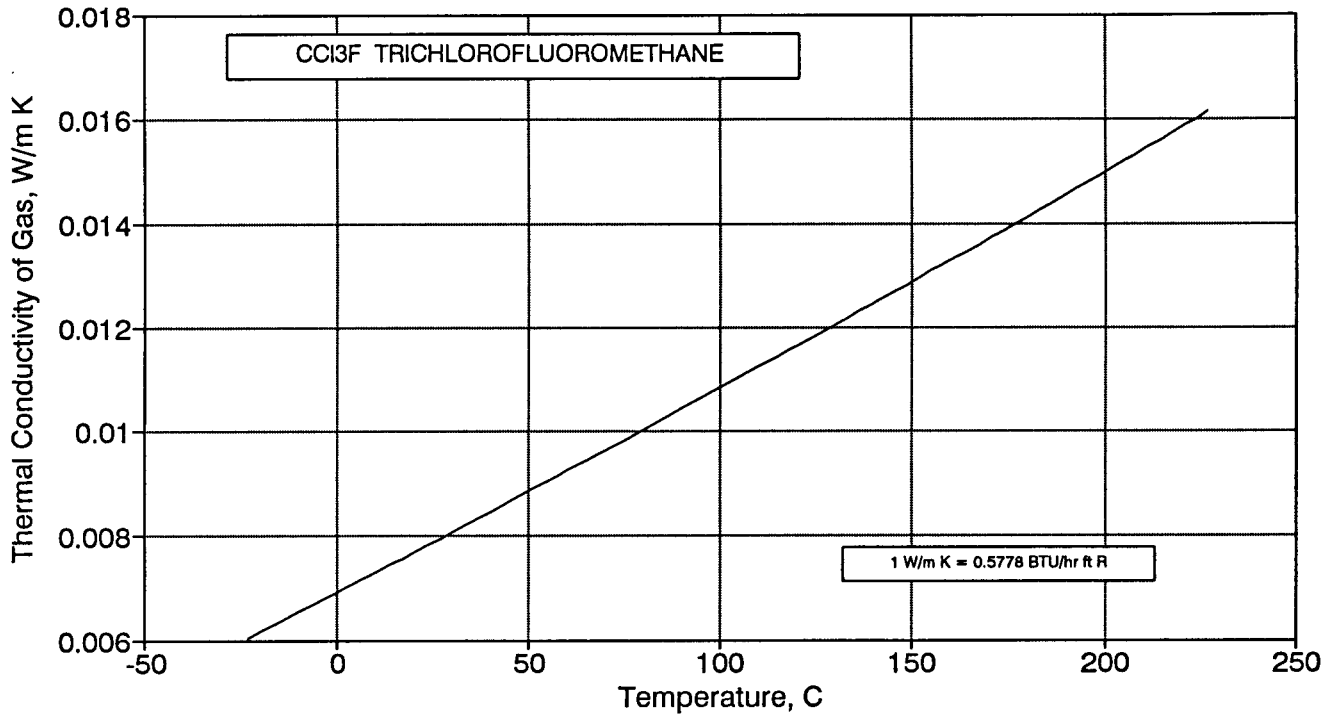


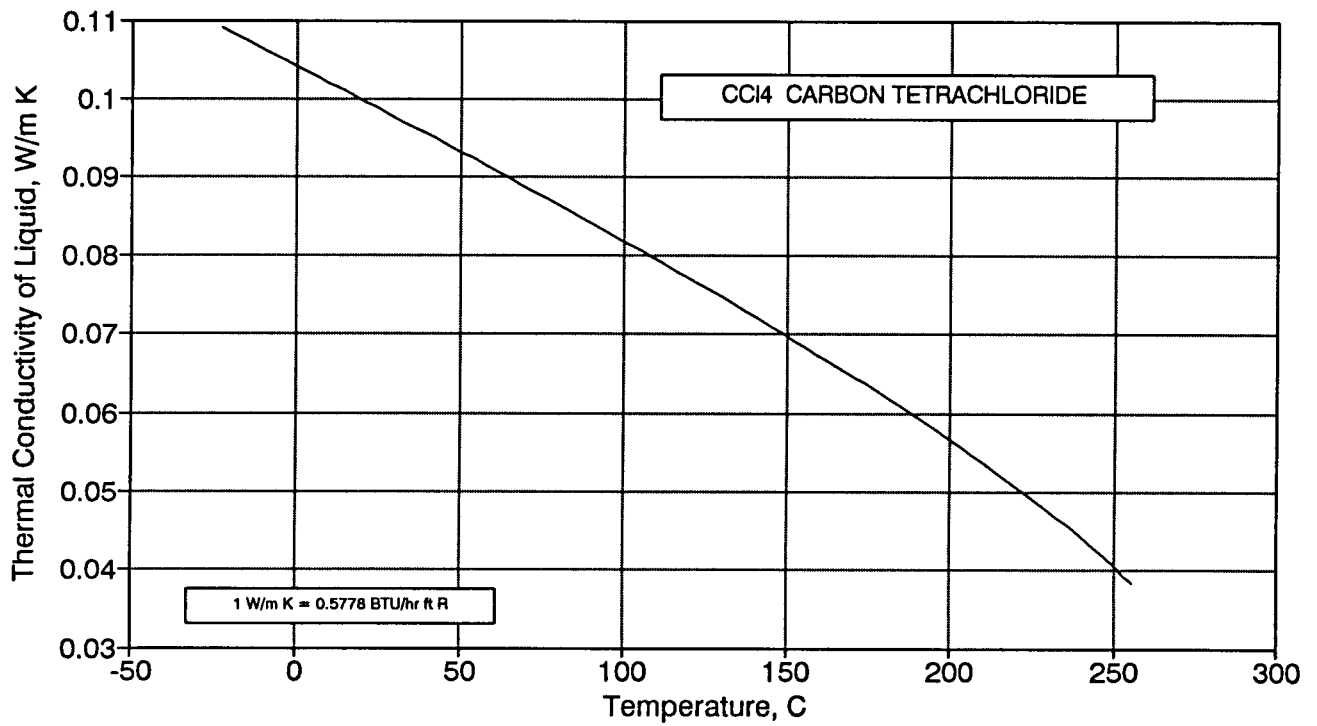
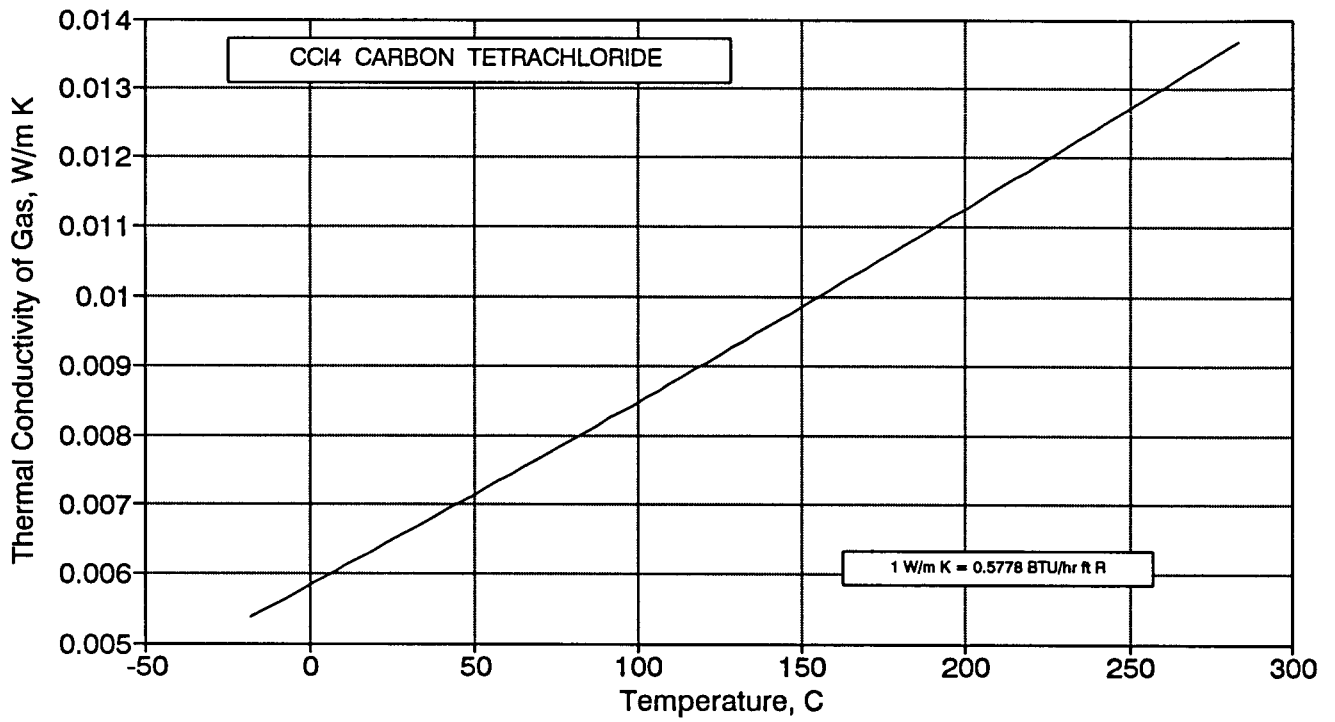


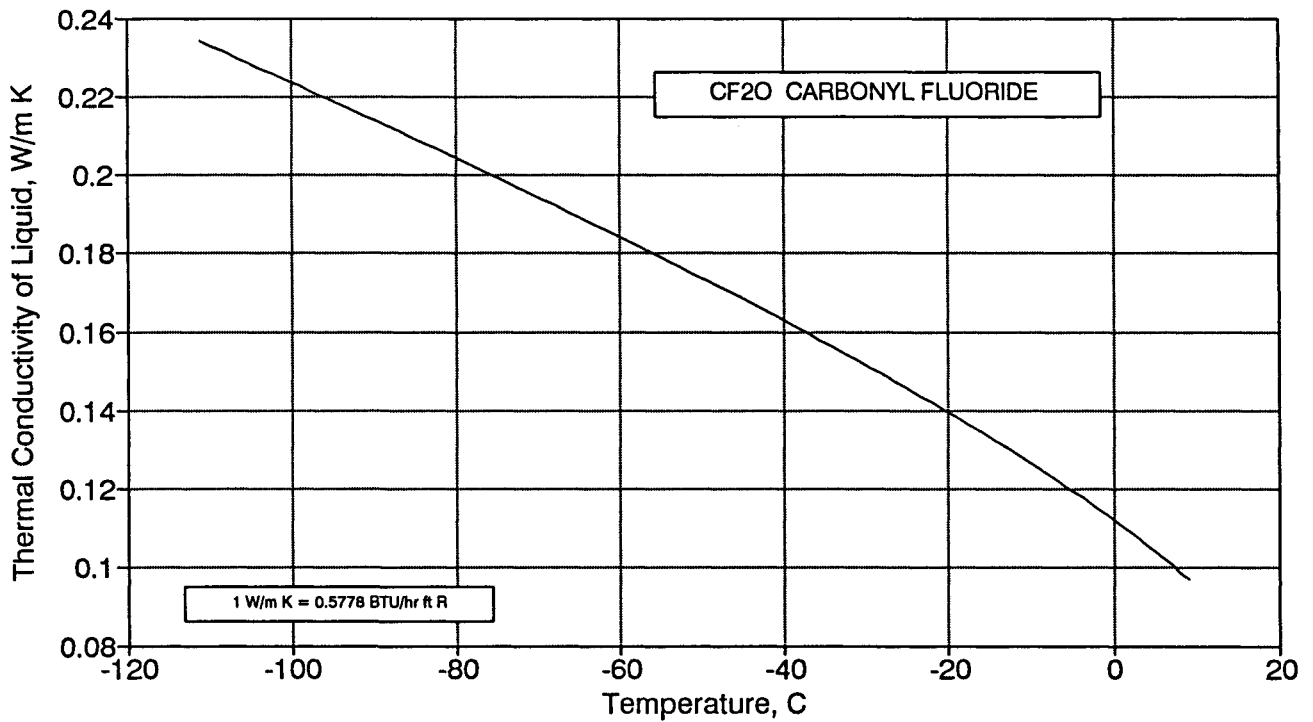
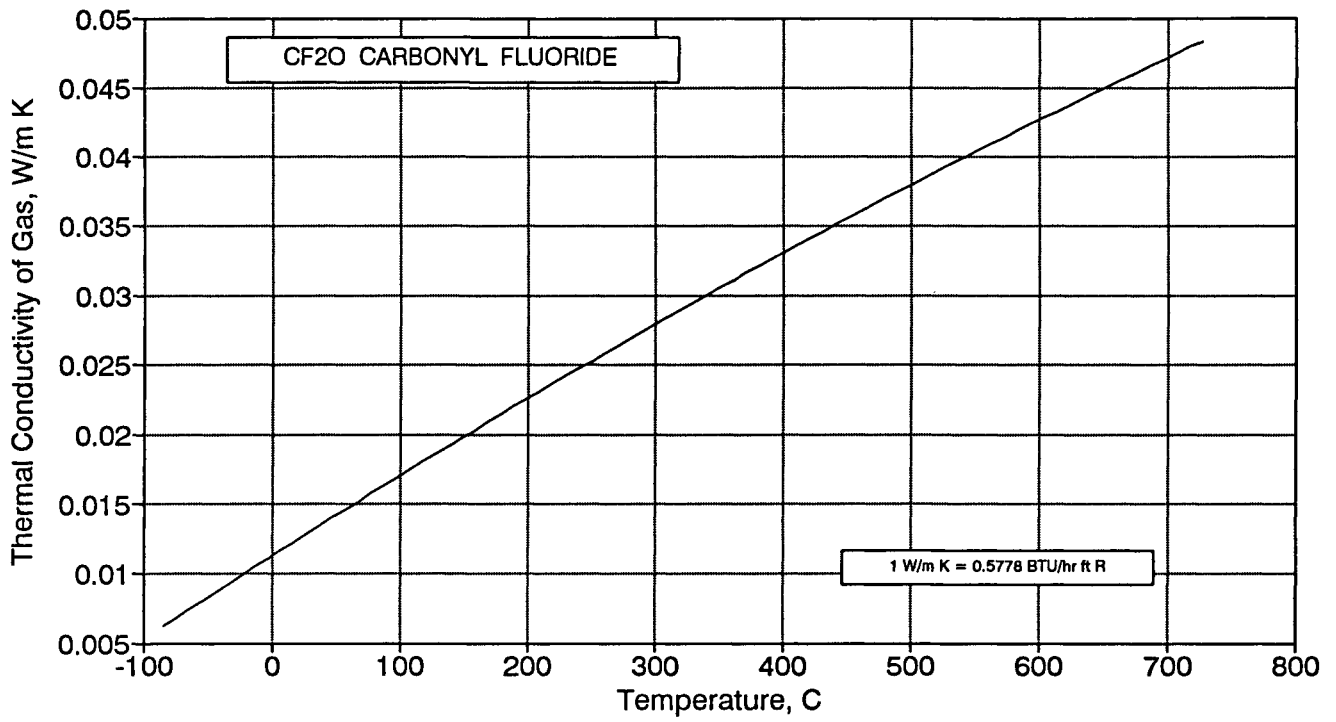


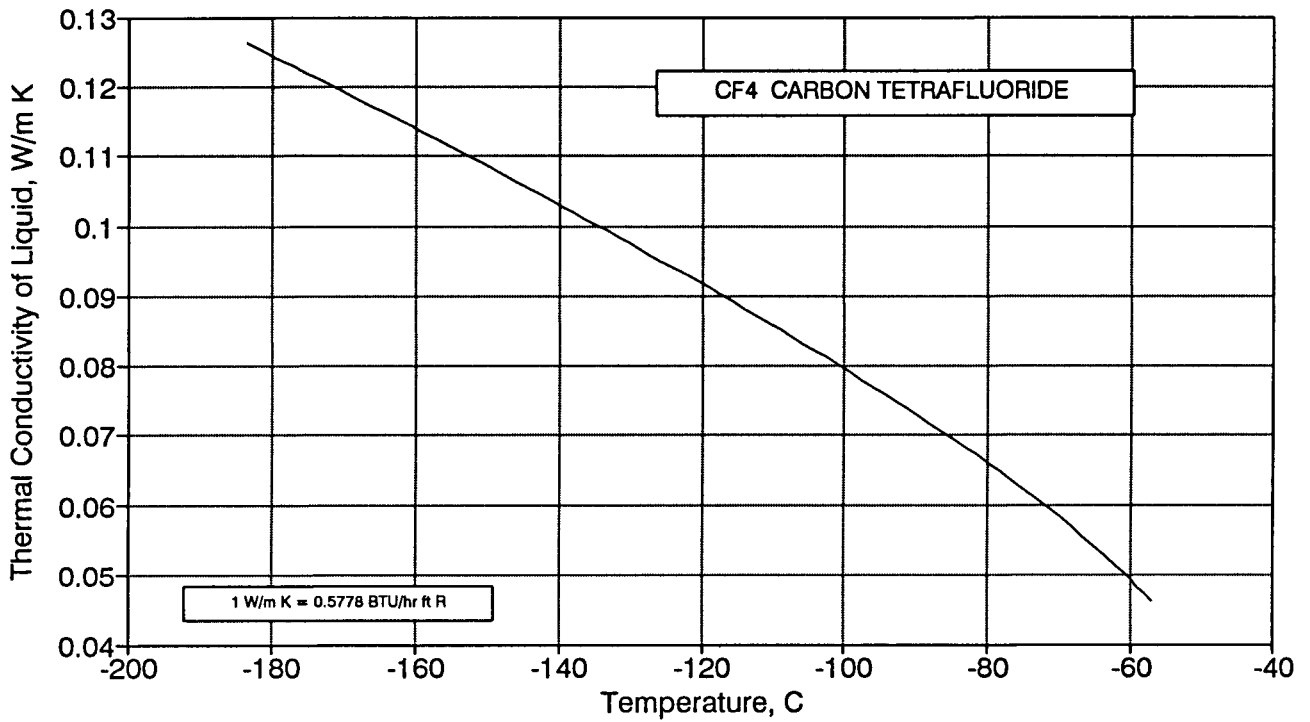
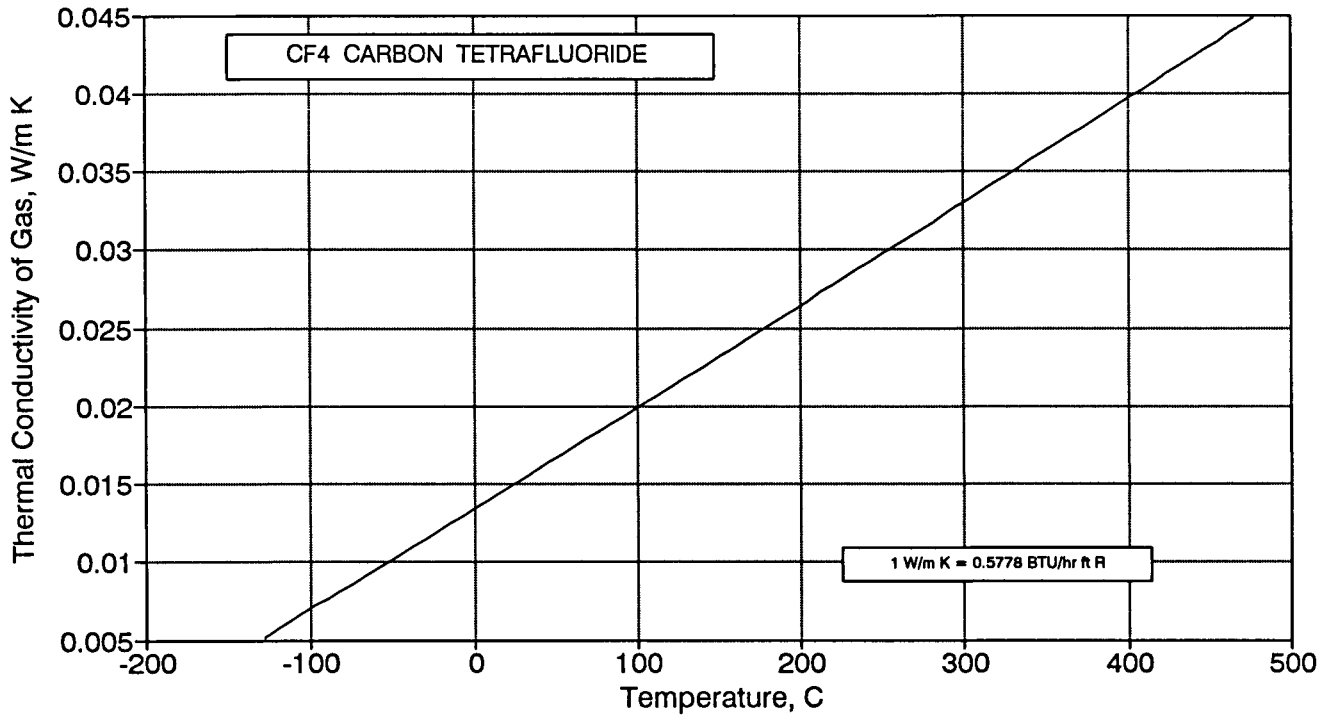


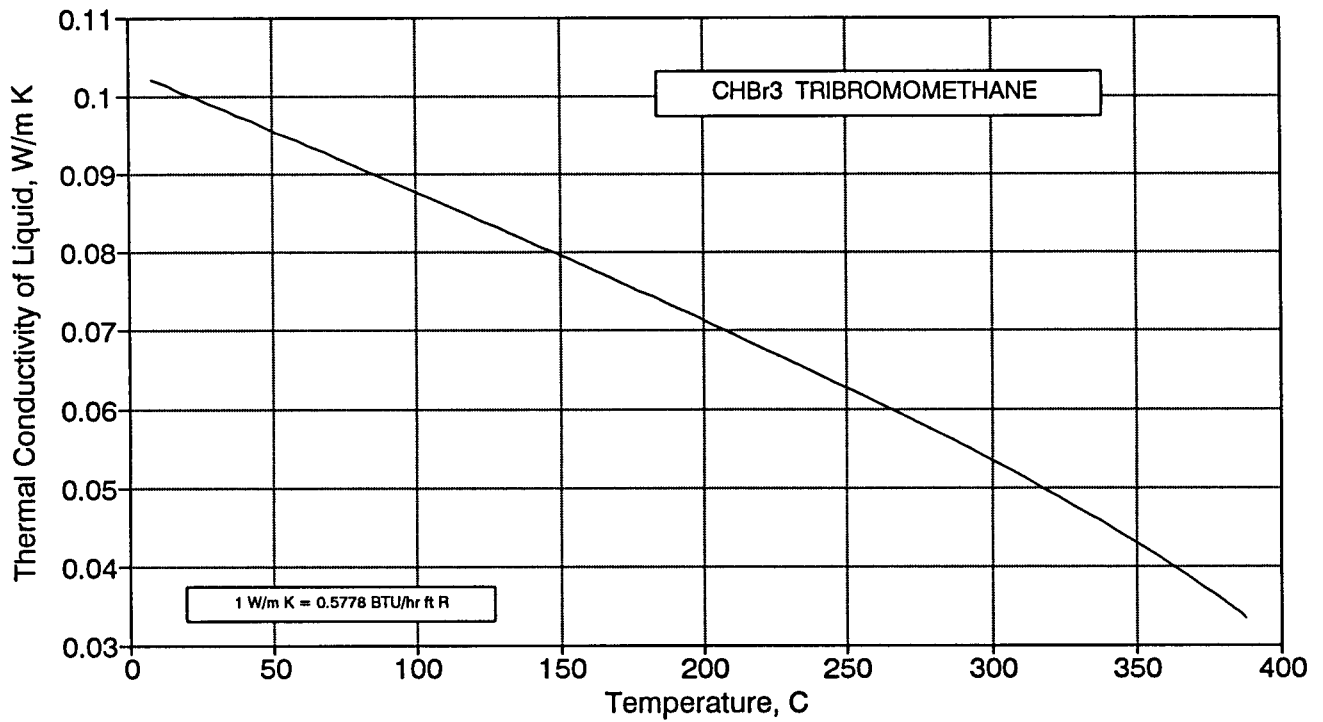
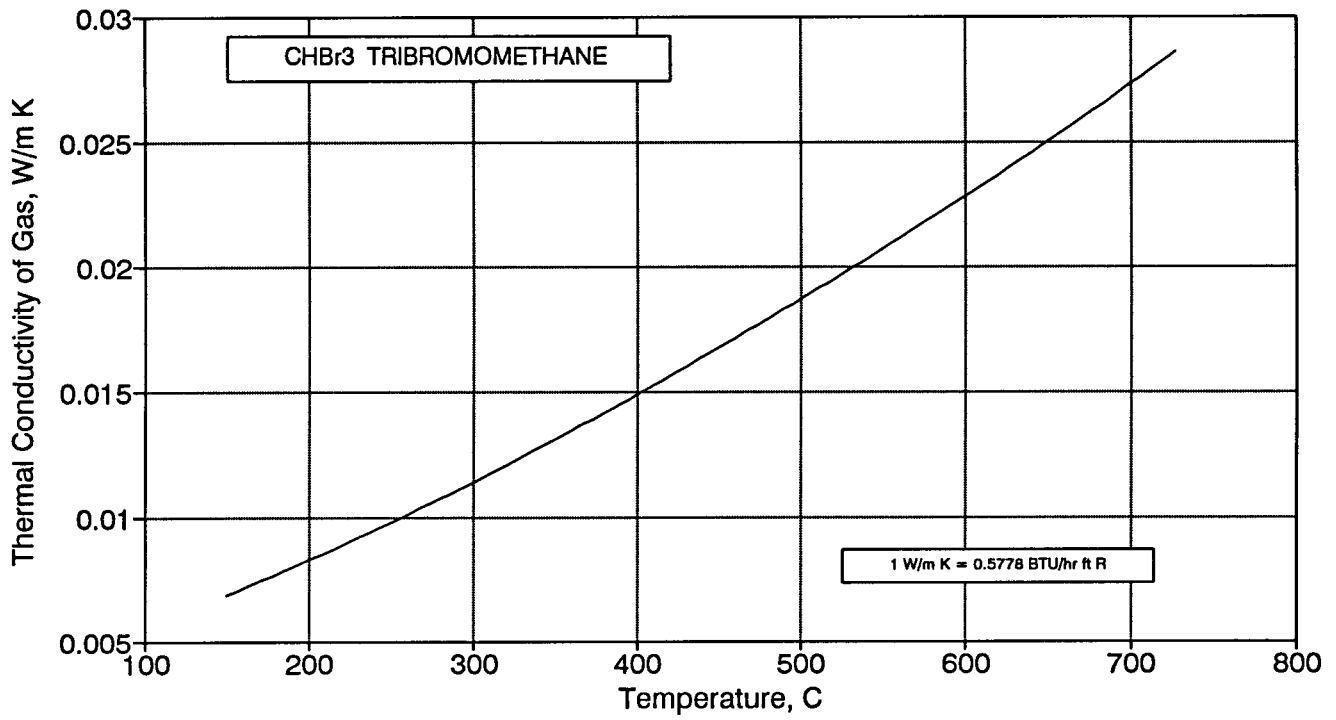




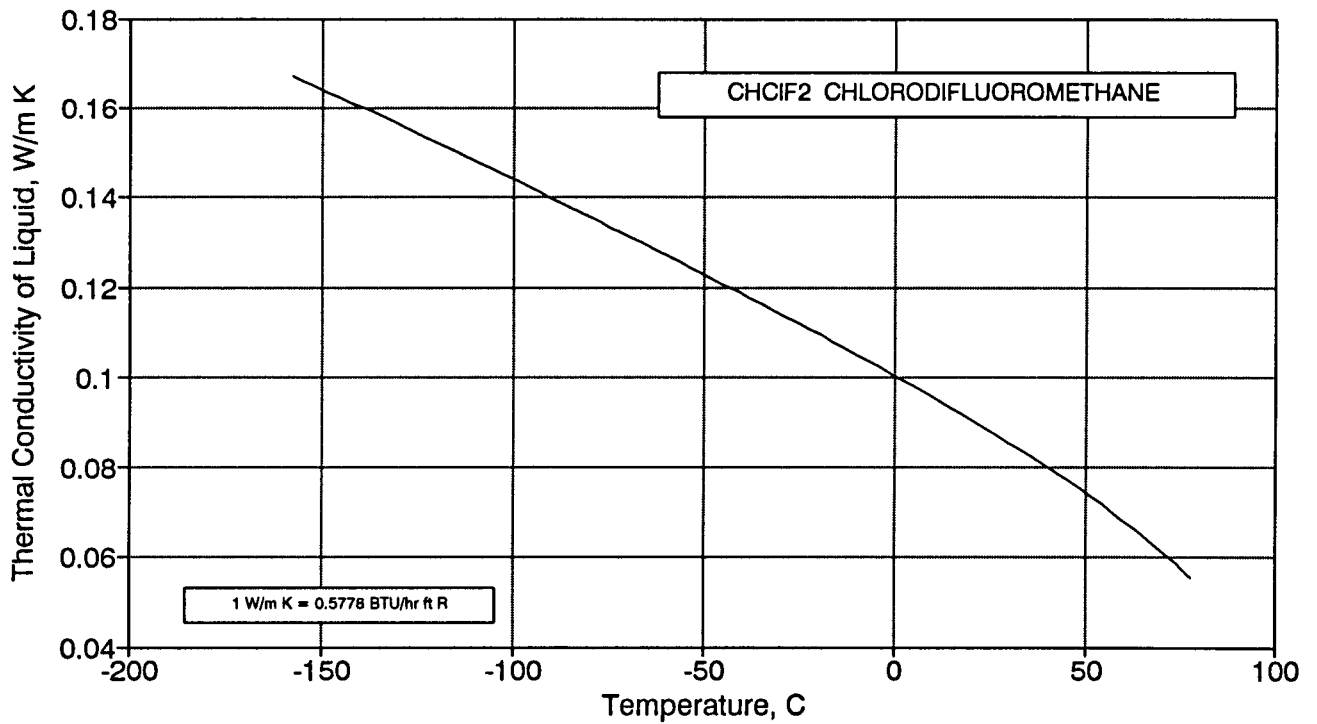
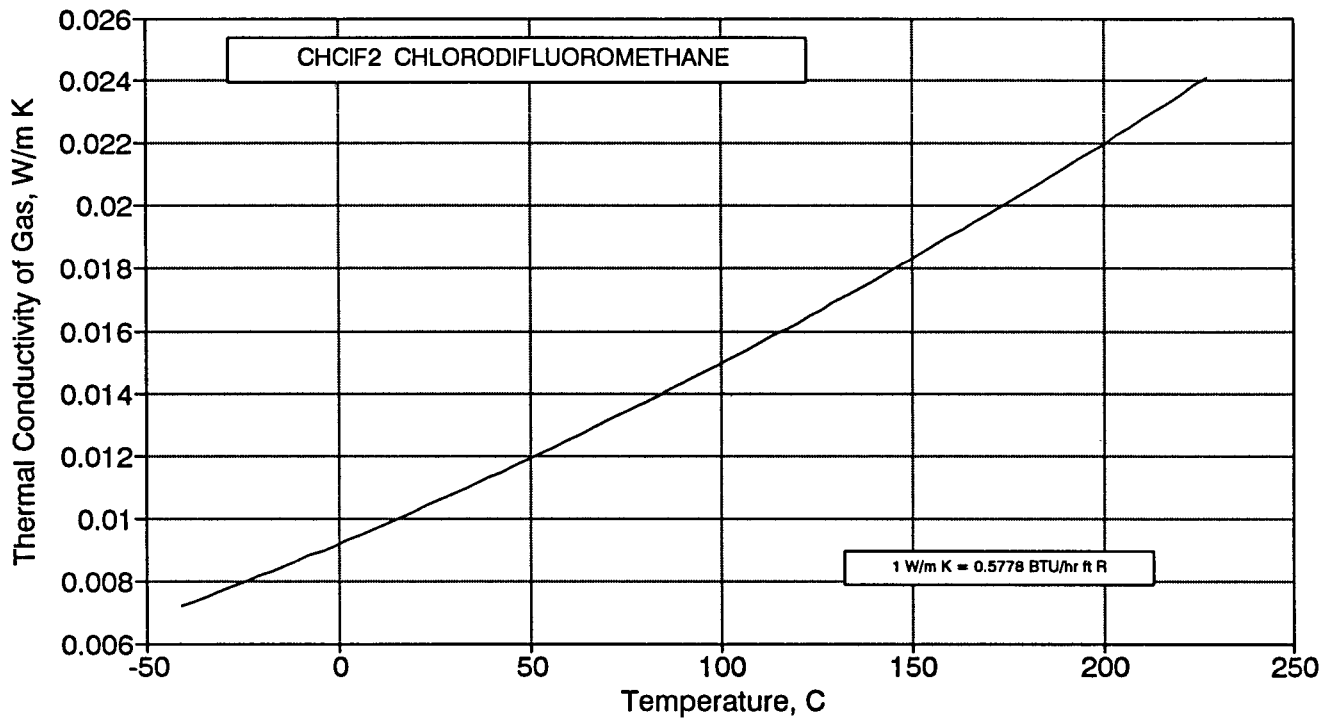


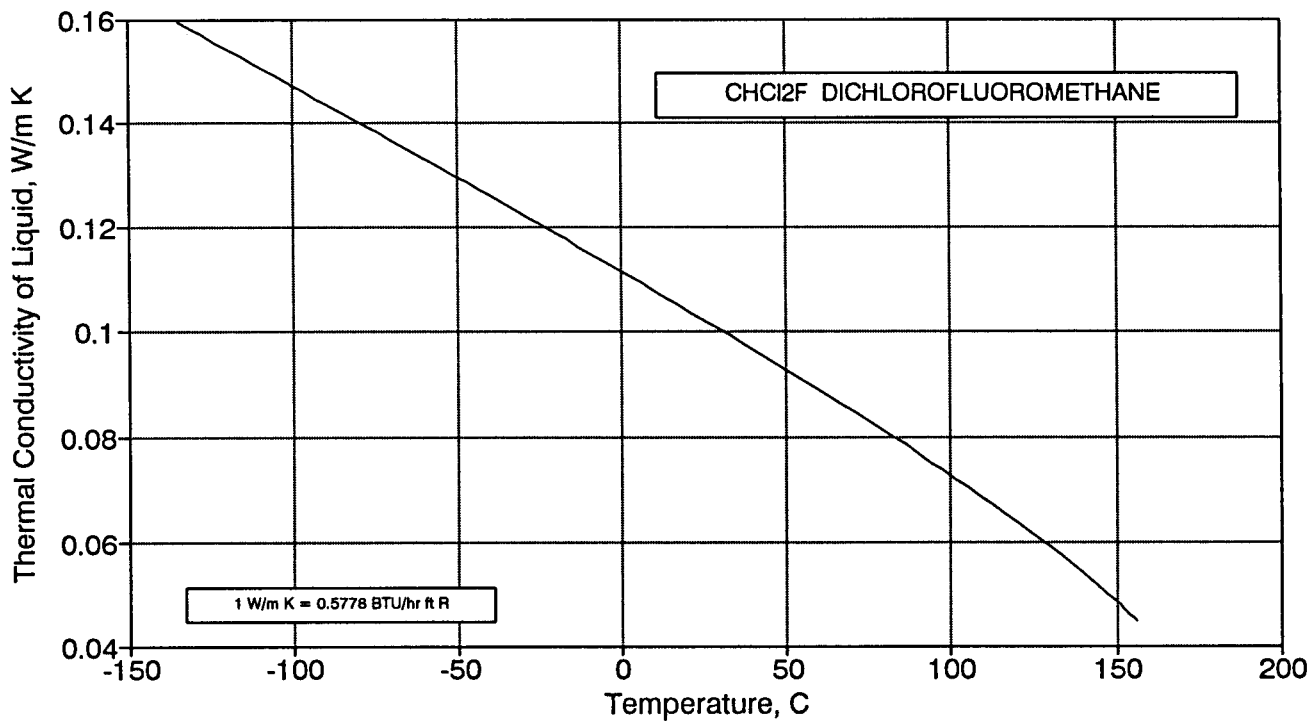
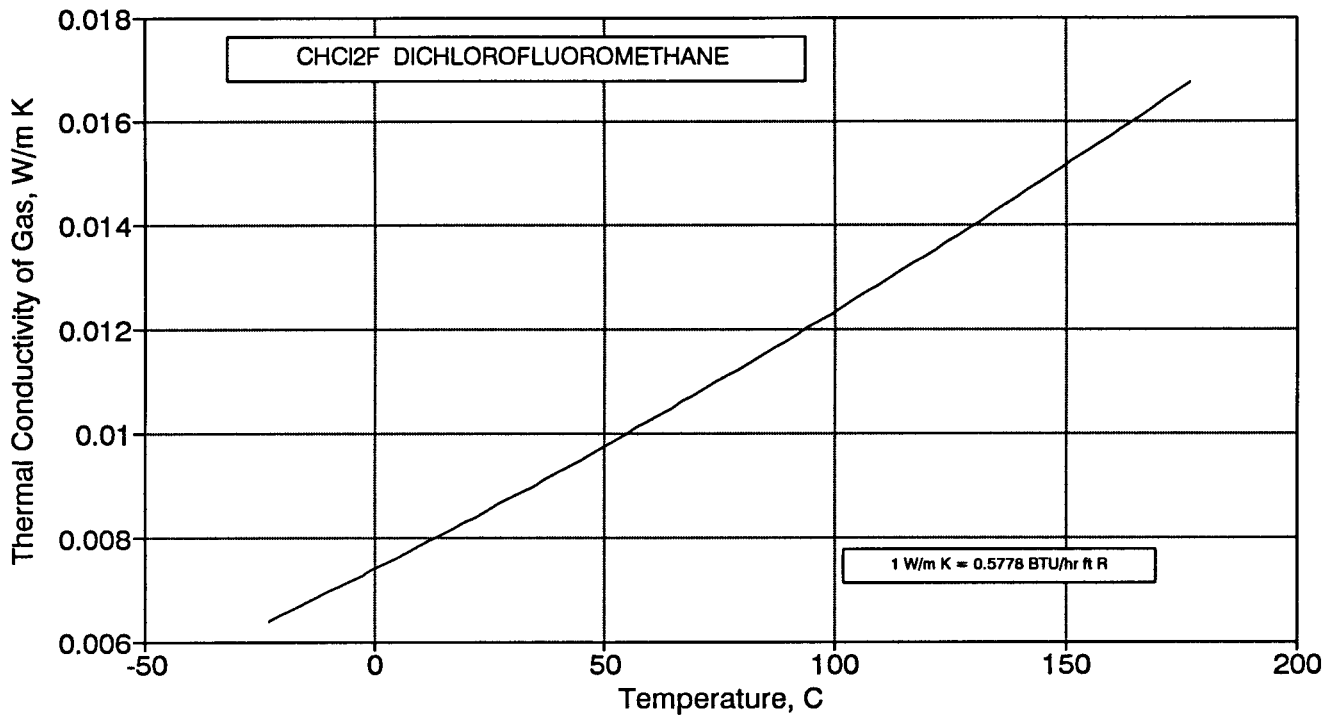


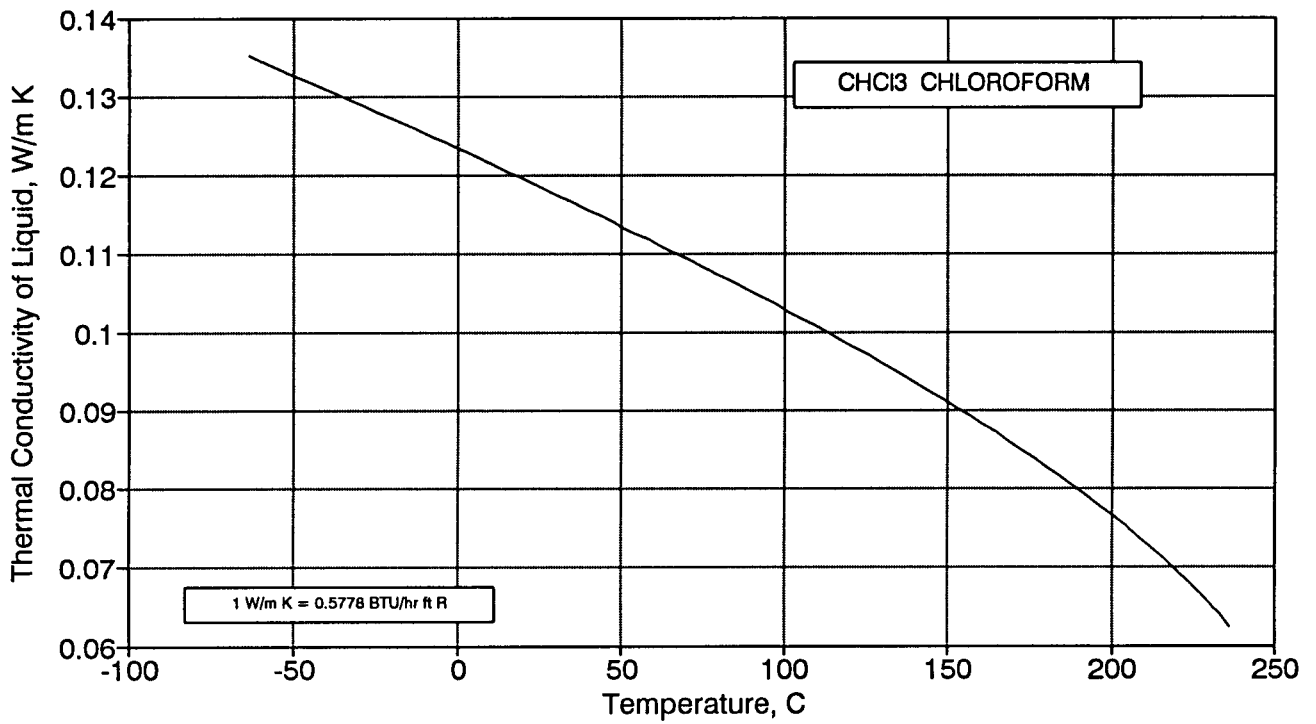
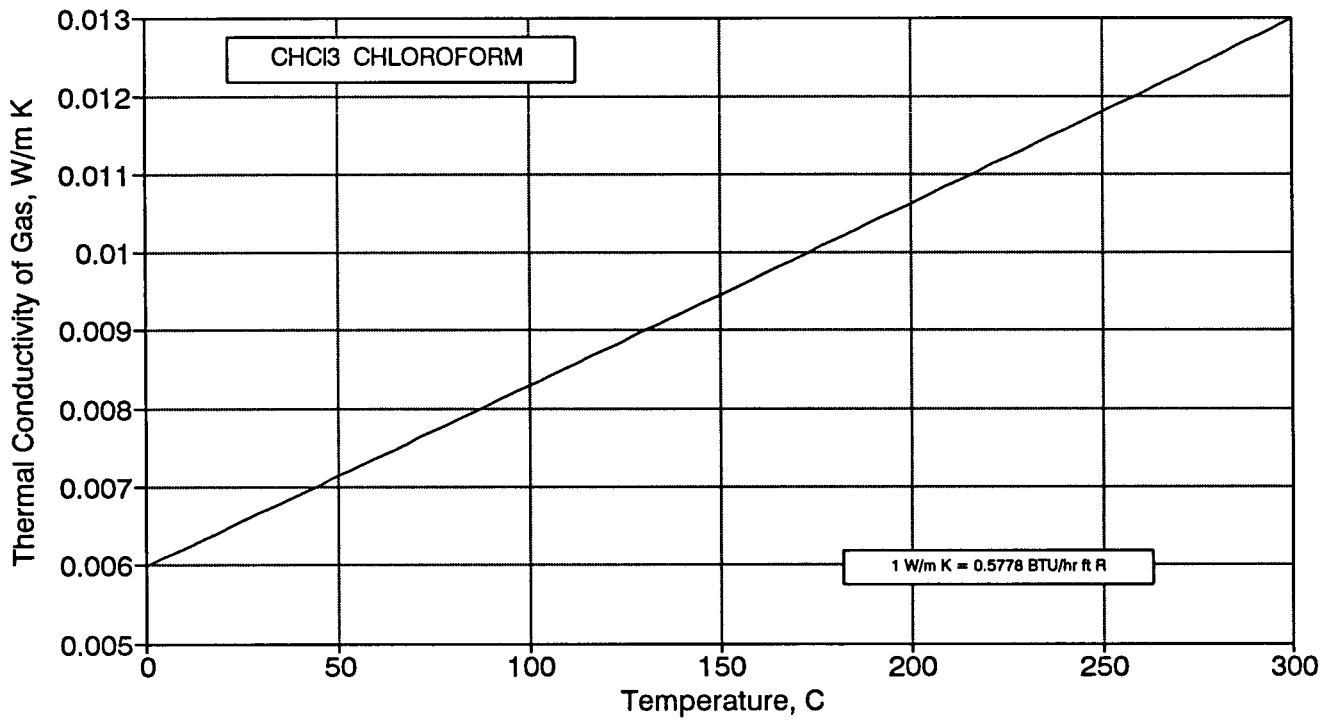


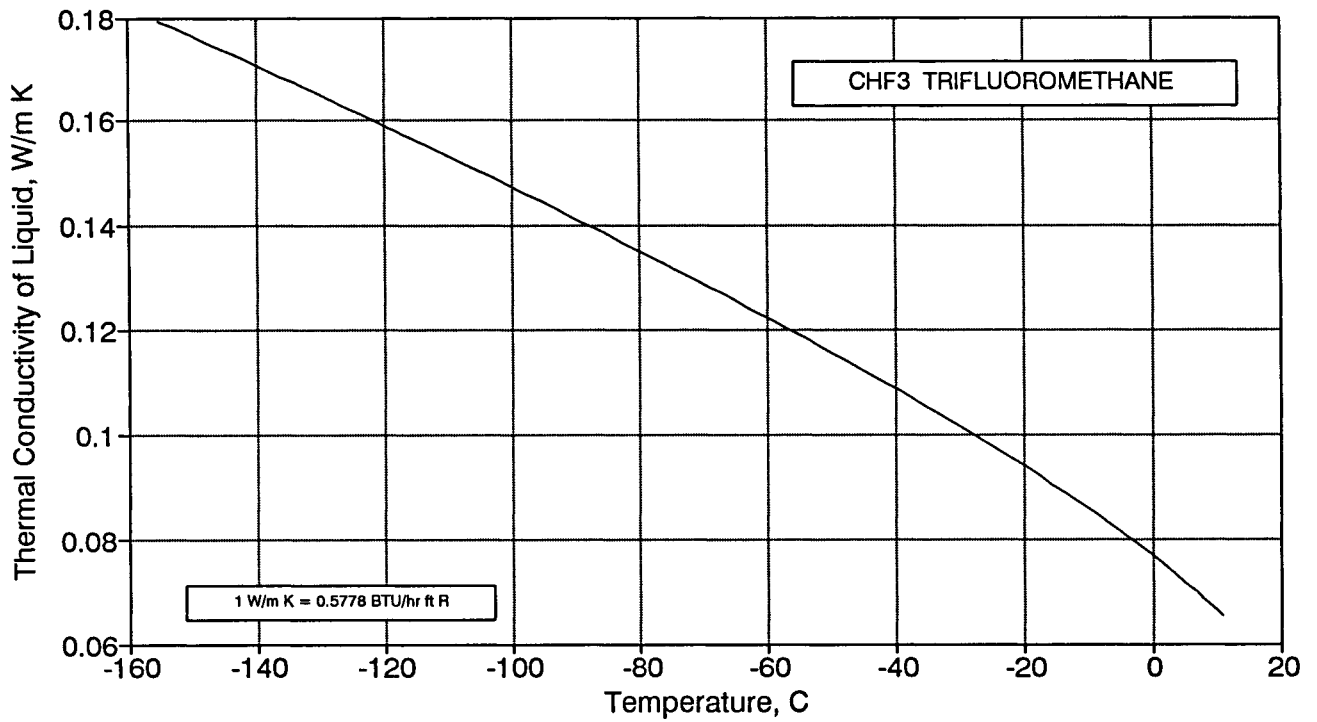
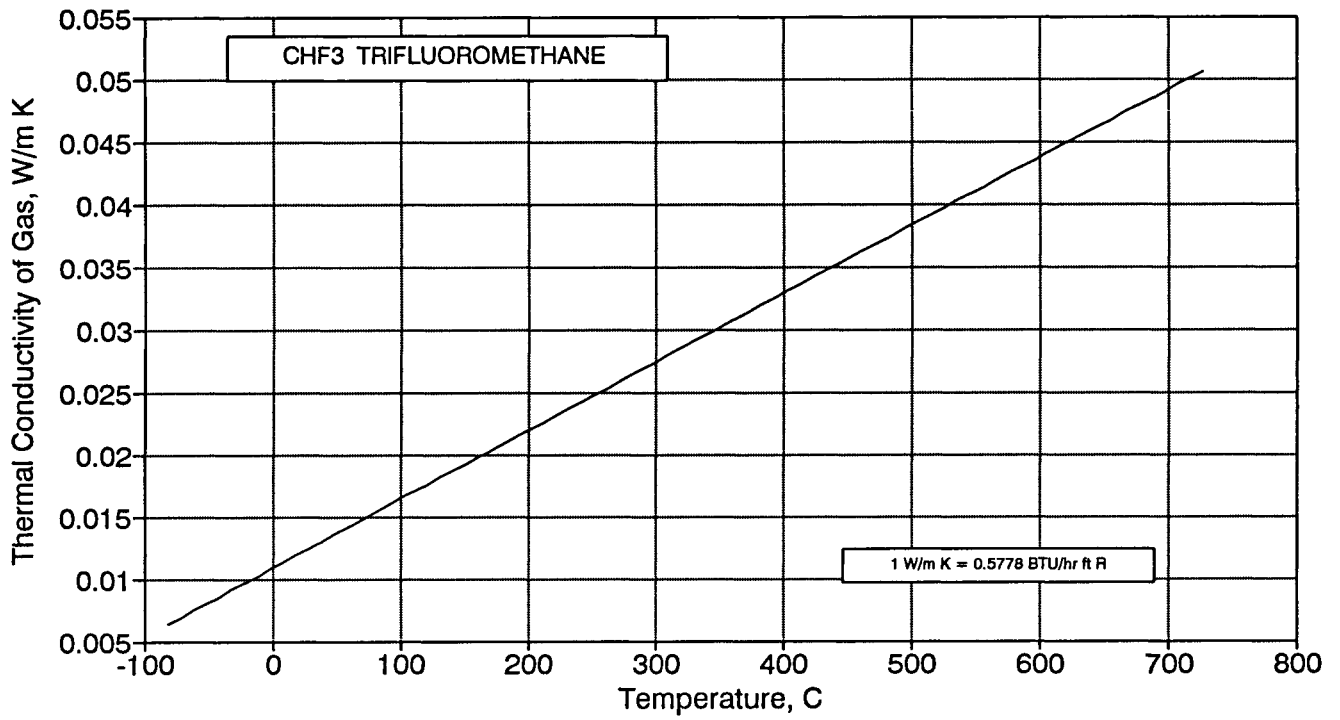


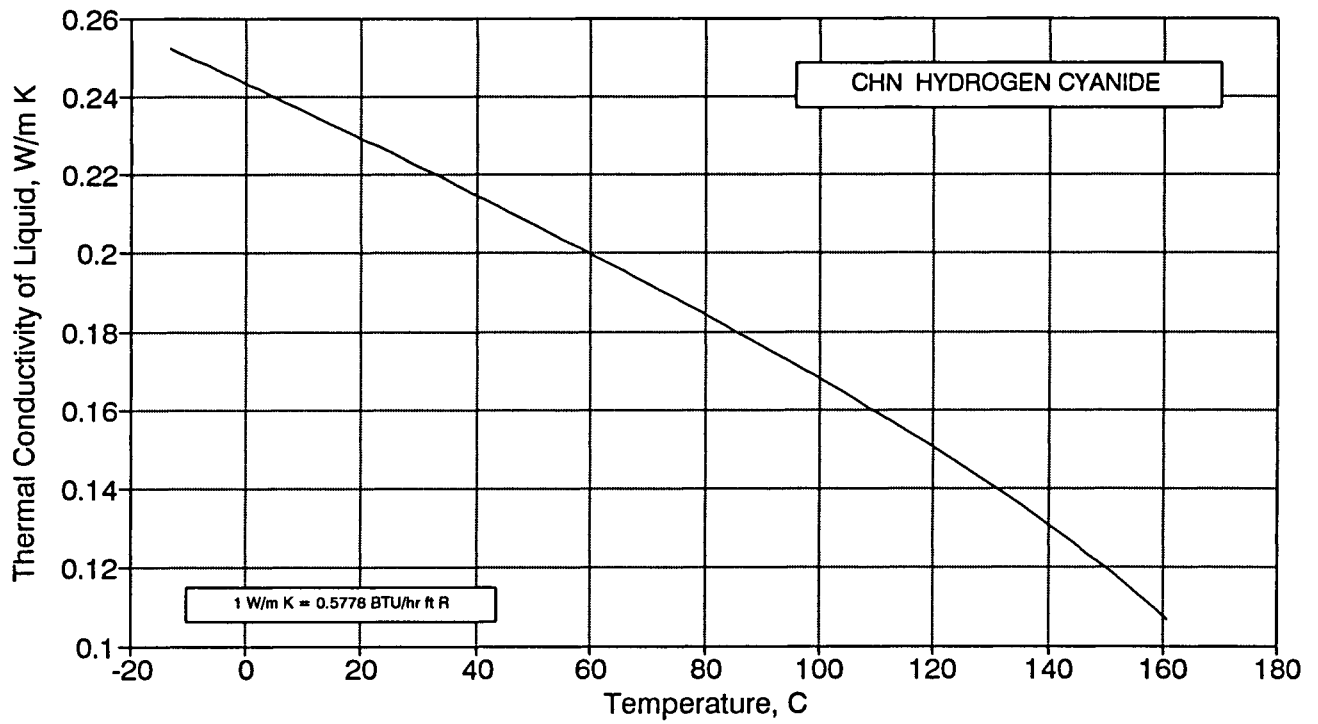
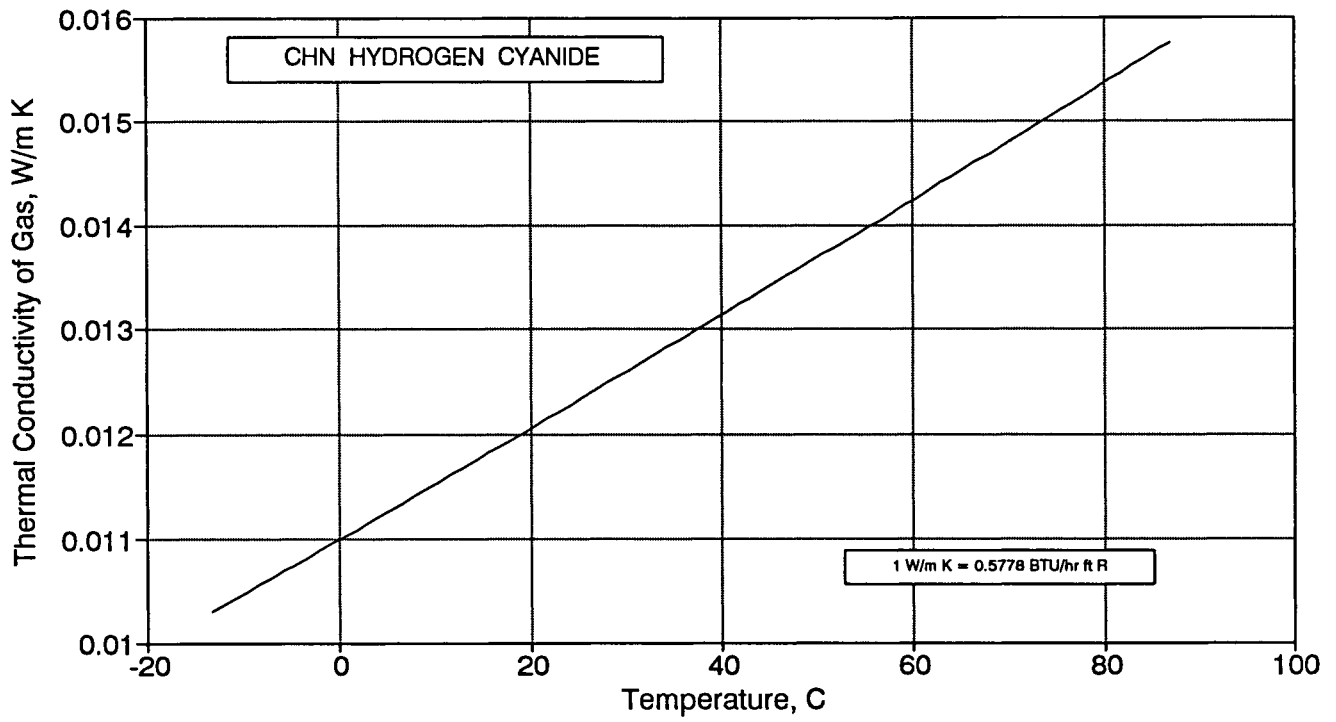


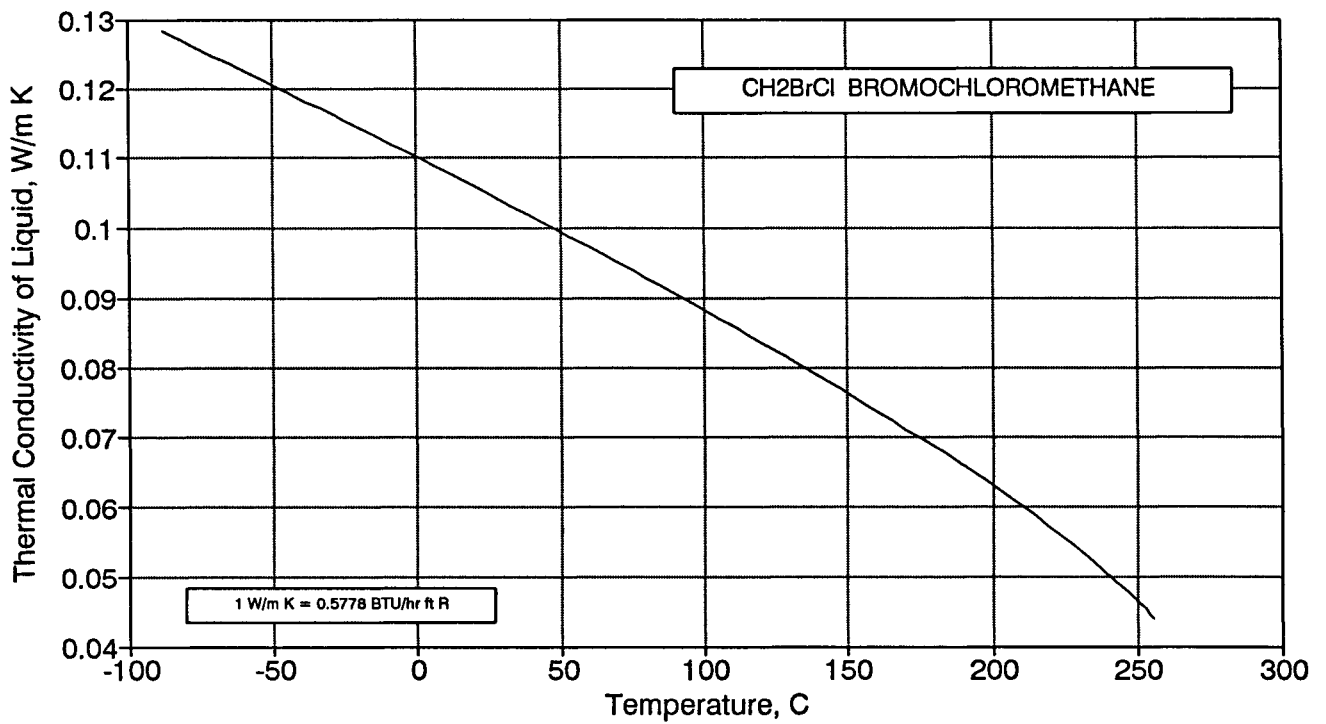
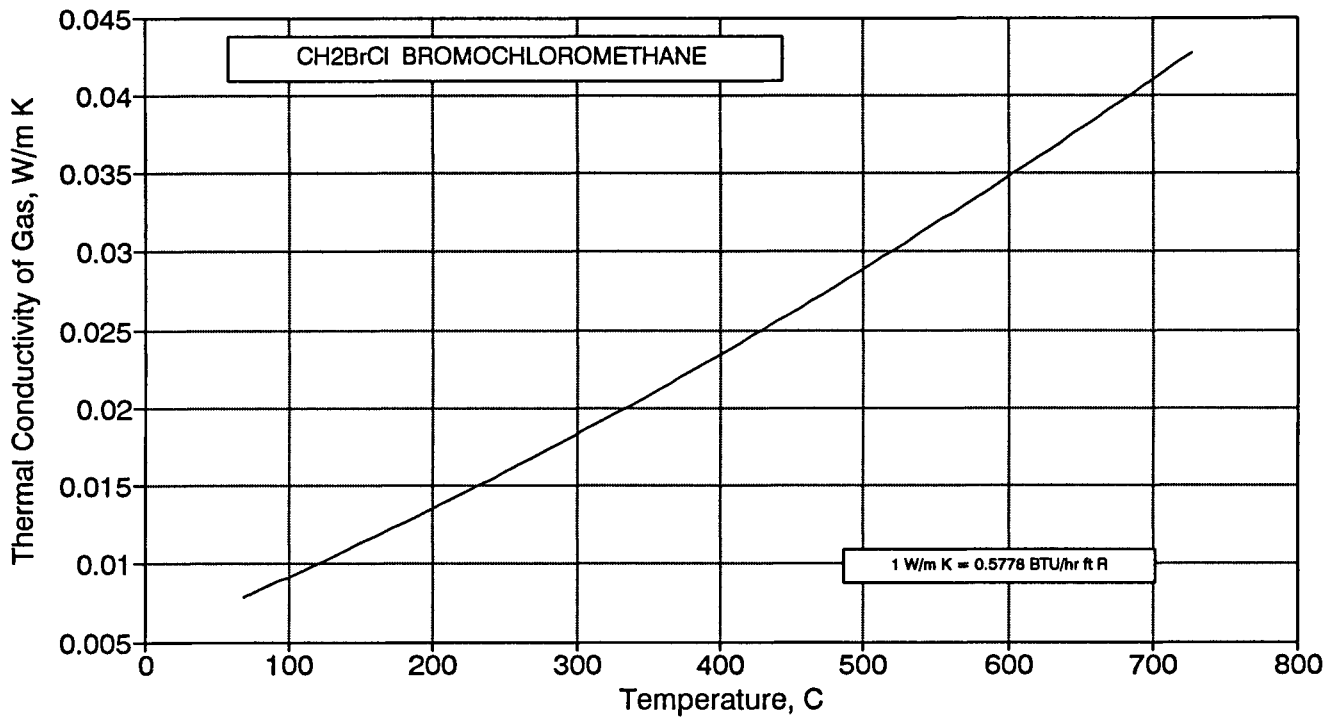


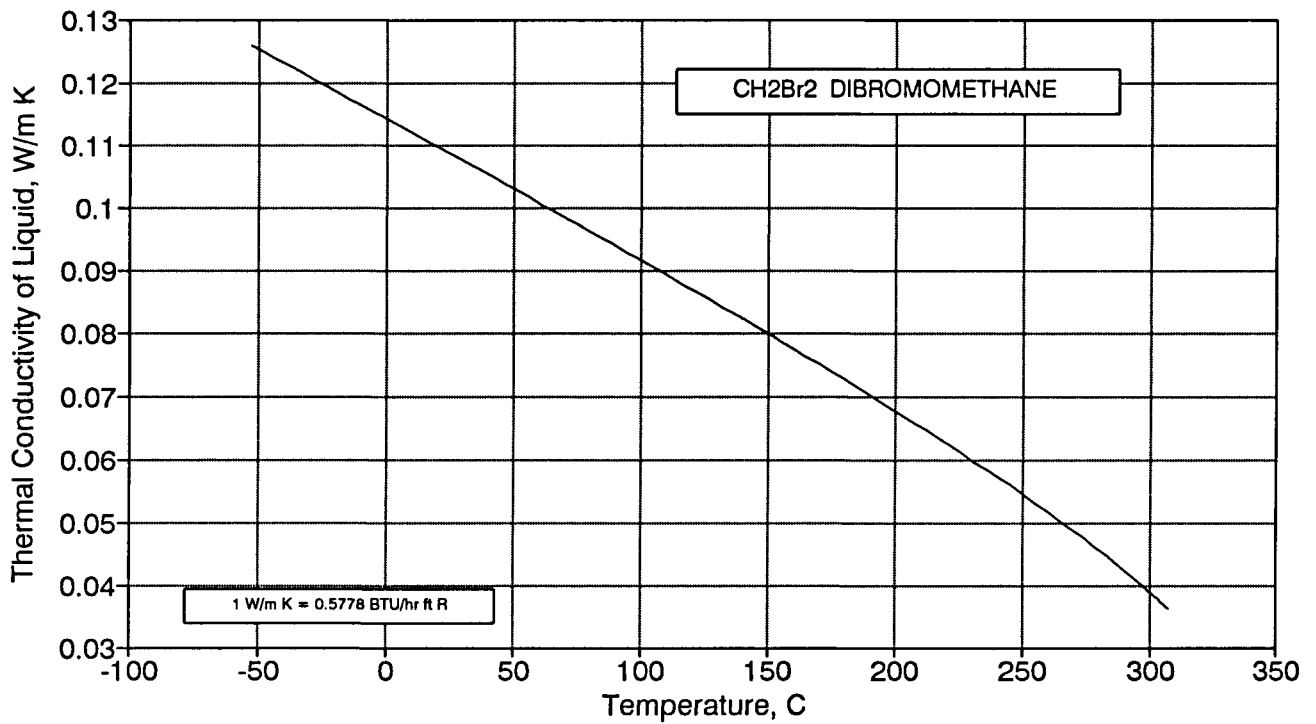
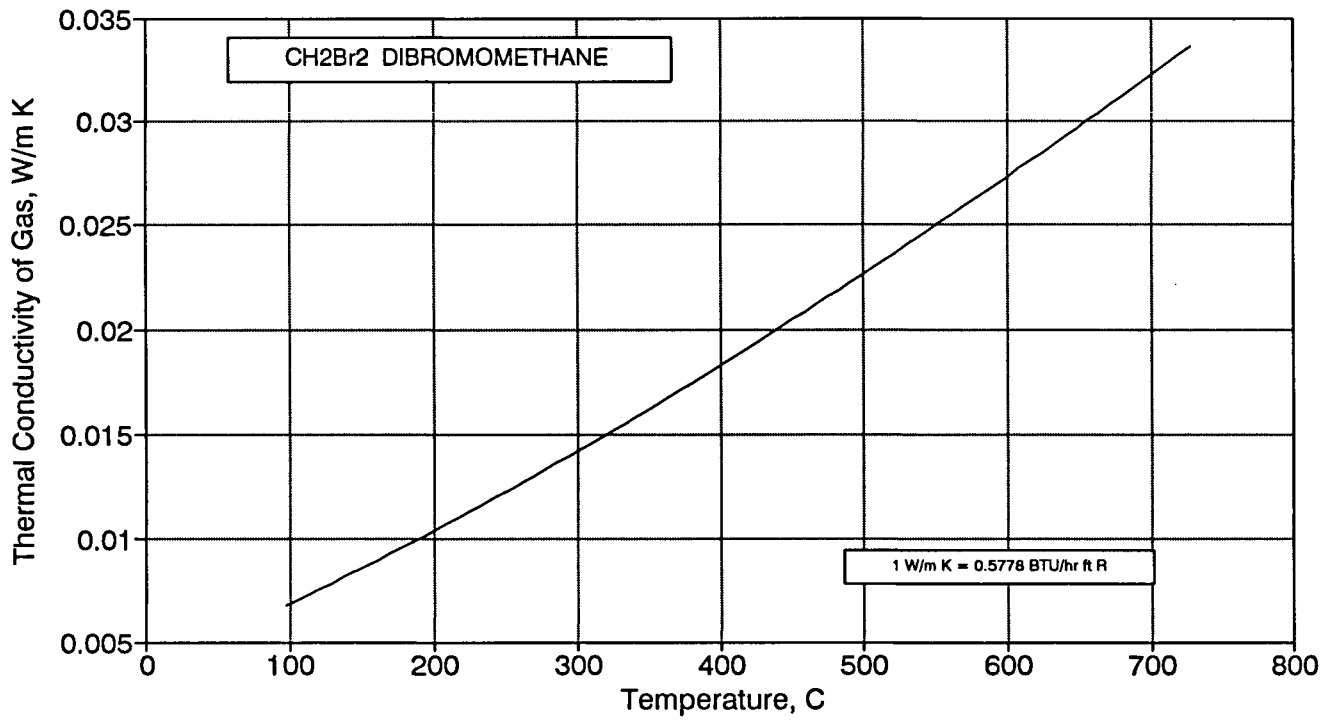


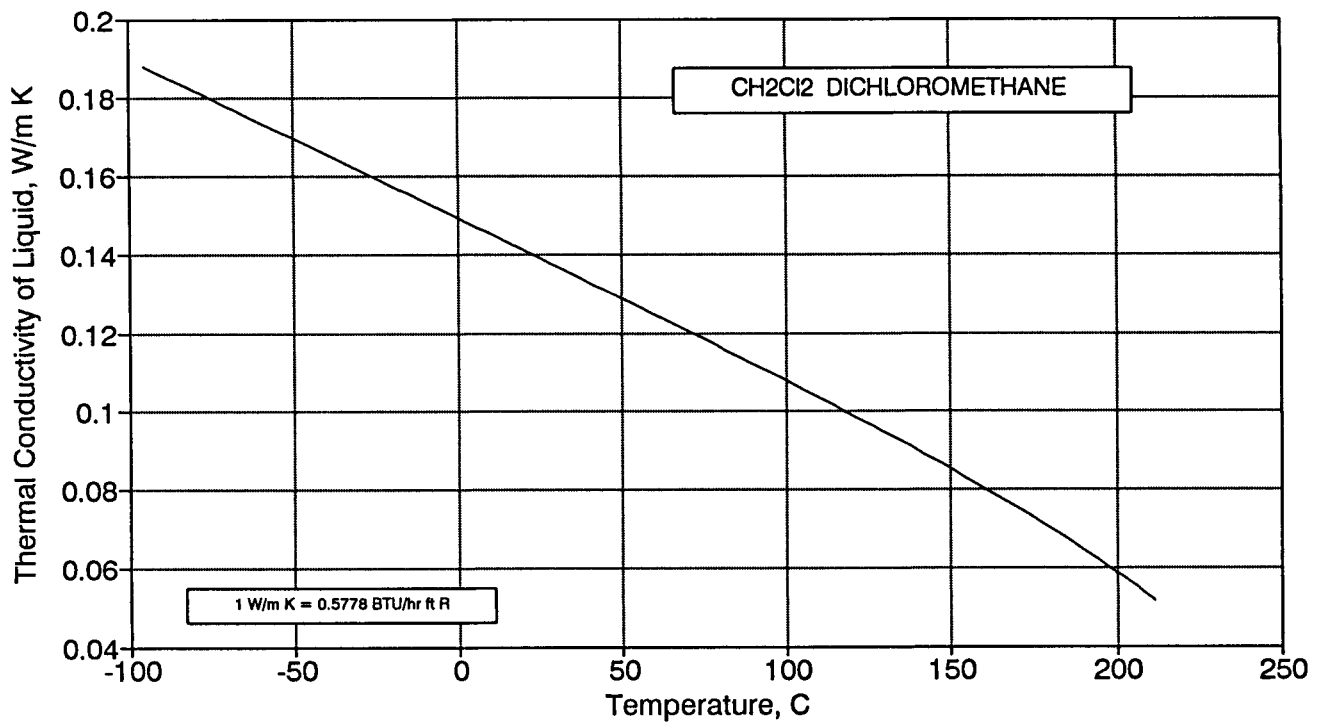
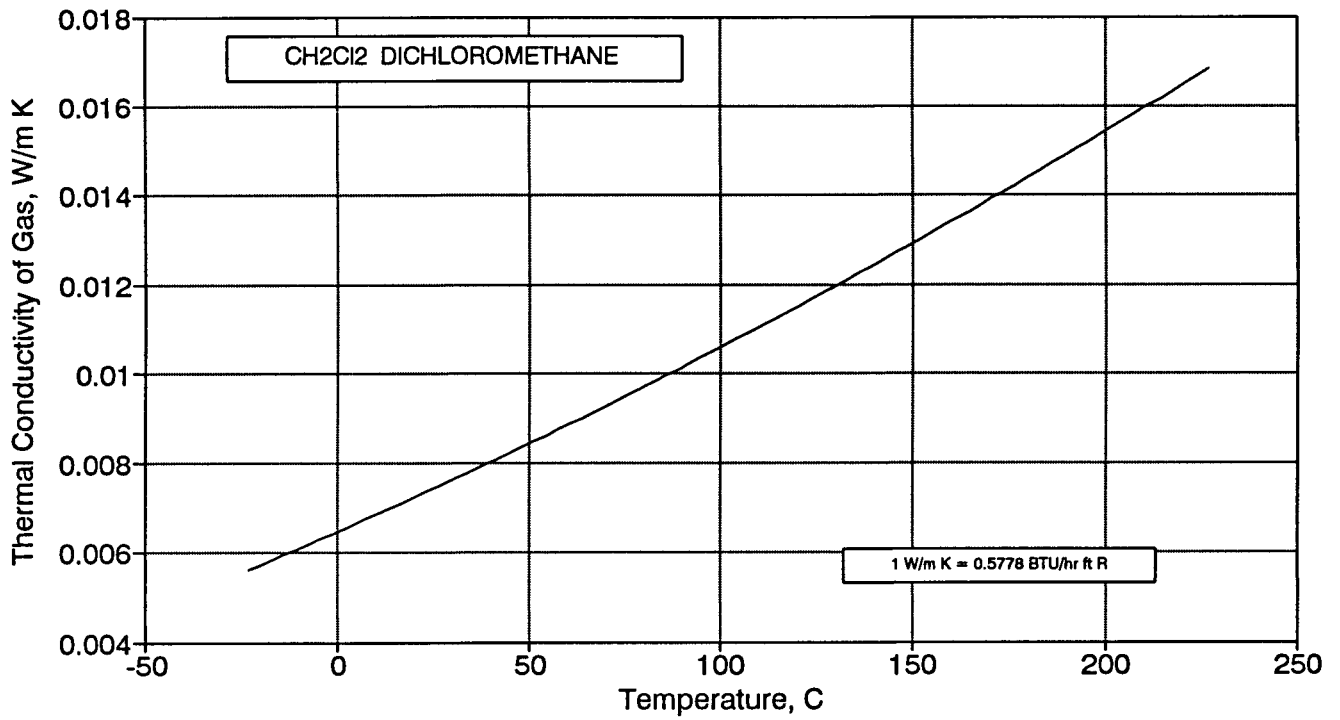




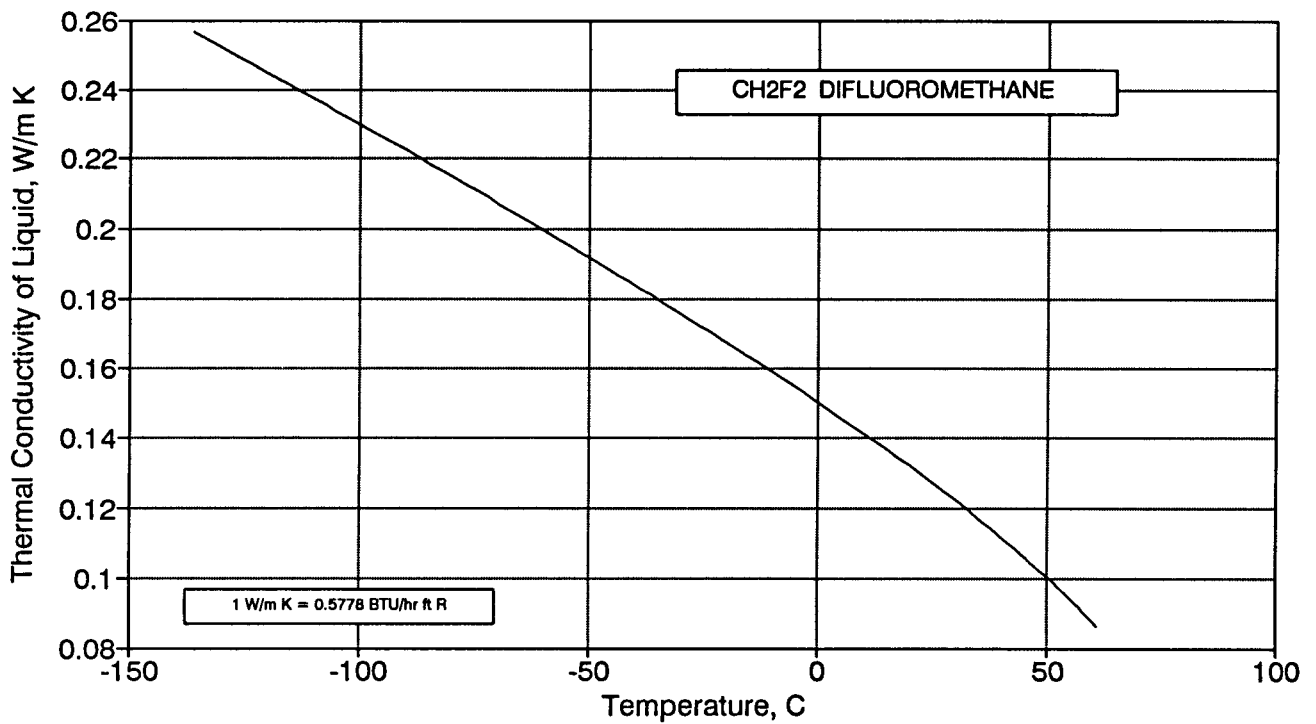
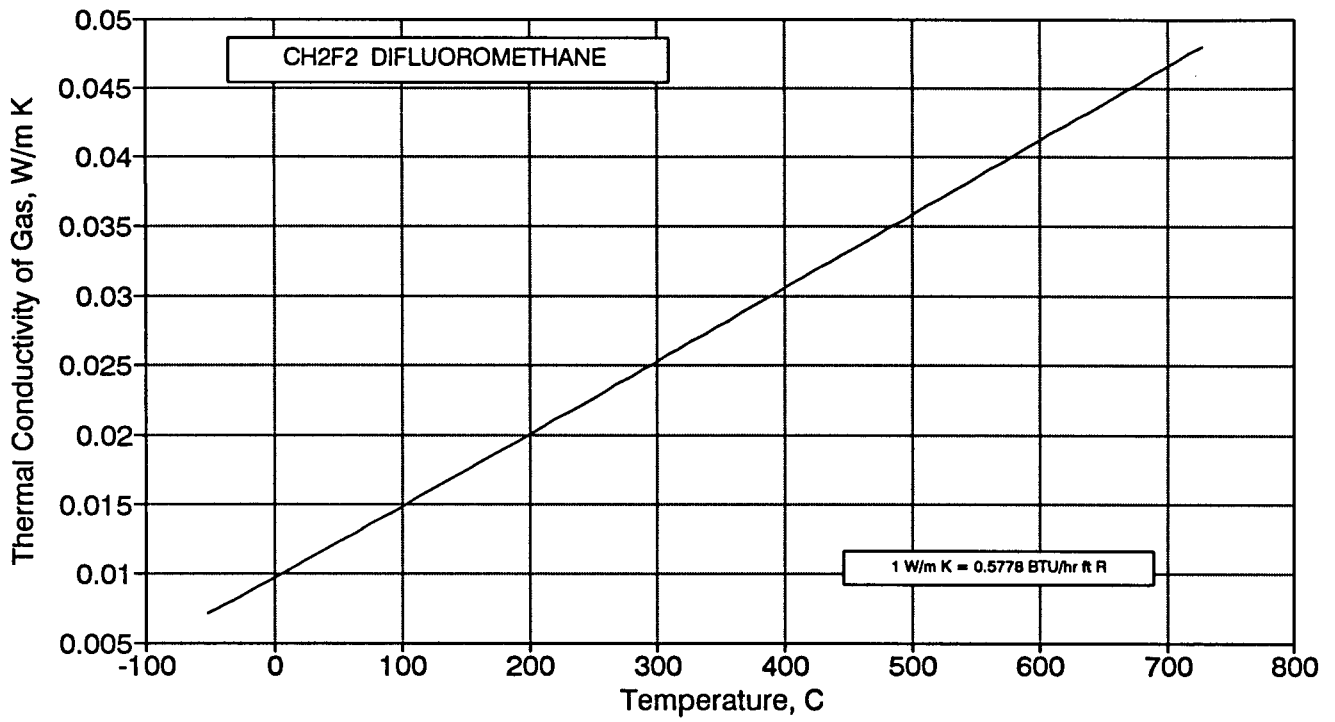


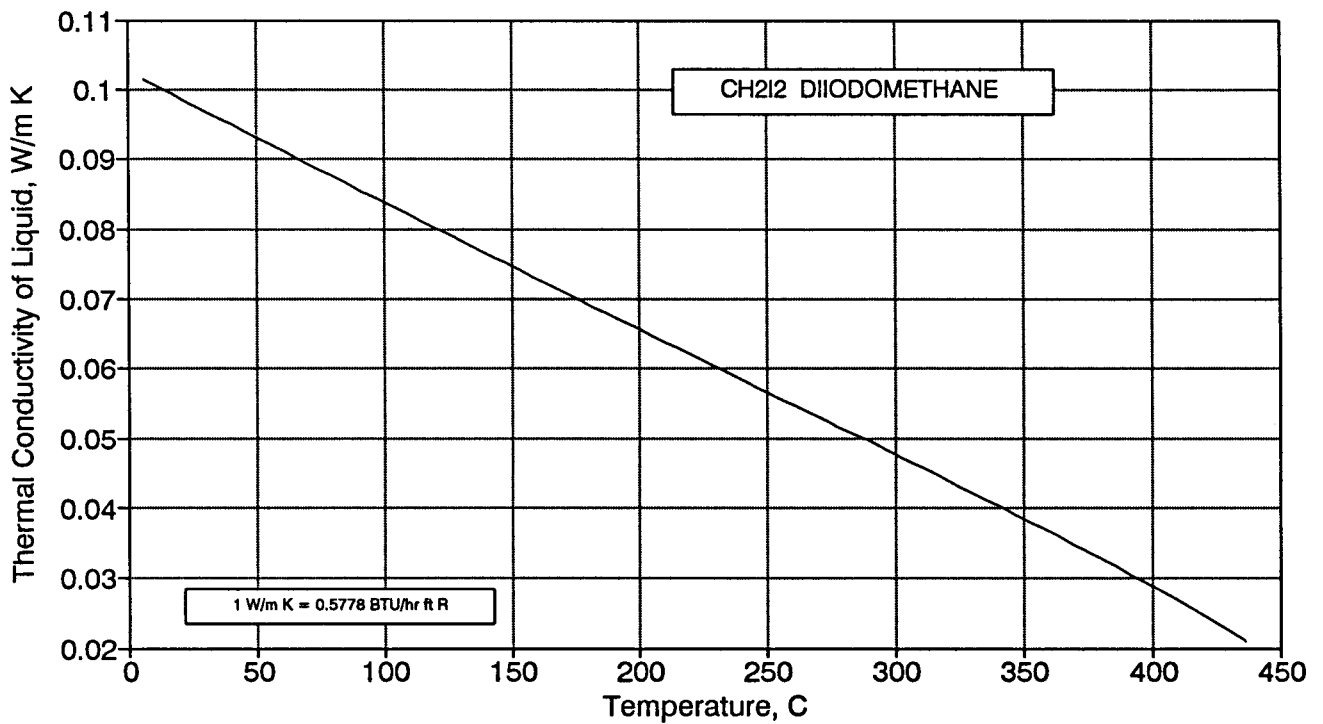
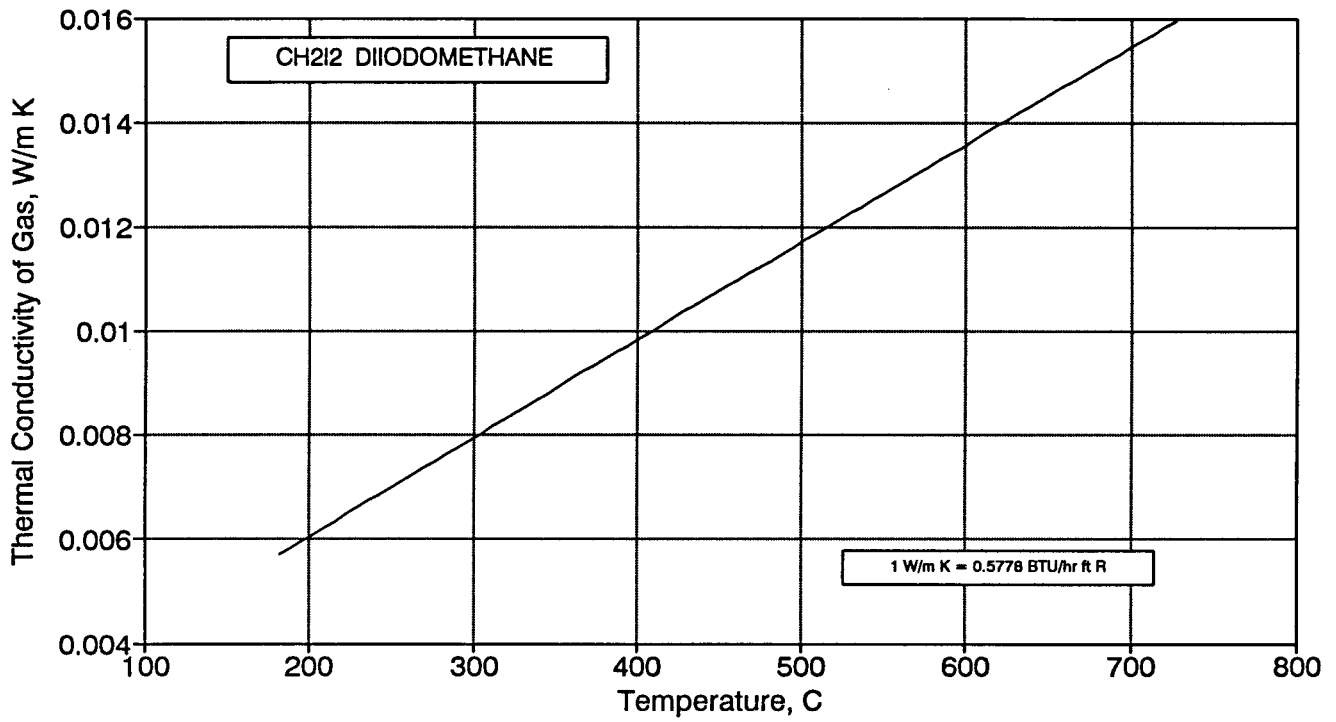


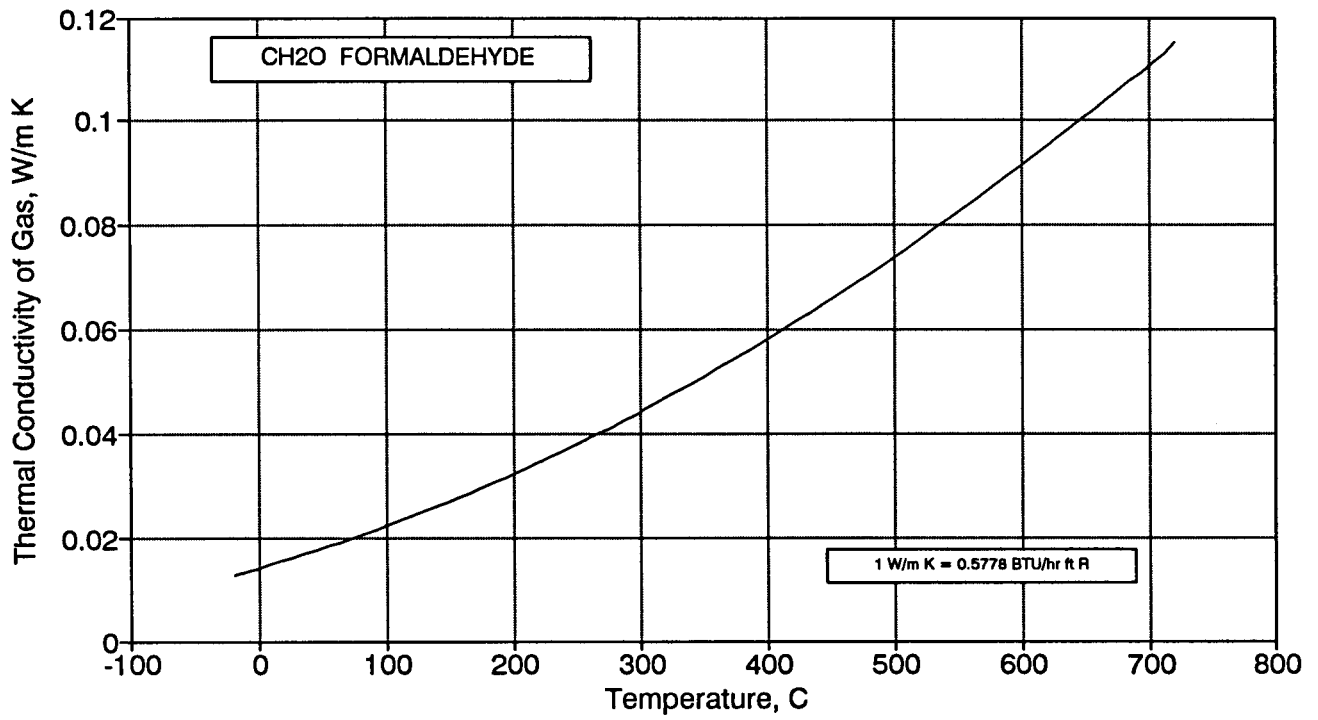












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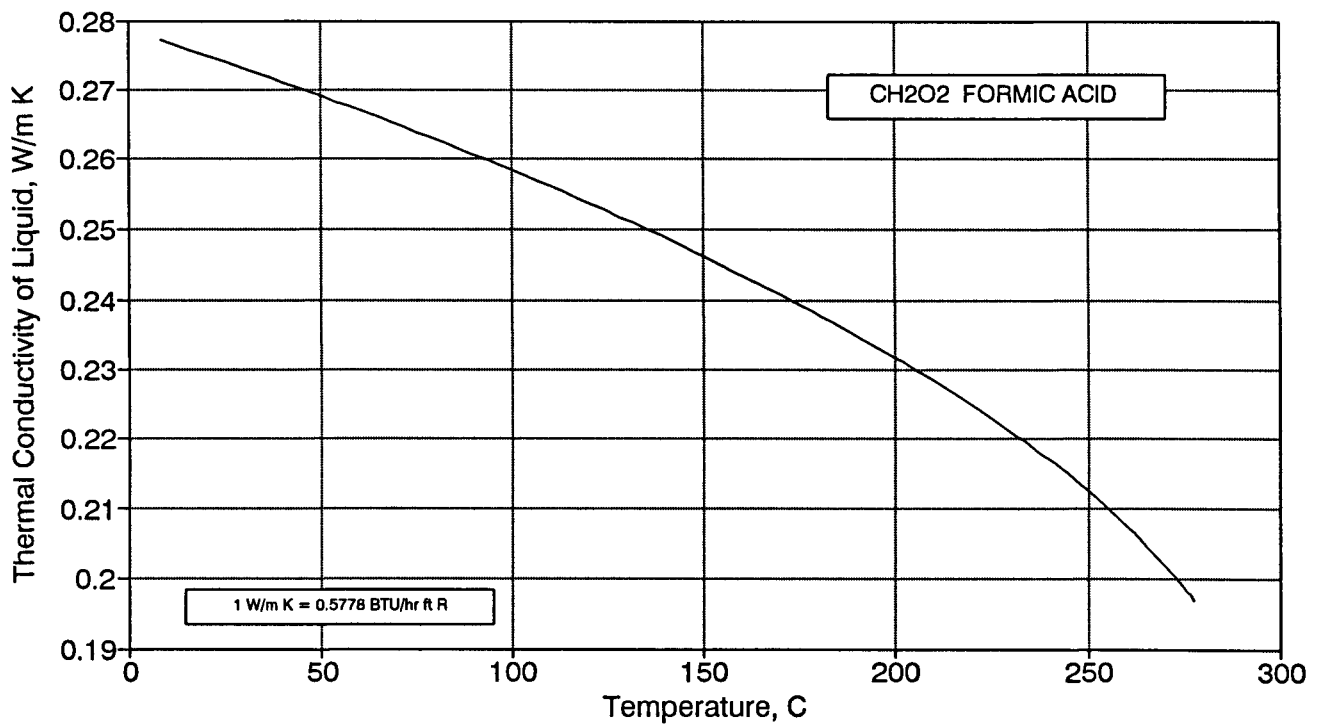
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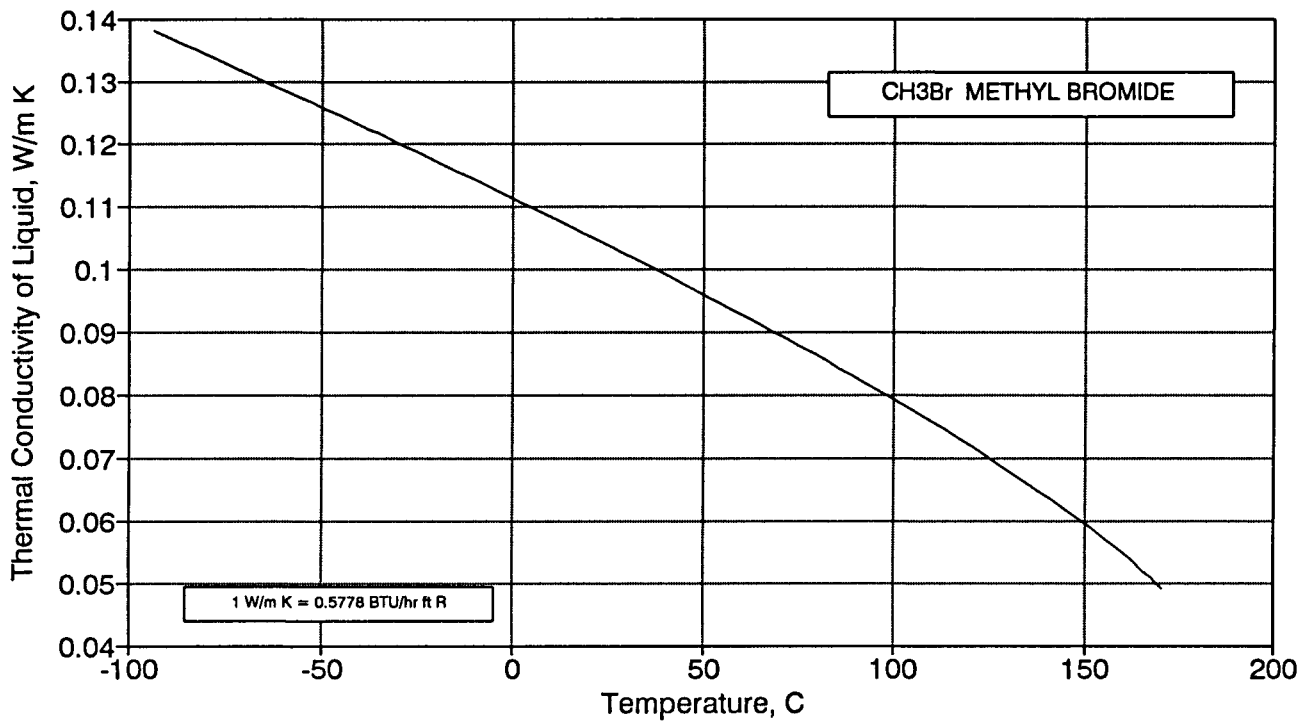
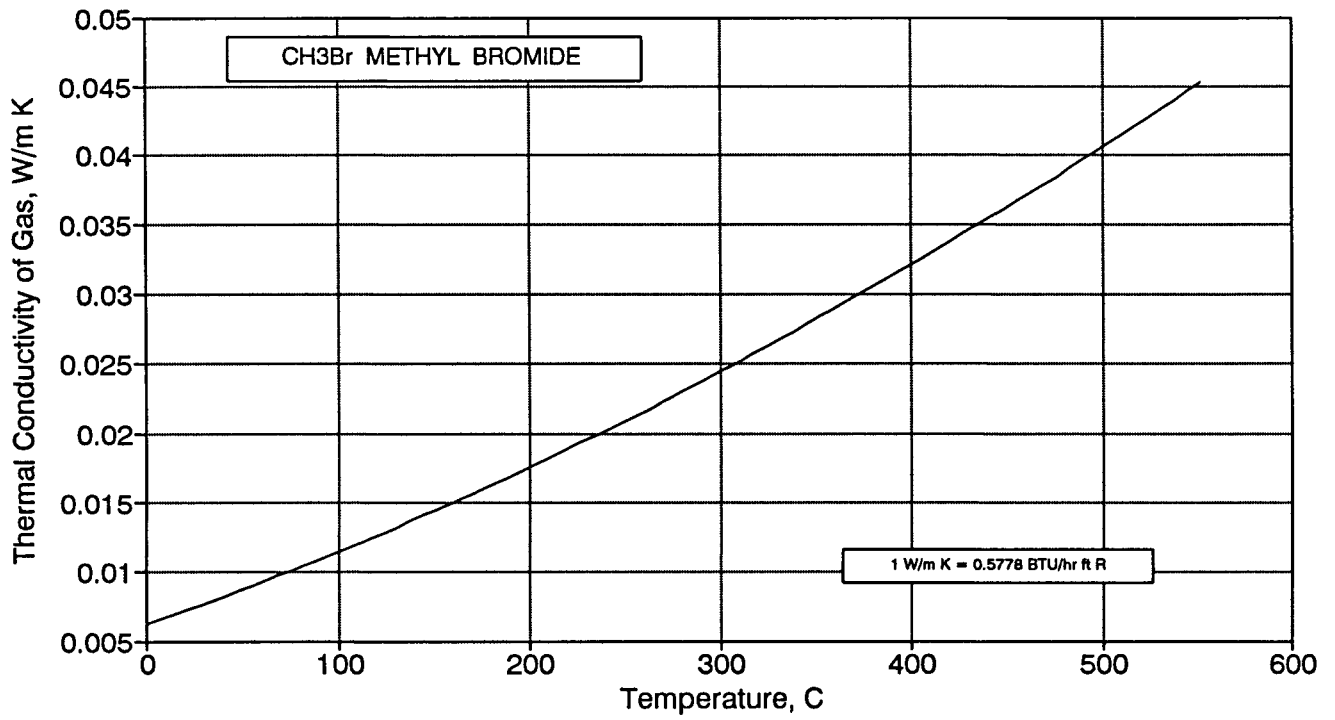
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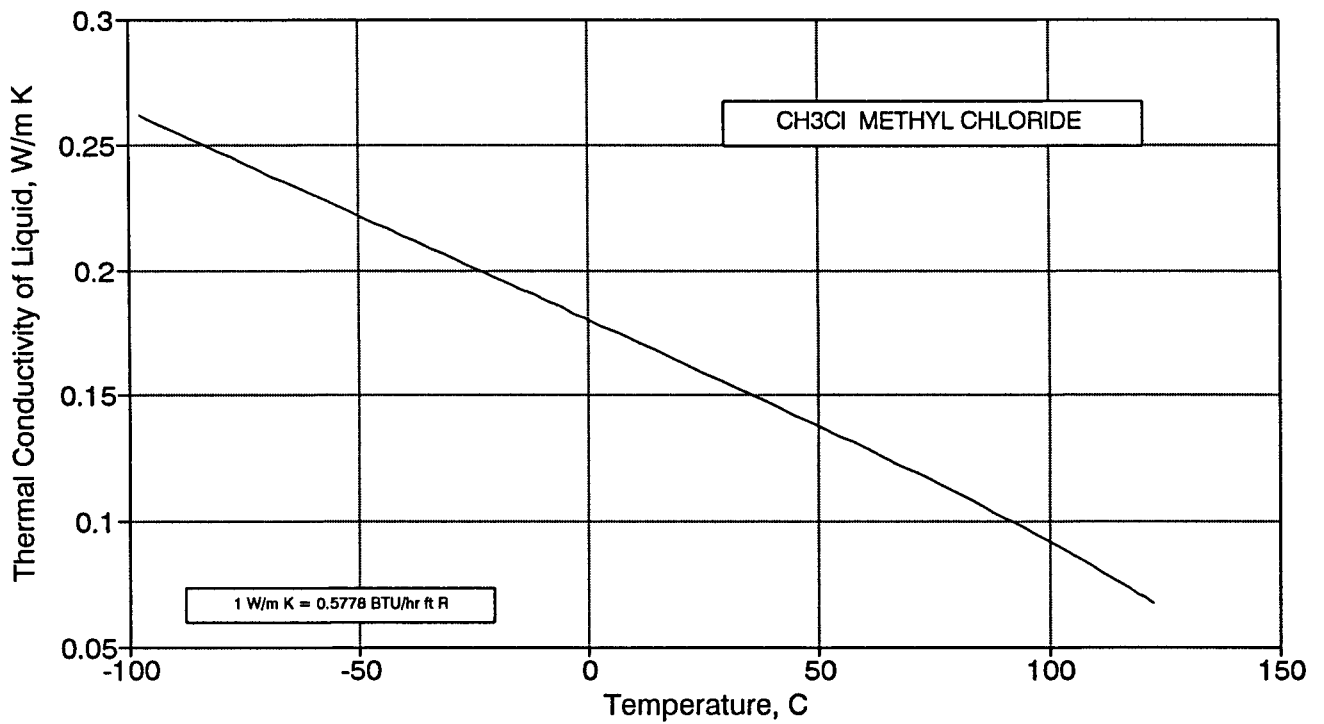
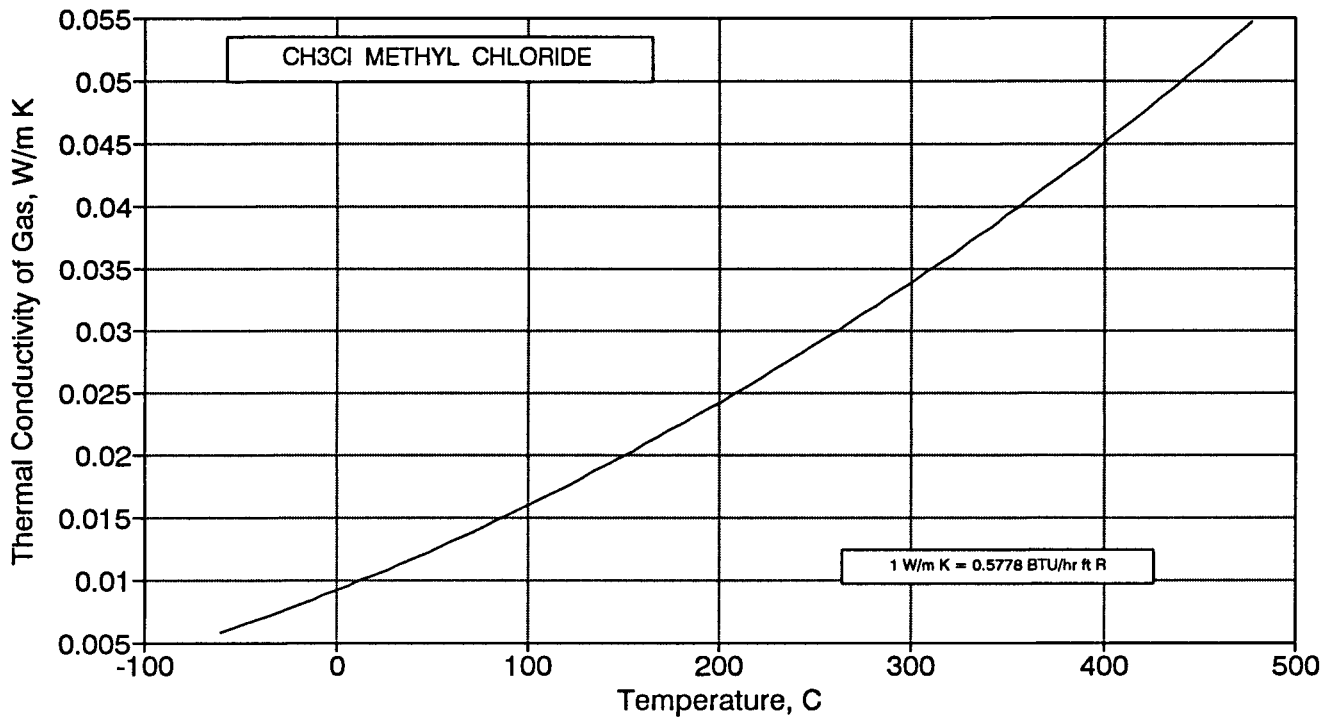
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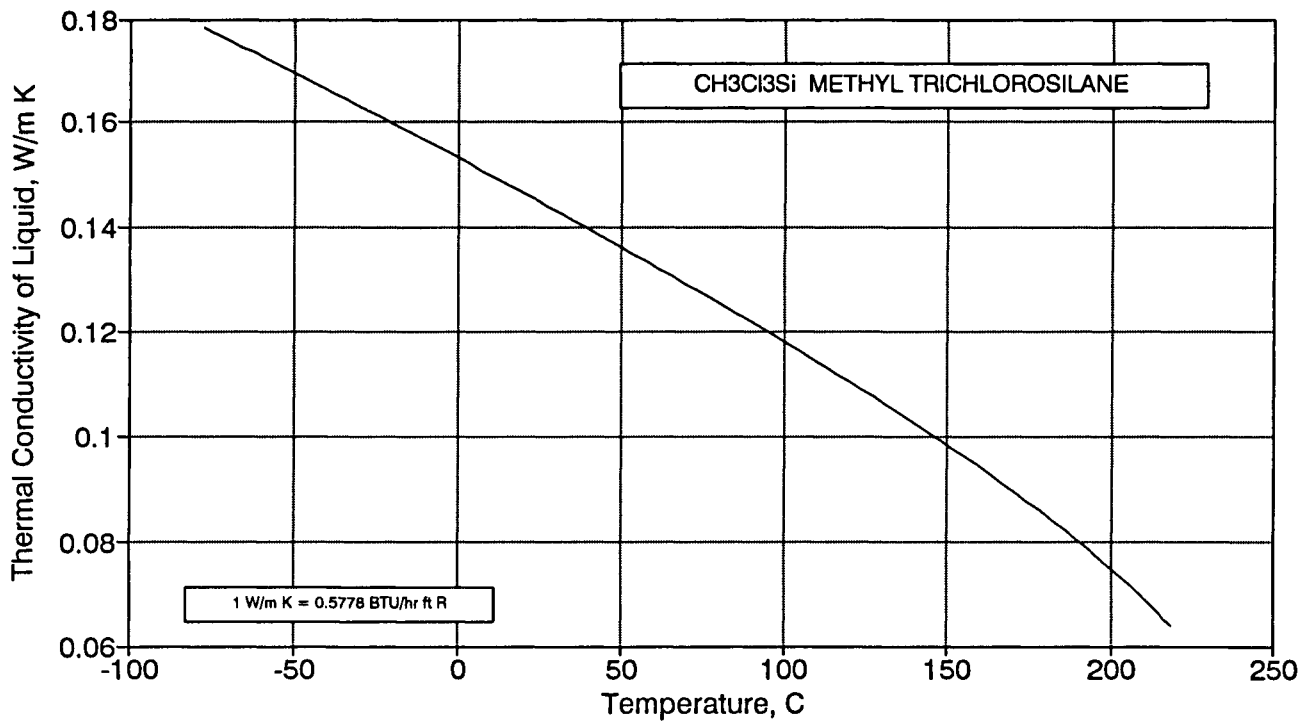
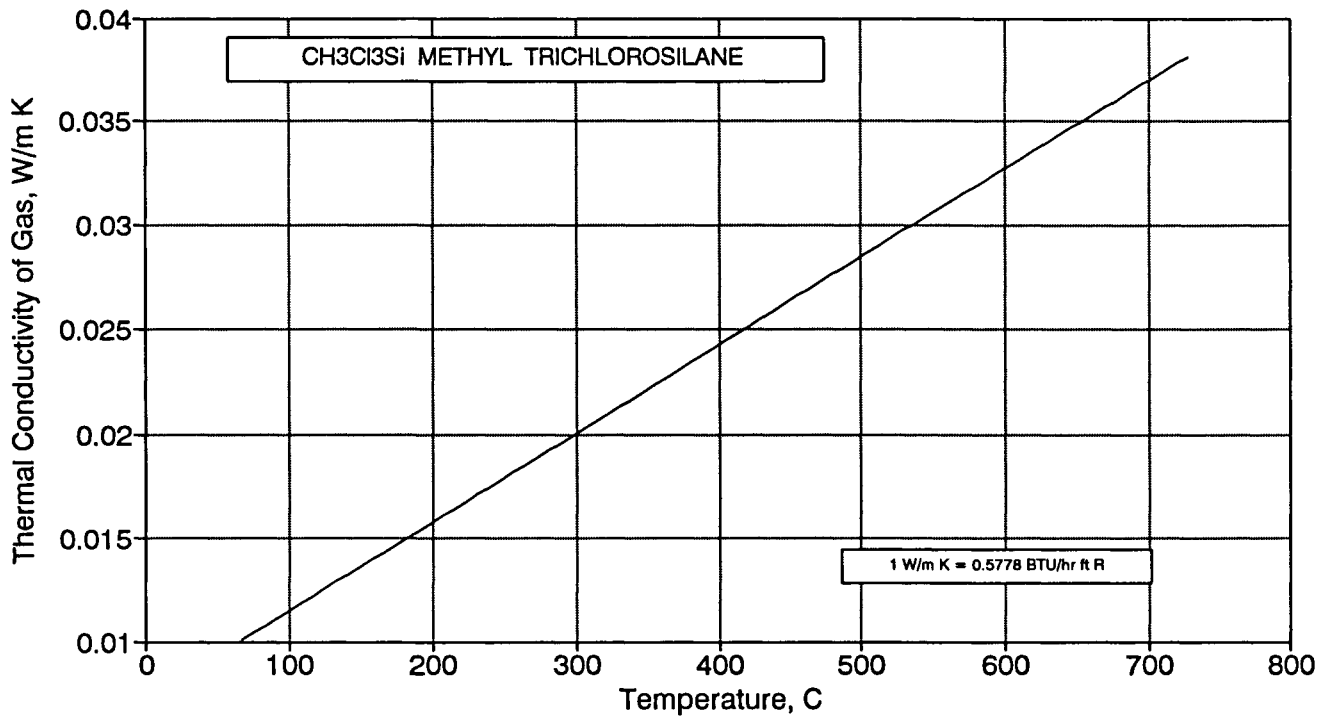
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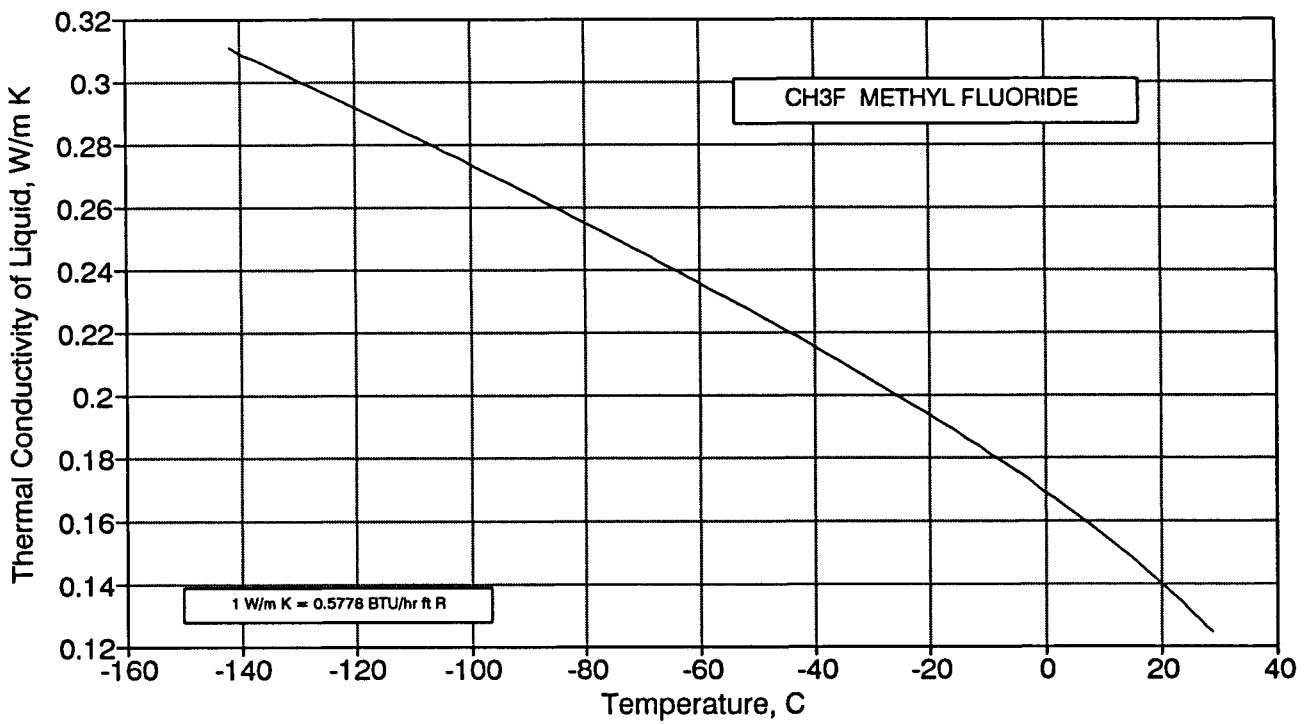
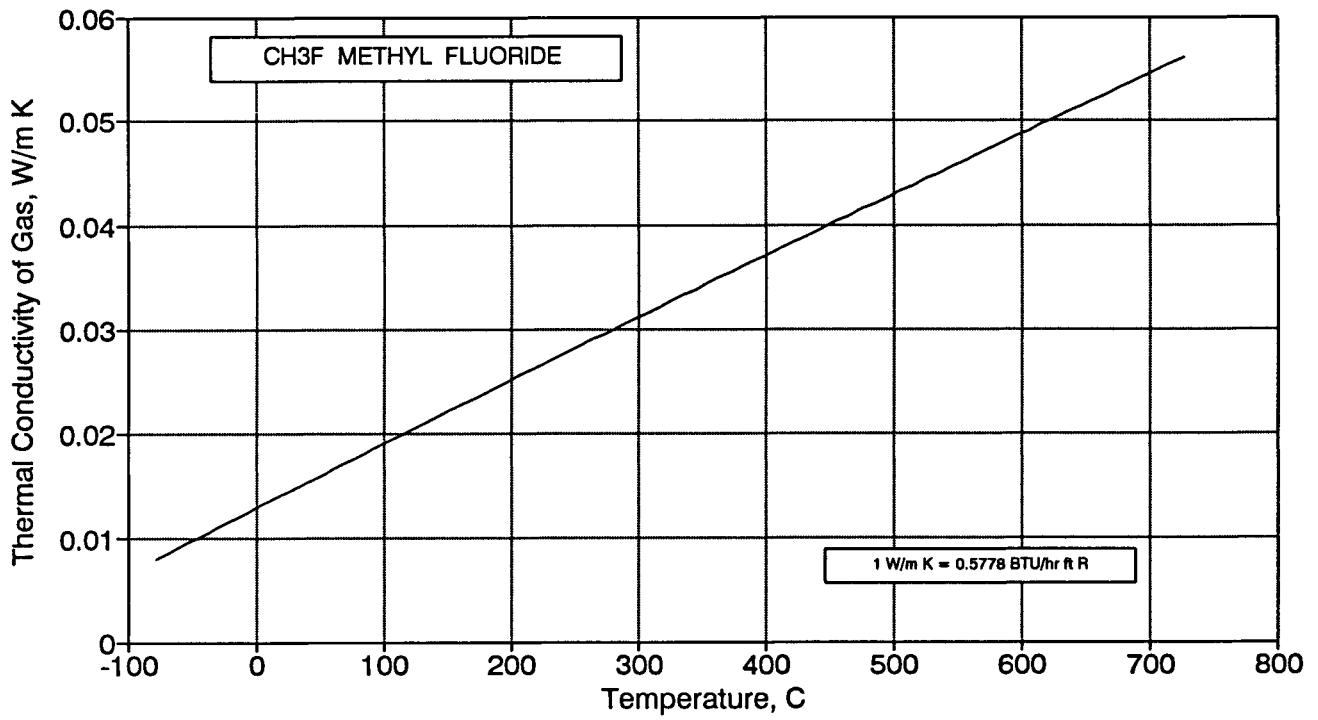
TB , K = 373.71



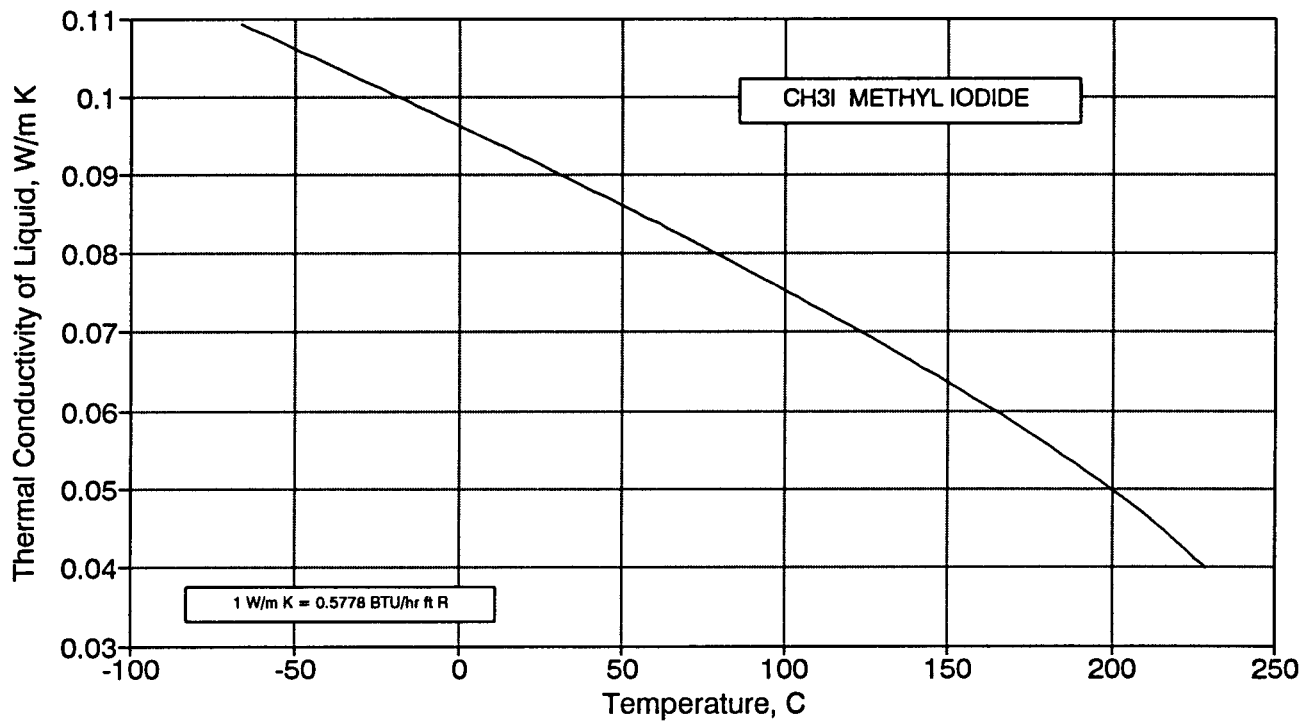
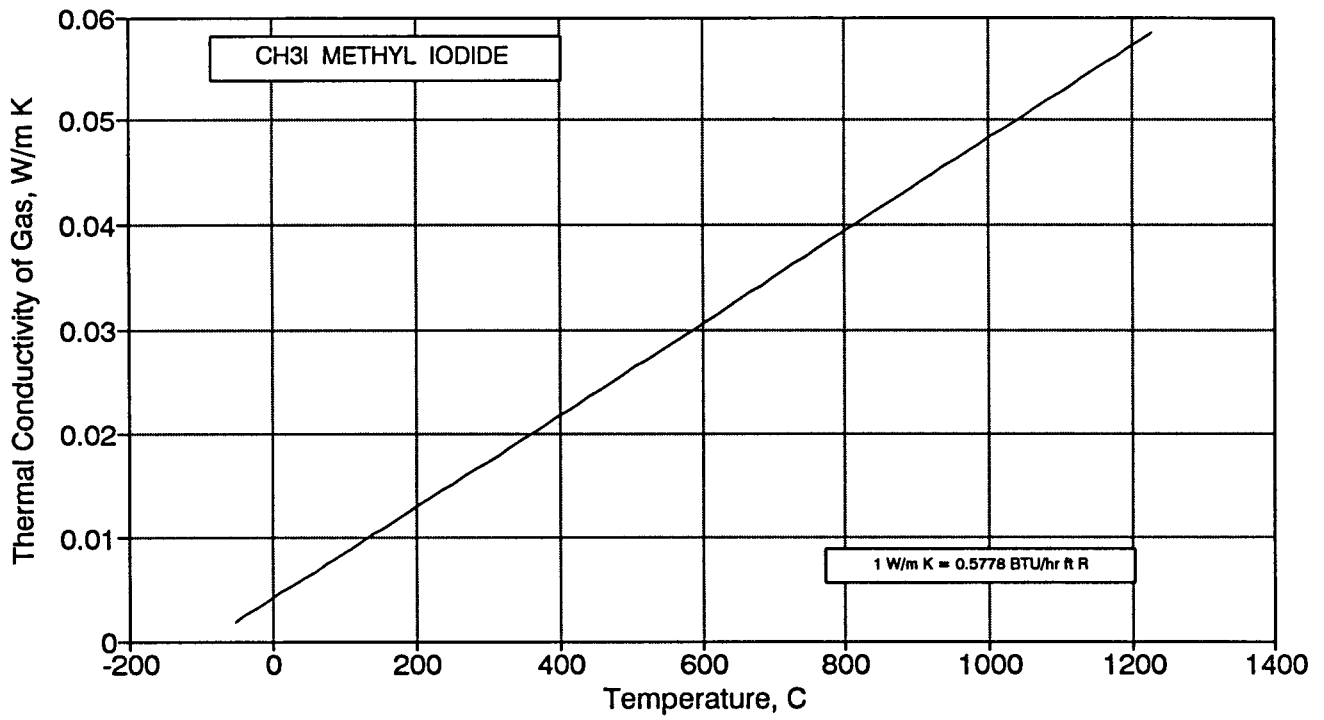










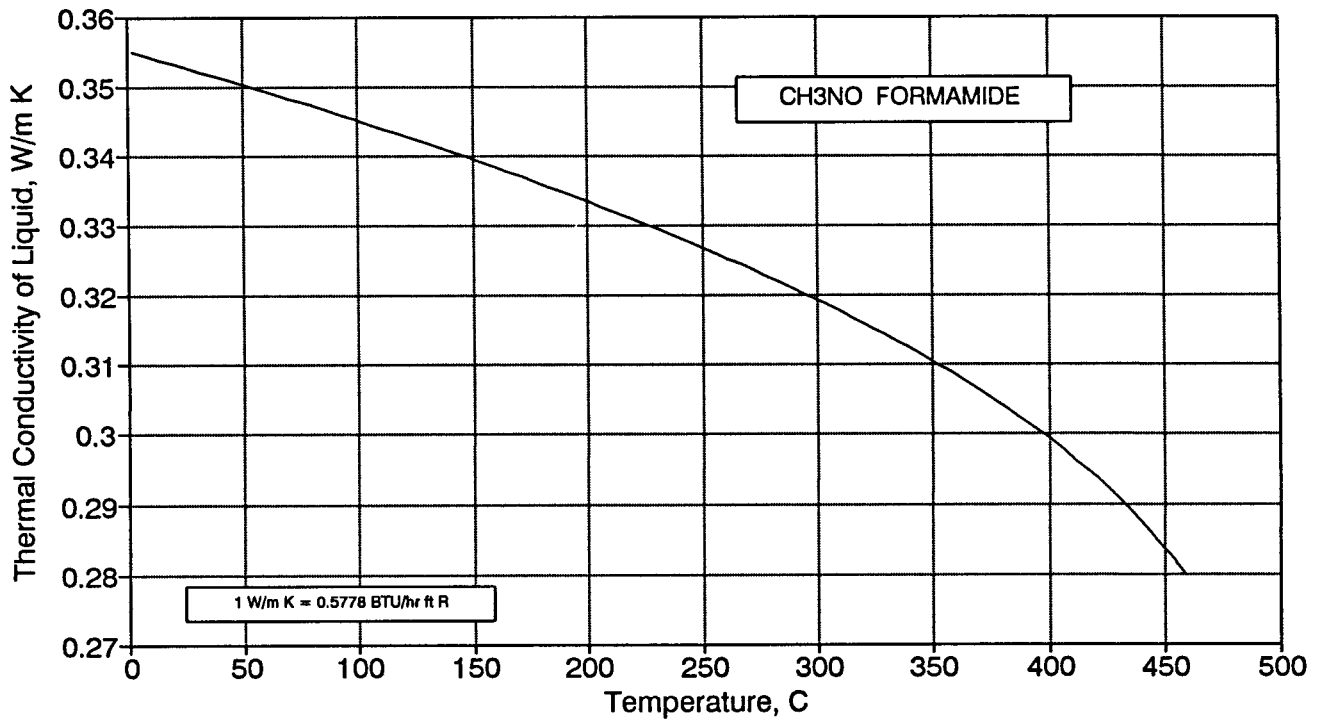


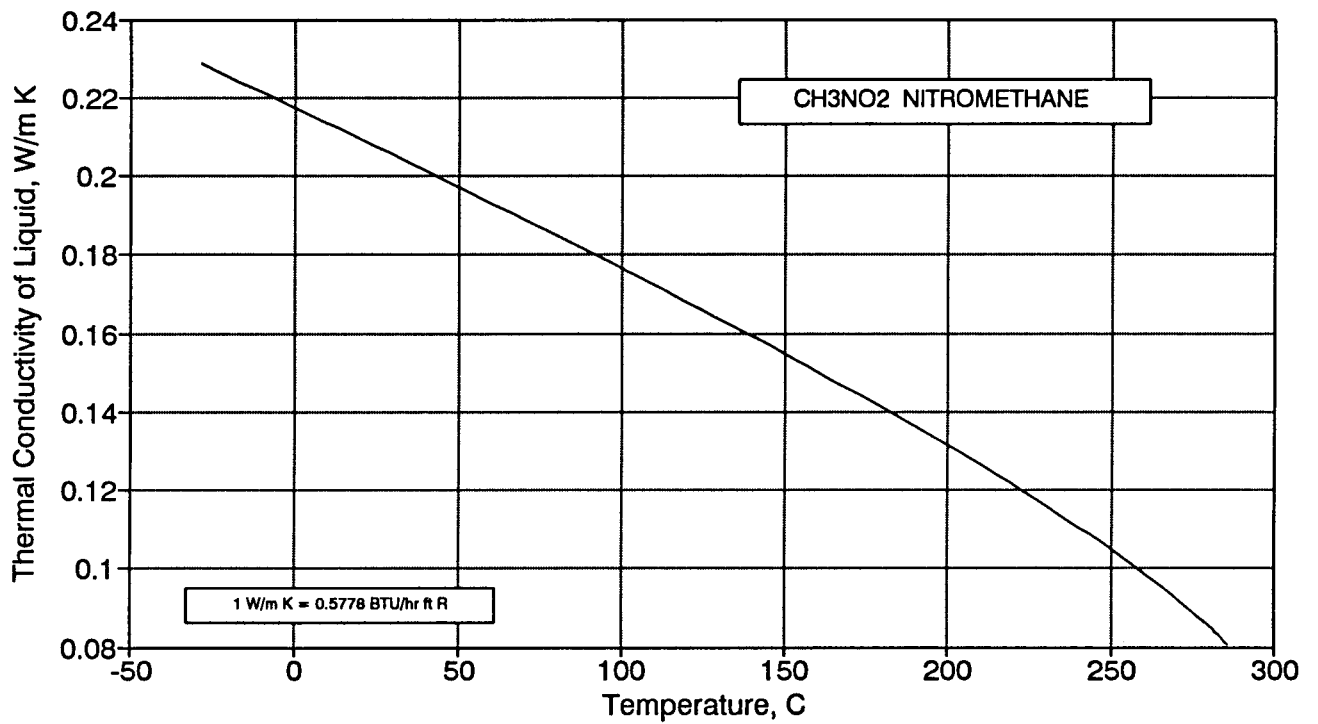
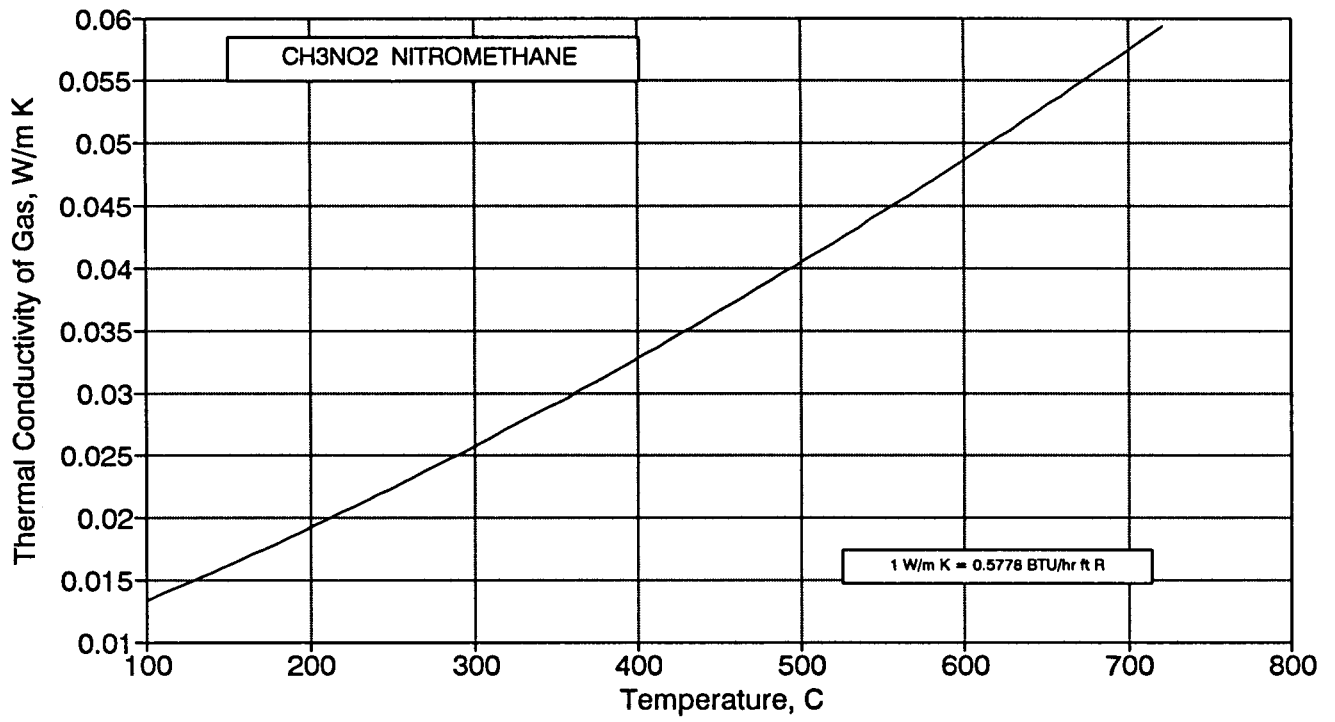
CH3NO FORMAMIDE

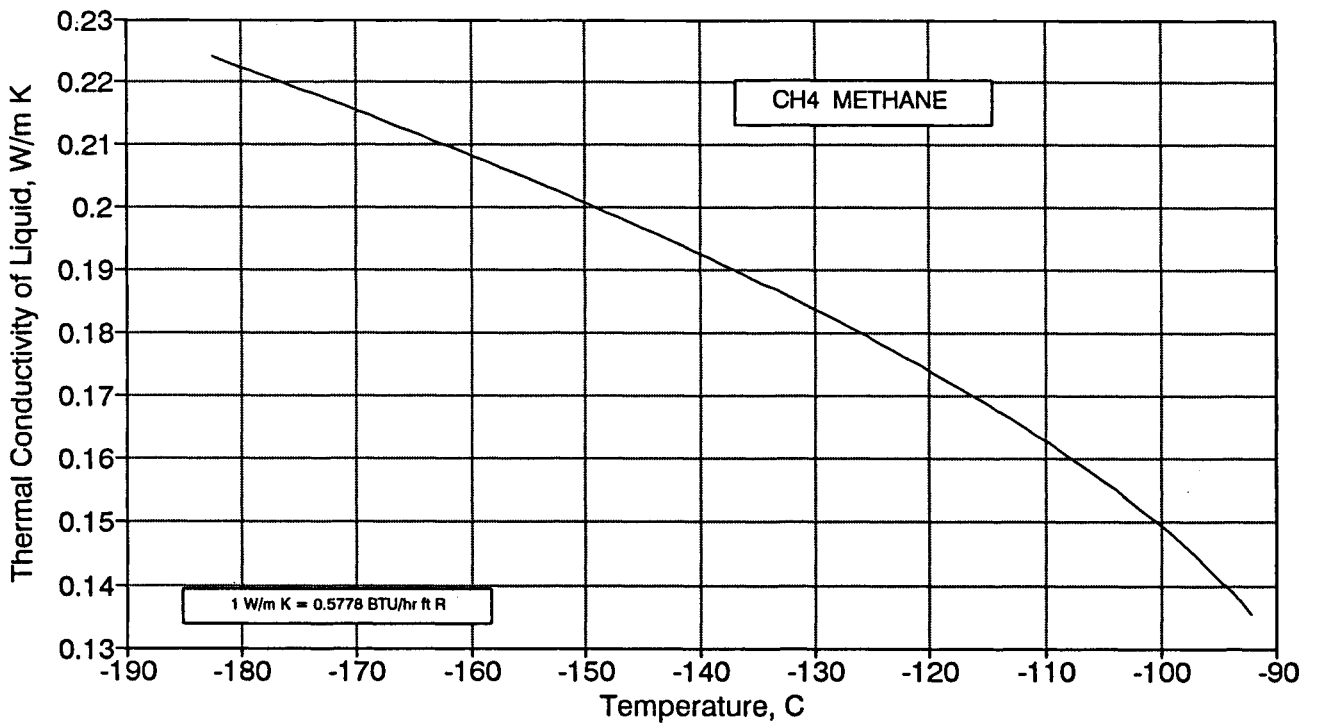
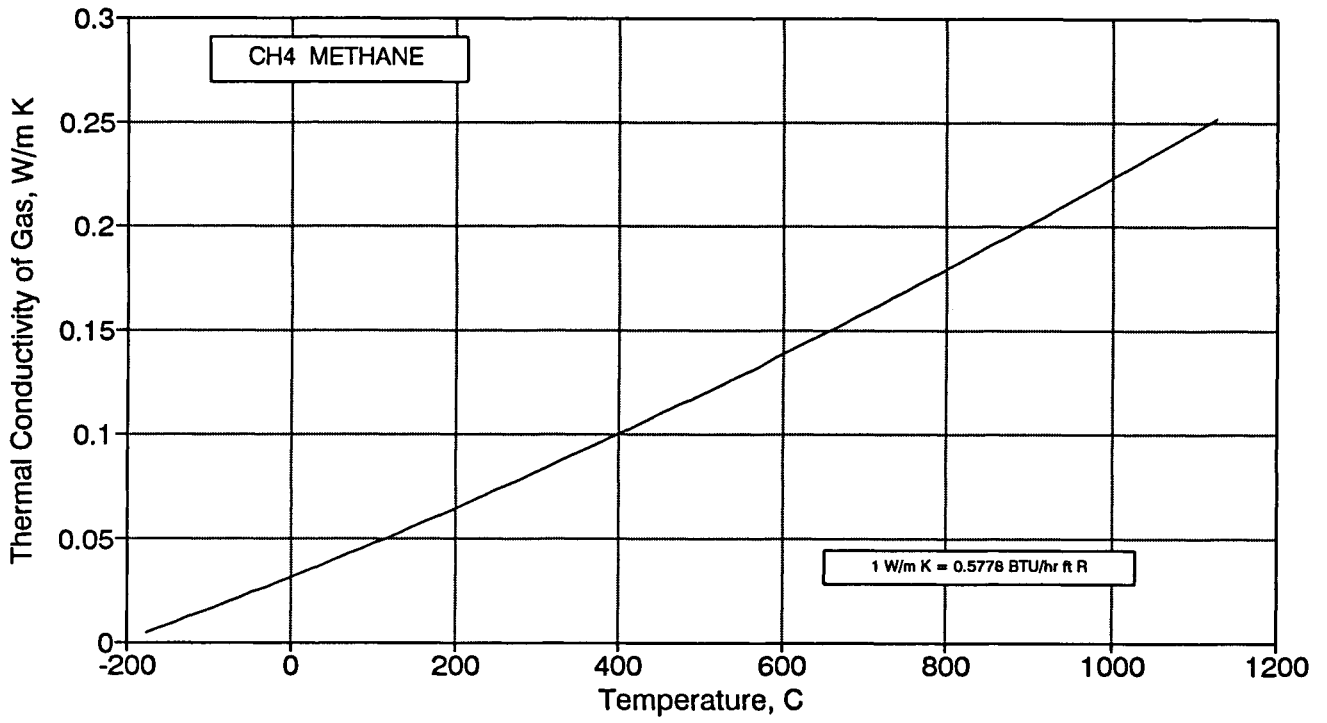
Gas thermal conductivity data are not available .

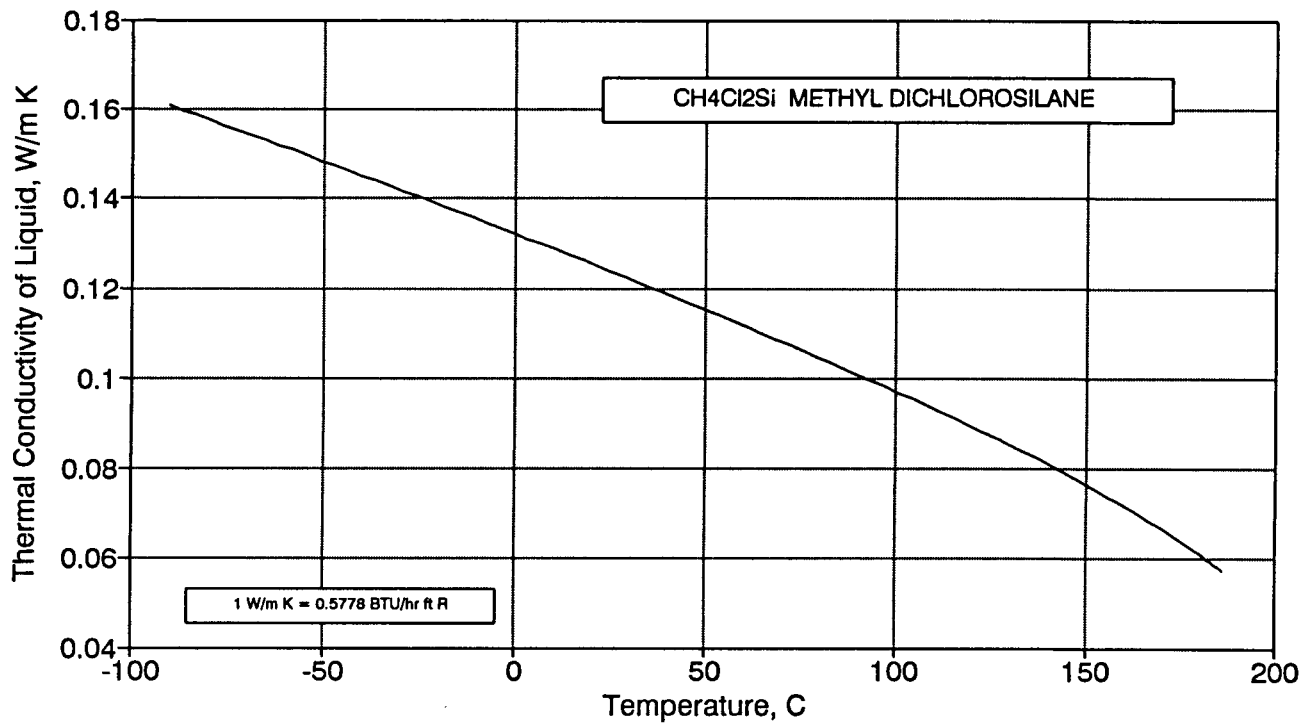
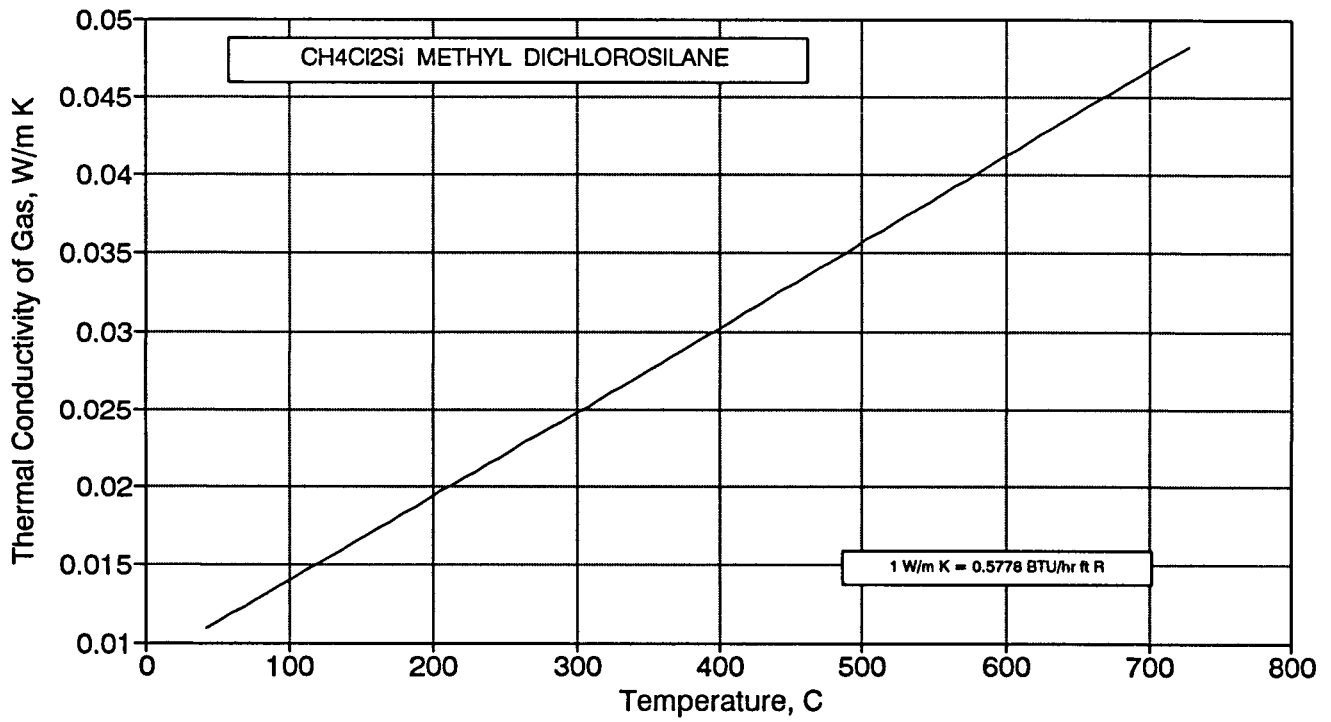
TF , K = 275.70

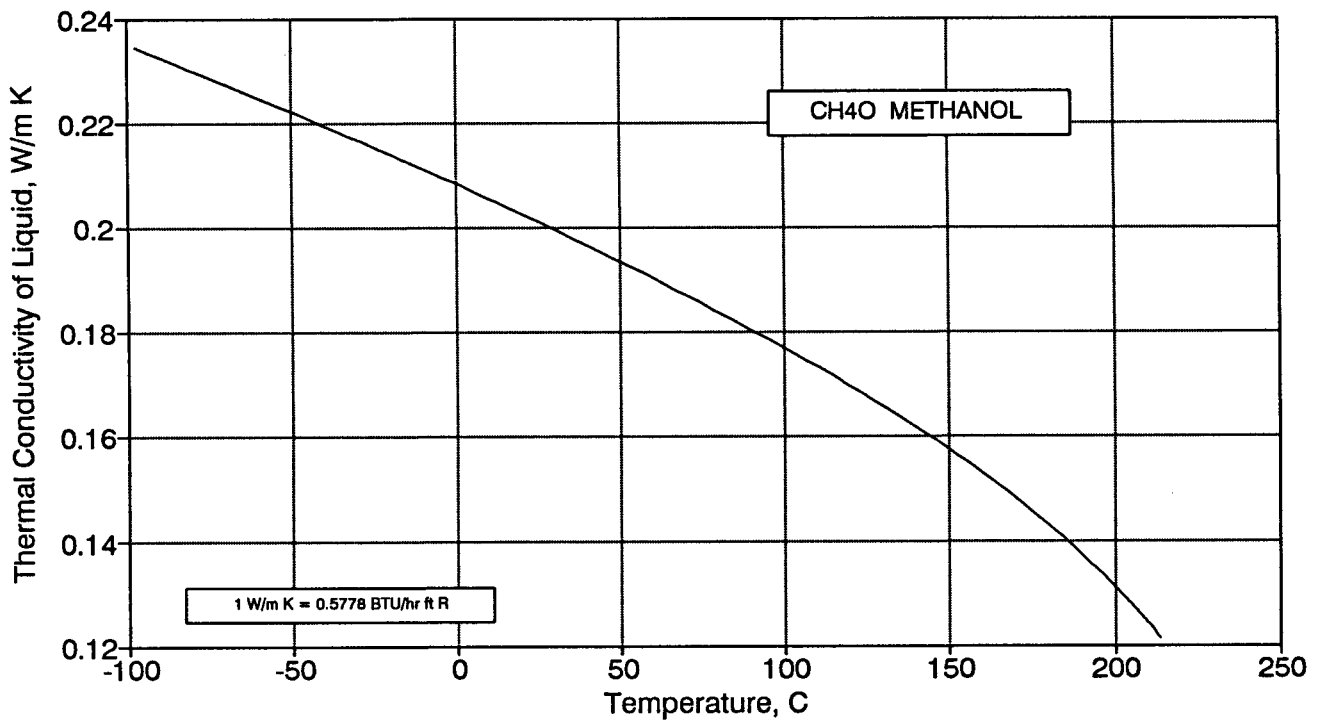
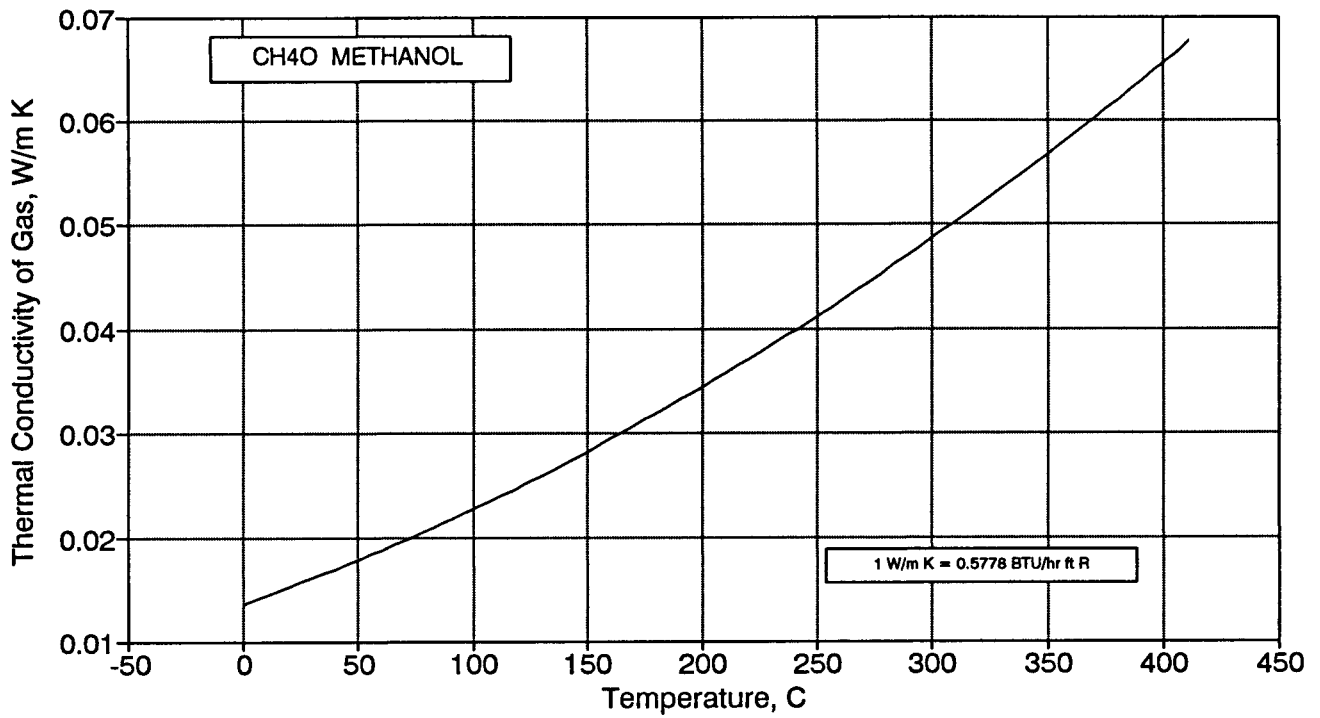
TB , K = 493.00











CH4O3S METHANESULFONIC ACID

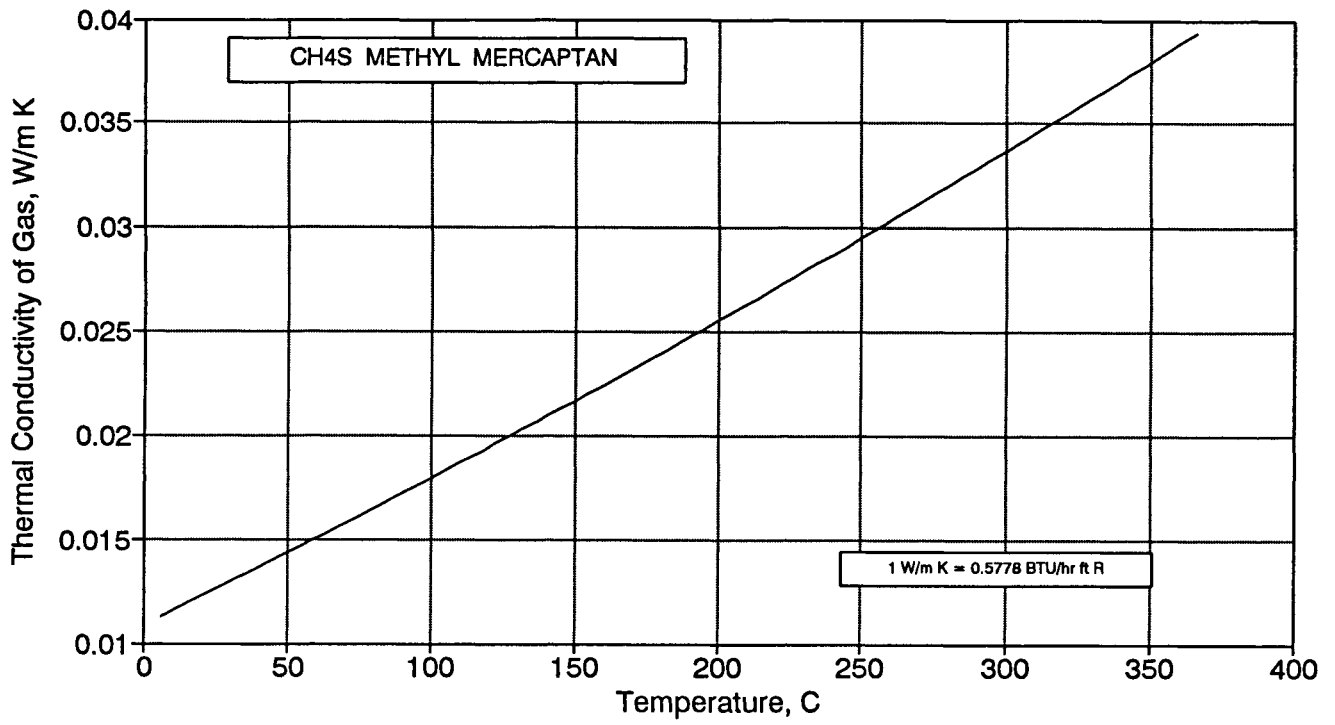
Gas thermal conductivity data are not available .

TF , K = 292.81

TB , K = 561.00

CH4O3S METHANESULFONIC ACID

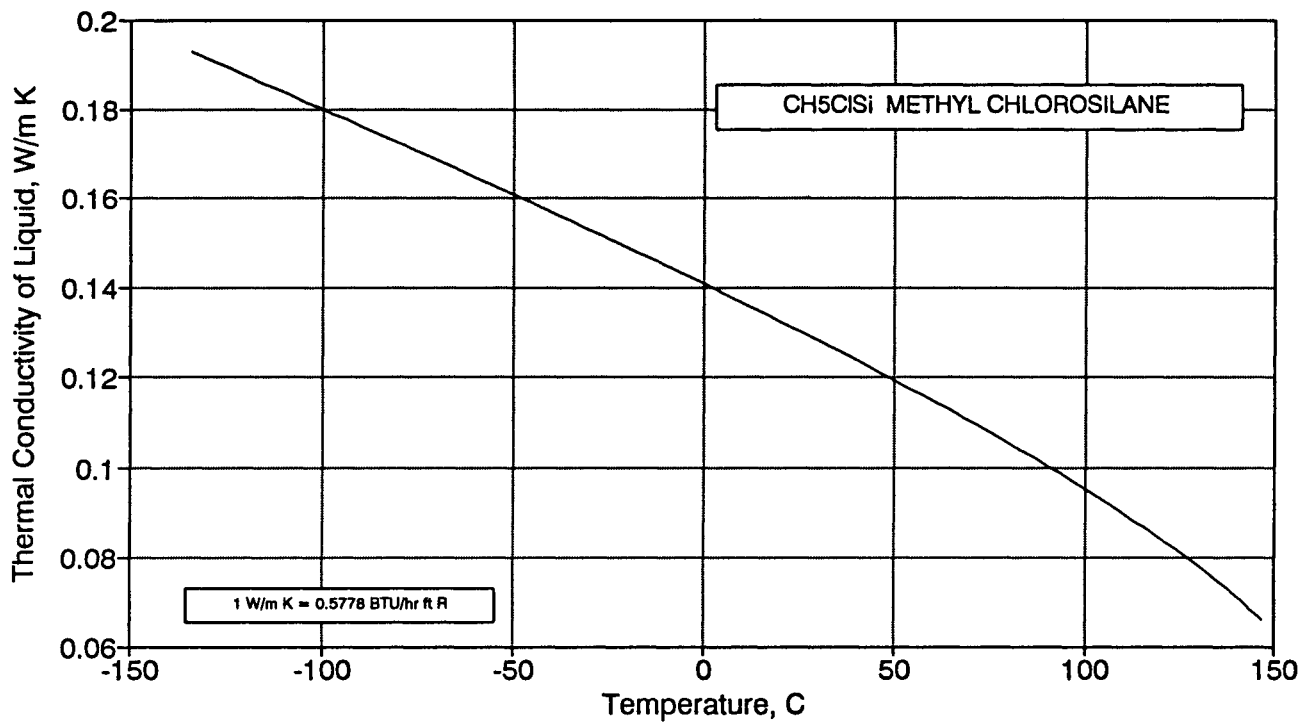
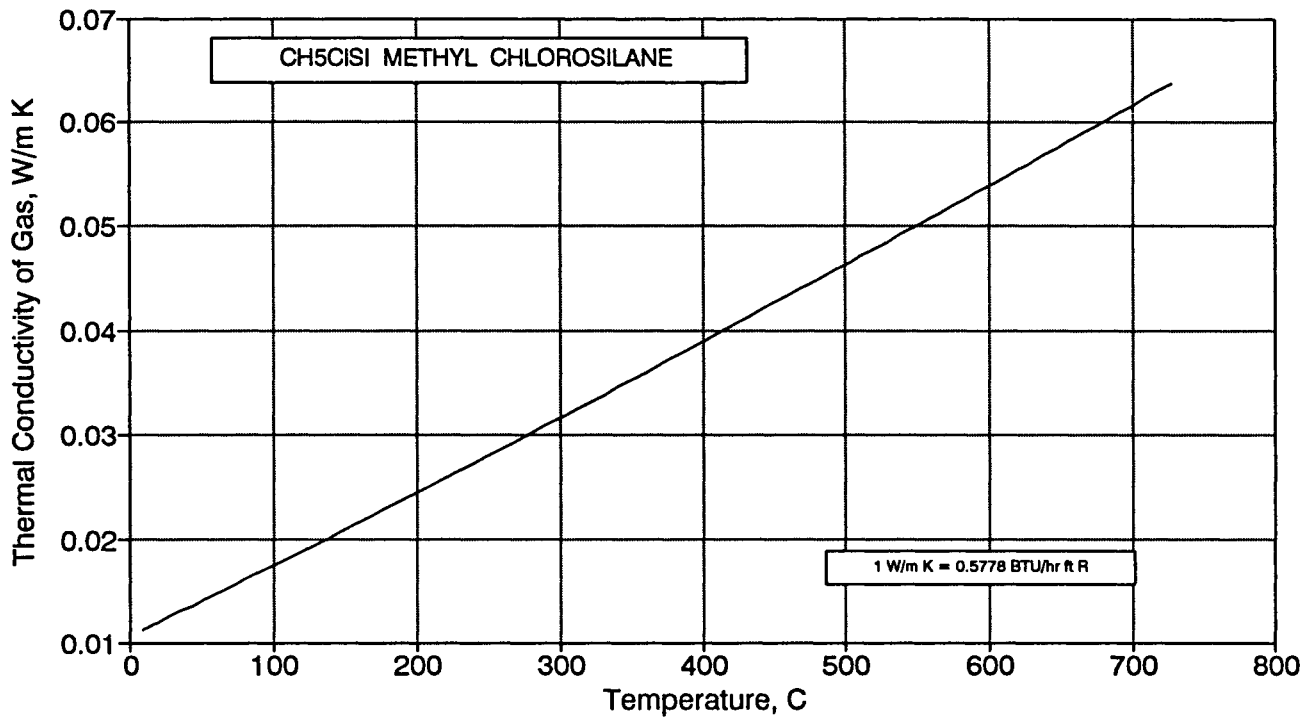
Liquid thermal conductivity data are not available .

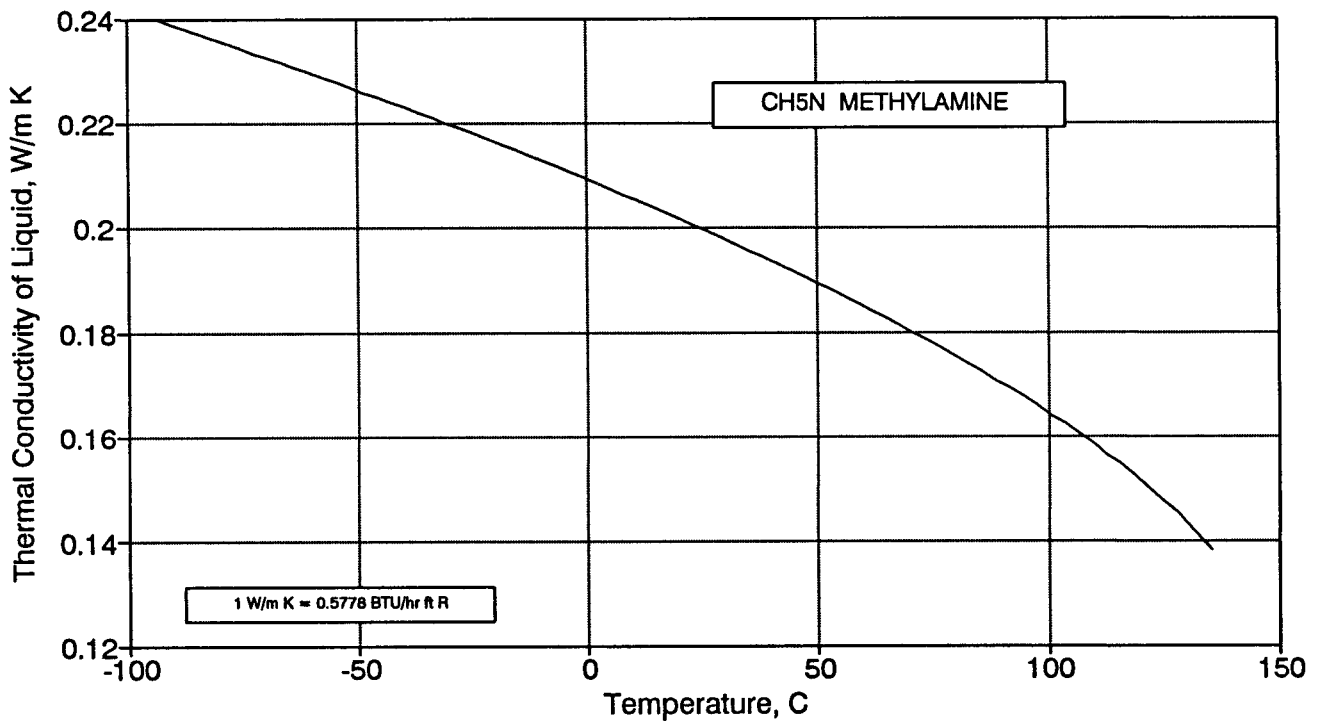
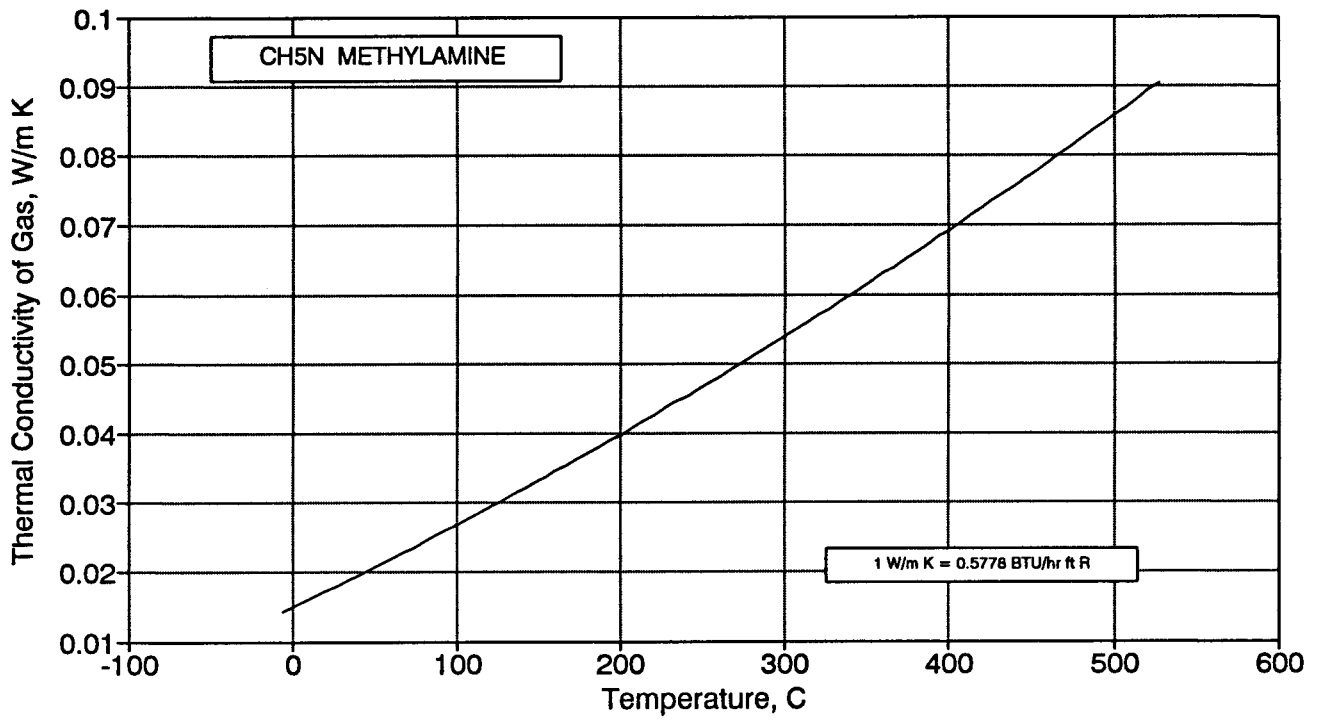


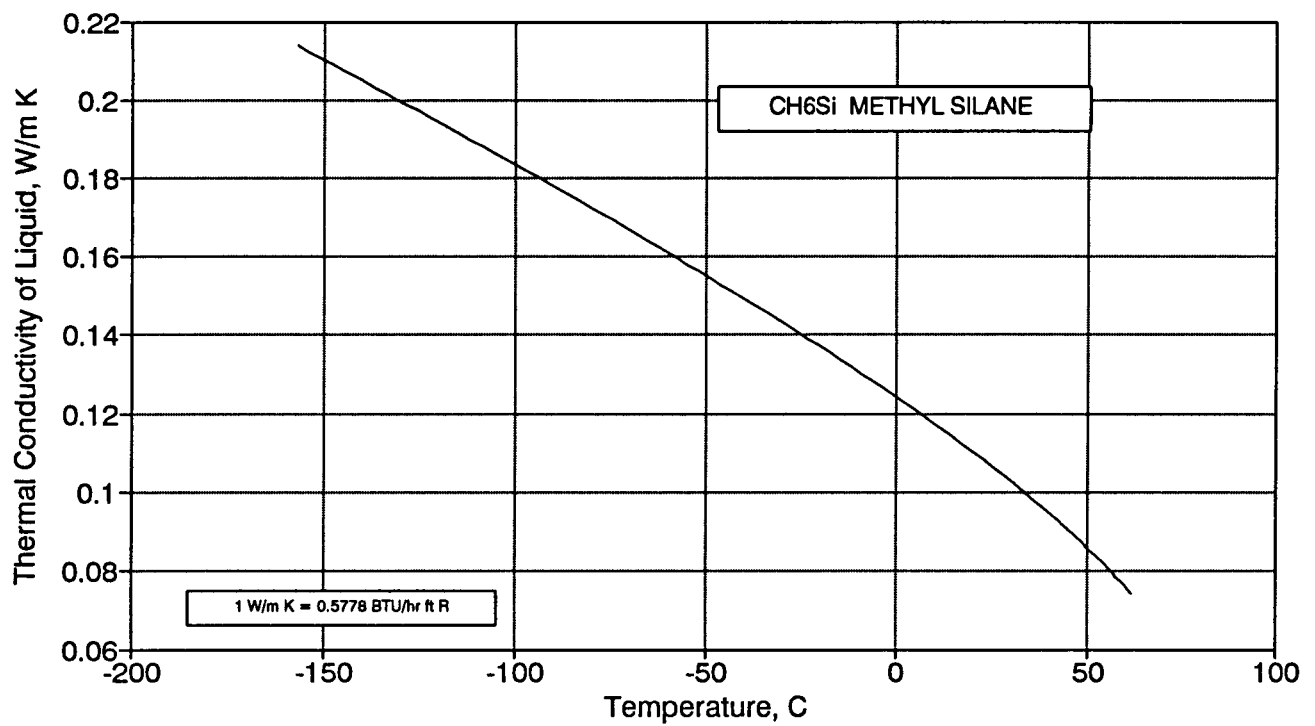
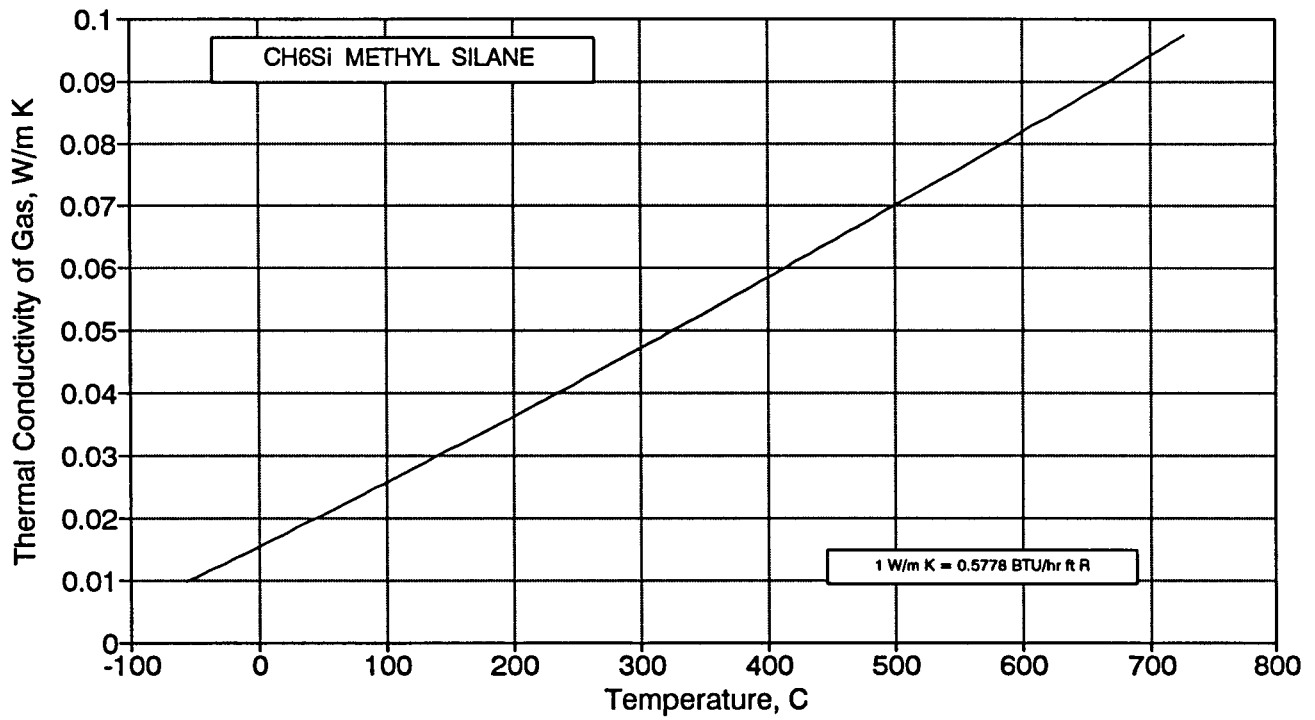
CH4S METHYL MERCAPTAN

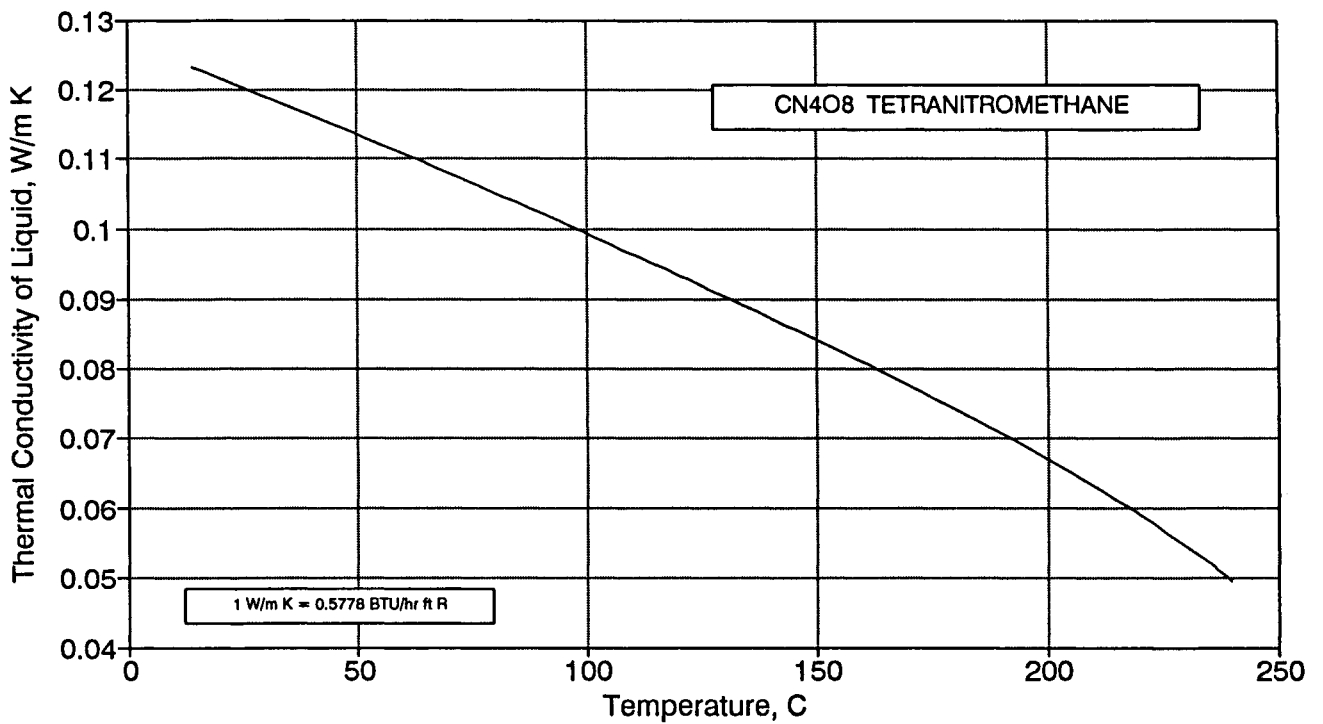
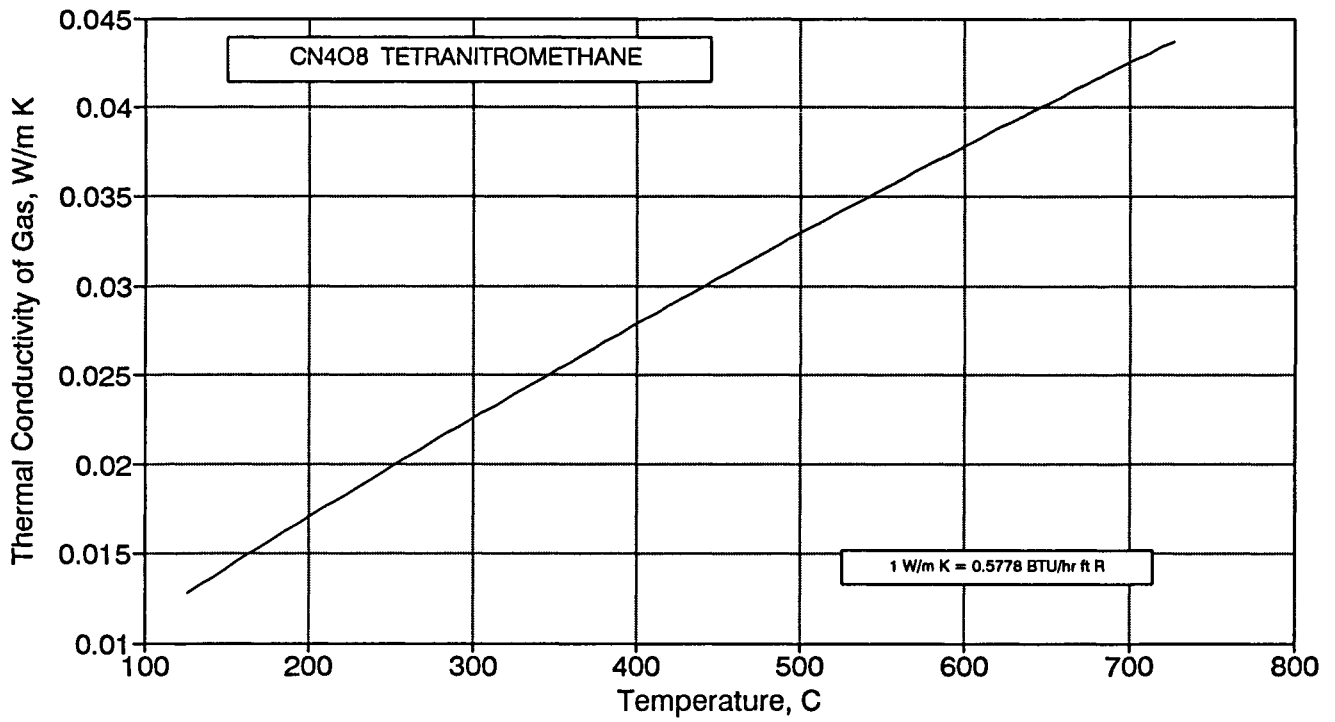
Liquid thermal conductivity data are not available .

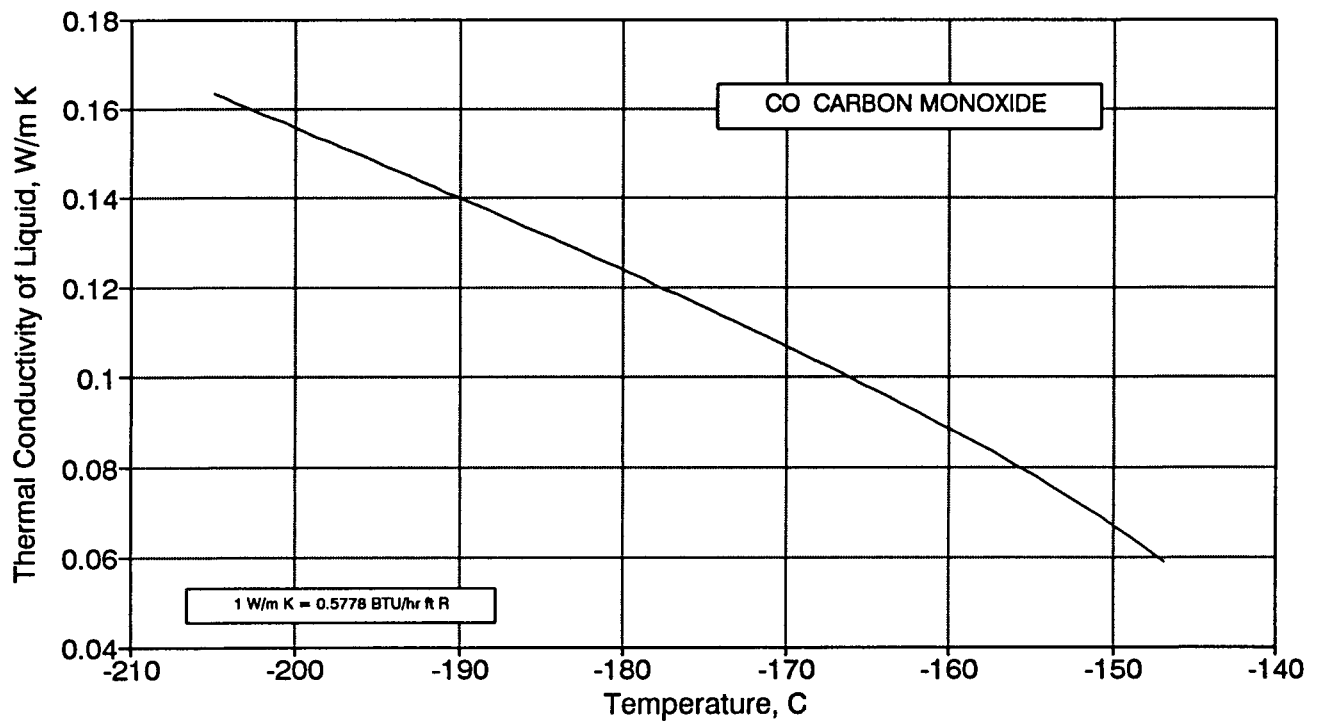
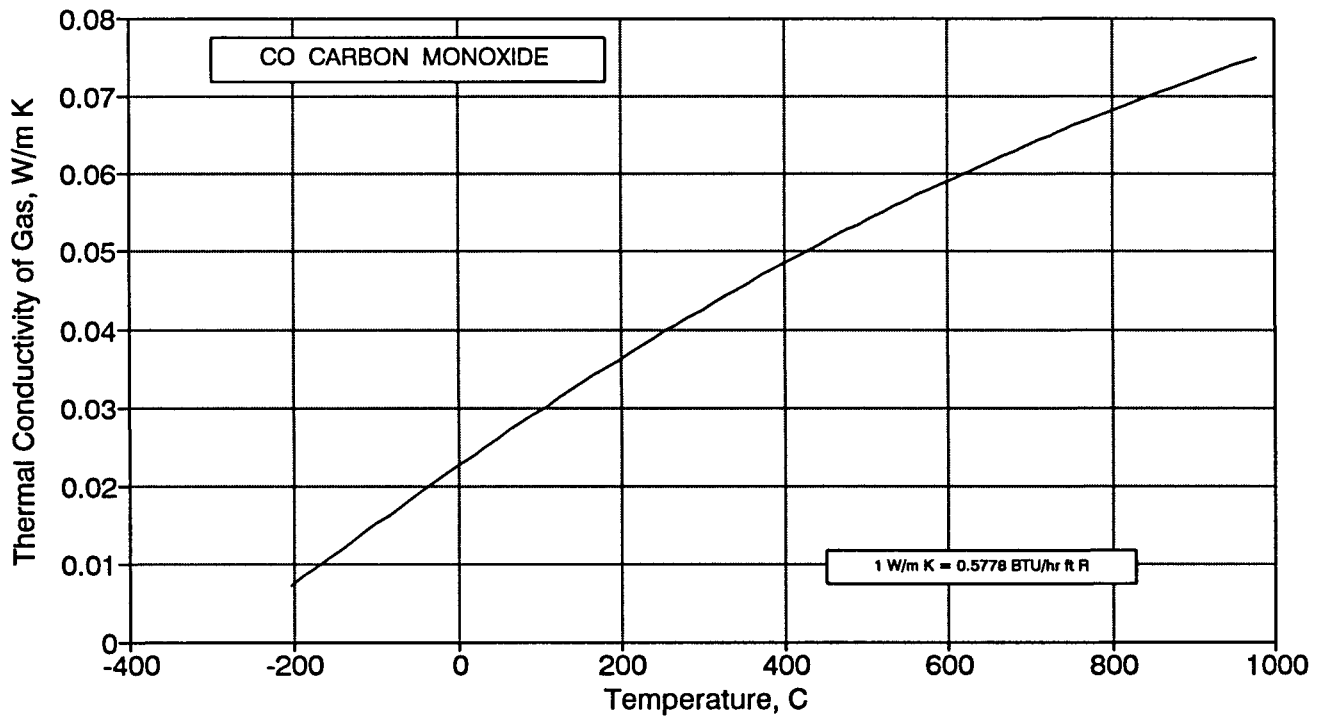


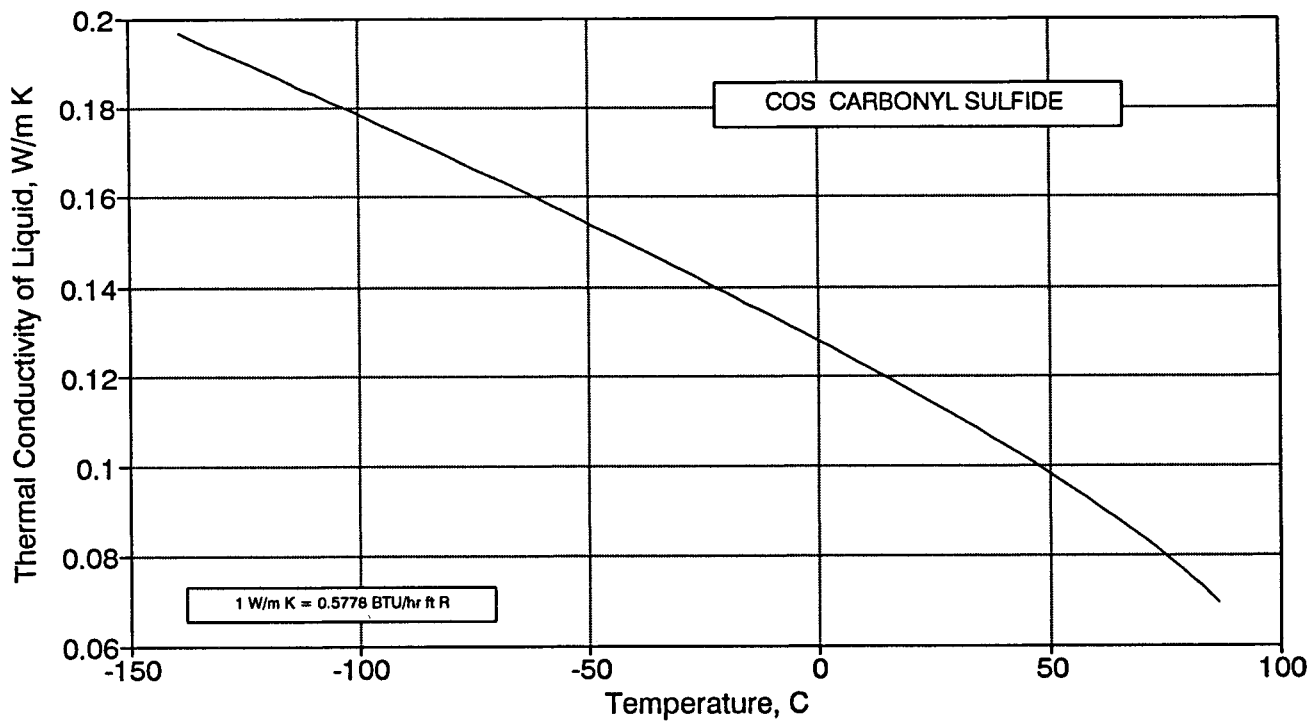
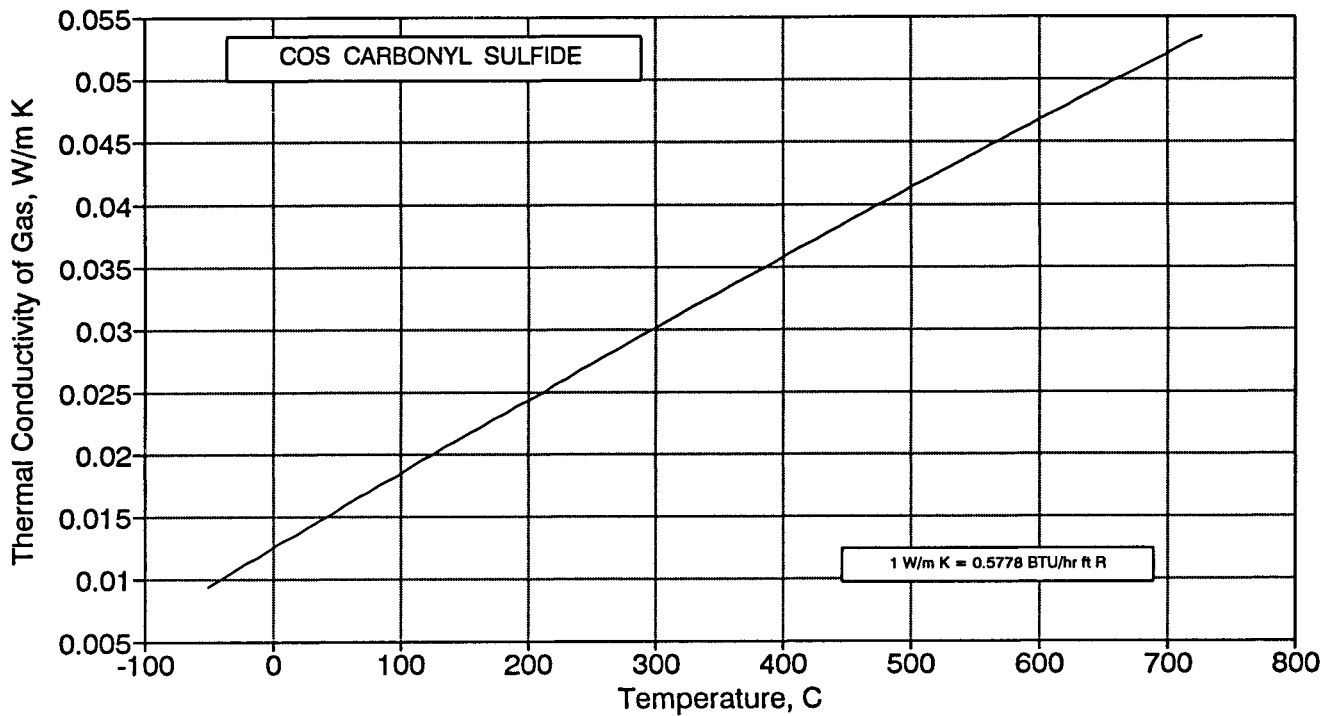


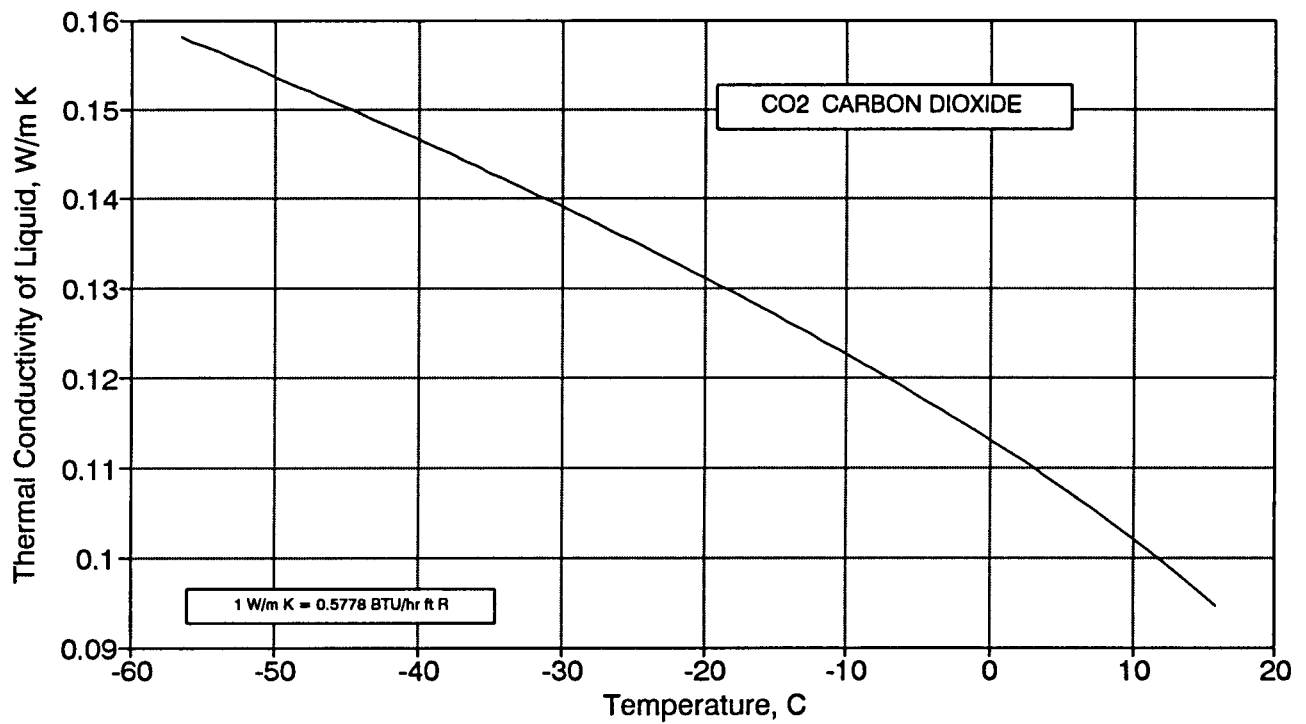
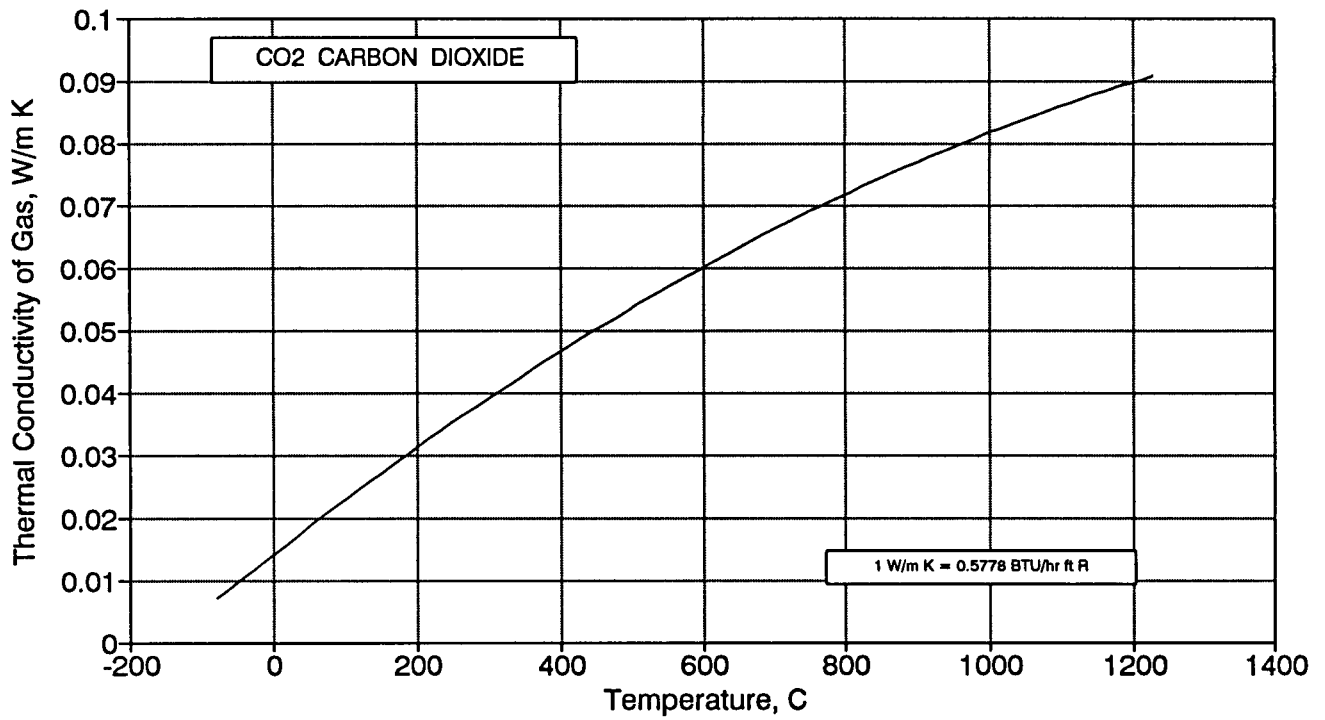


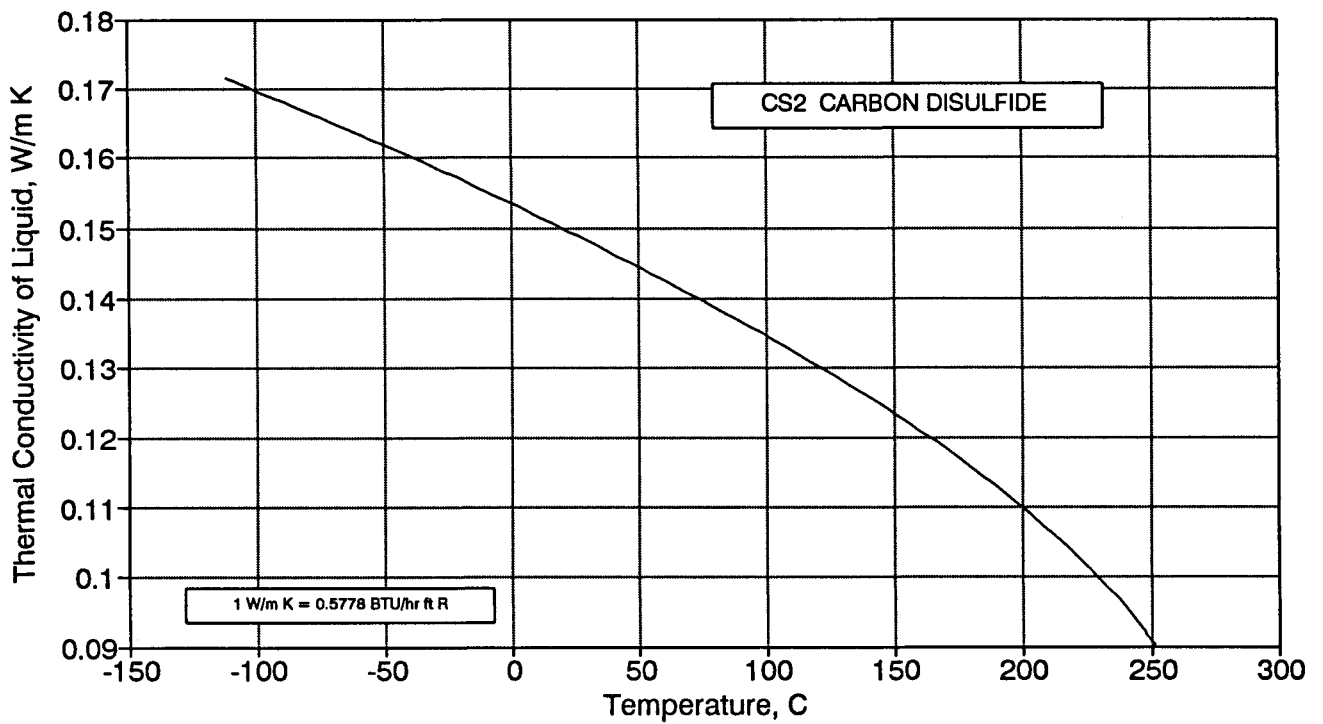
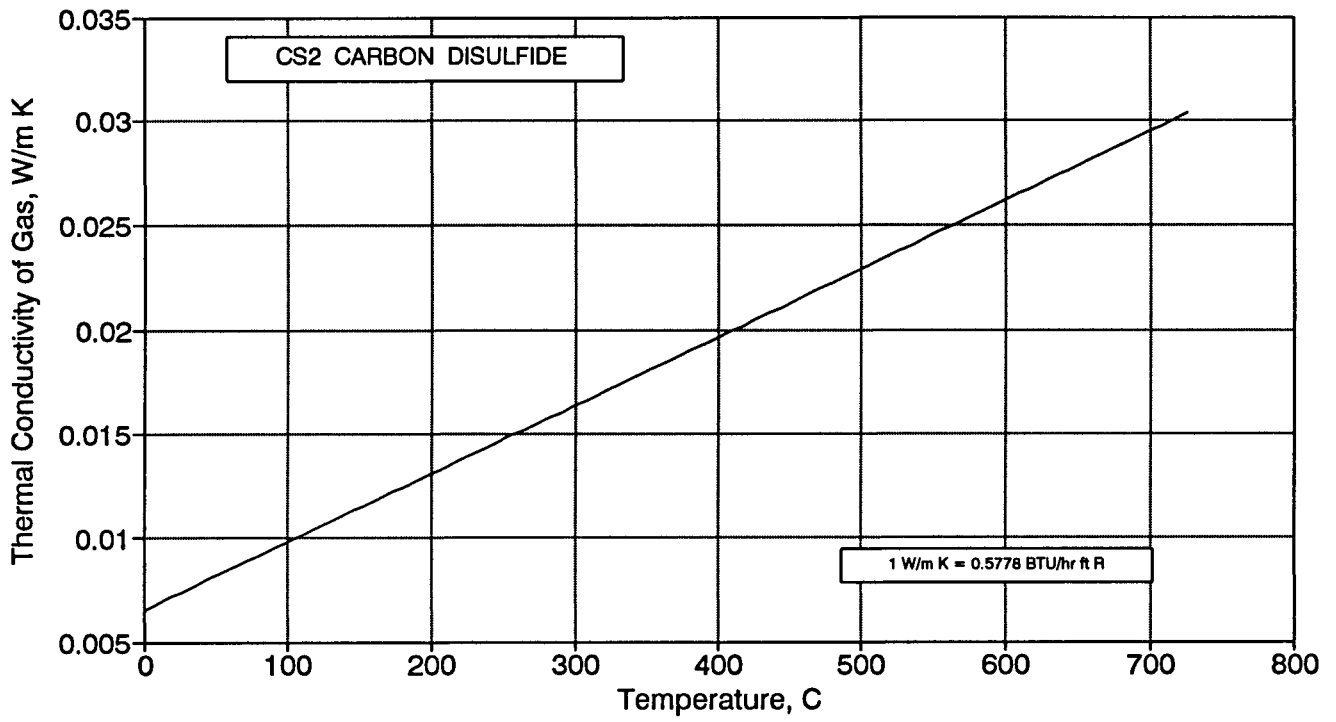




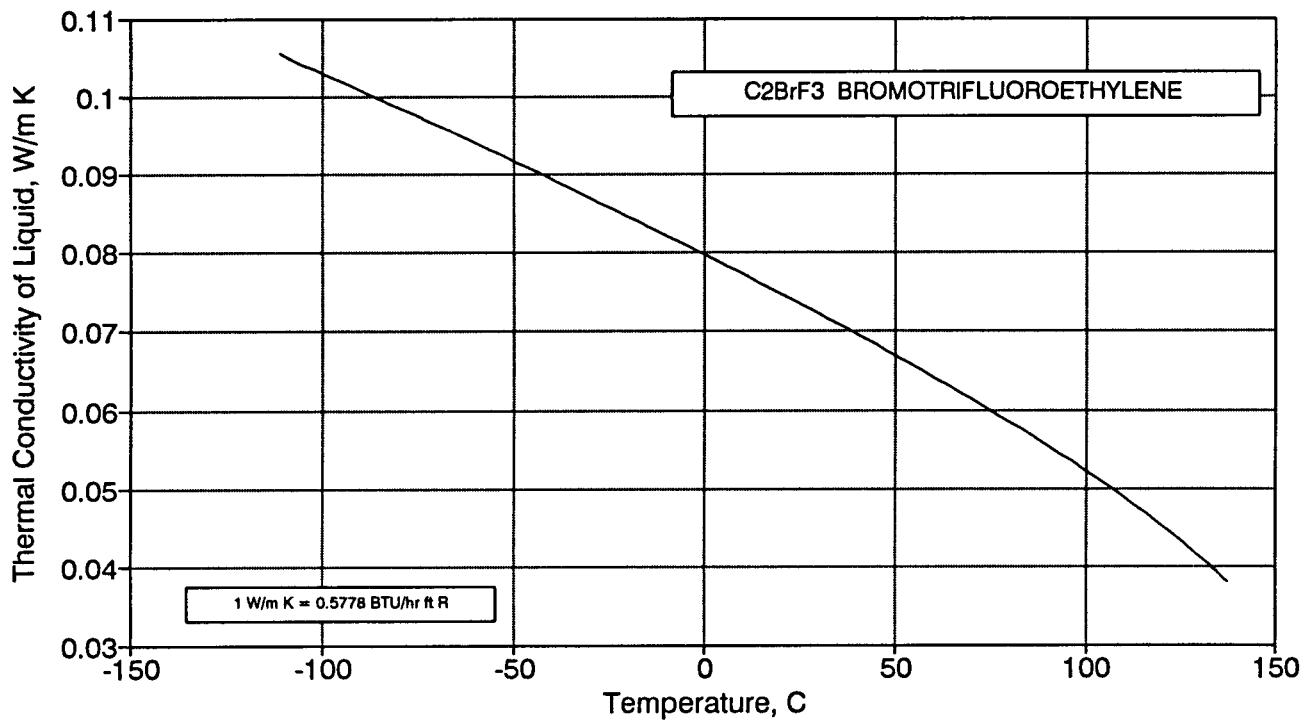
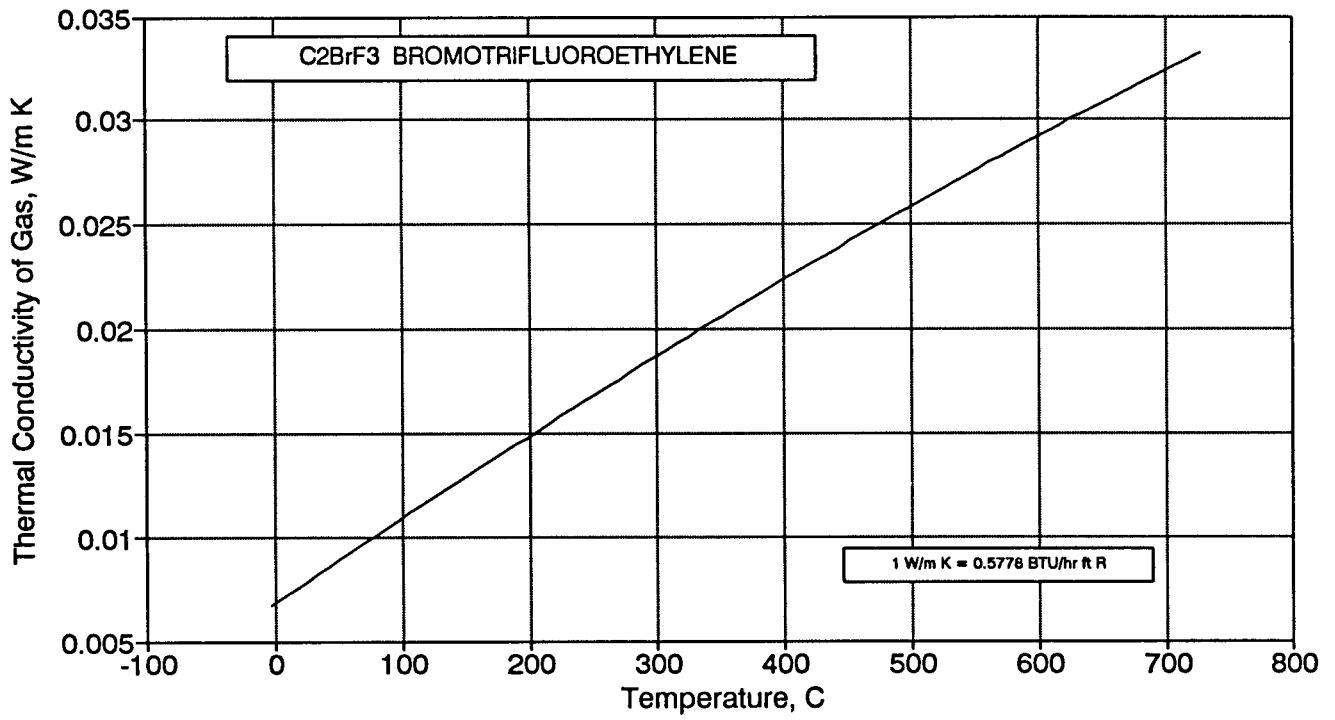


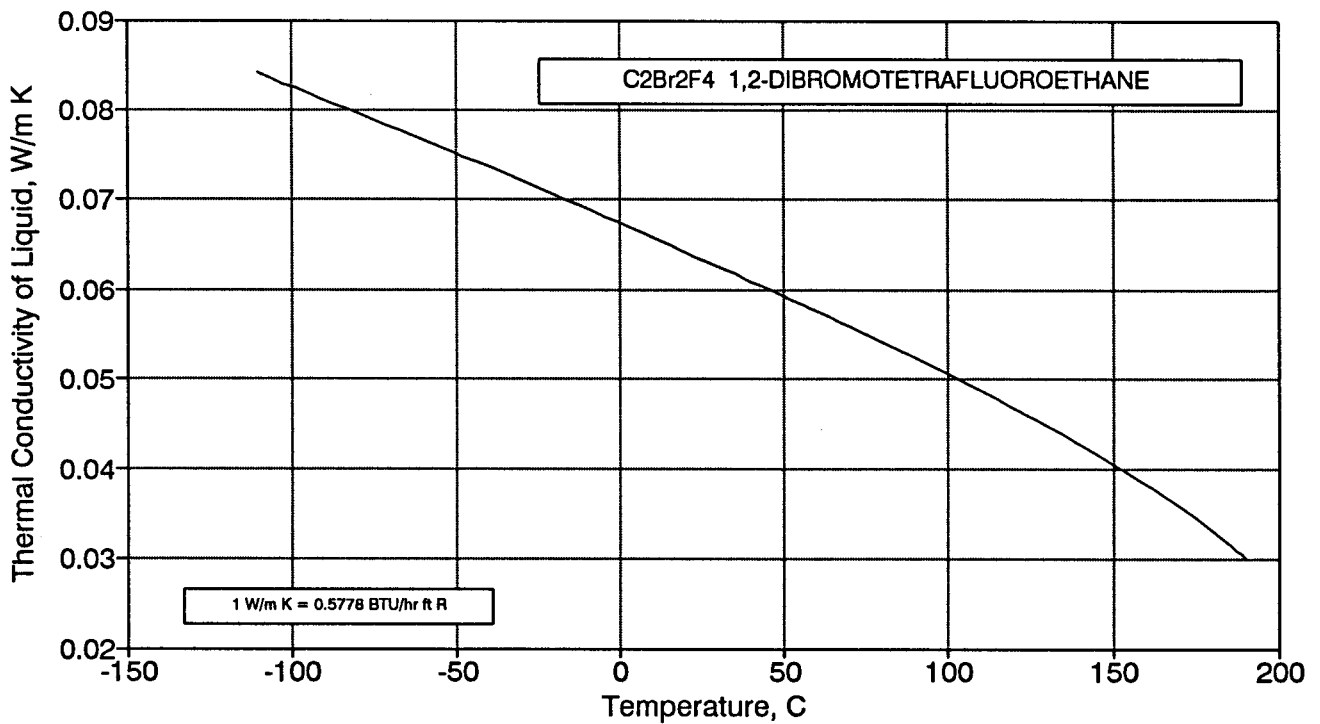
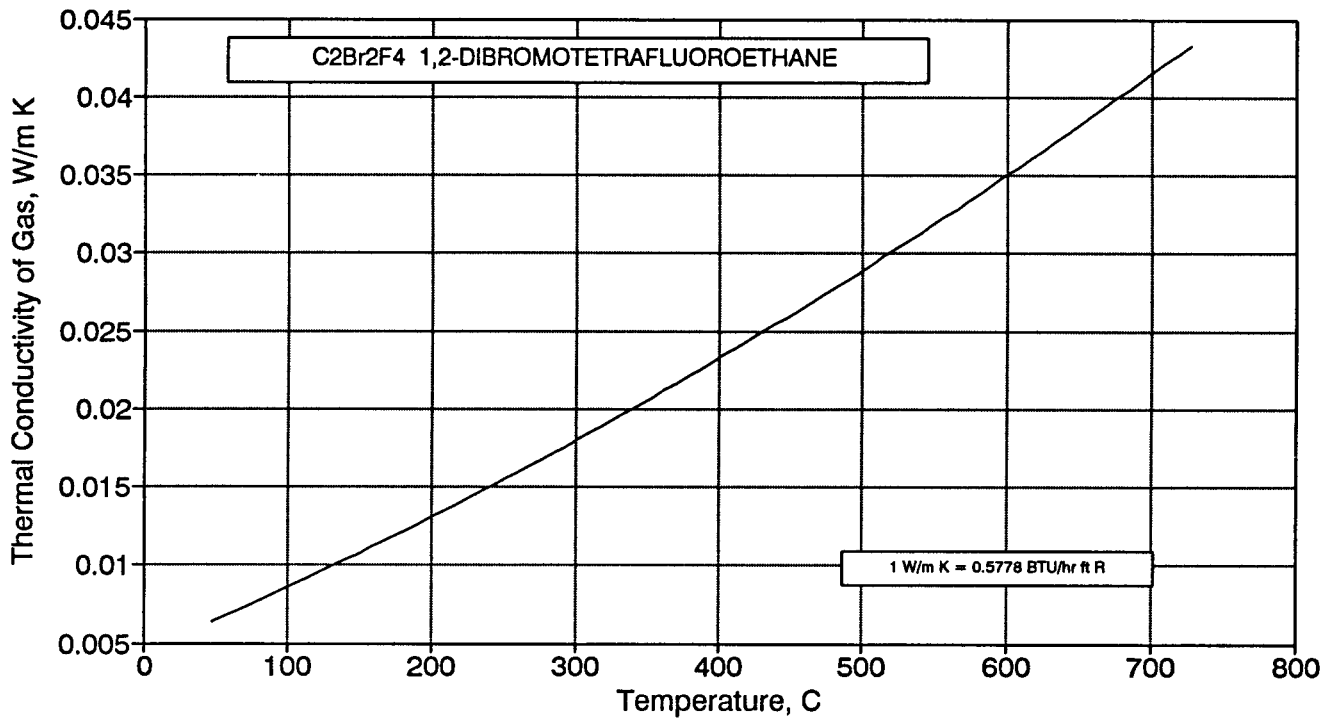


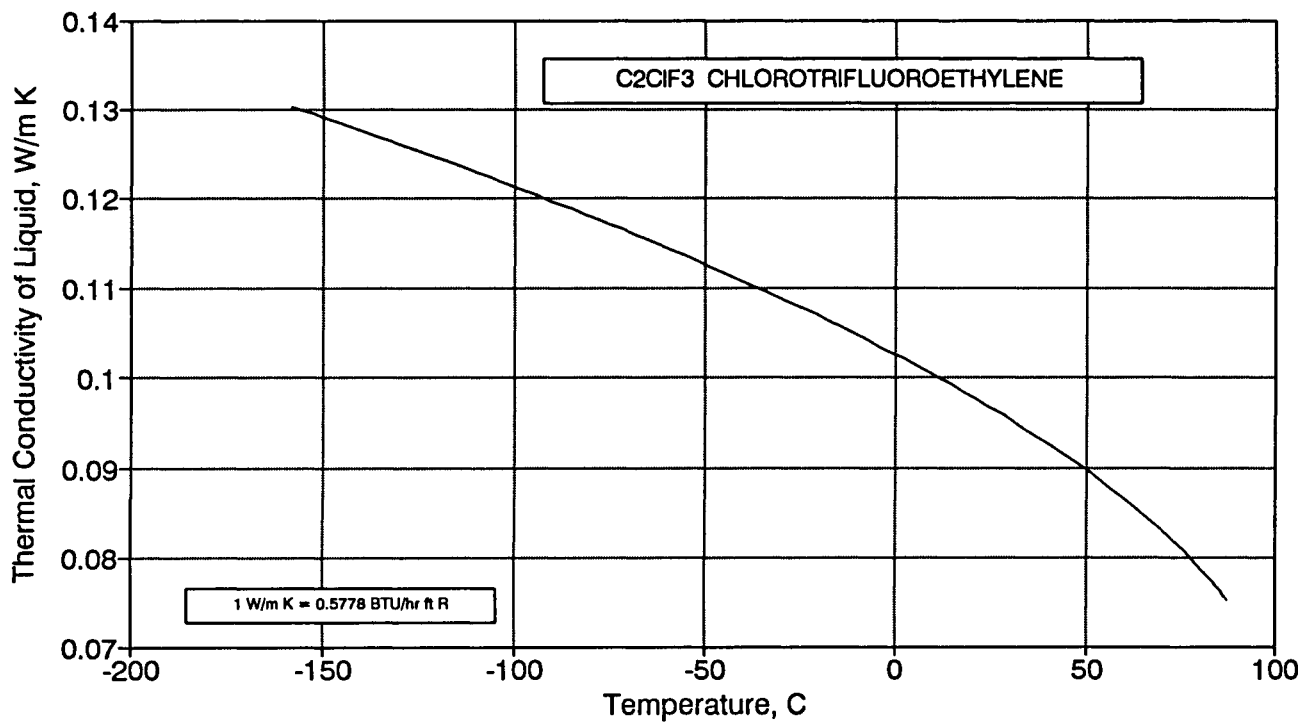
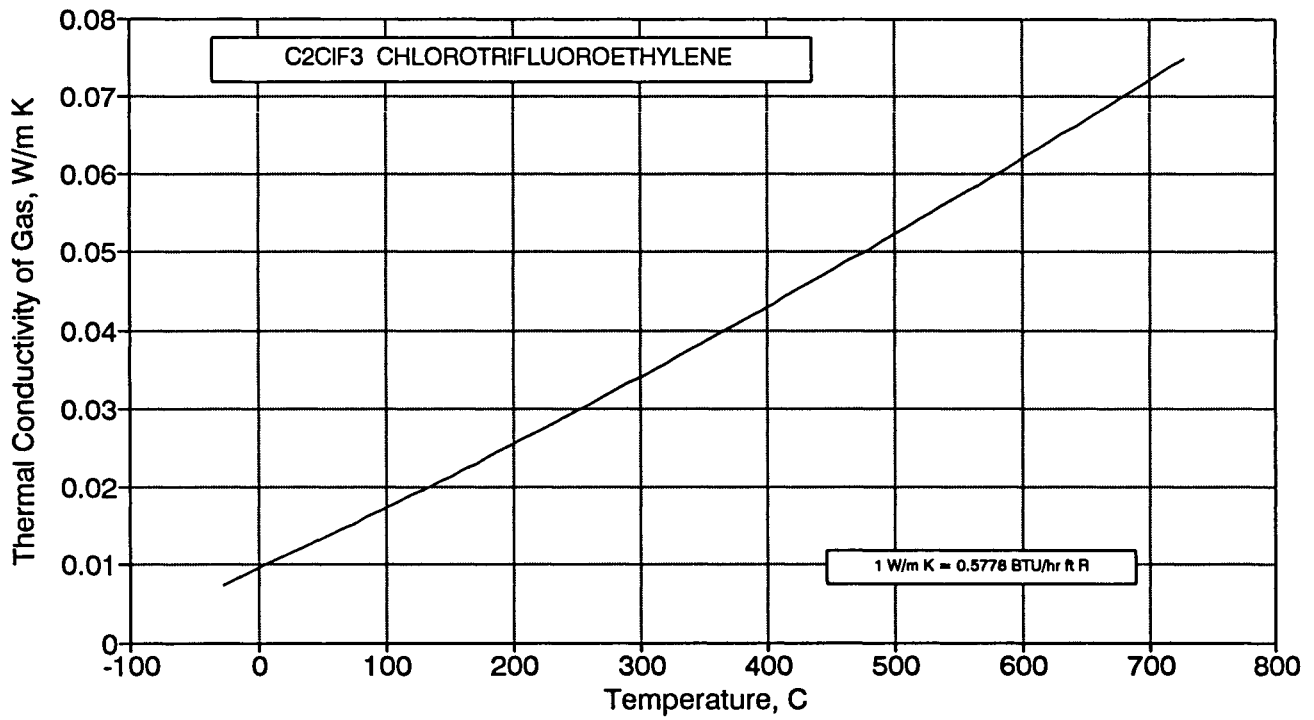


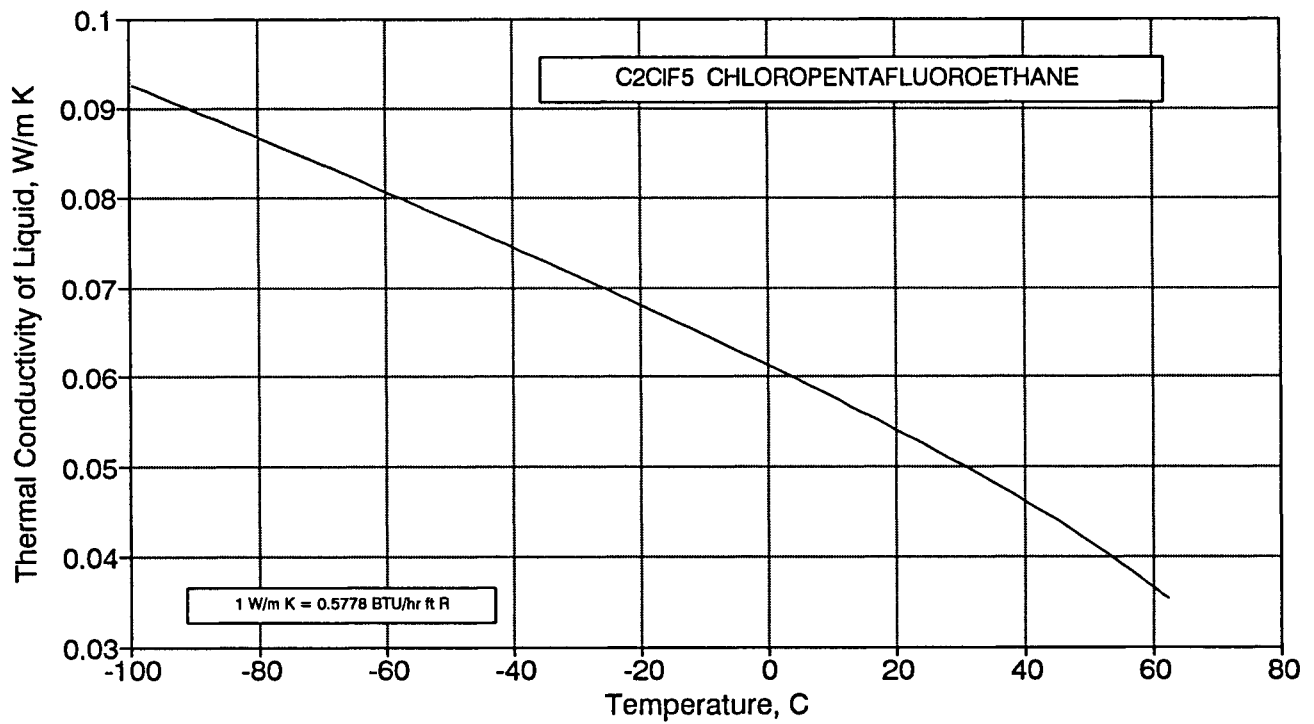
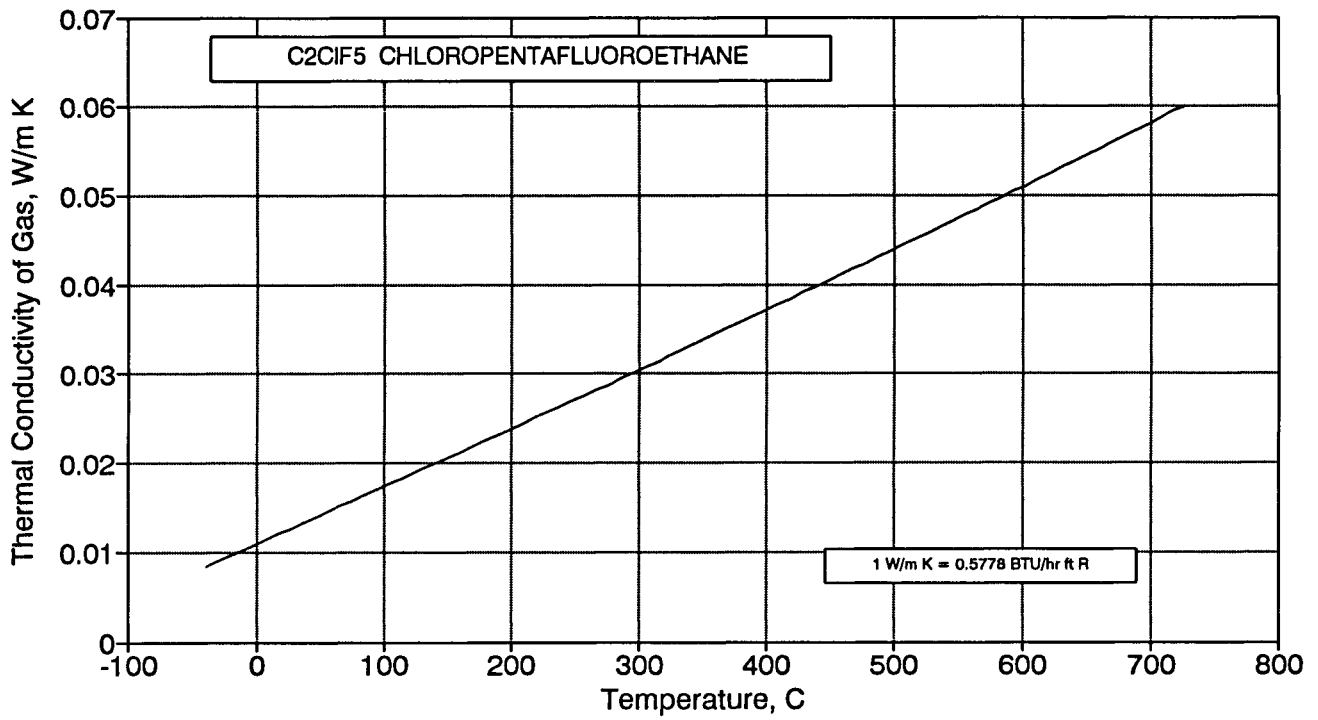


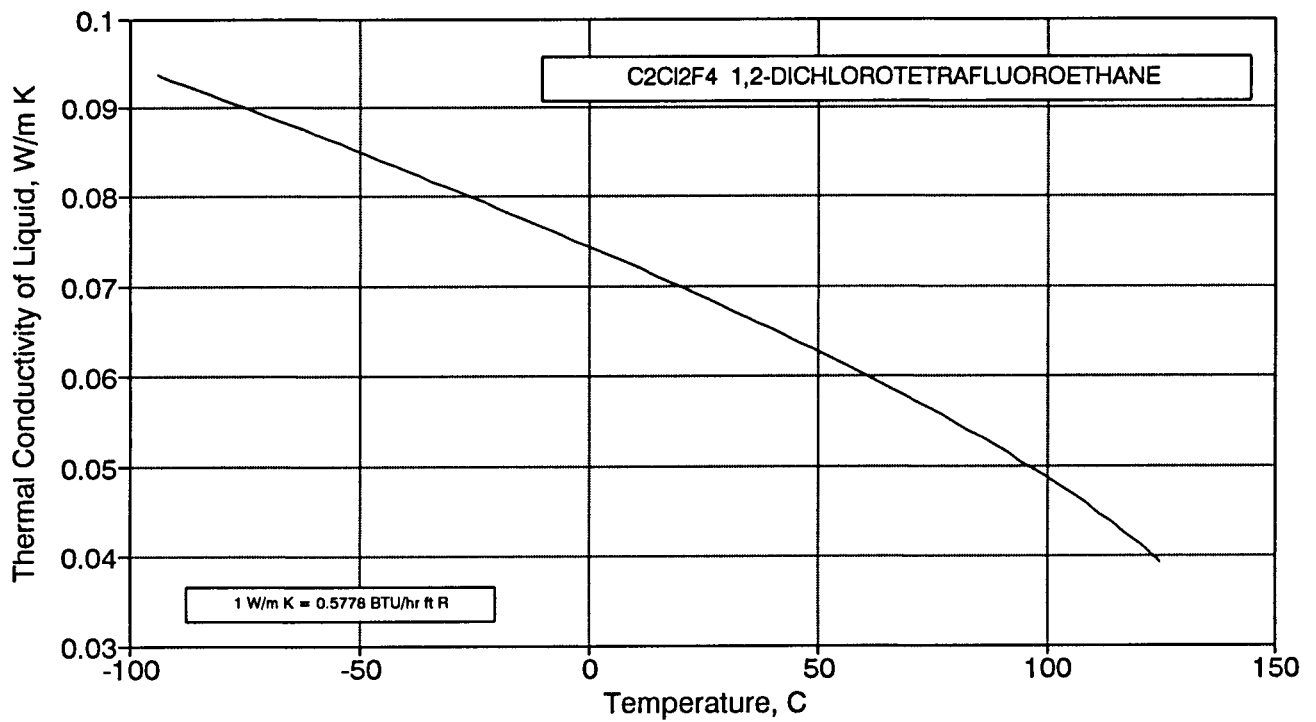
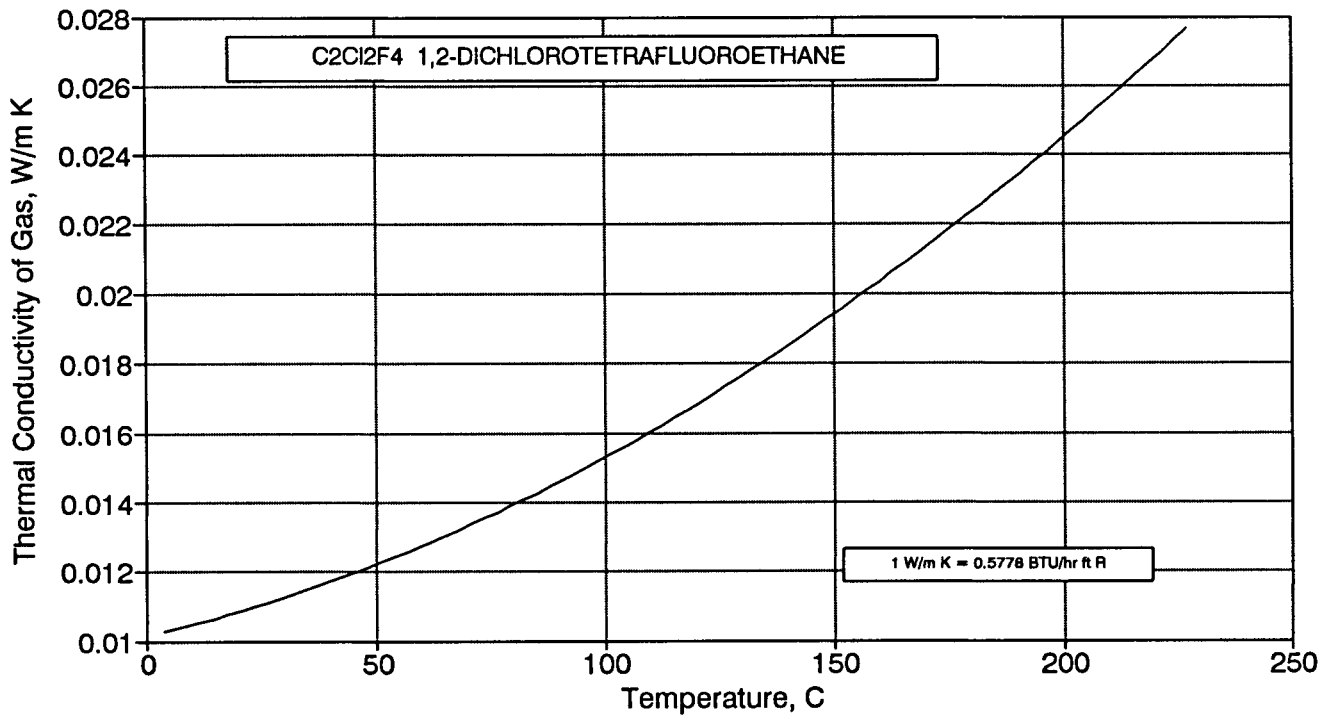










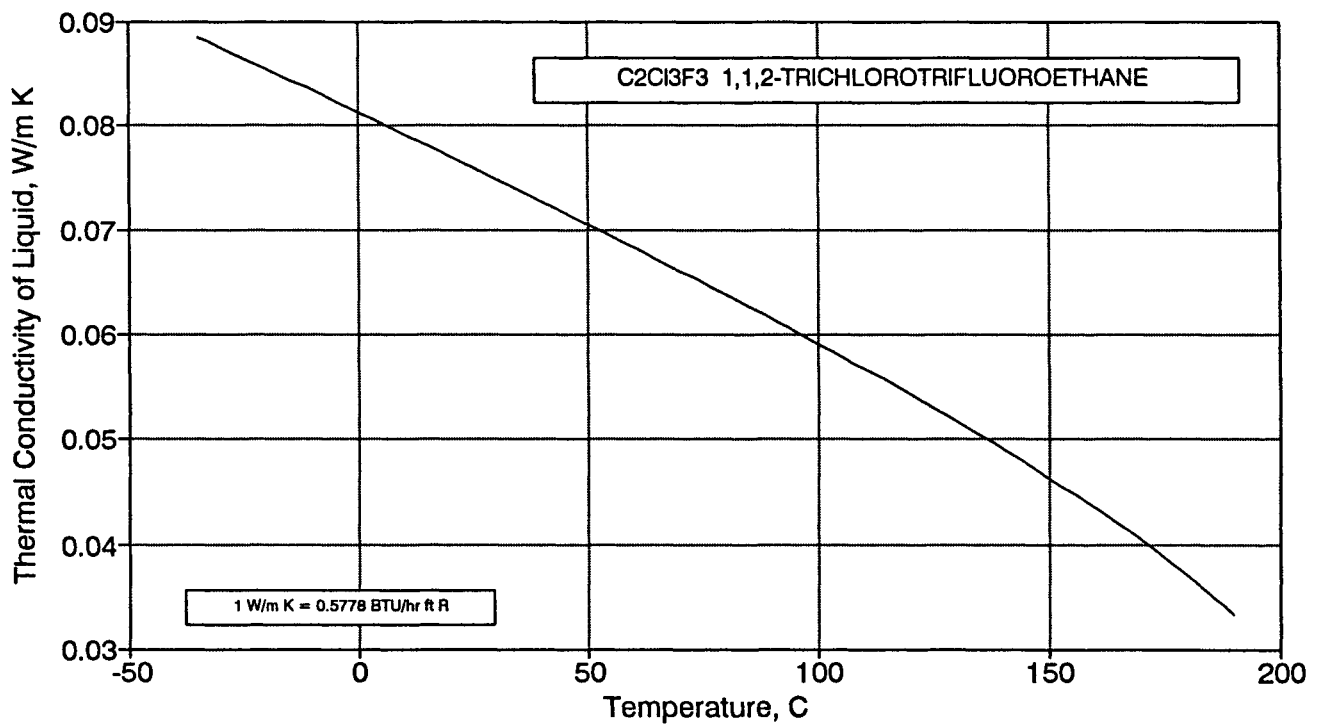


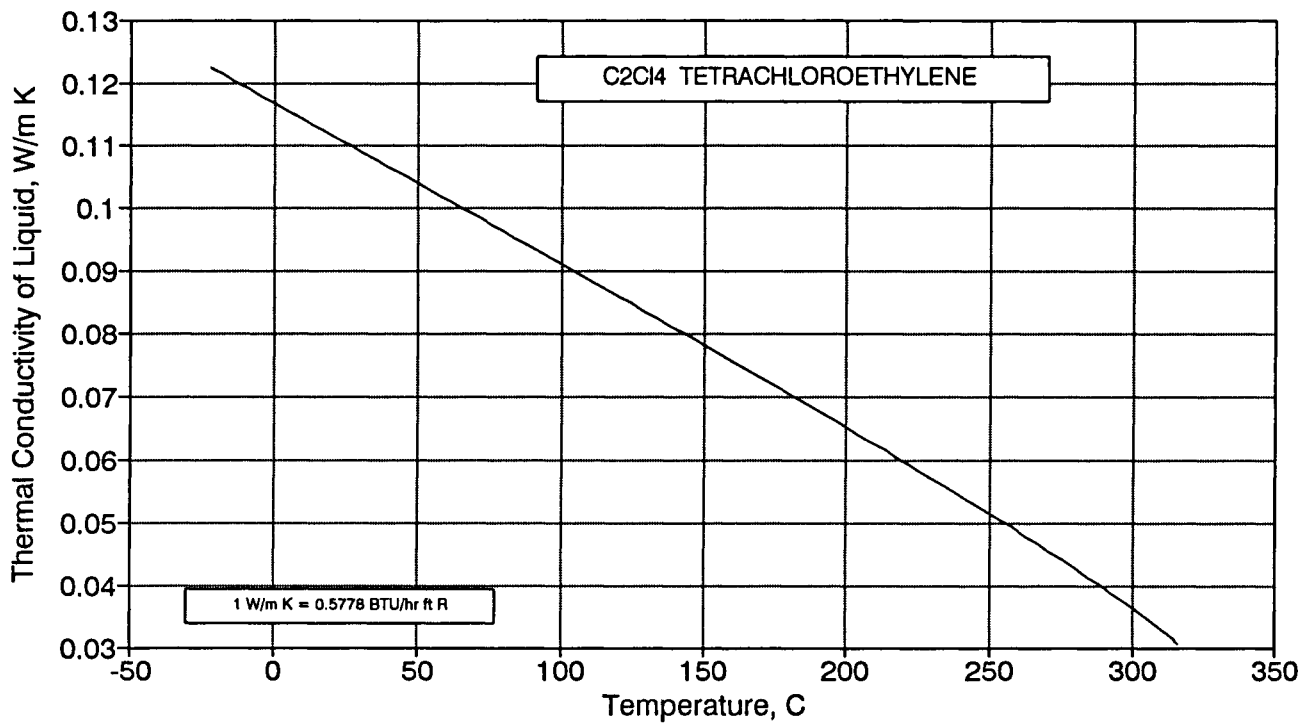
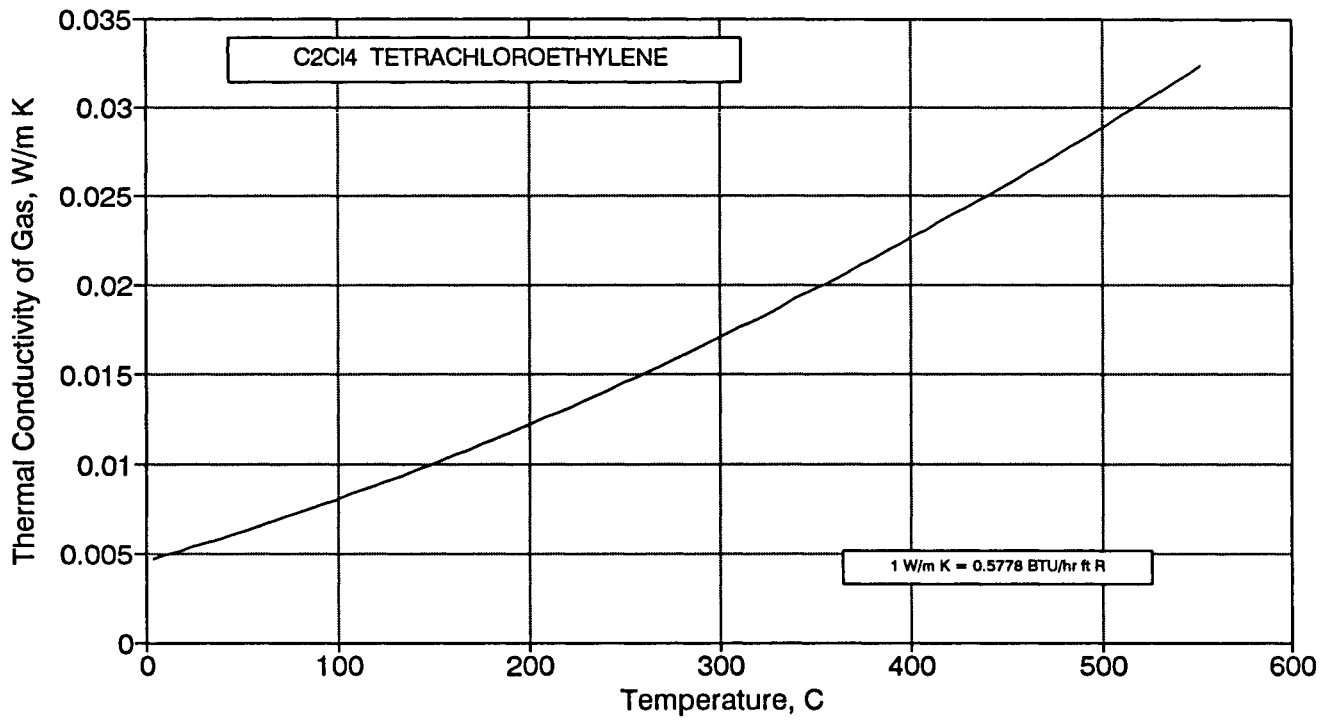
C2Cl3F3 1,1,2-TRICHLOROTRIFLUOROETHANE

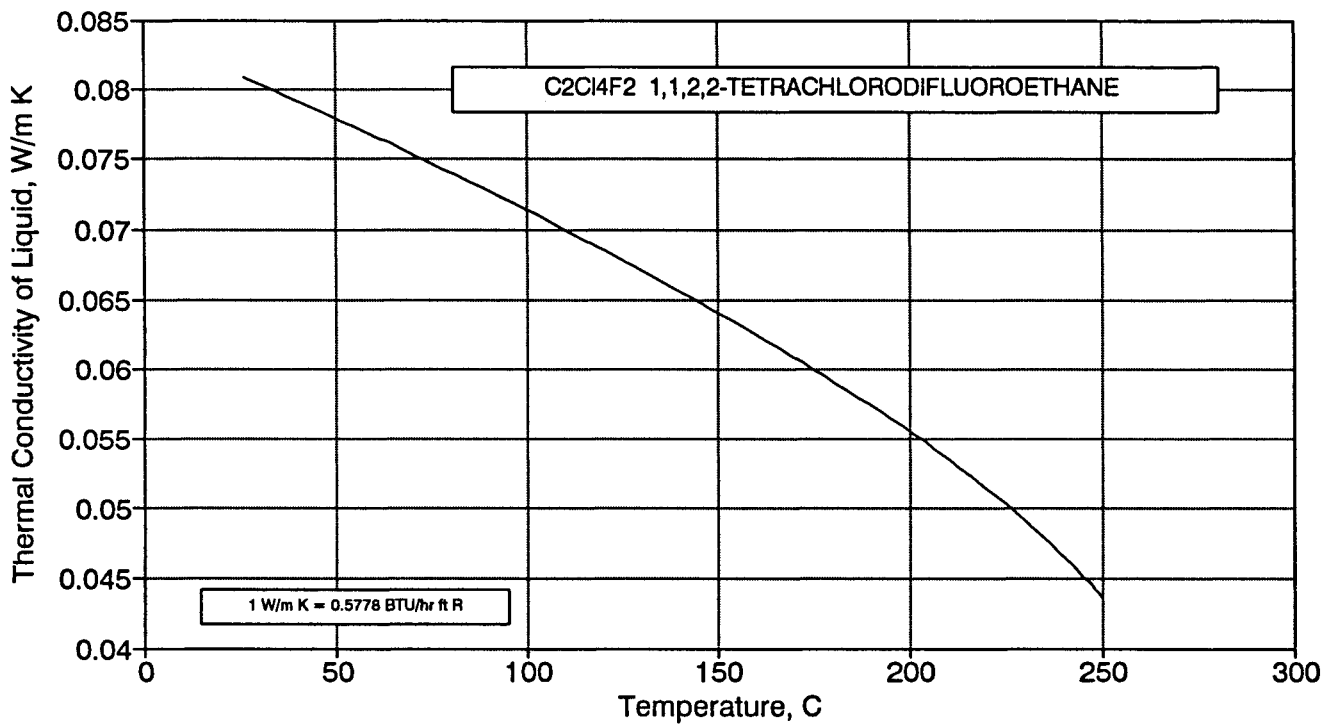
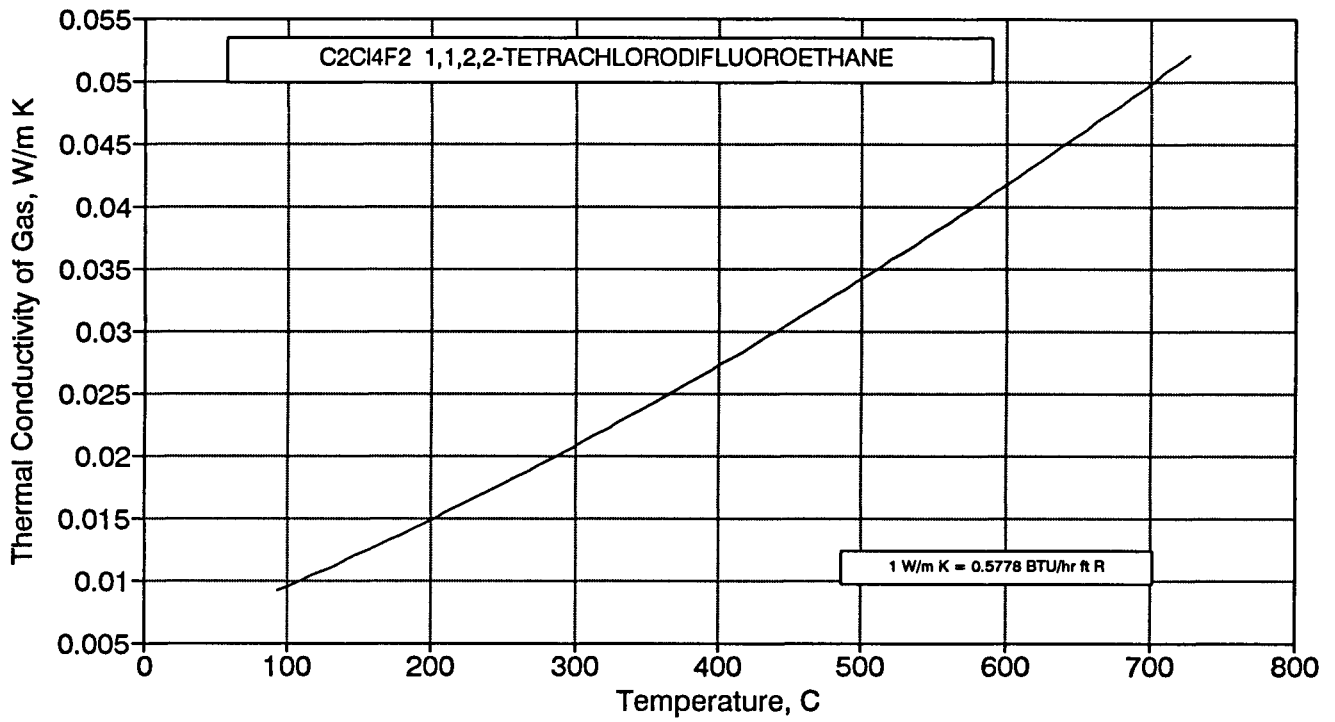
Gas thermal conductivity data are not available .

TF , K = 238.15

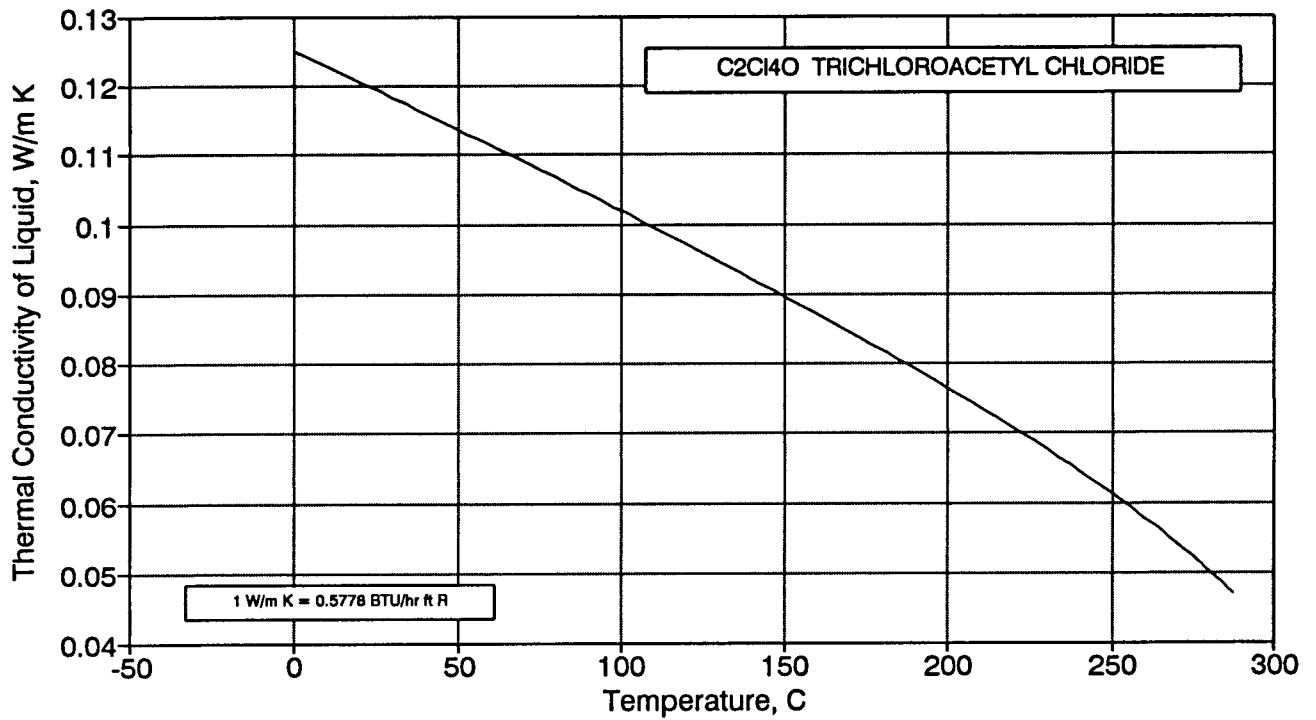
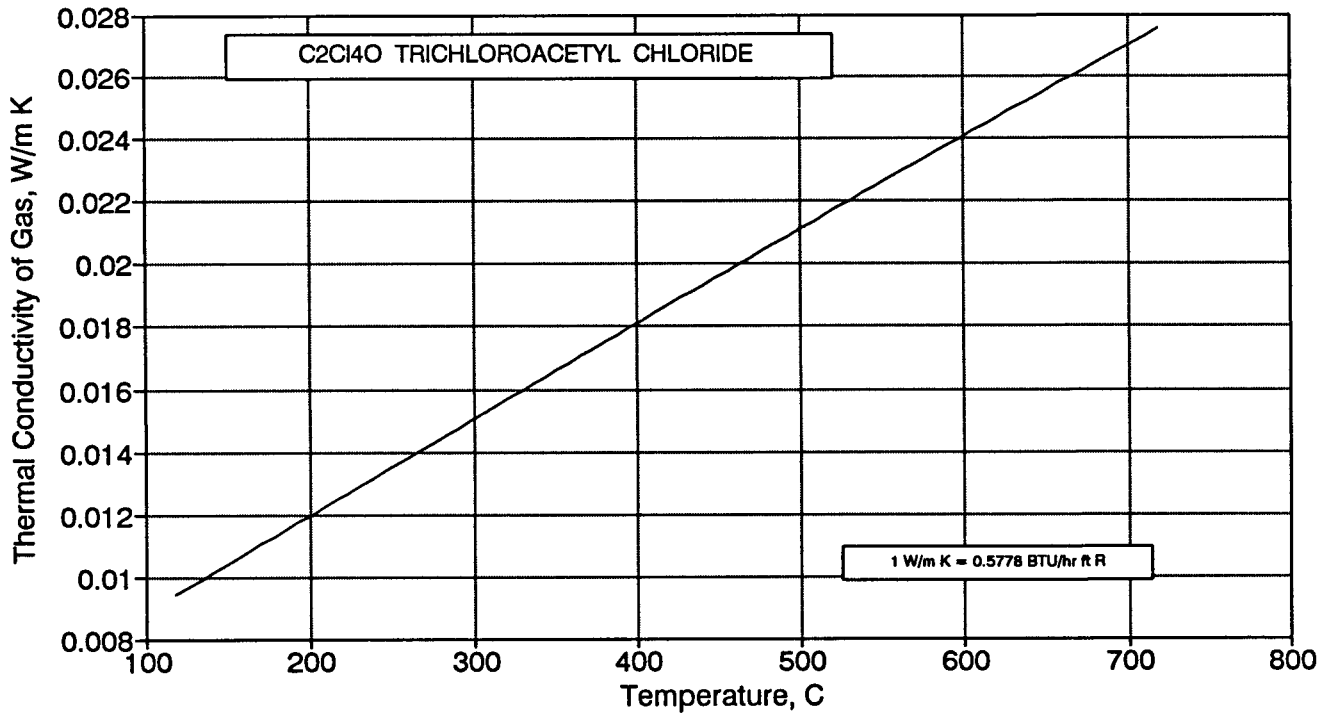
TB , K = 320.75

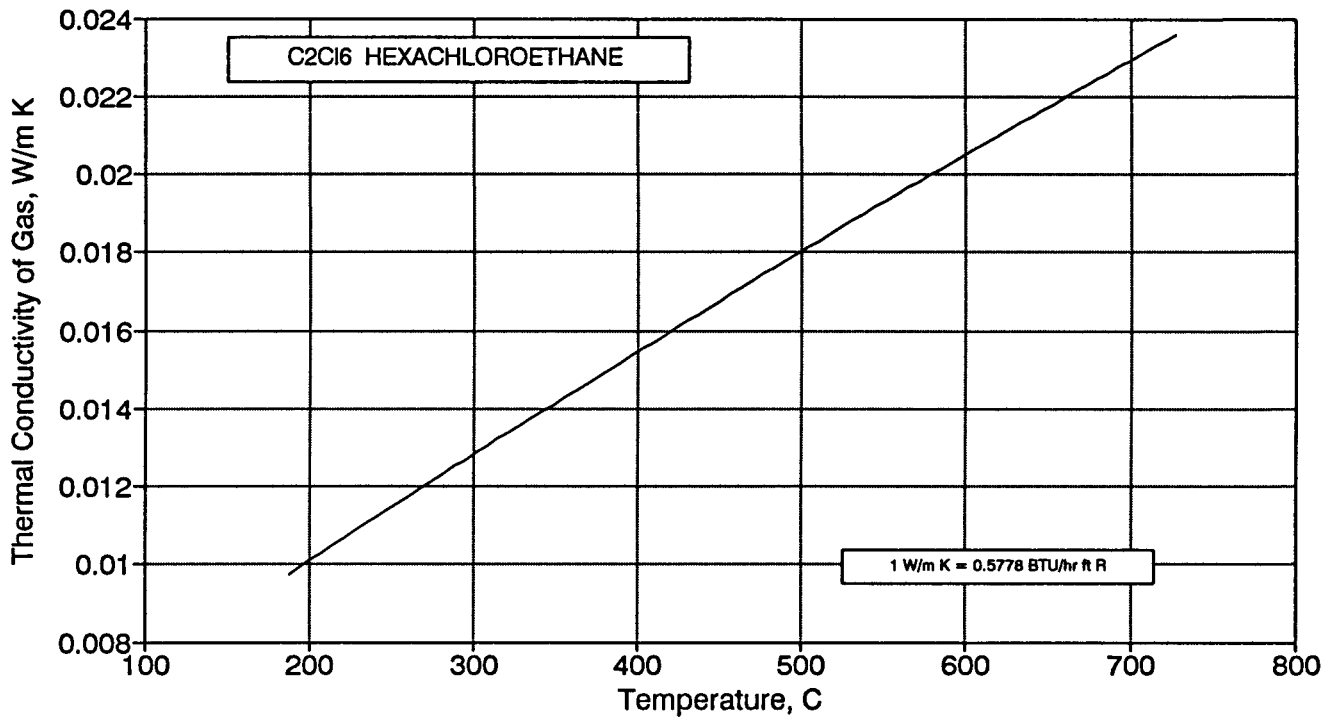






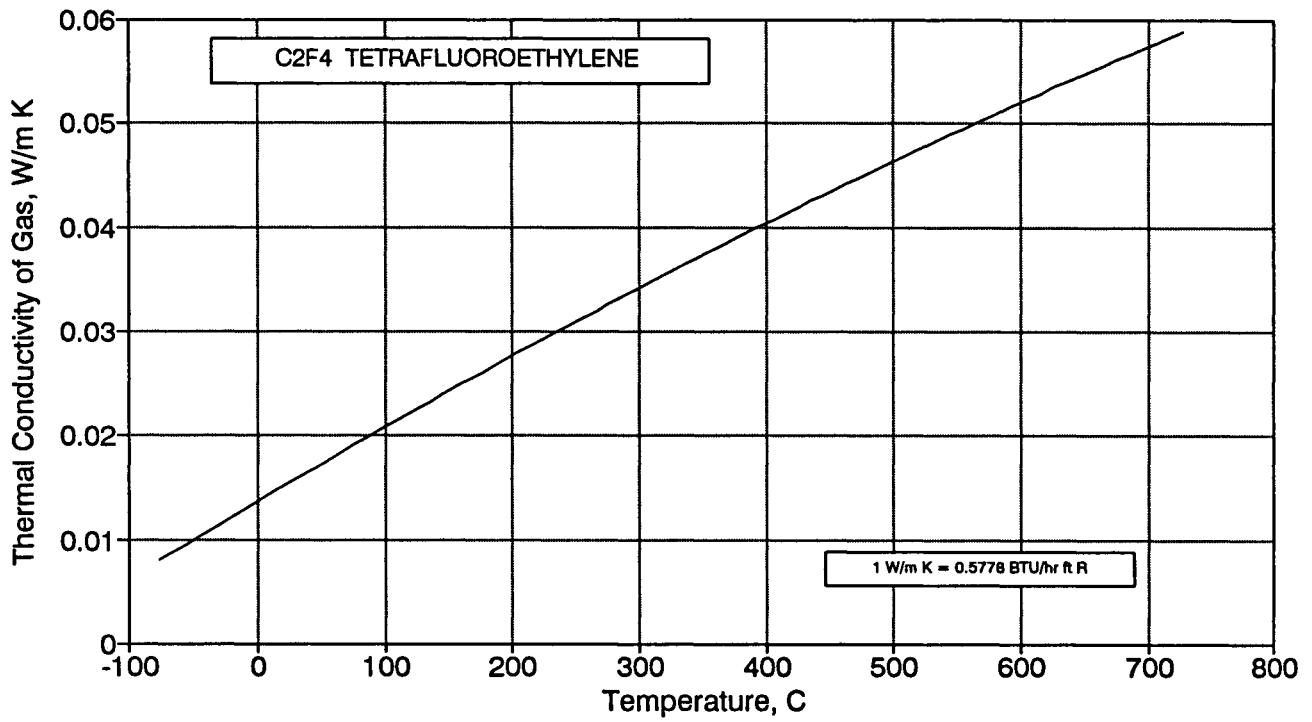






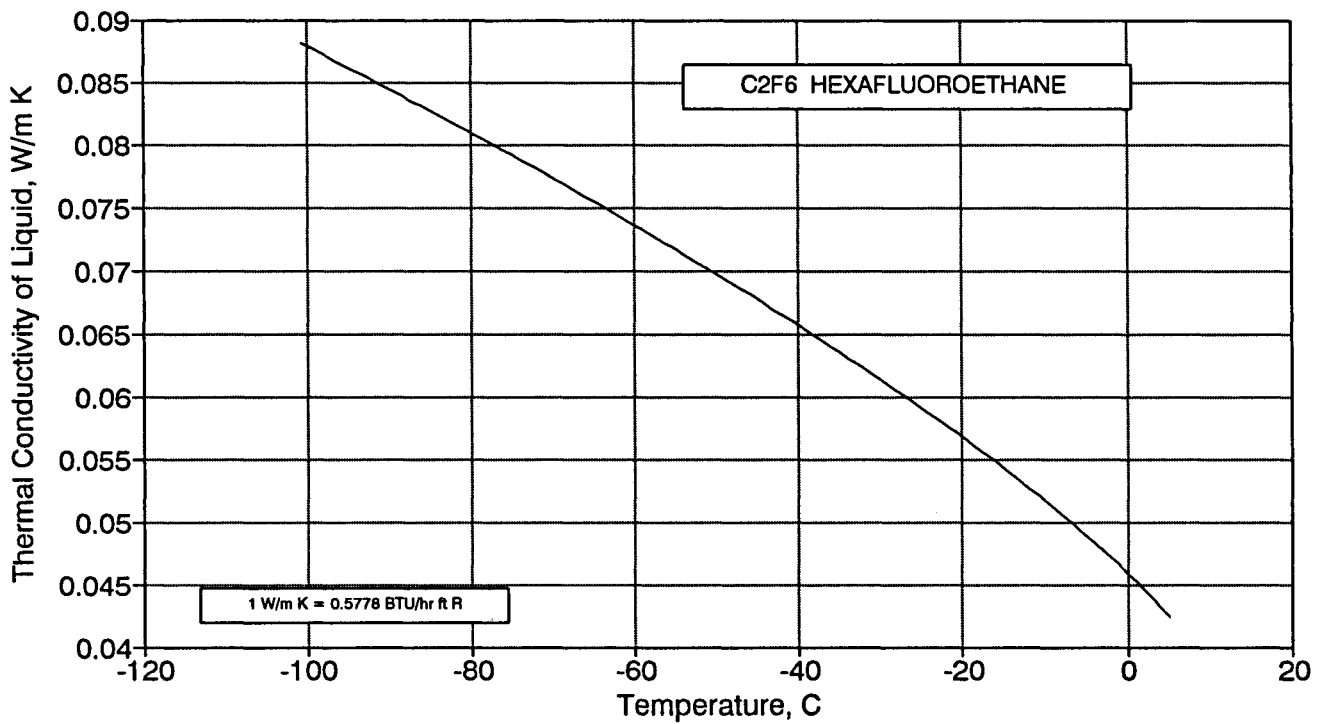
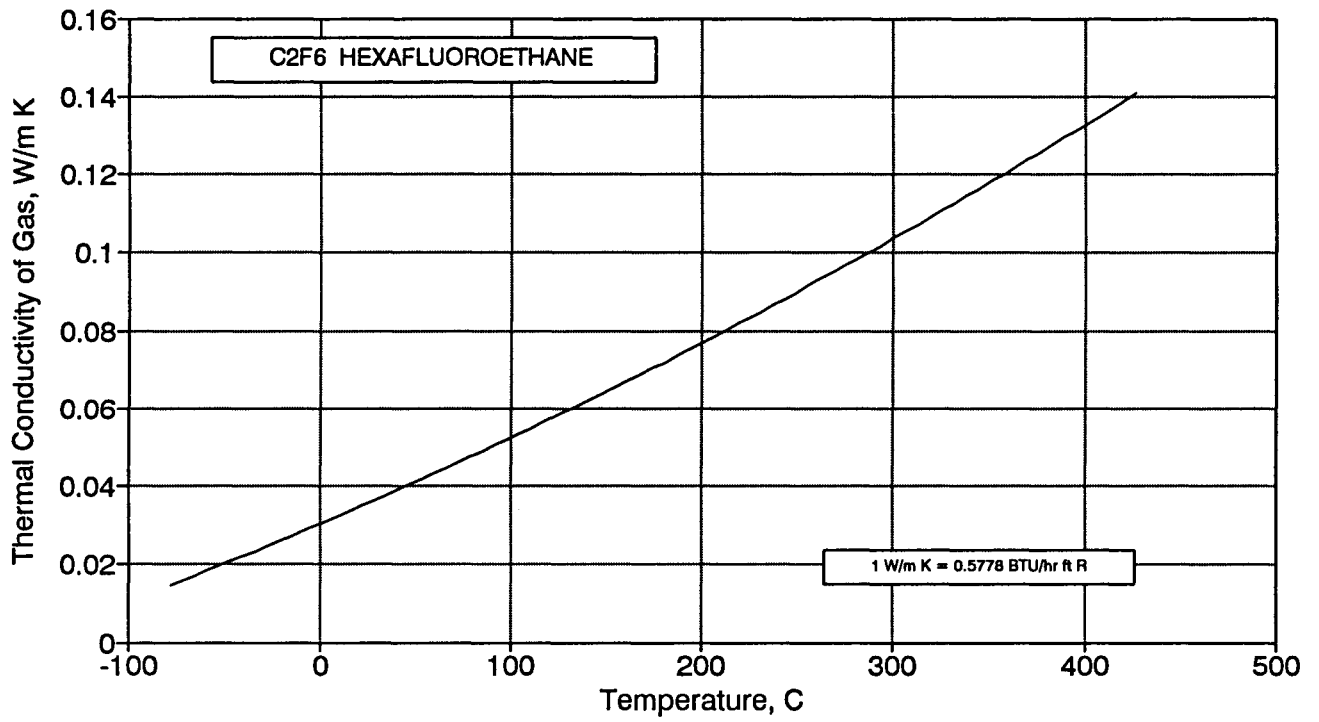
C2Cl6 HEXACHLOROETHANE

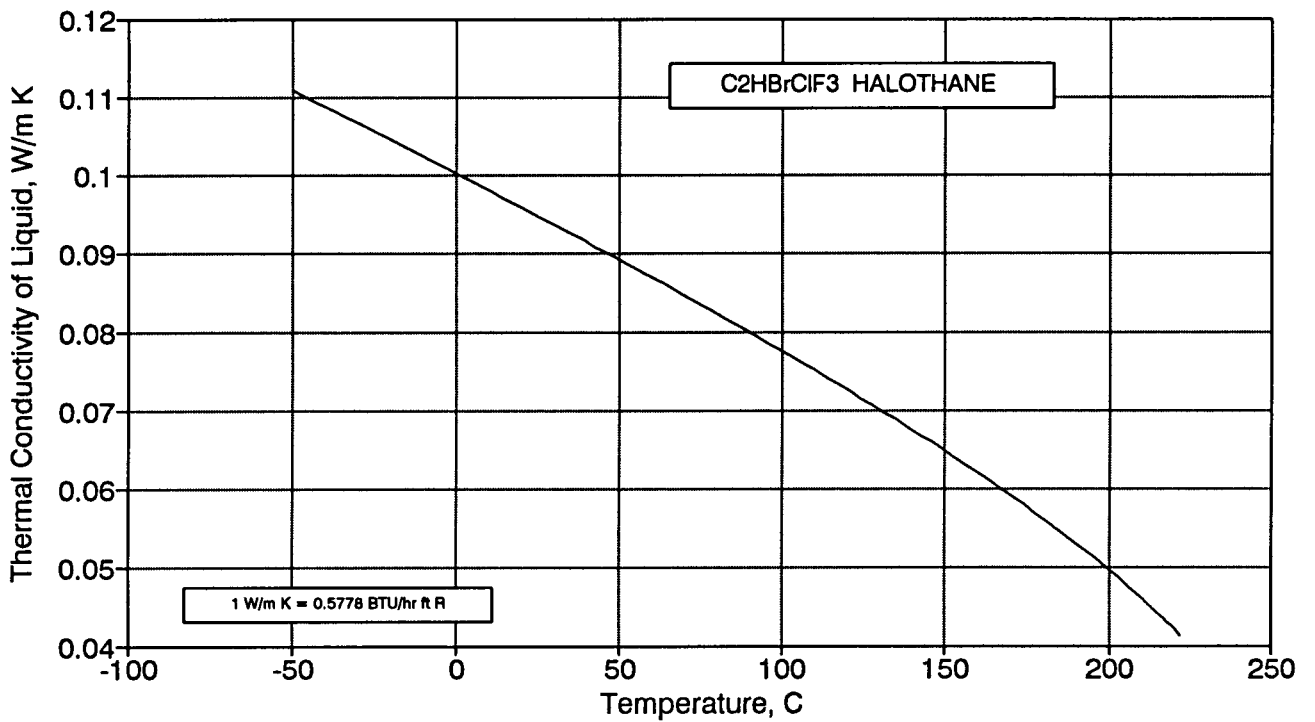
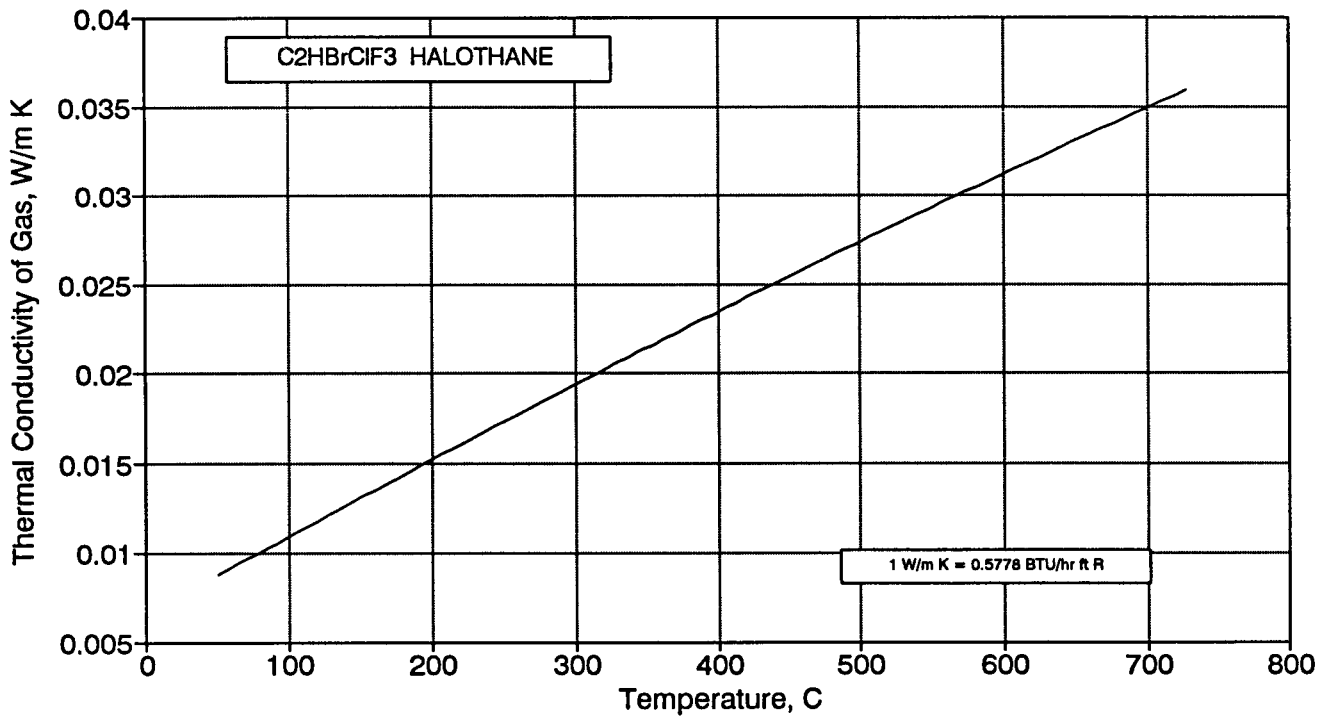
Liquid thermal conductivity data are not available .

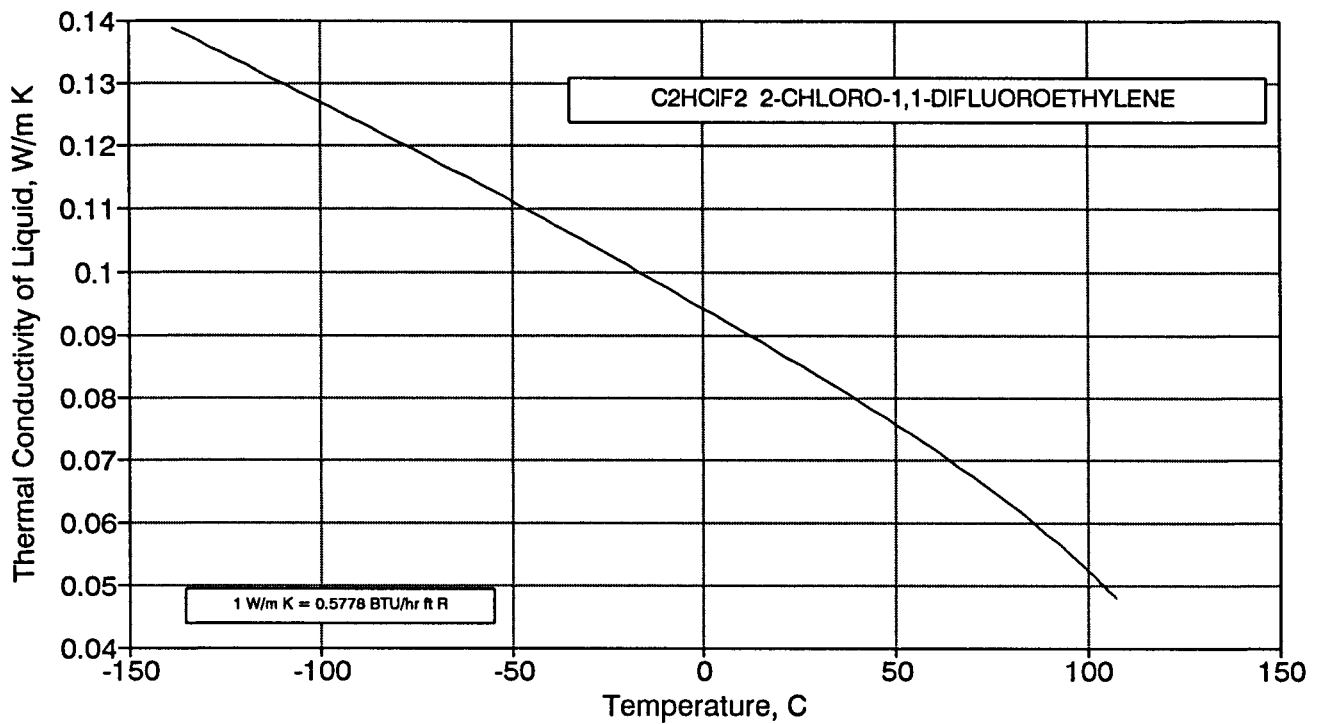
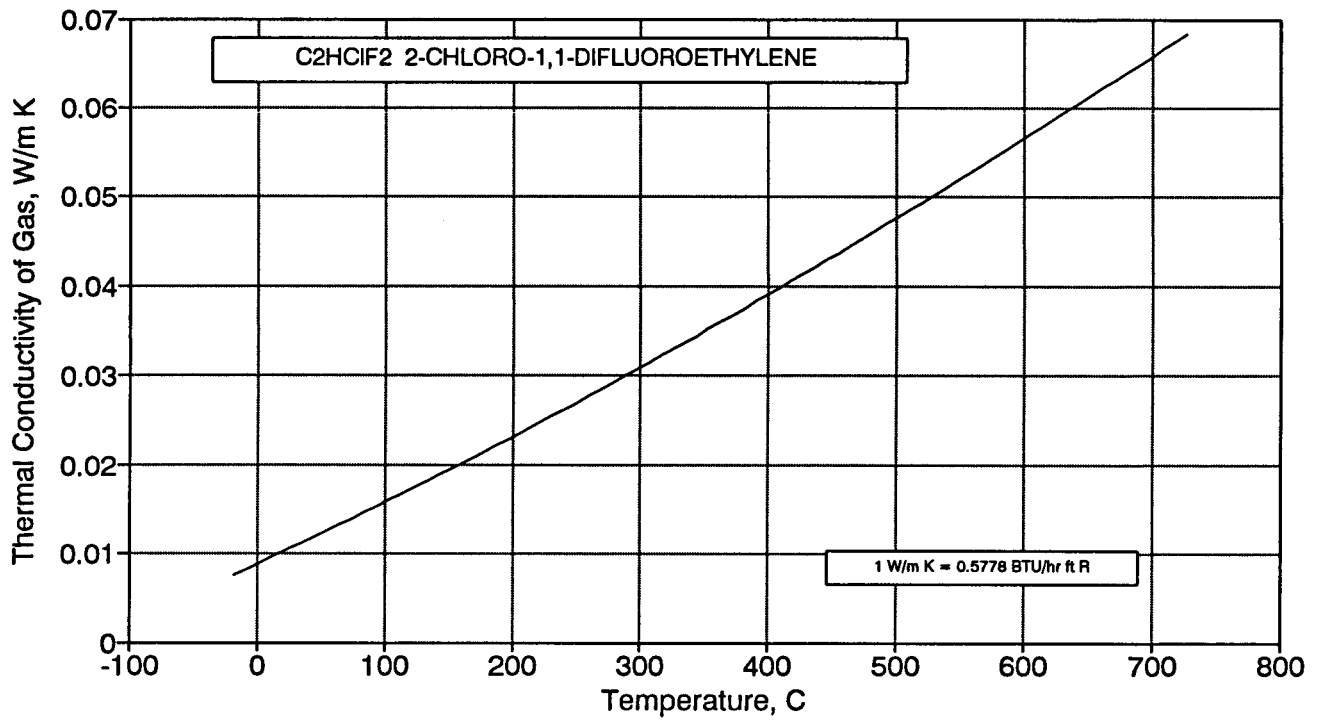


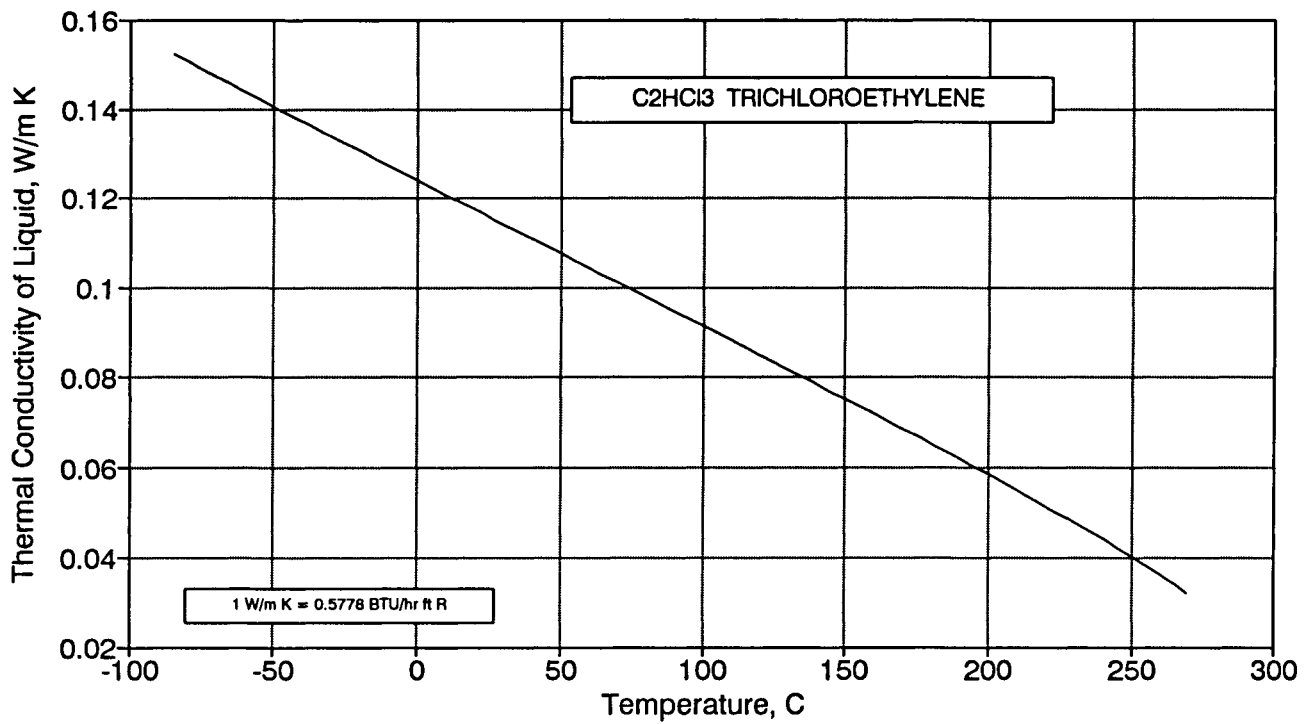
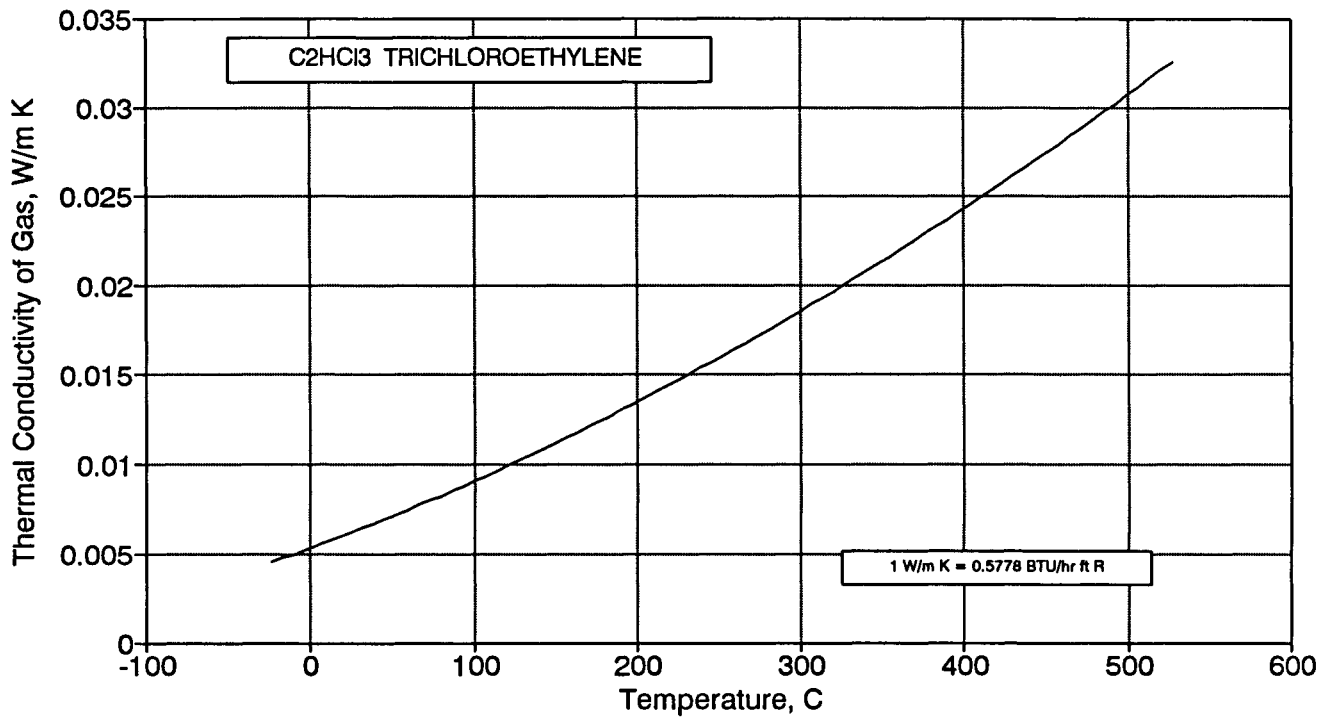
**C2F4 TETRAFLUOROETHYLENE**

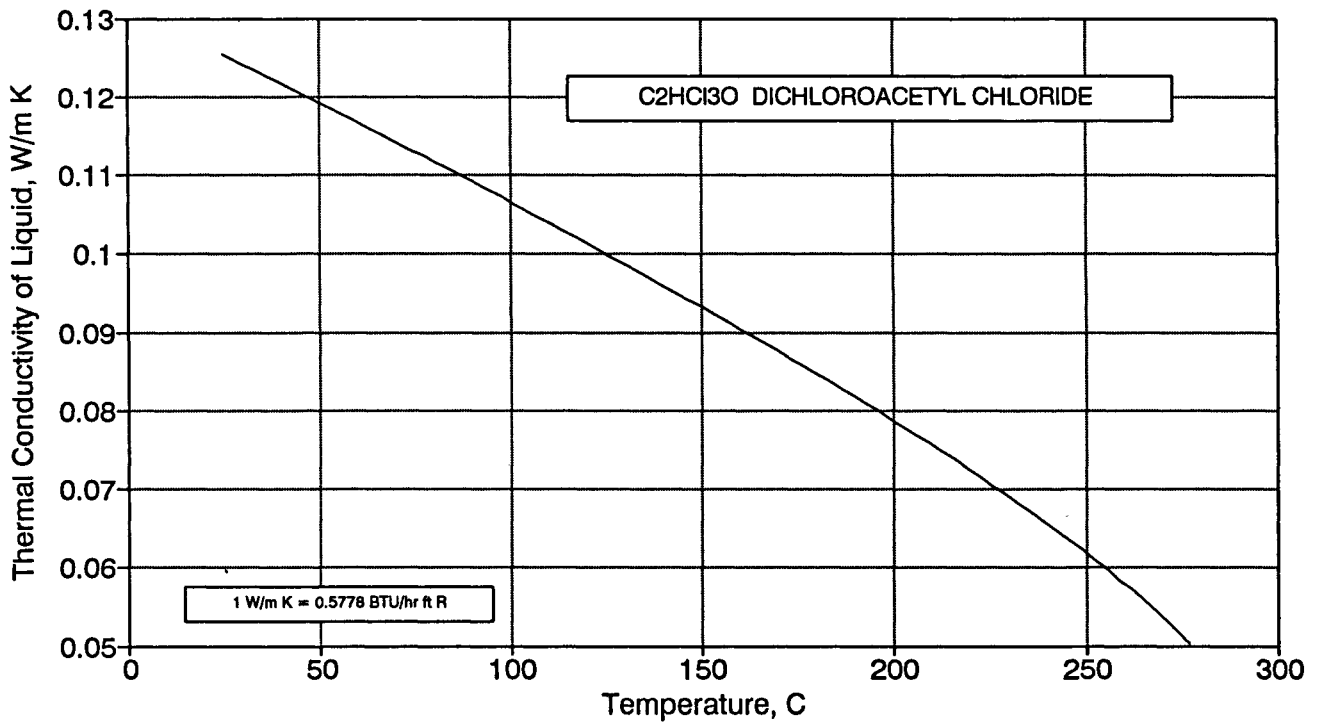
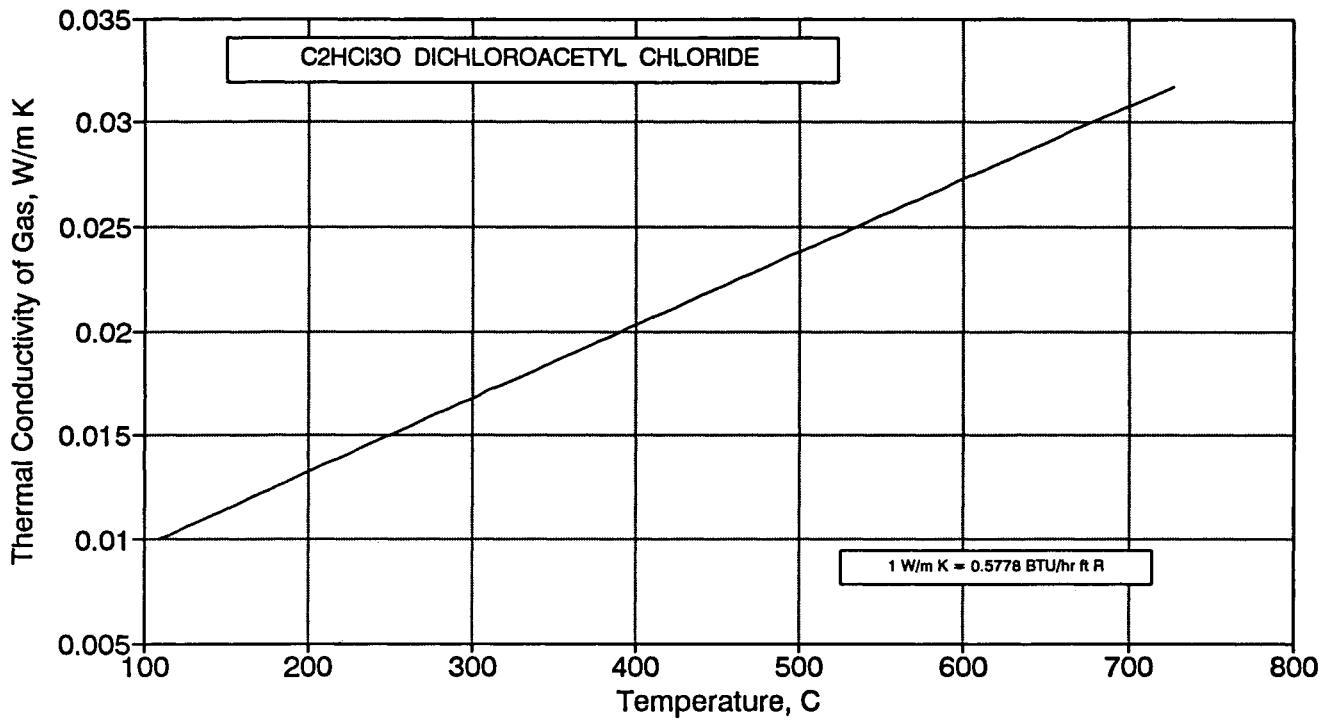
One liquid thermal conductivity value is available:  
 1.5500E-2 W/m K @ 303.15 K.



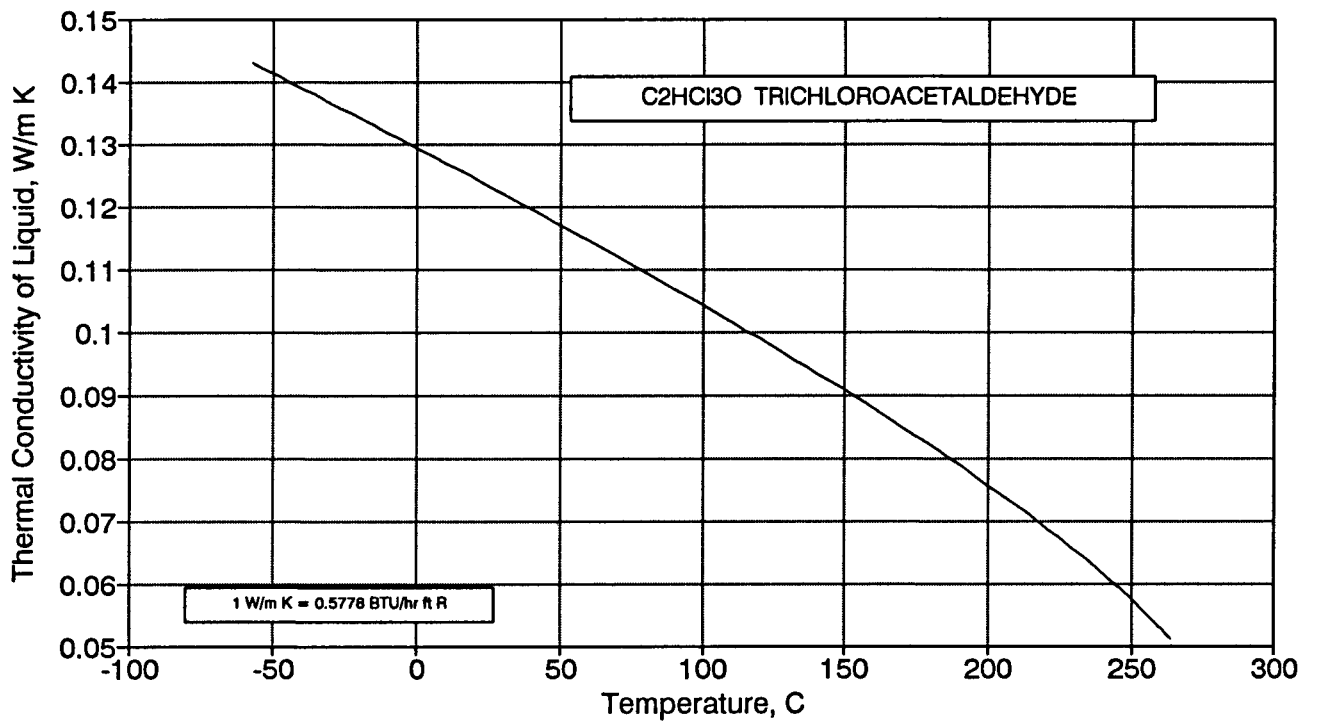
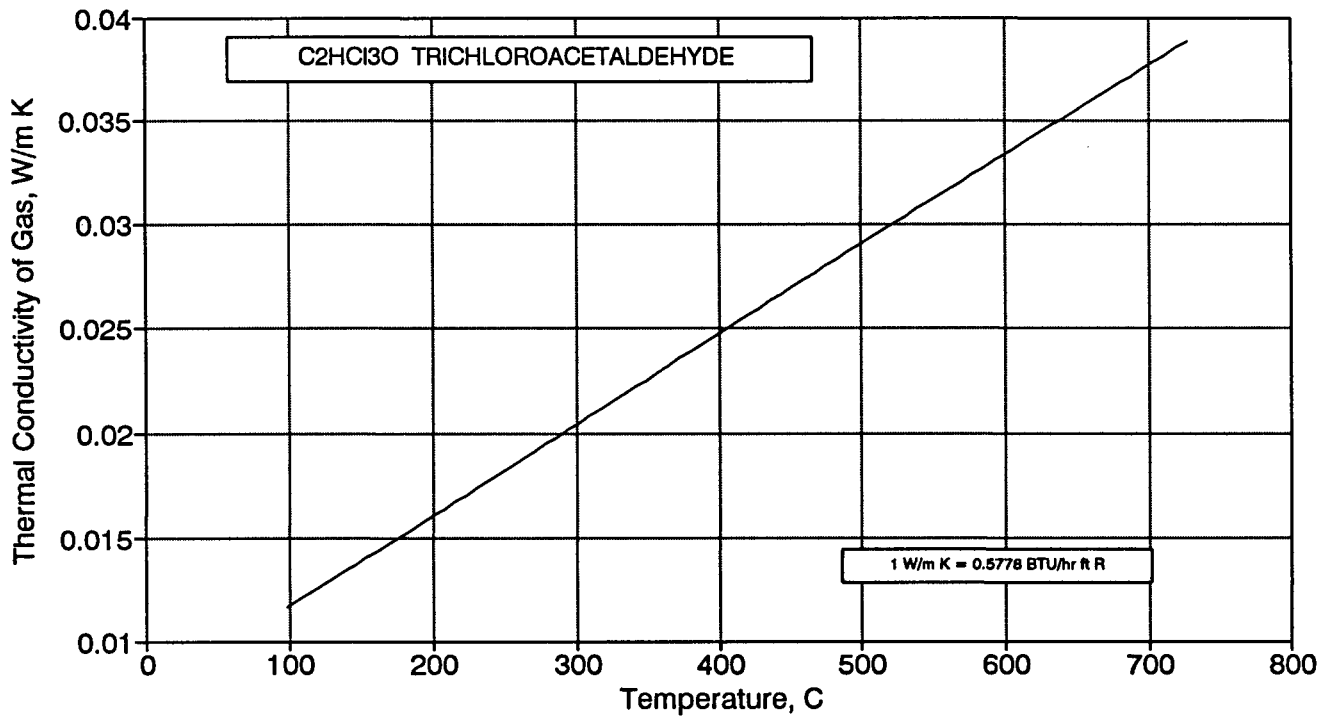


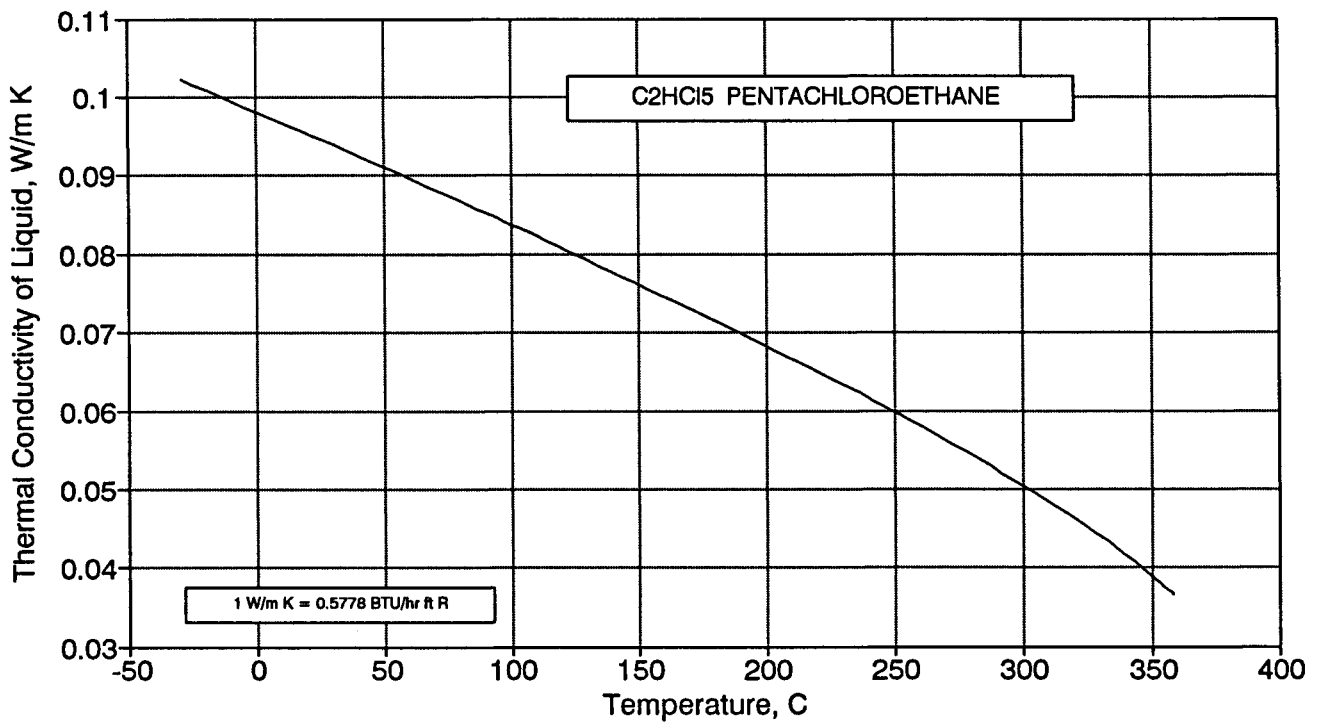
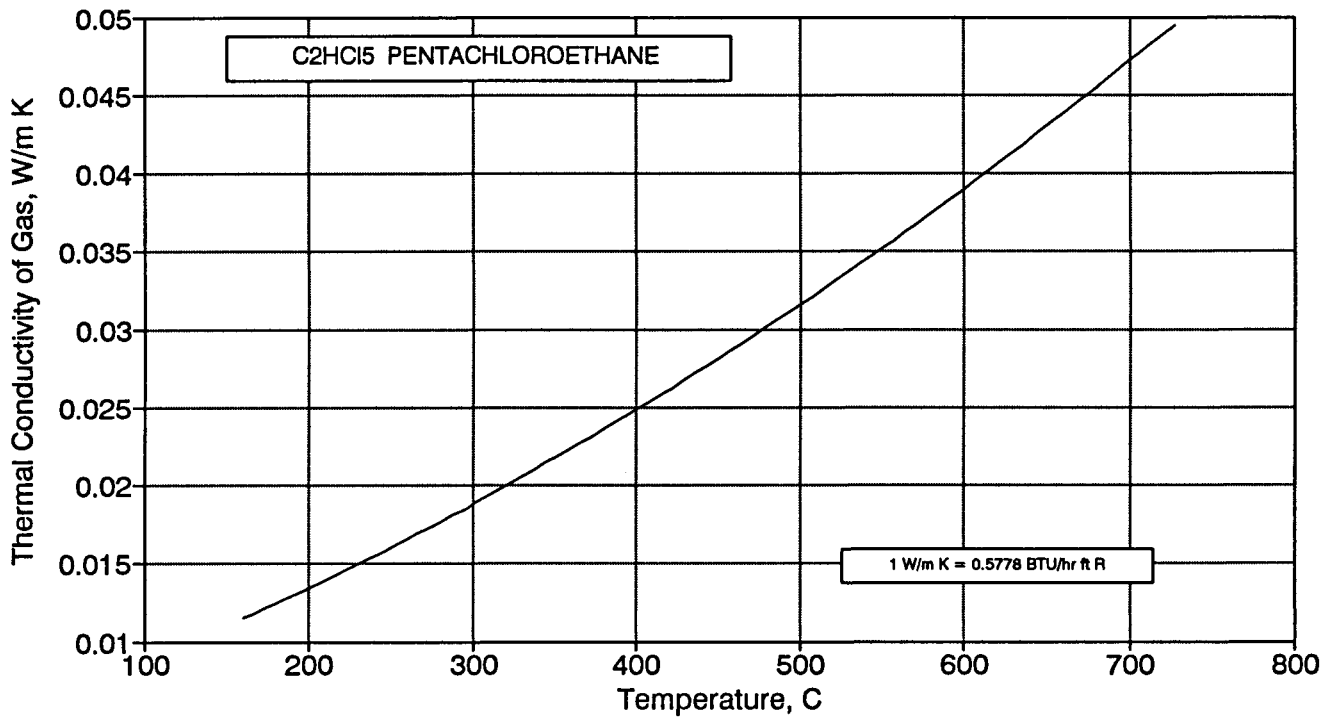


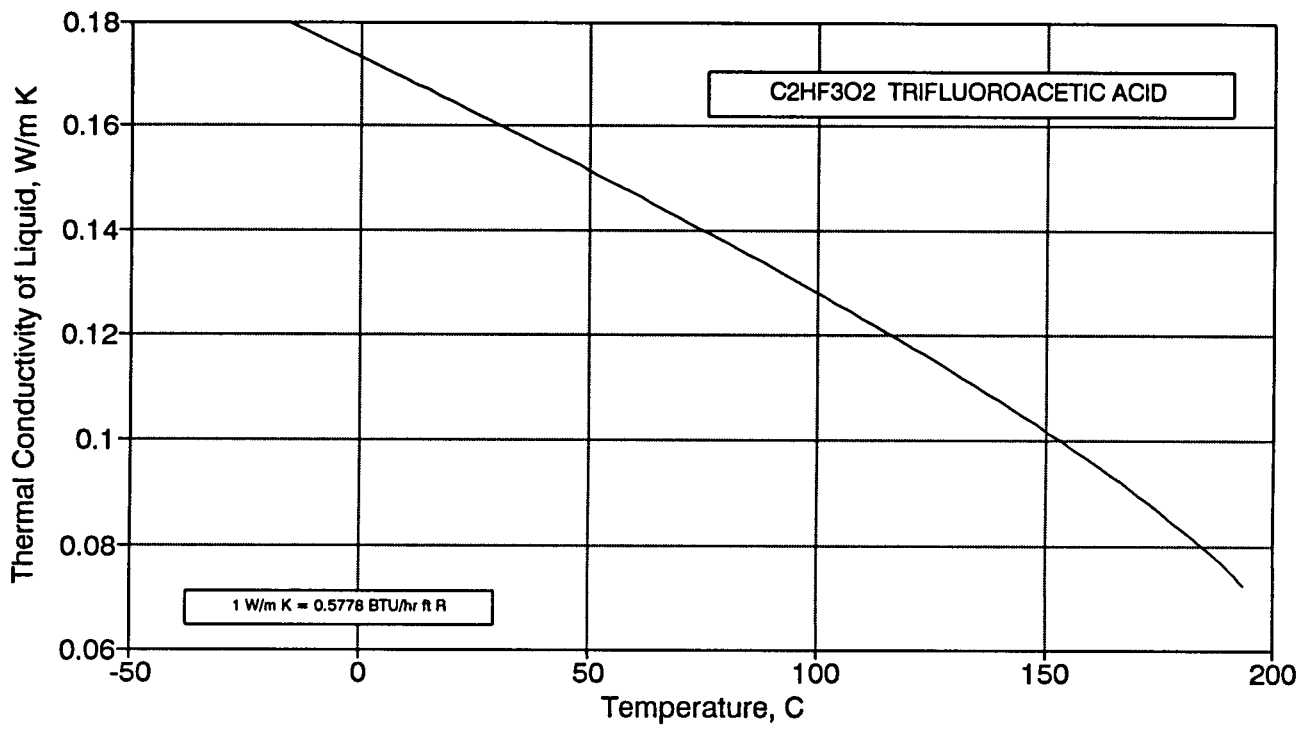
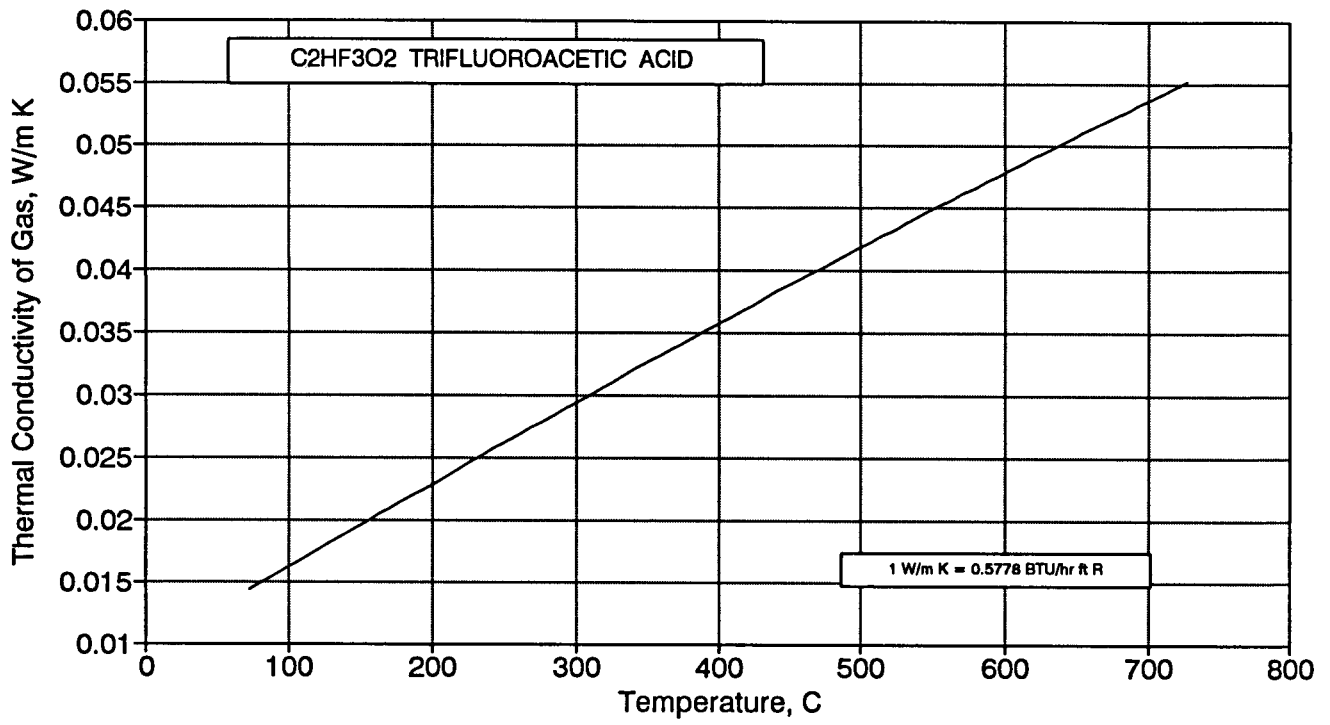


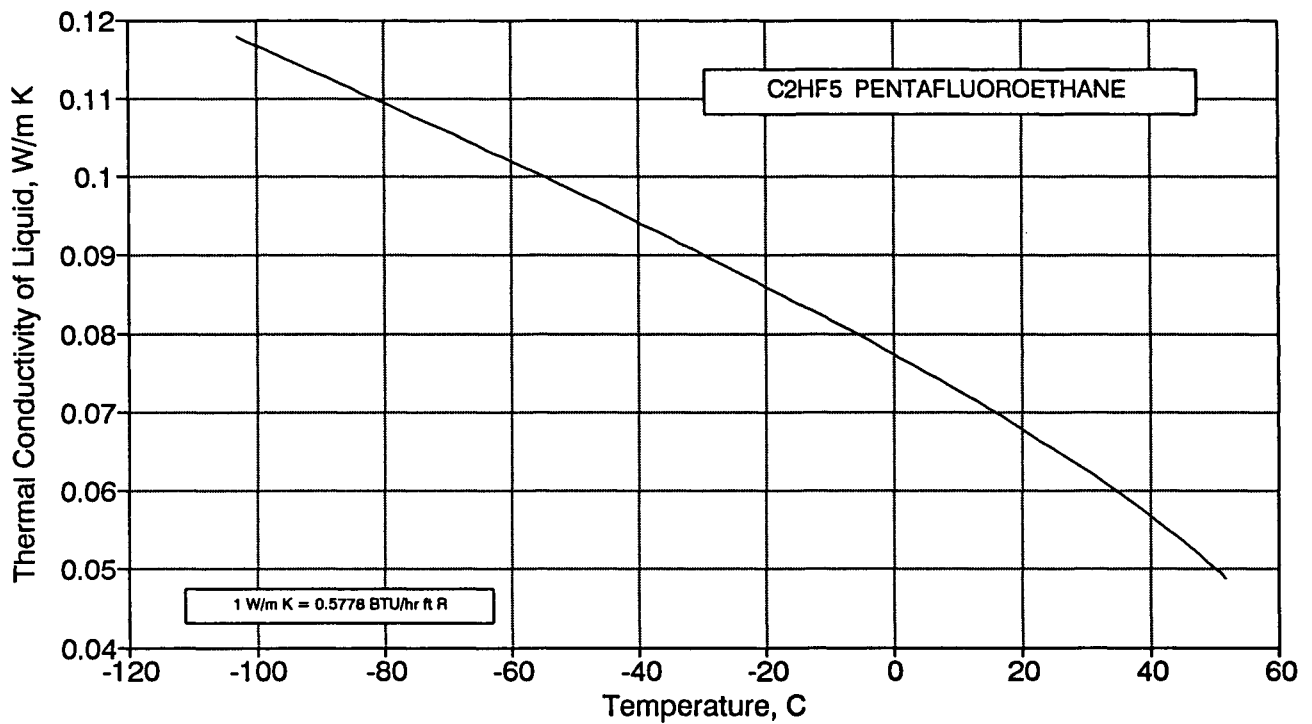
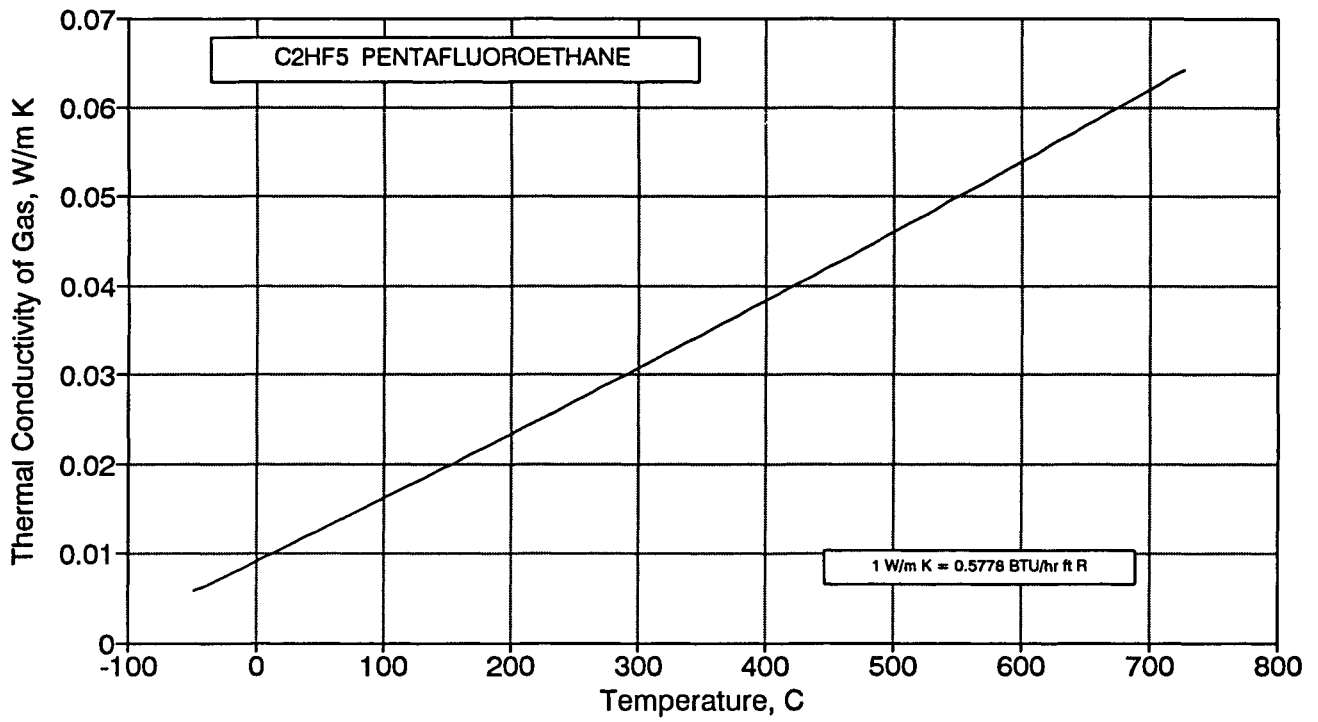


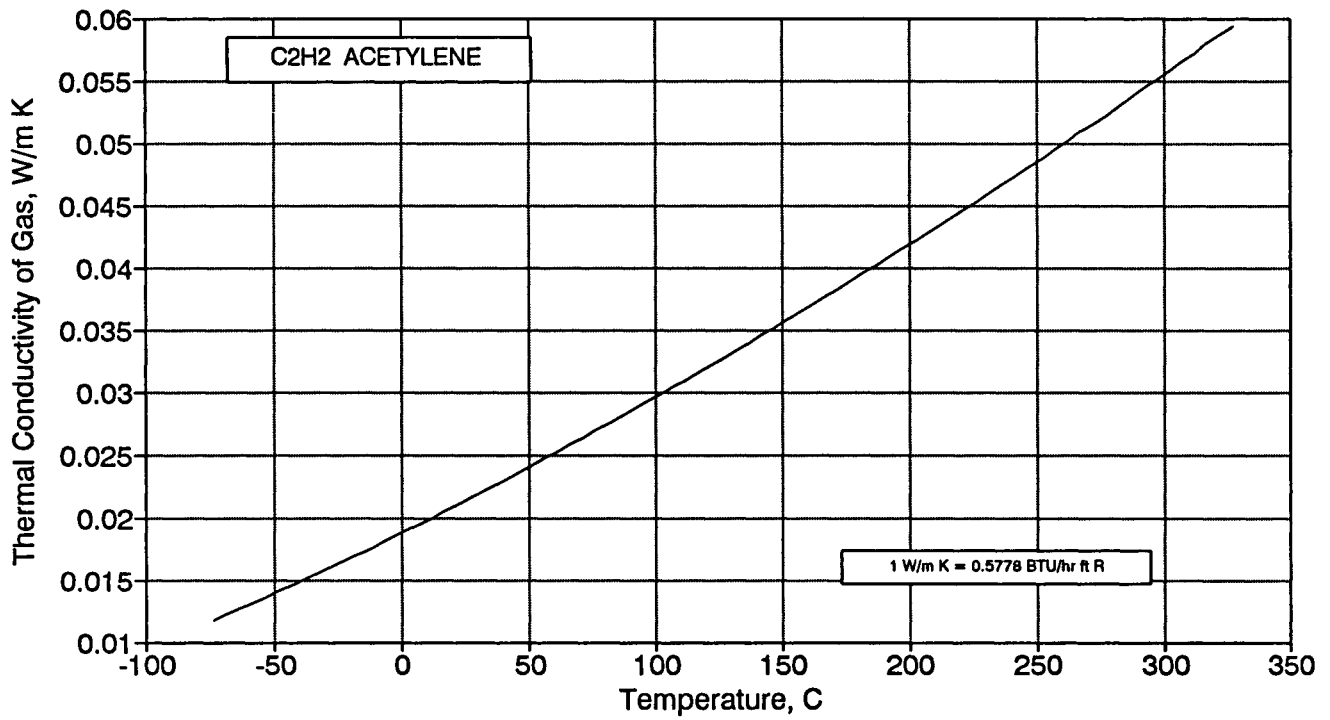






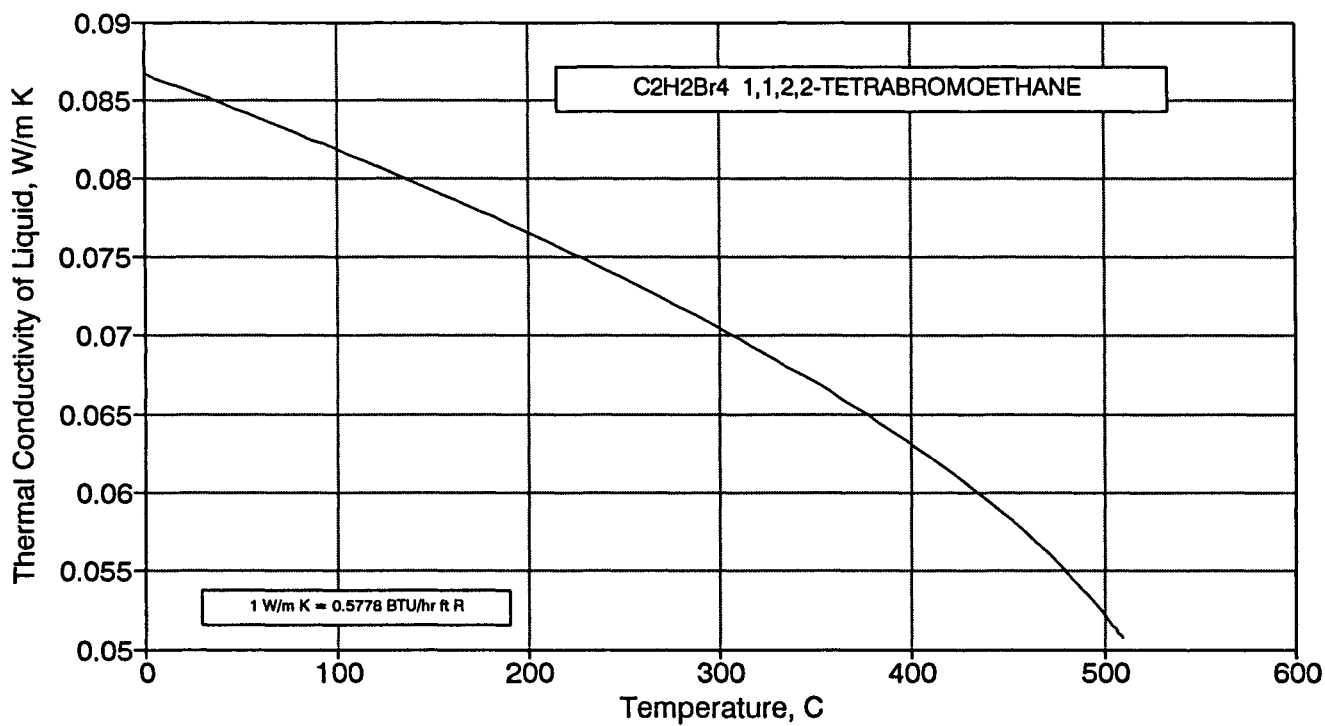
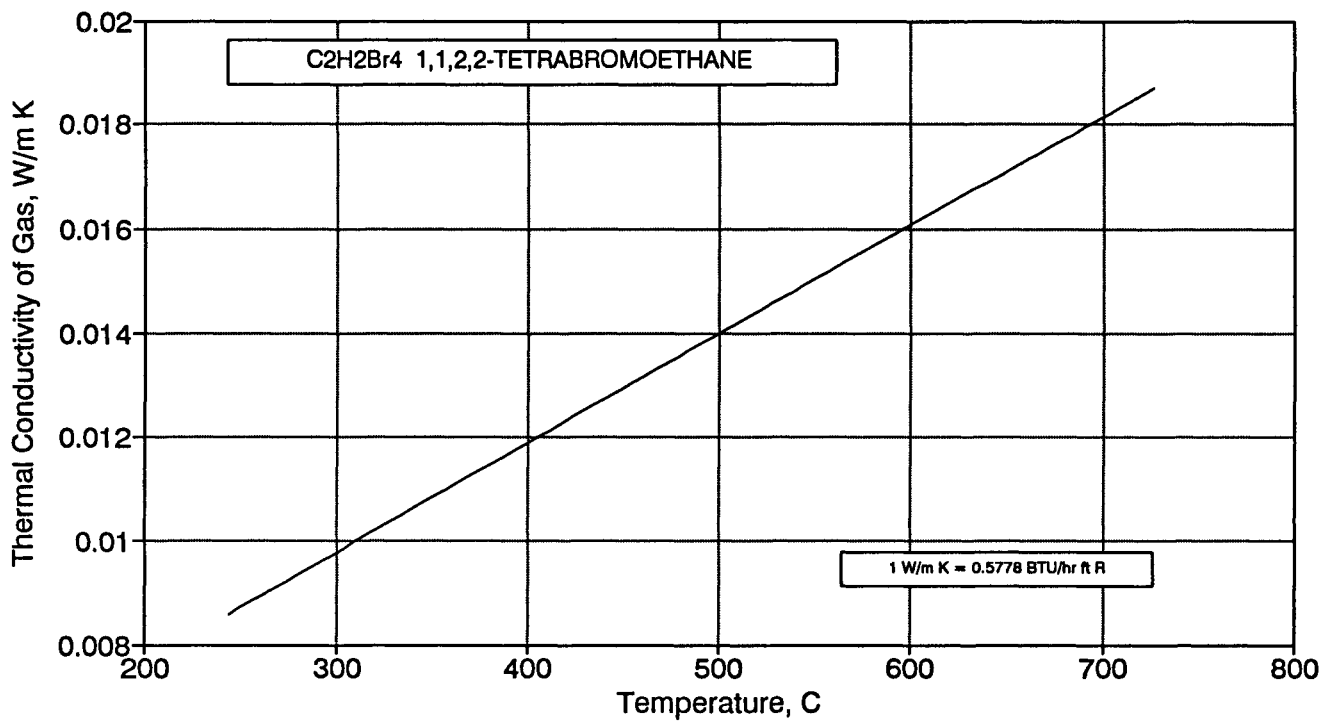


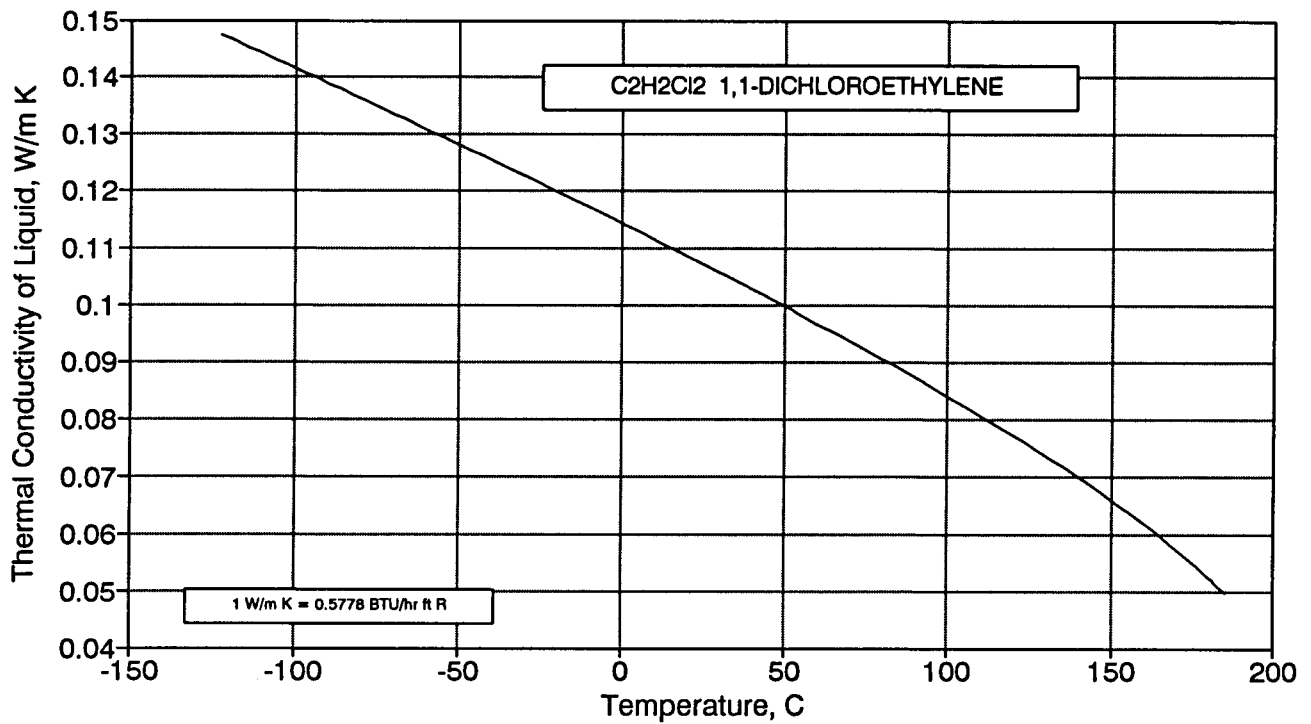
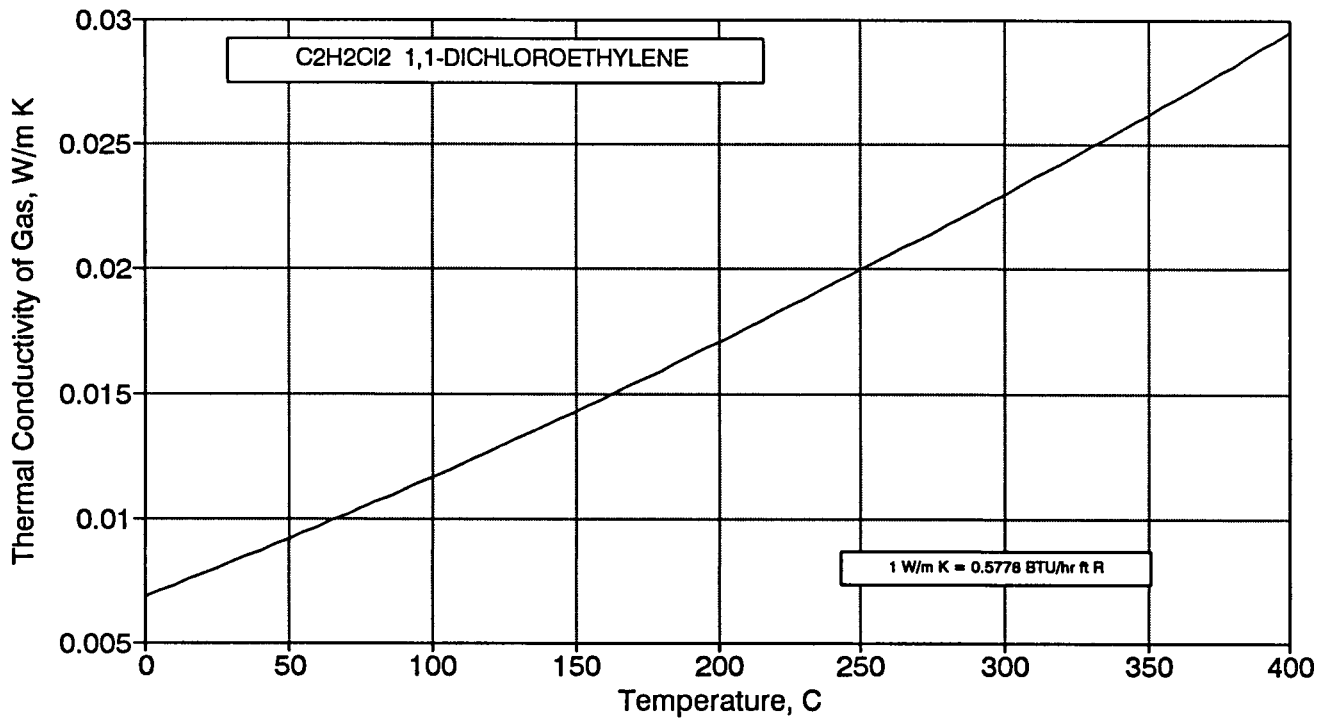


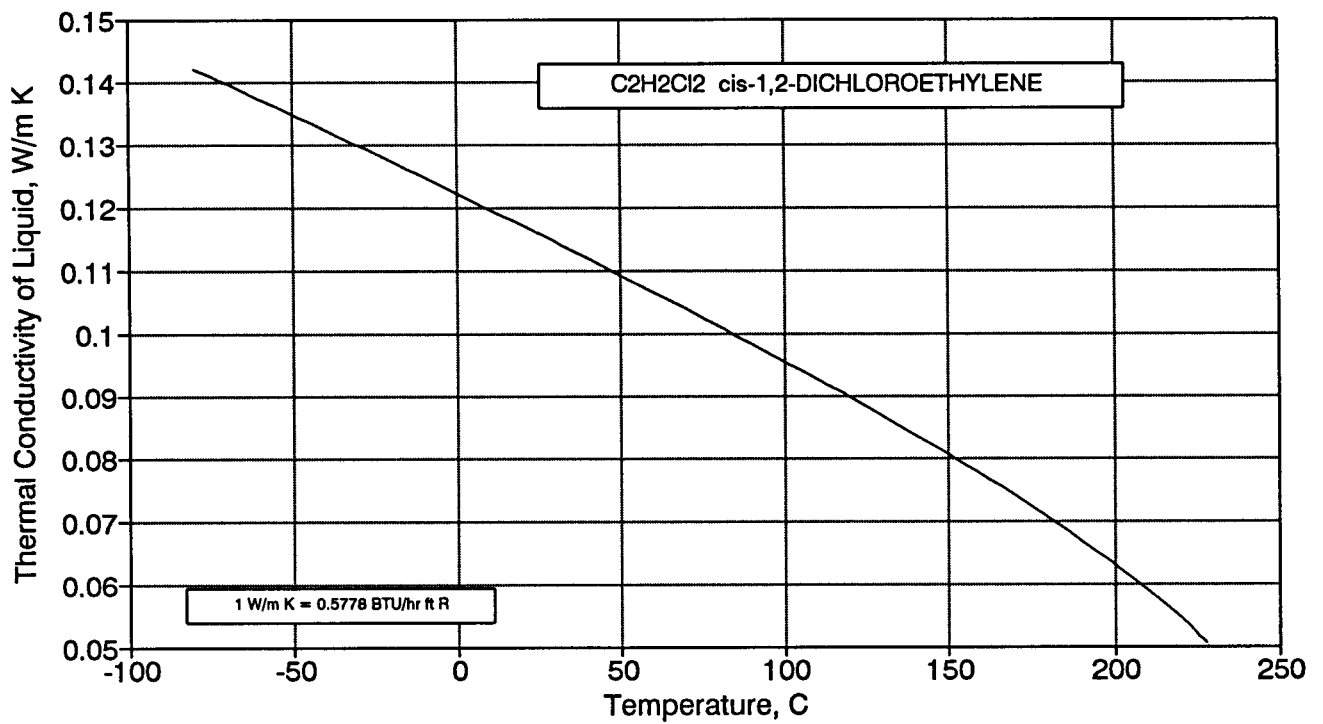
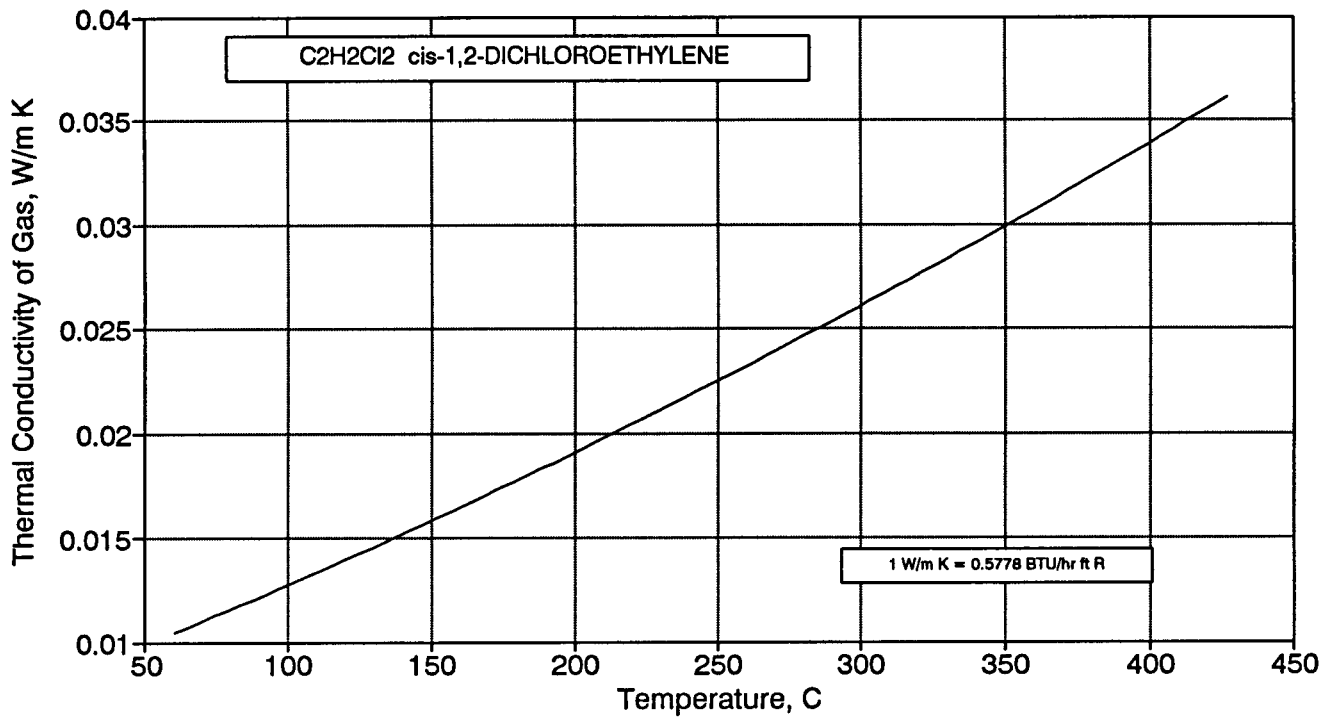


**C2H2 ACETYLENE**

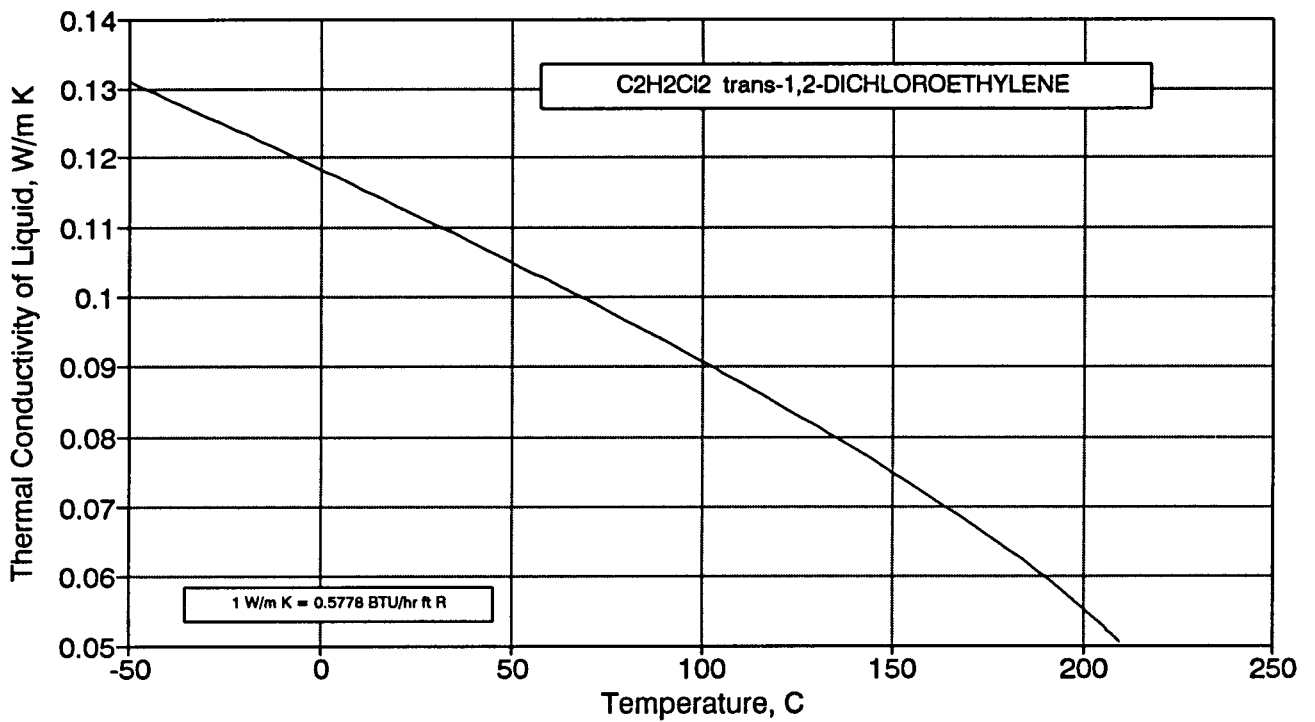
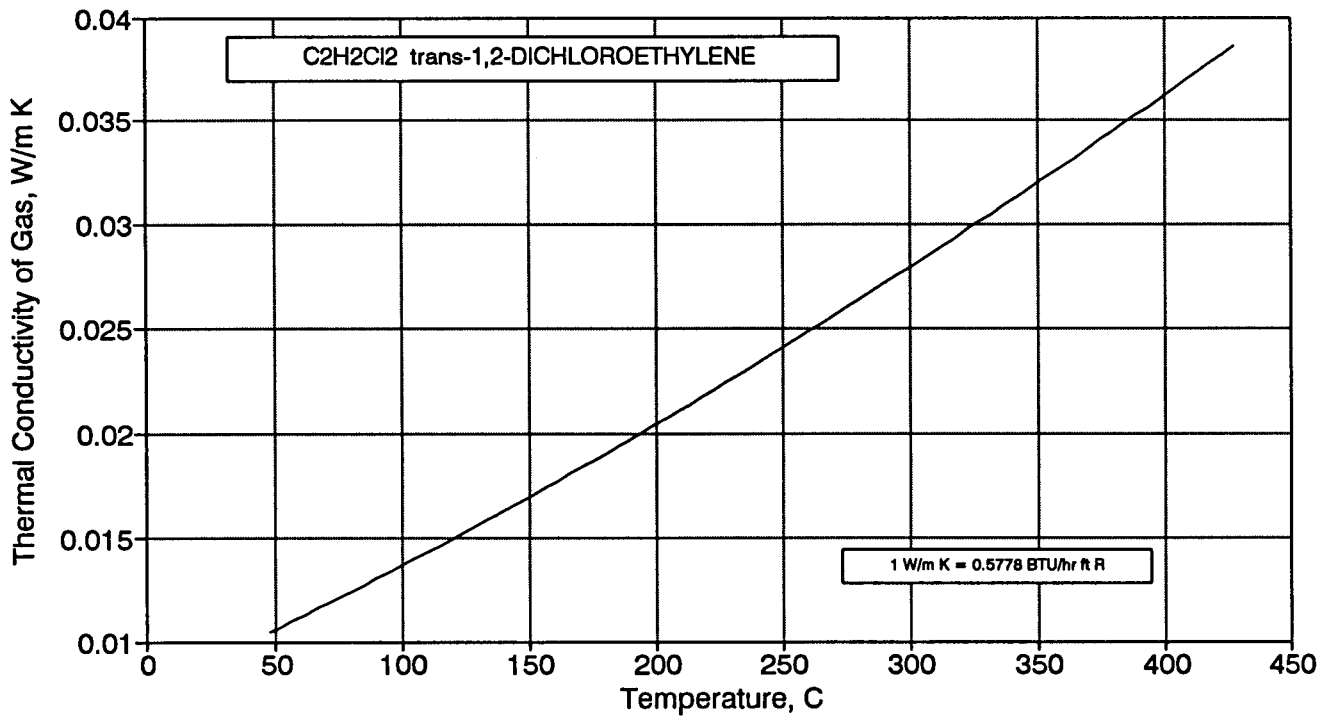
Liquid thermal conductivity data are not available .

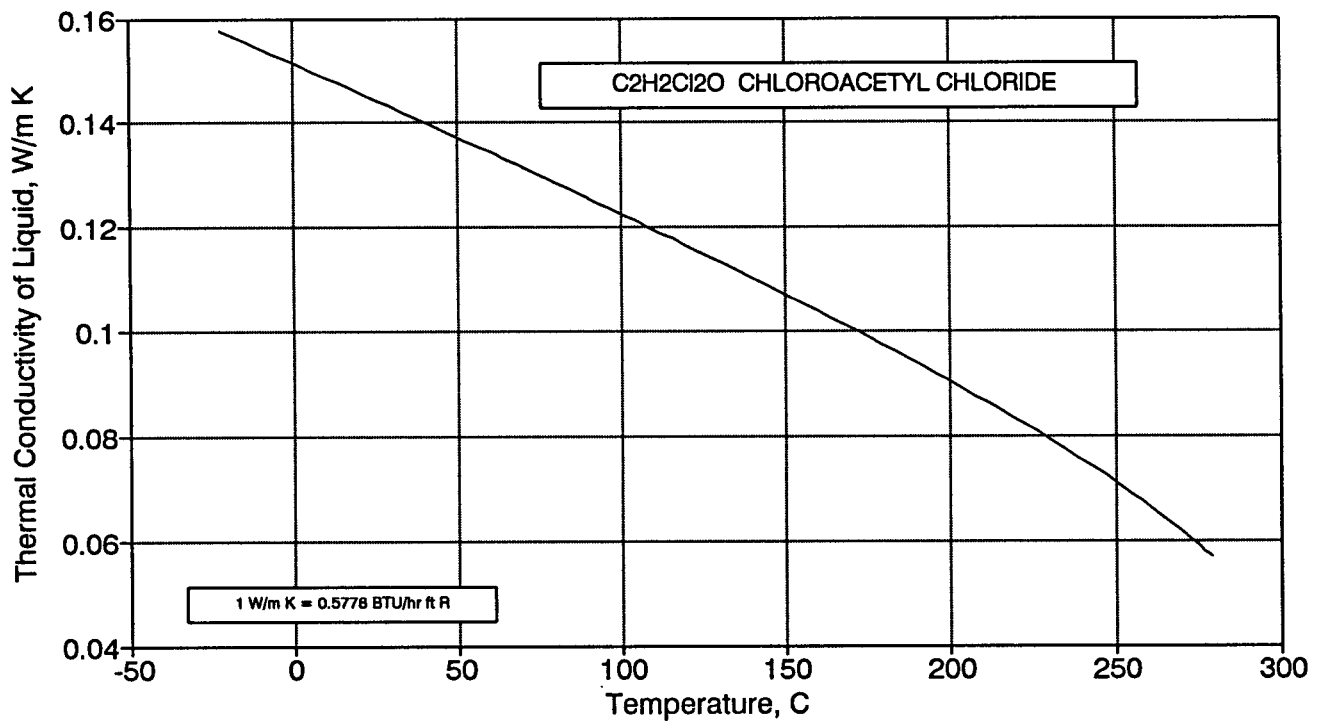
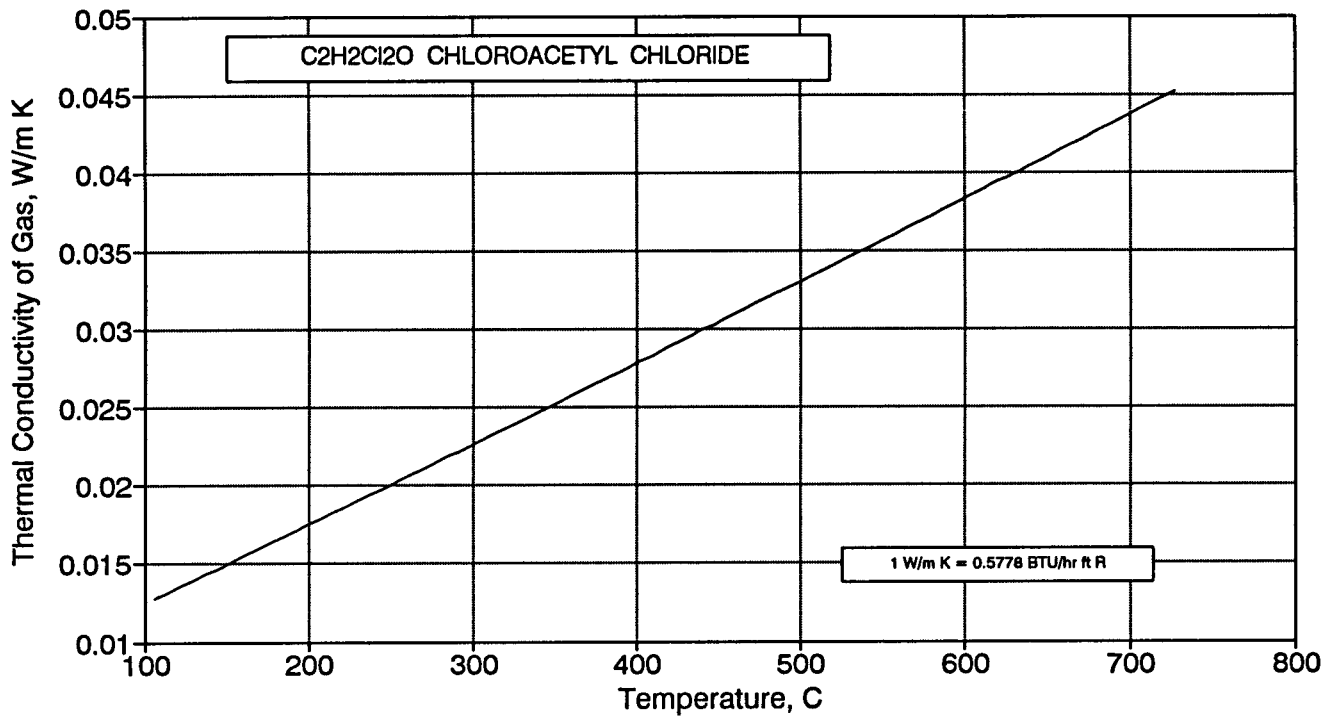


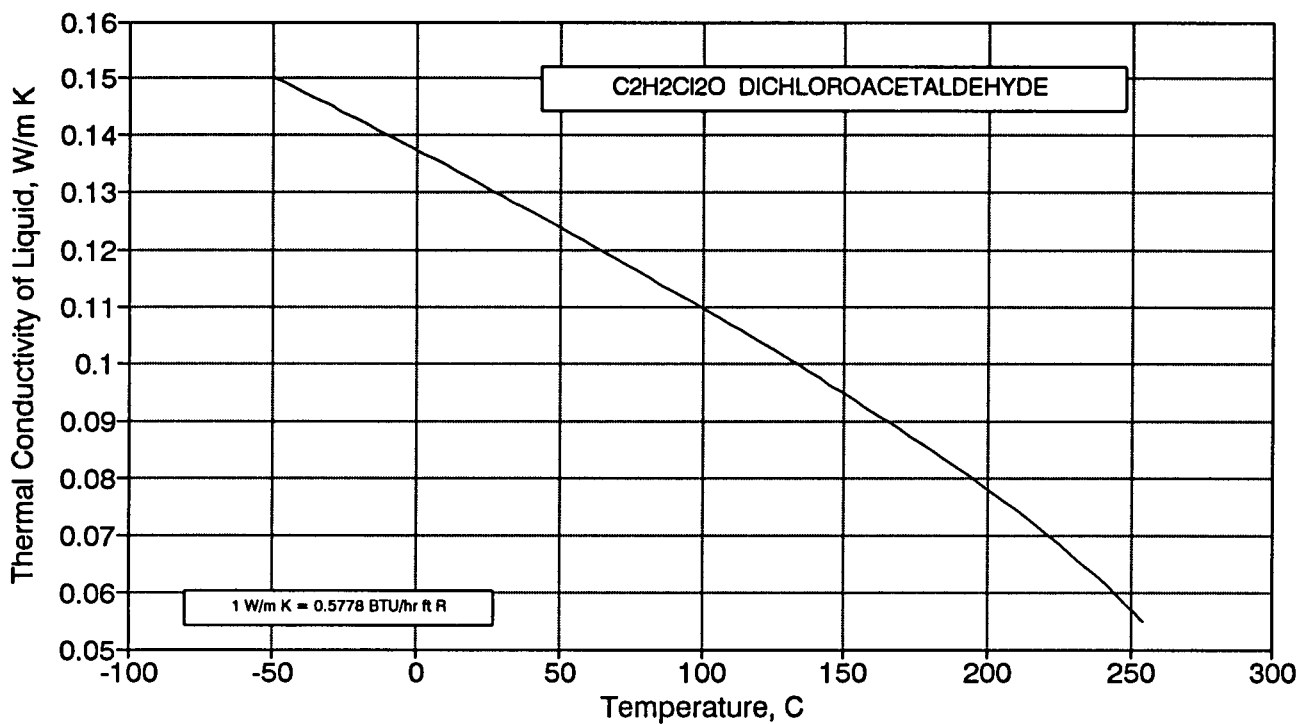
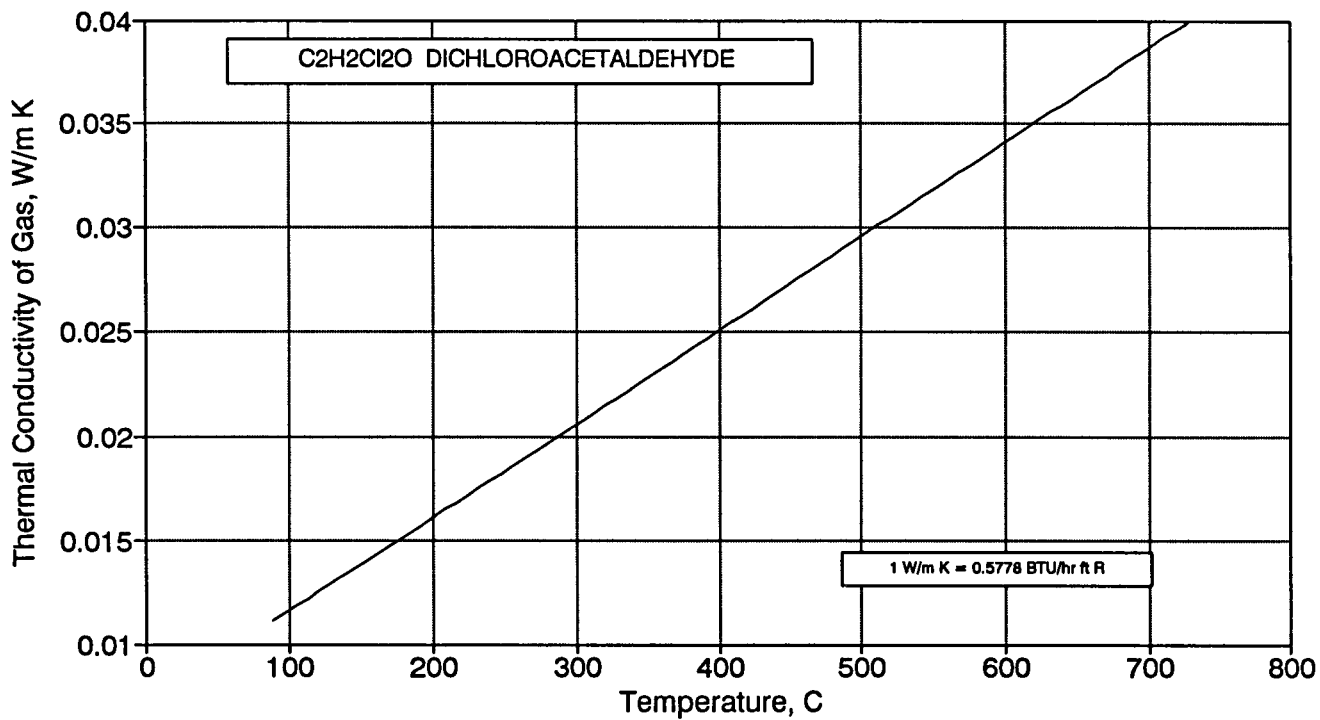


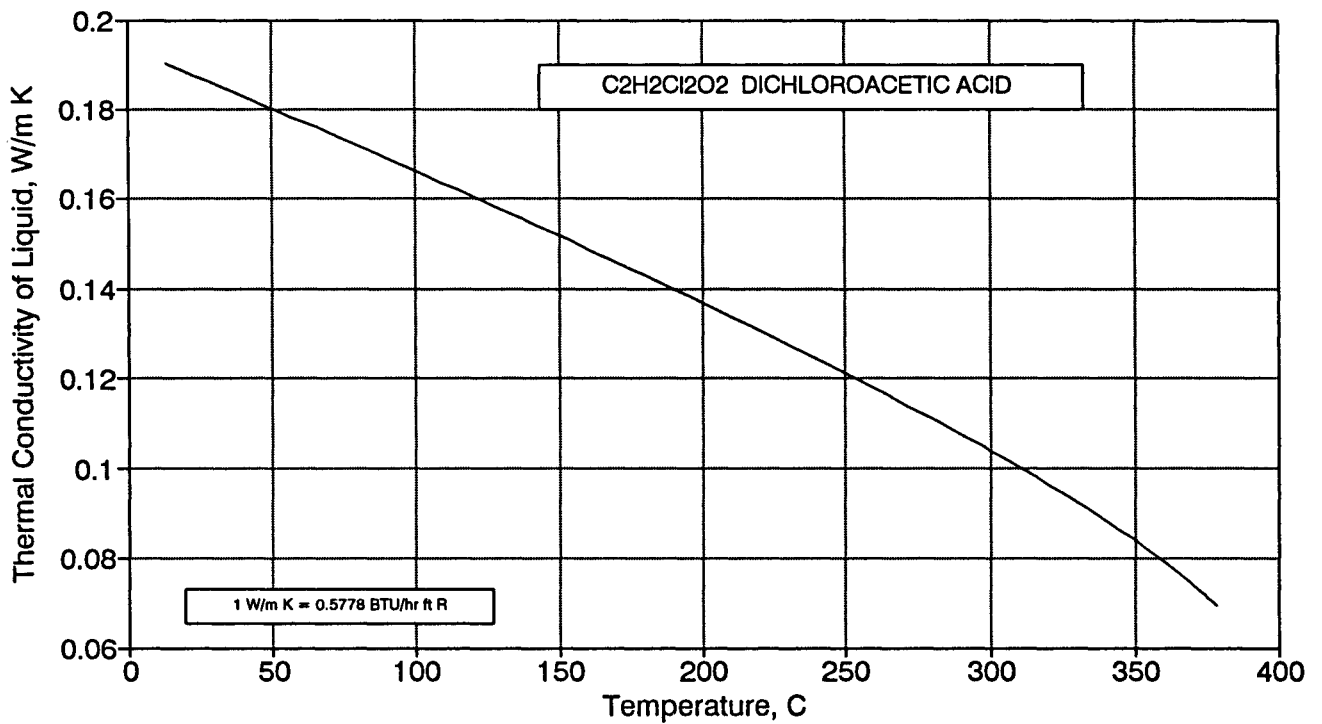
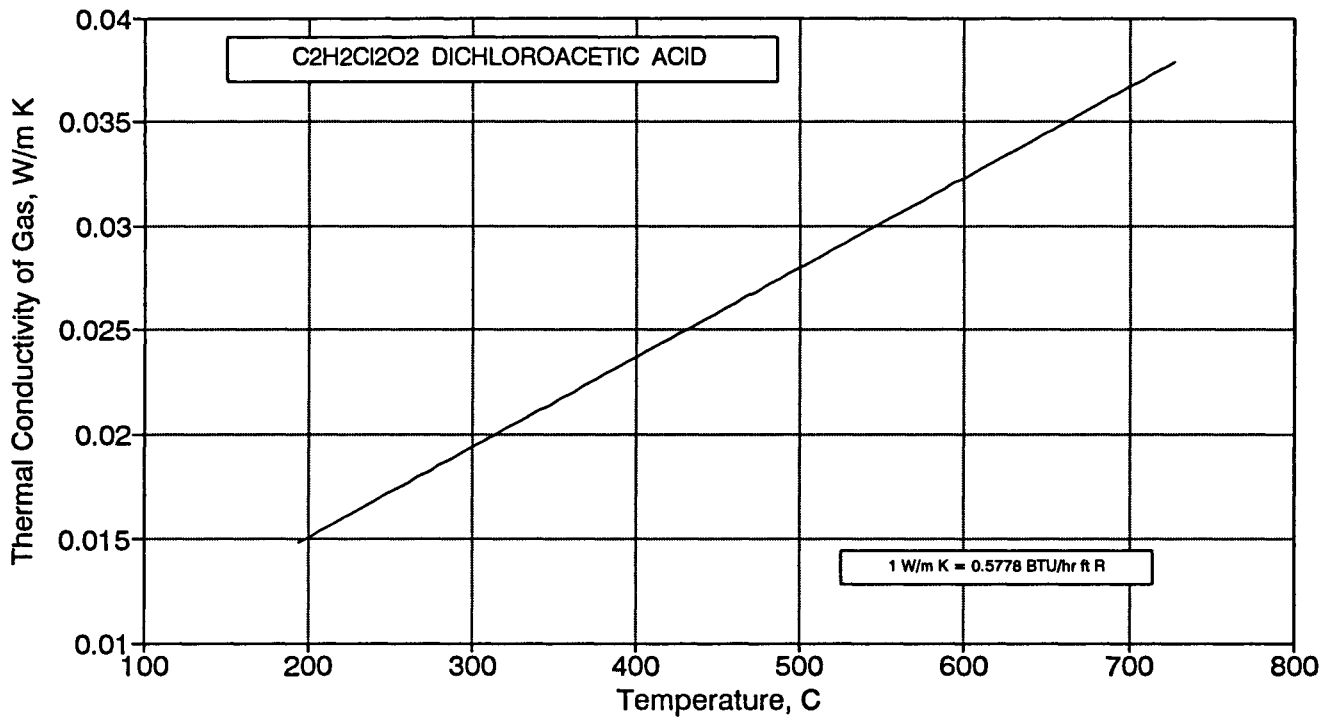


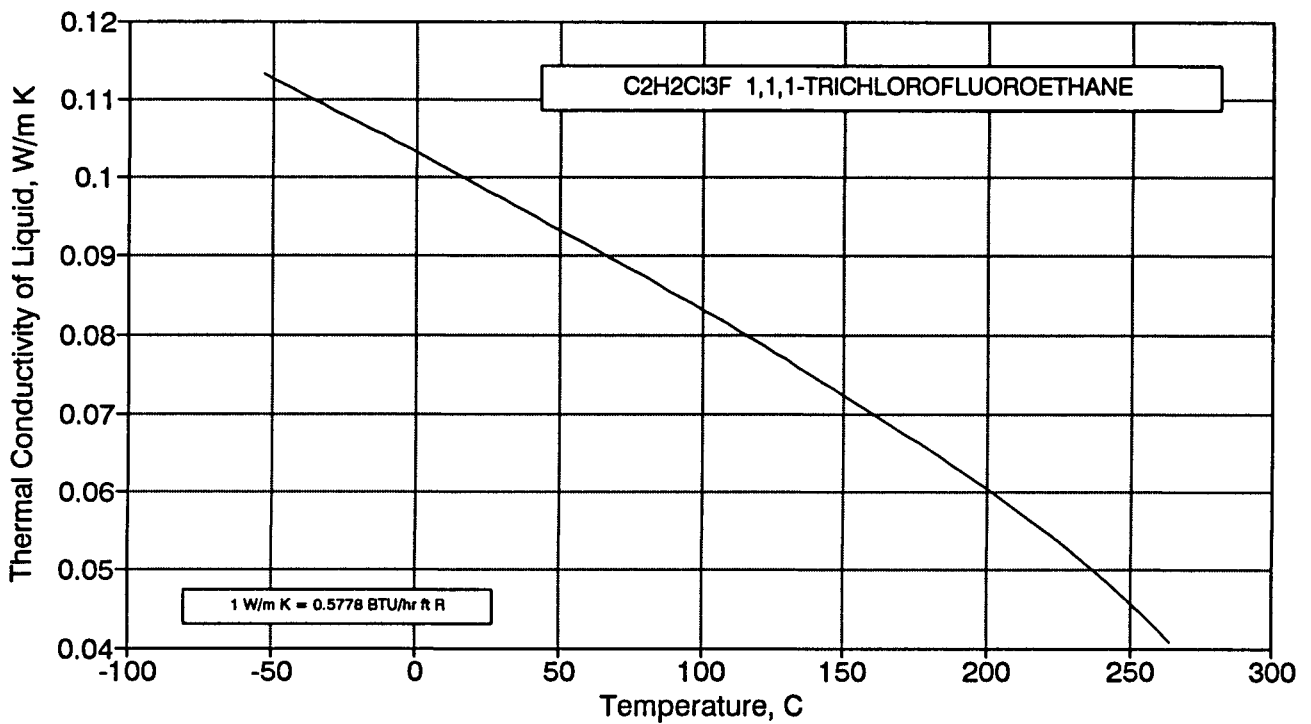
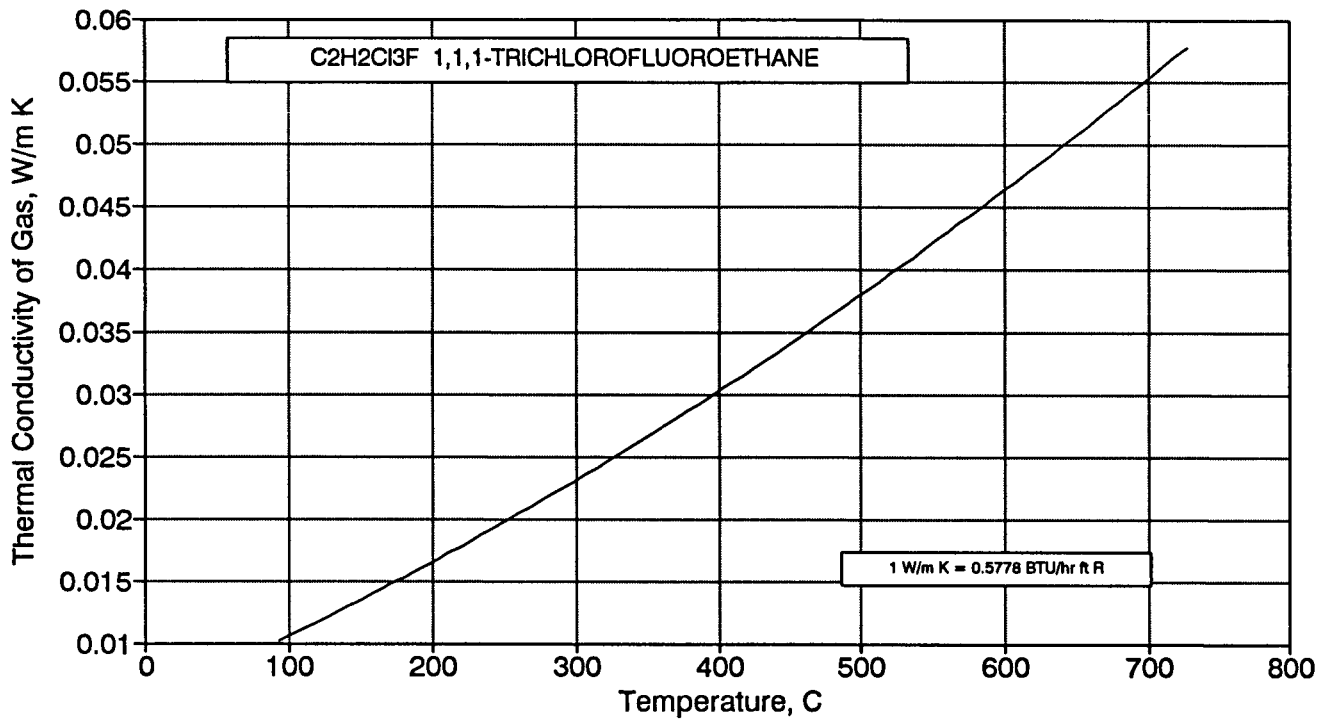


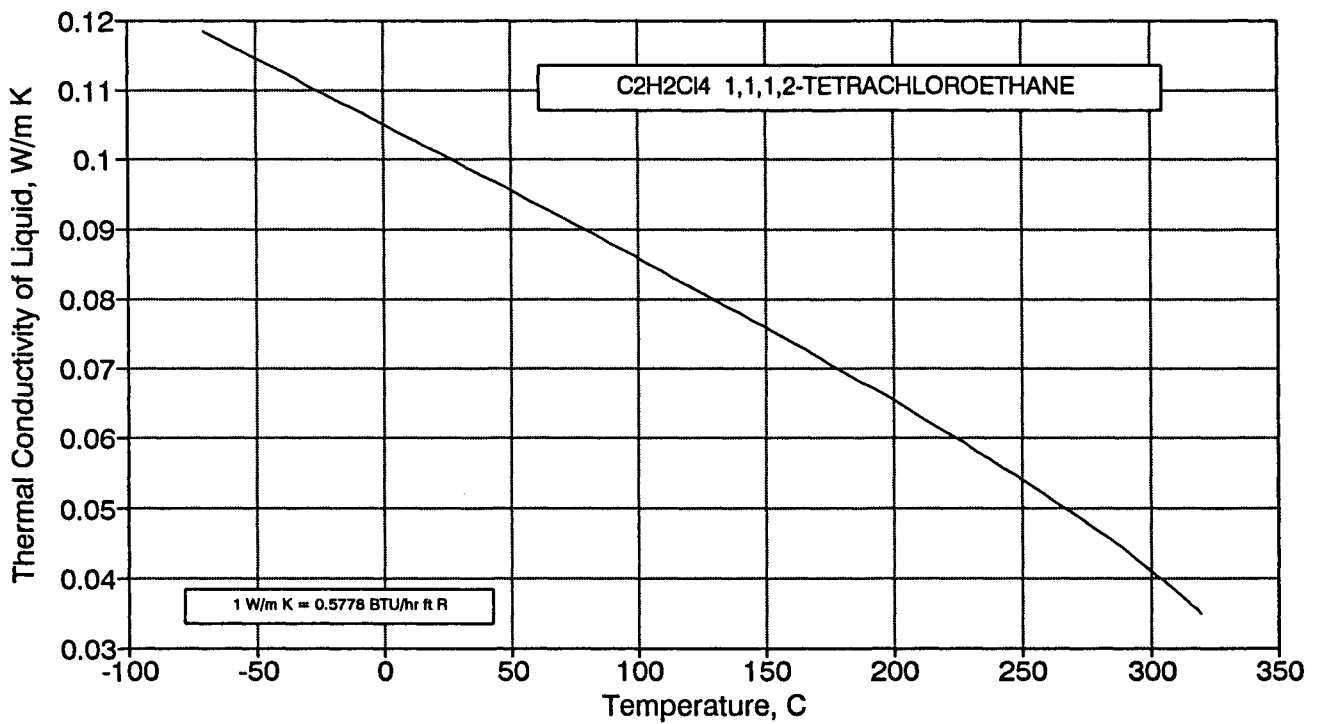
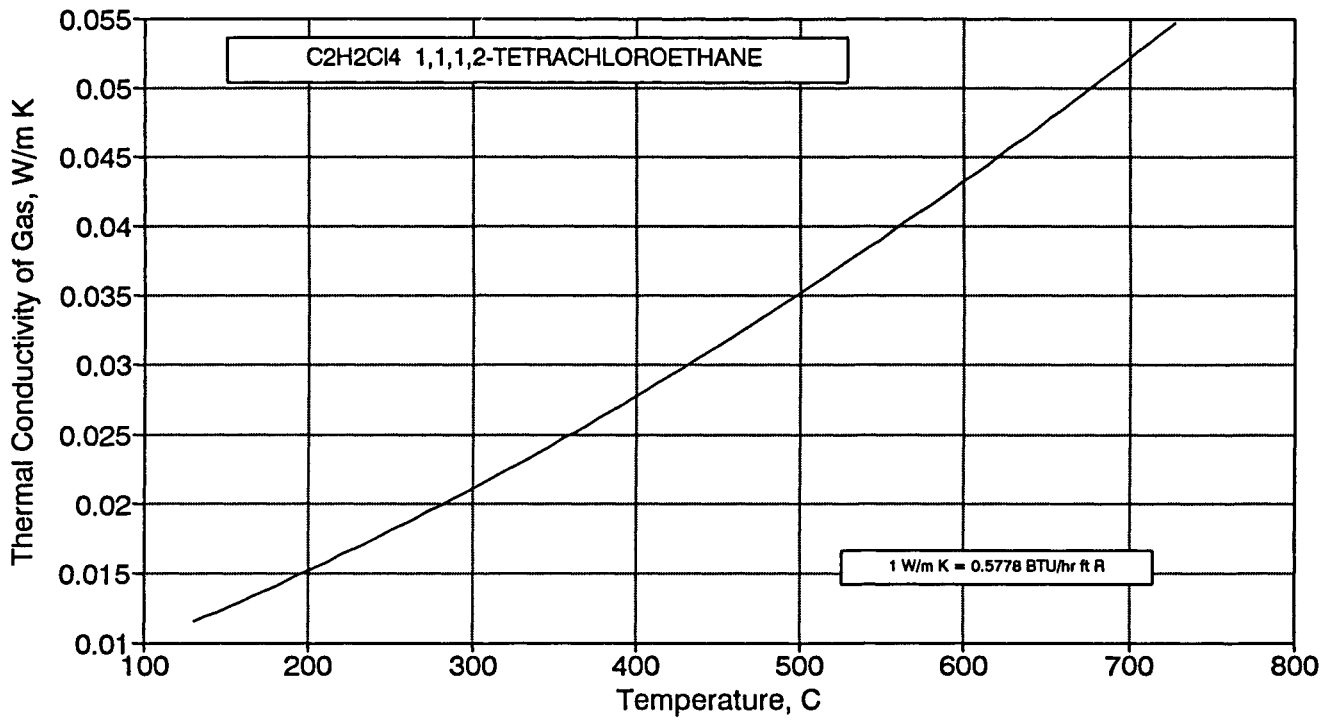


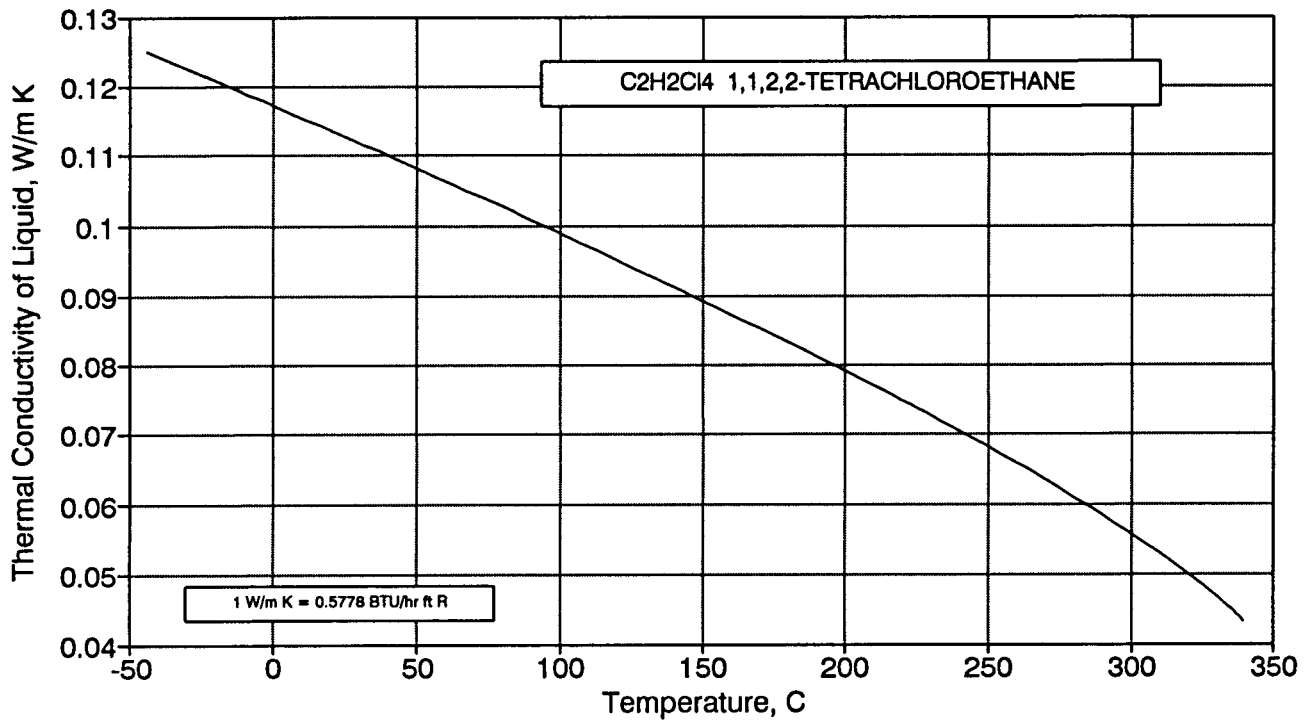
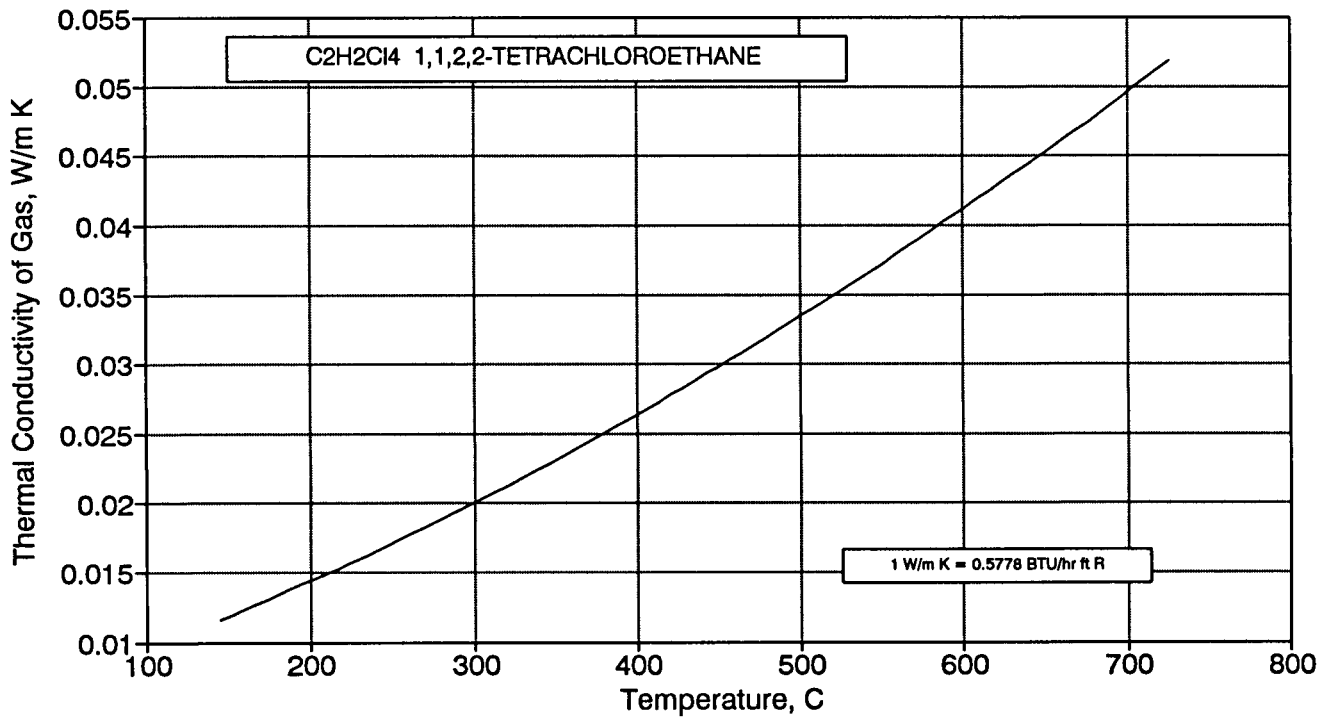


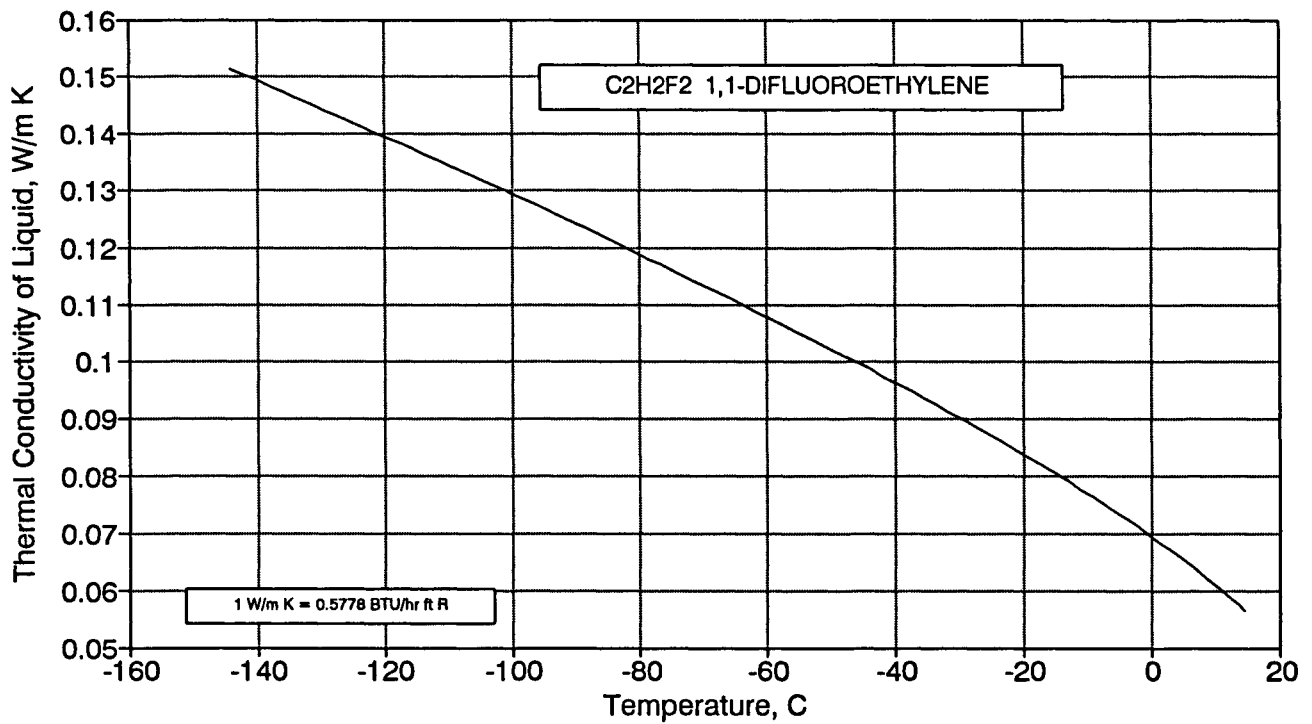
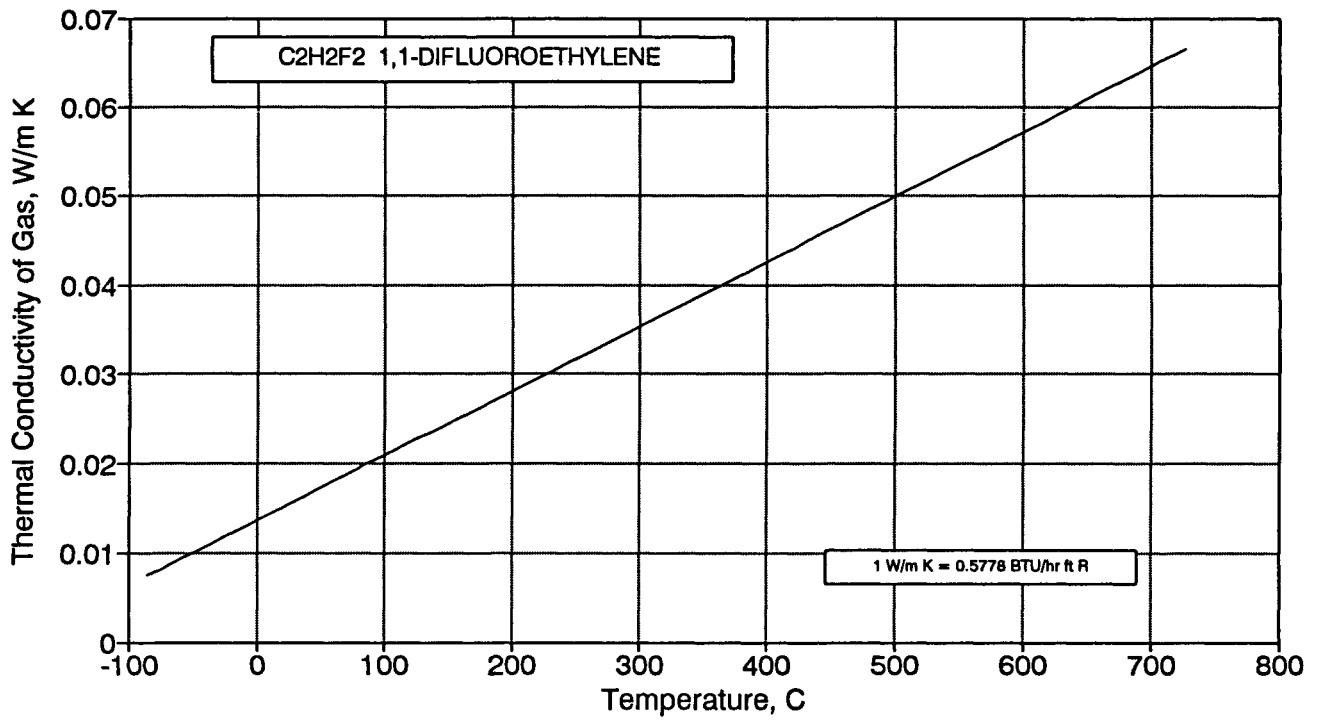




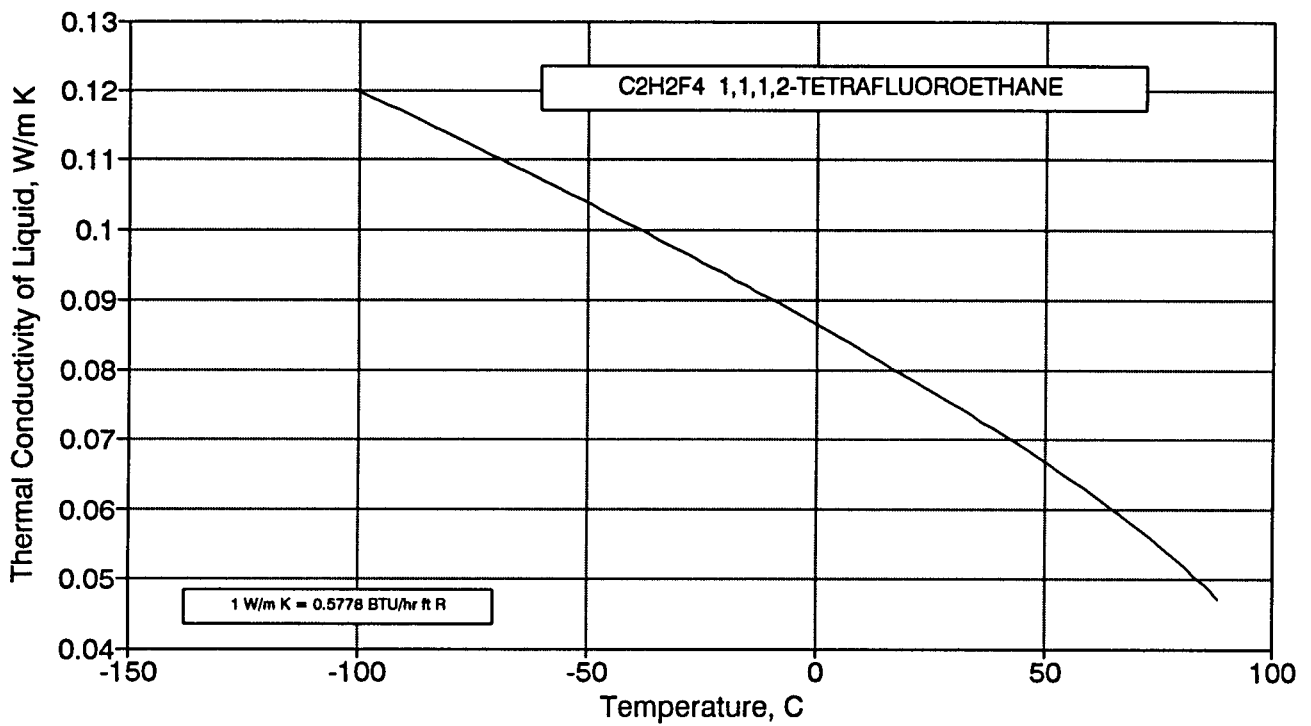
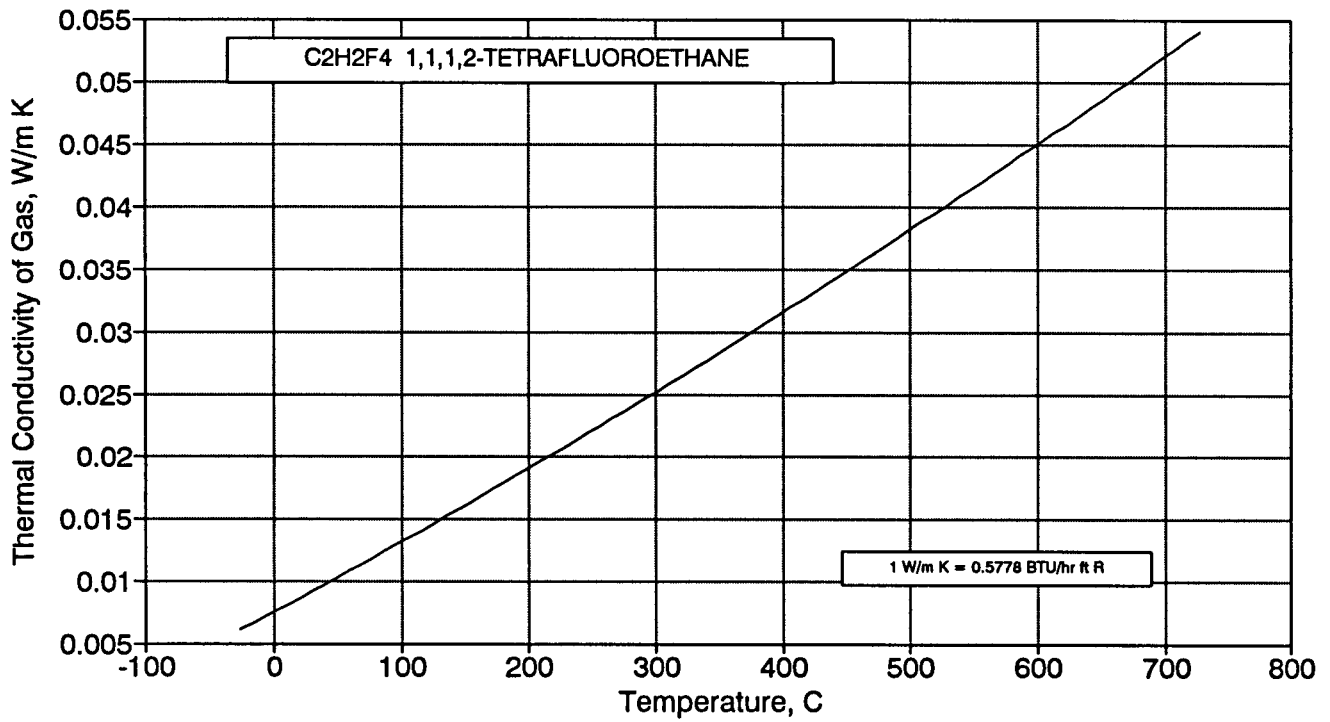


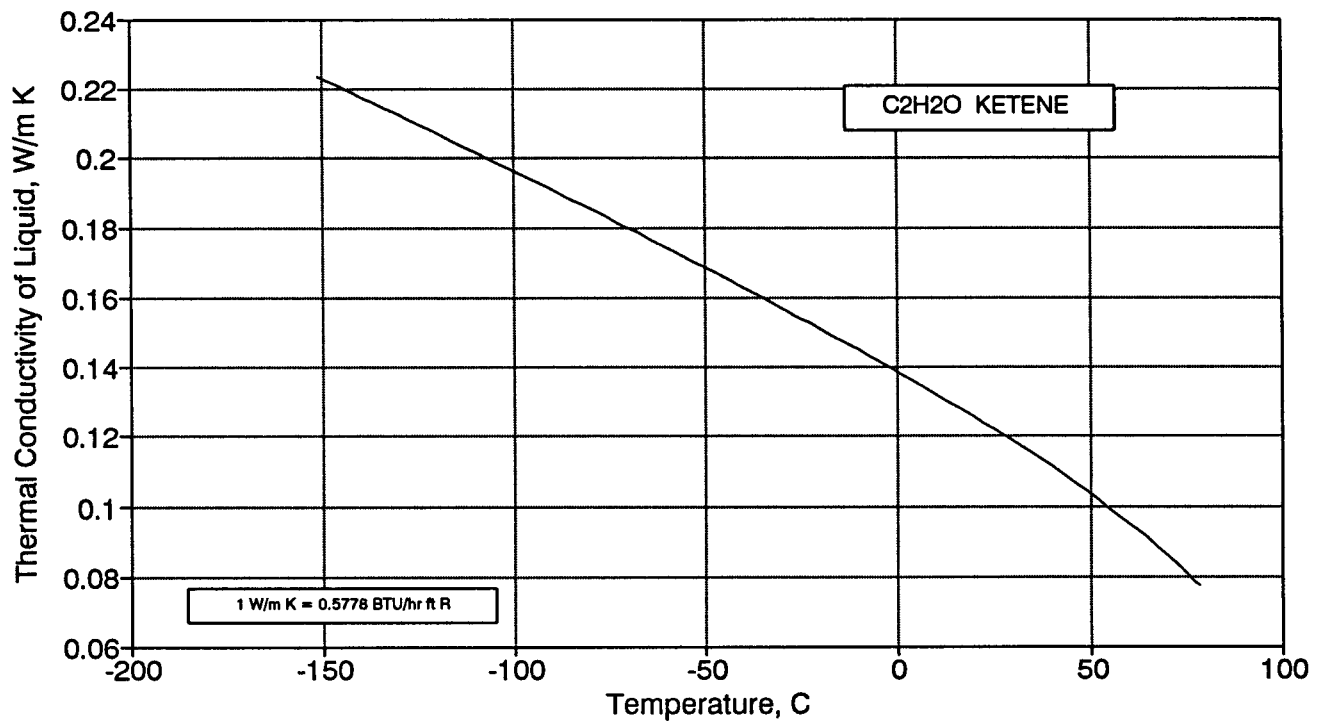
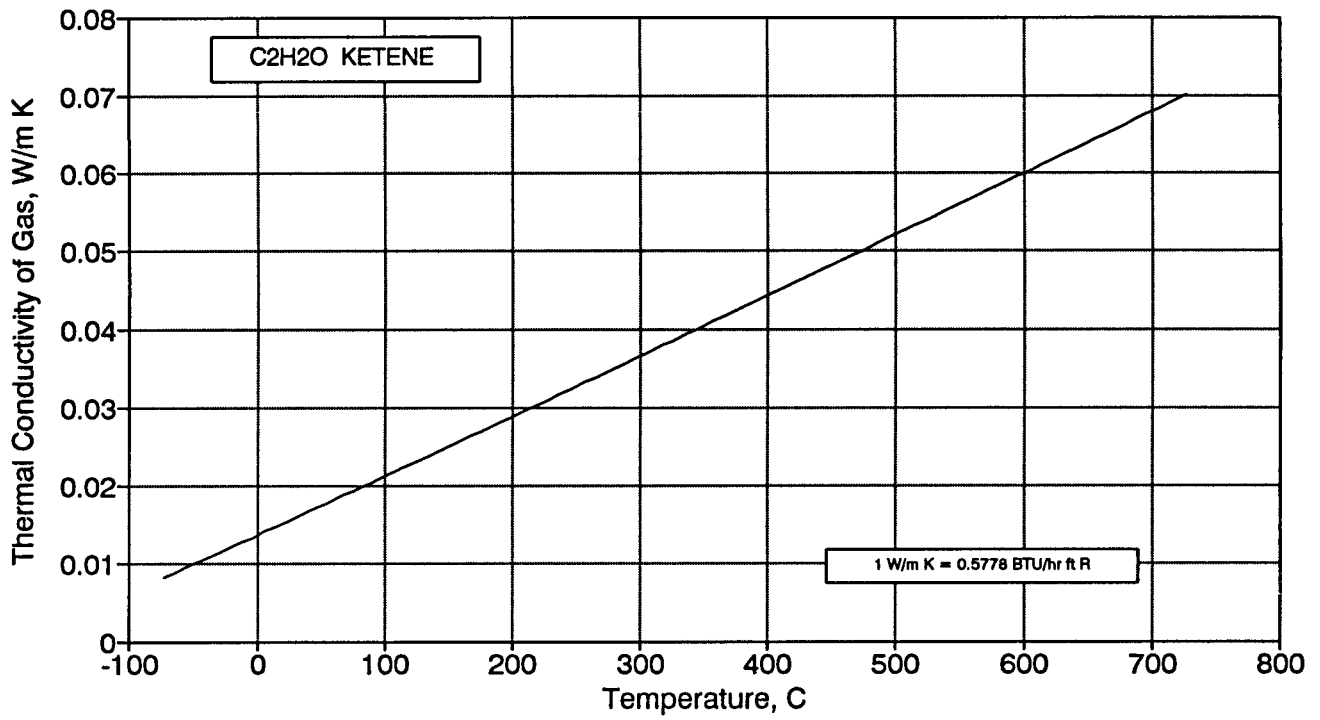


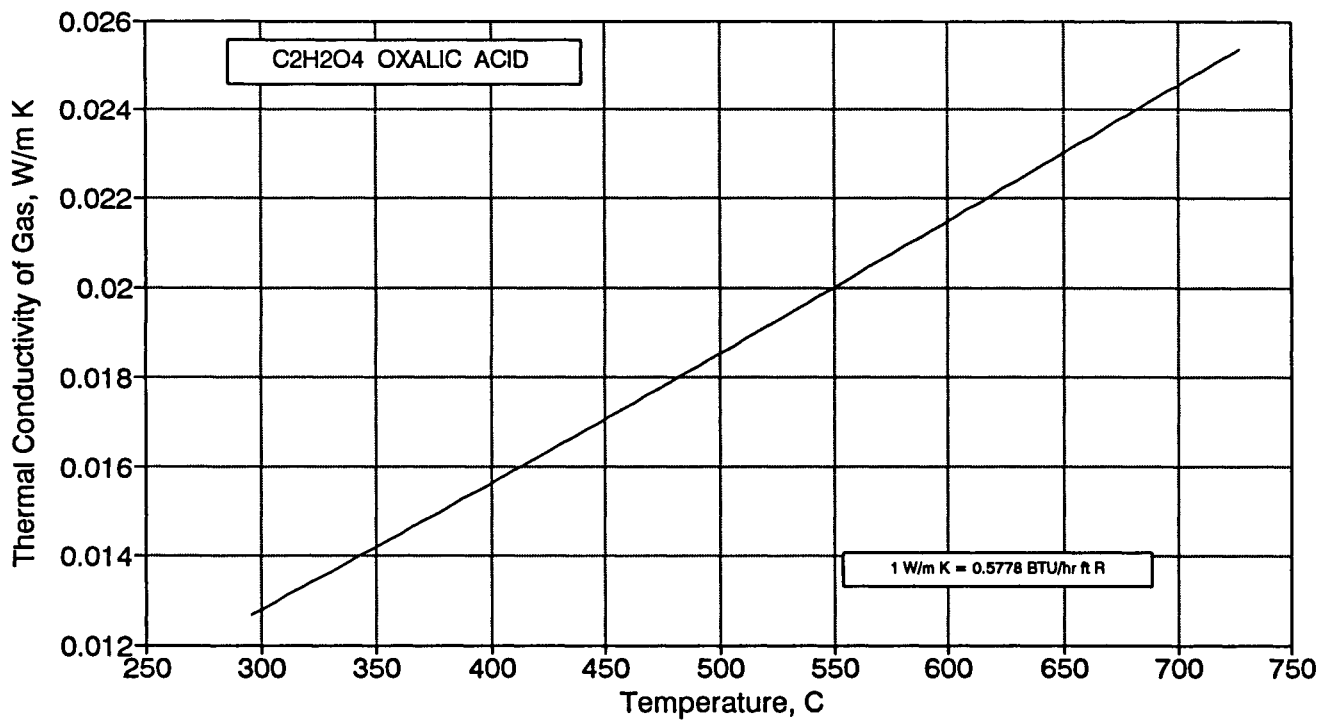






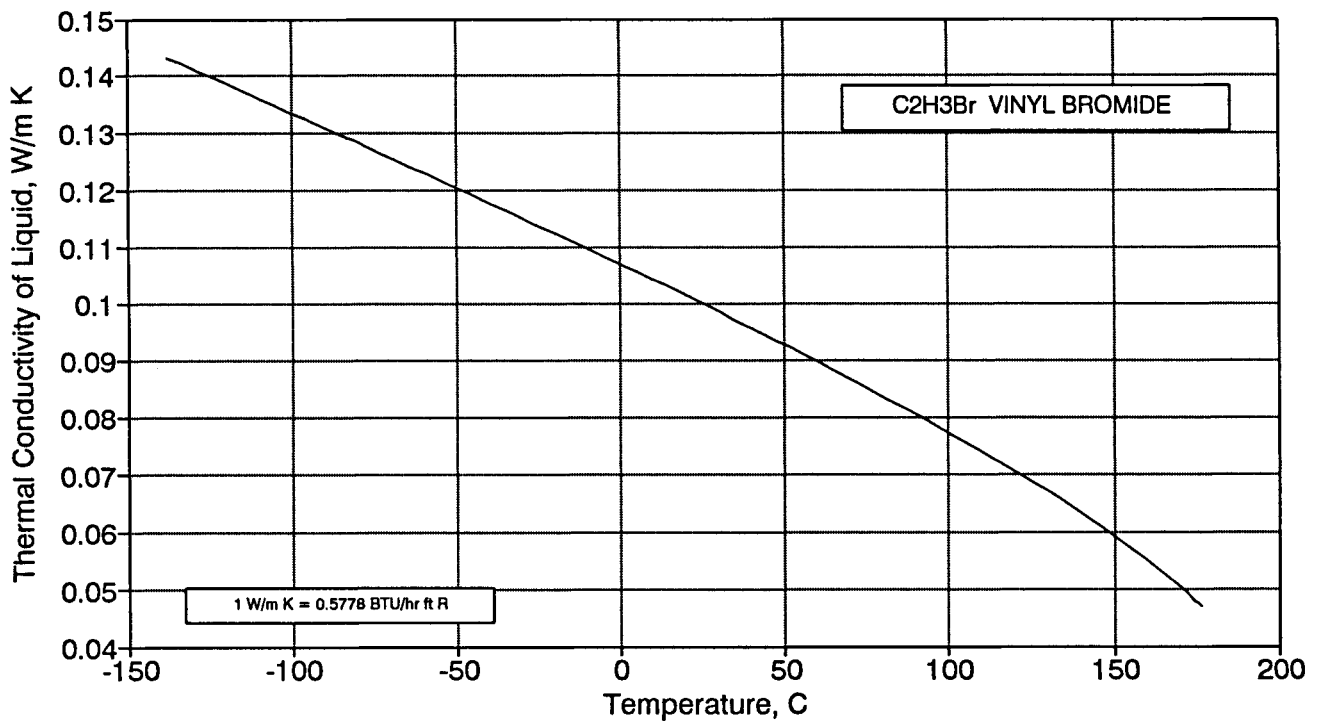
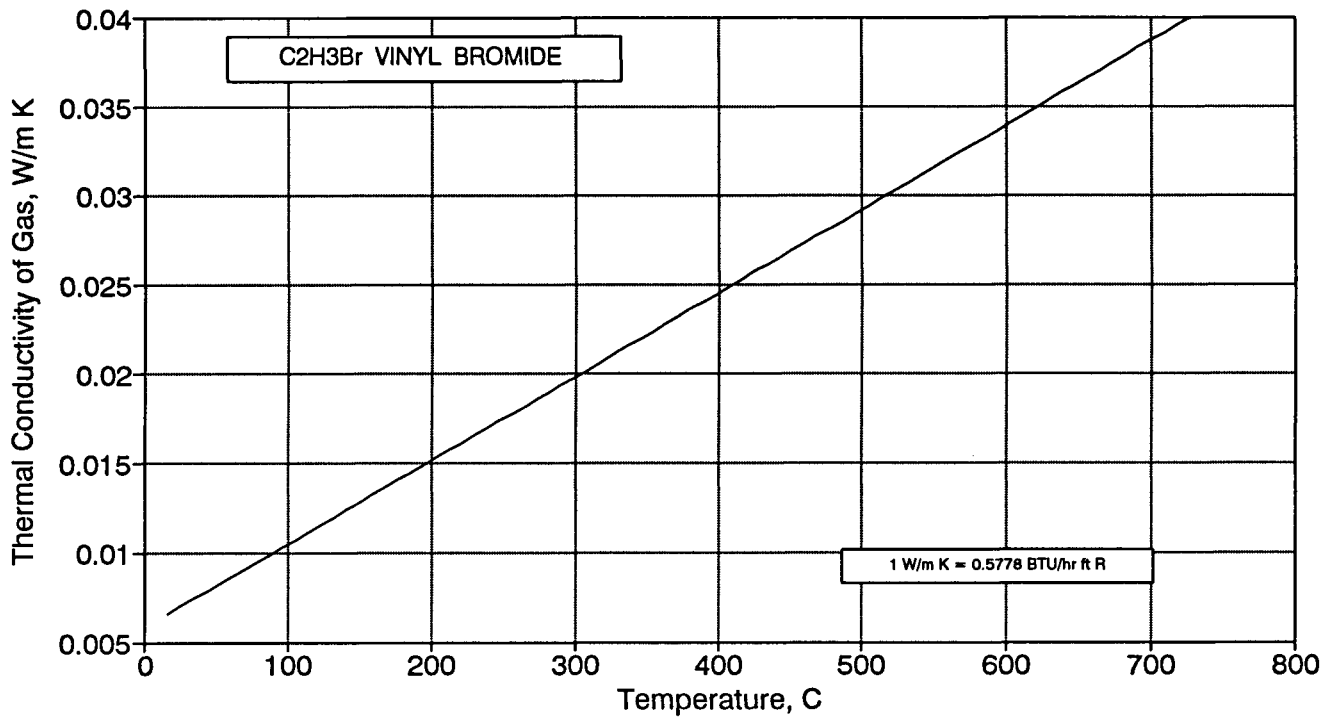


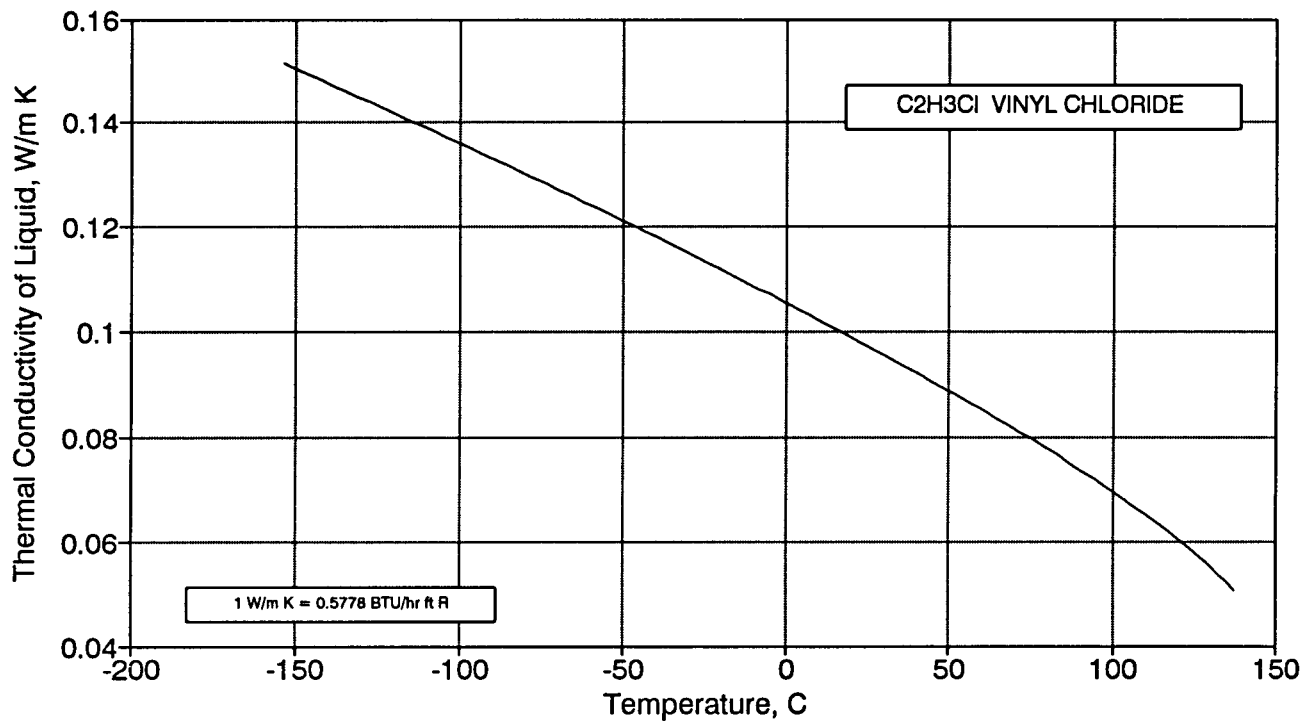
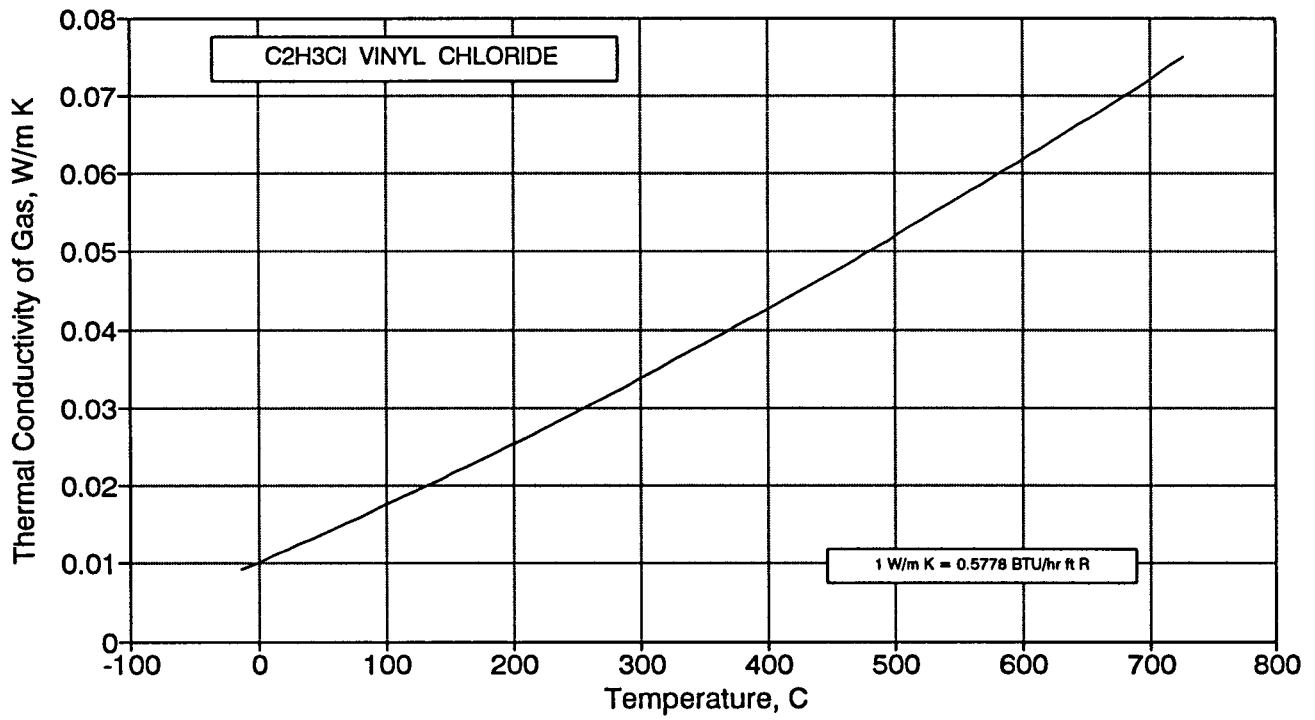


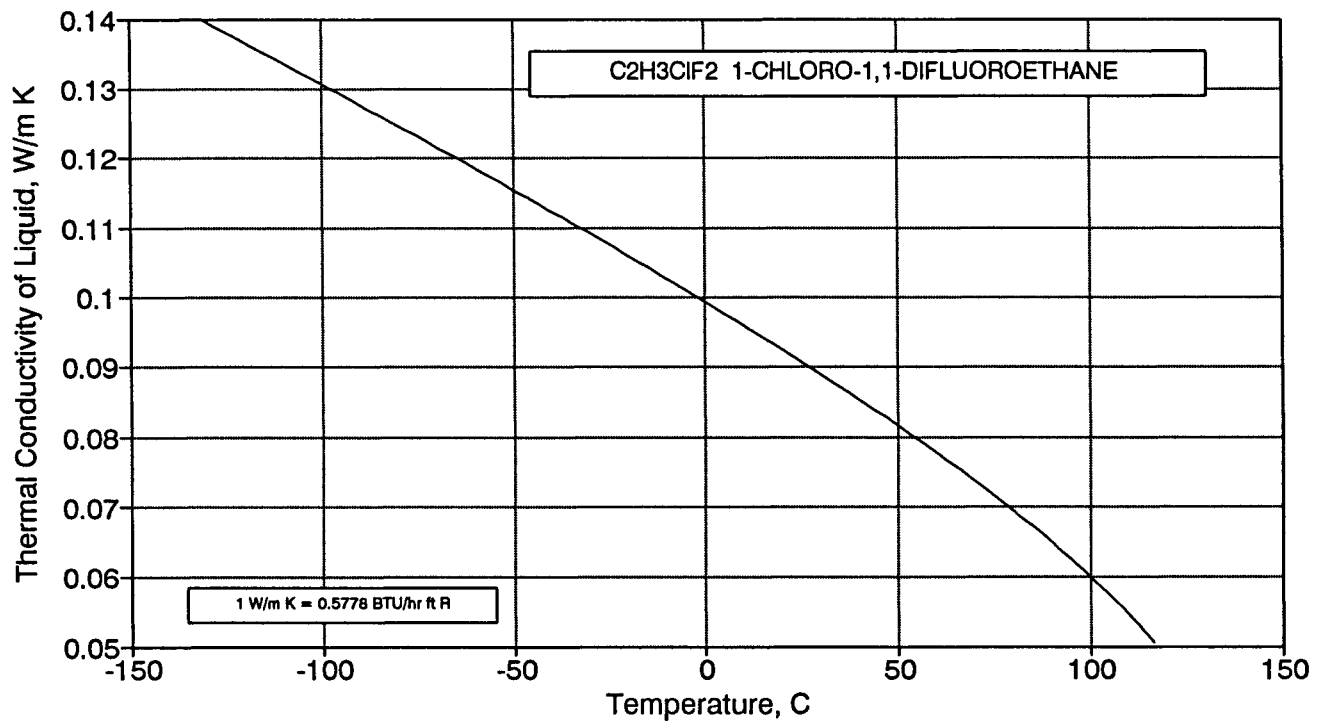
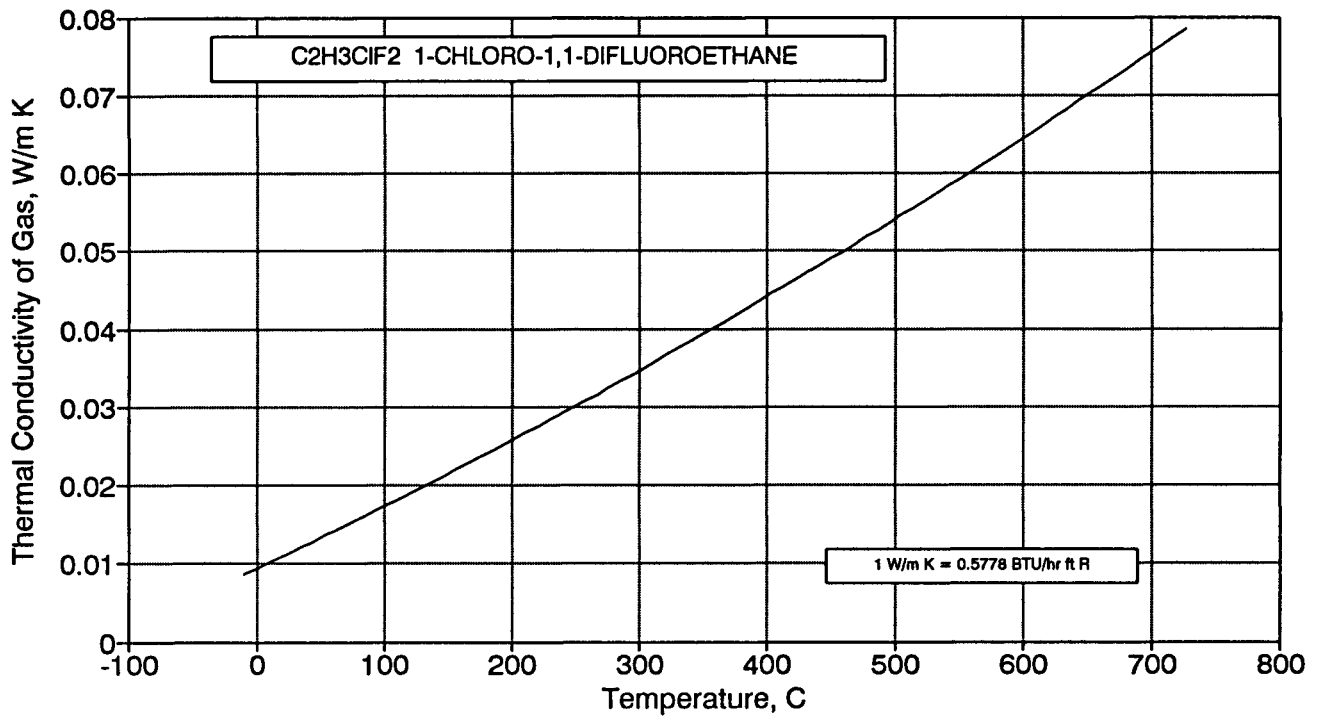


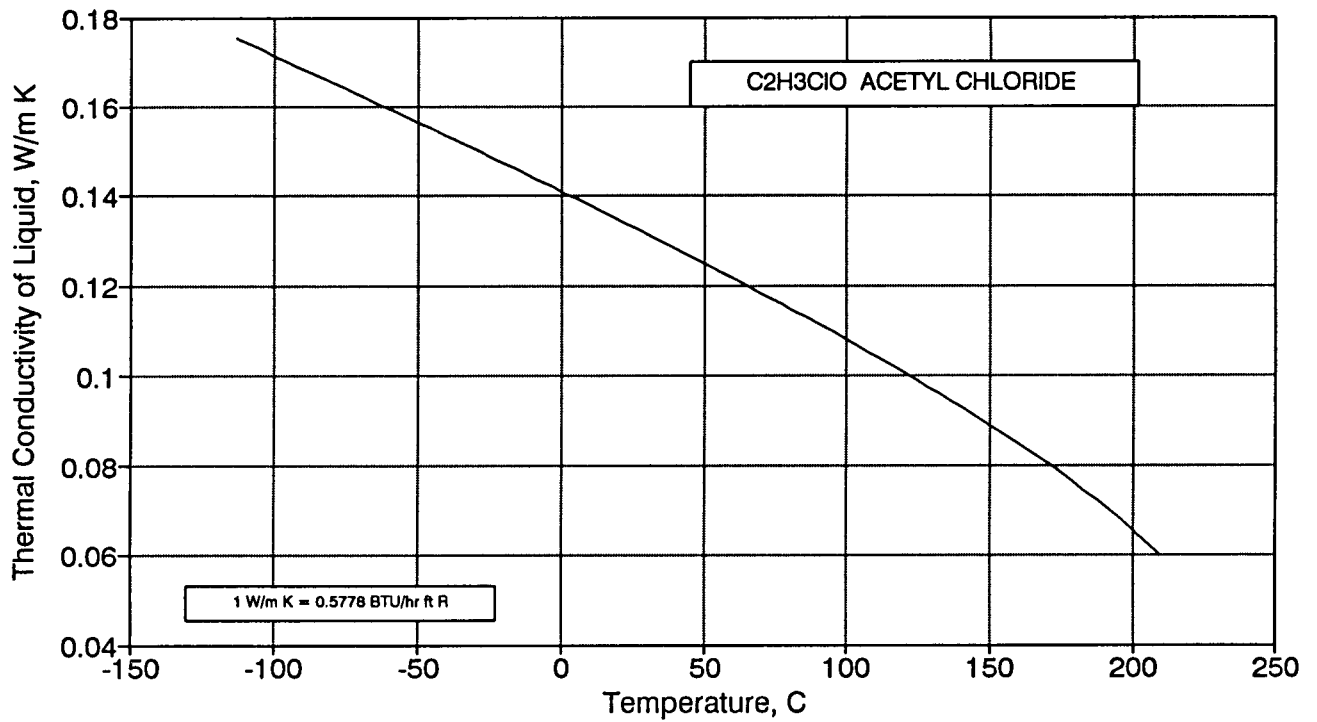
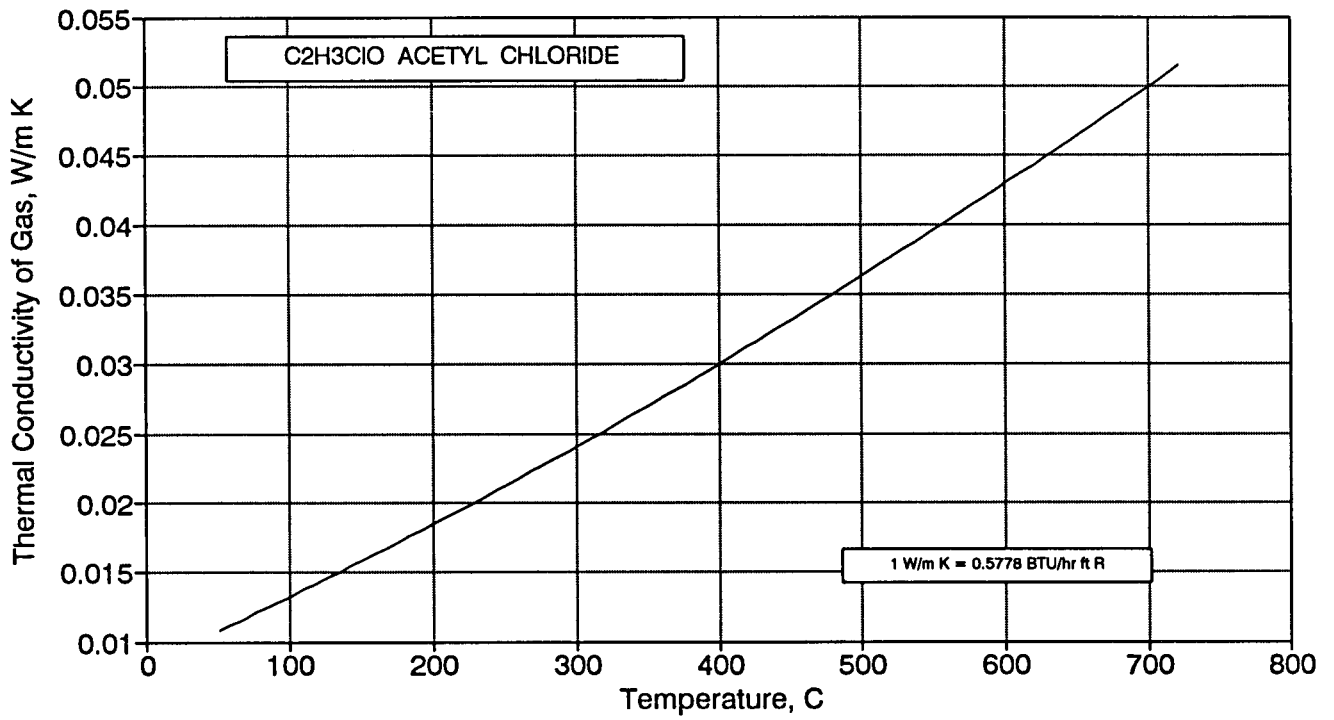
**C<sub>2</sub>H<sub>2</sub>O<sub>4</sub> OXALIC ACID**

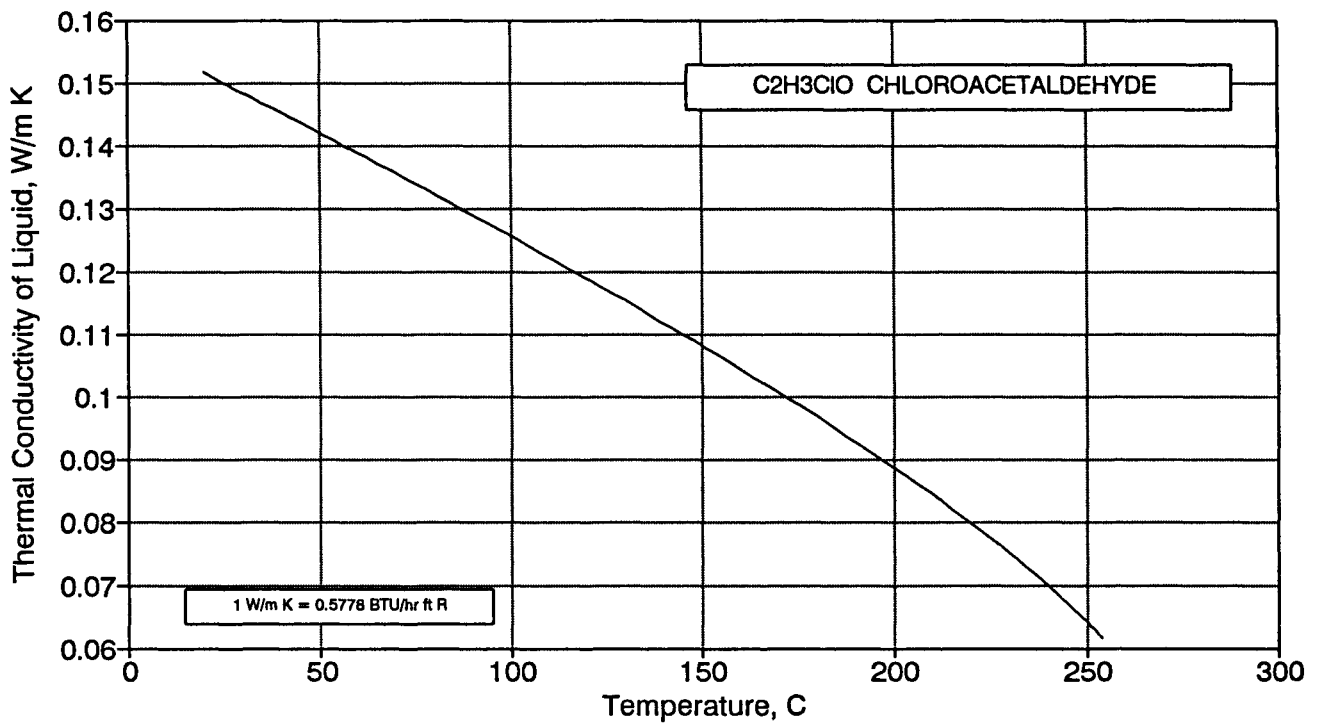
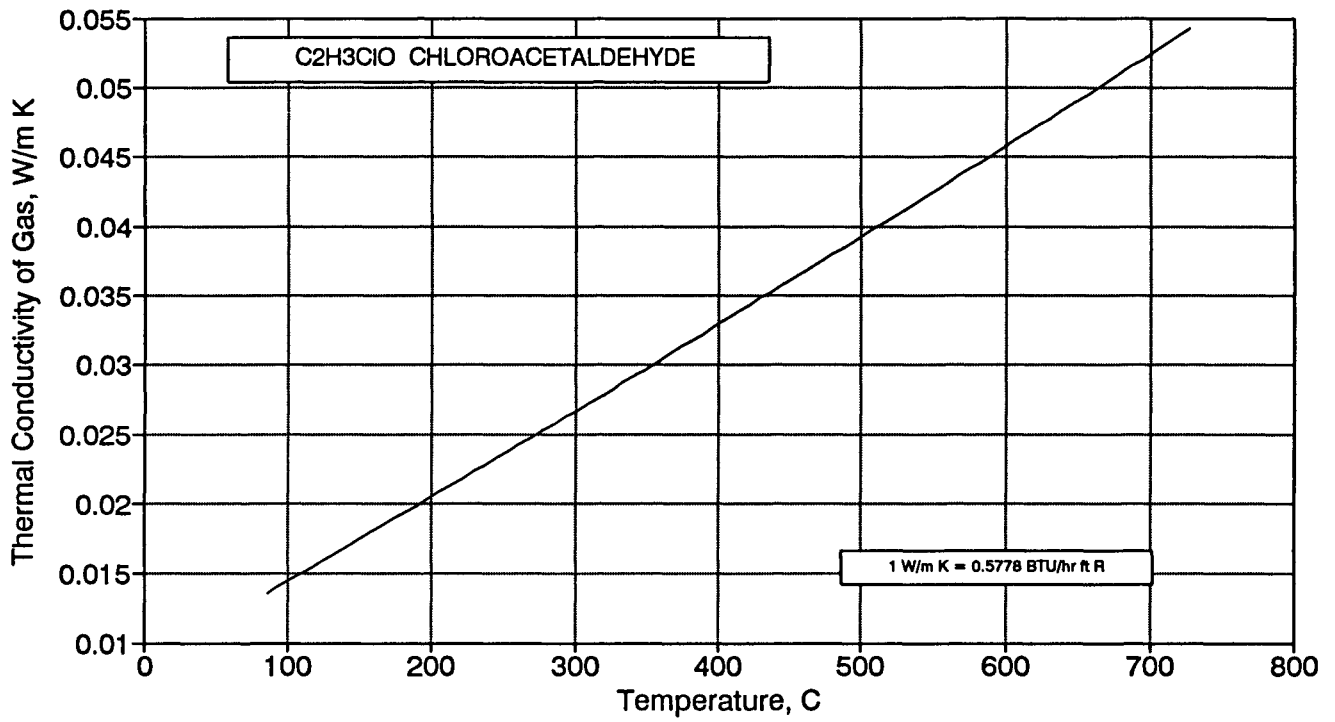
Liquid thermal conductivity data are not available .



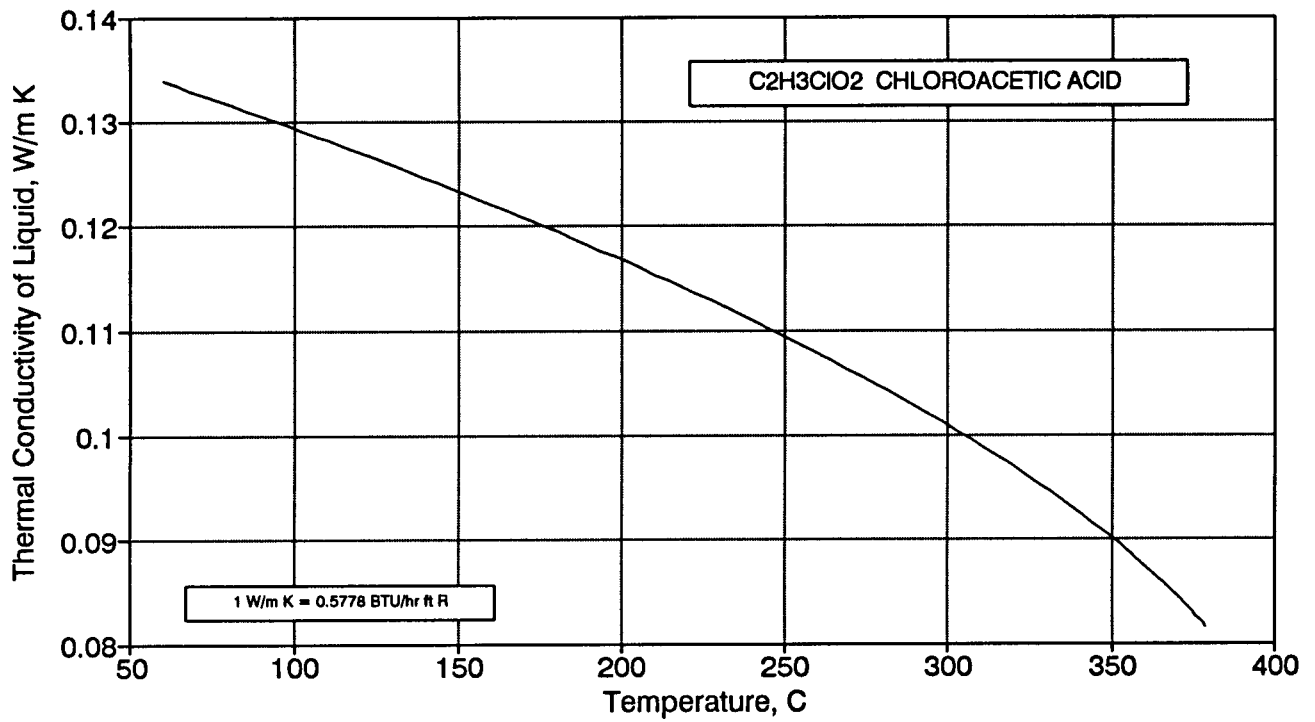
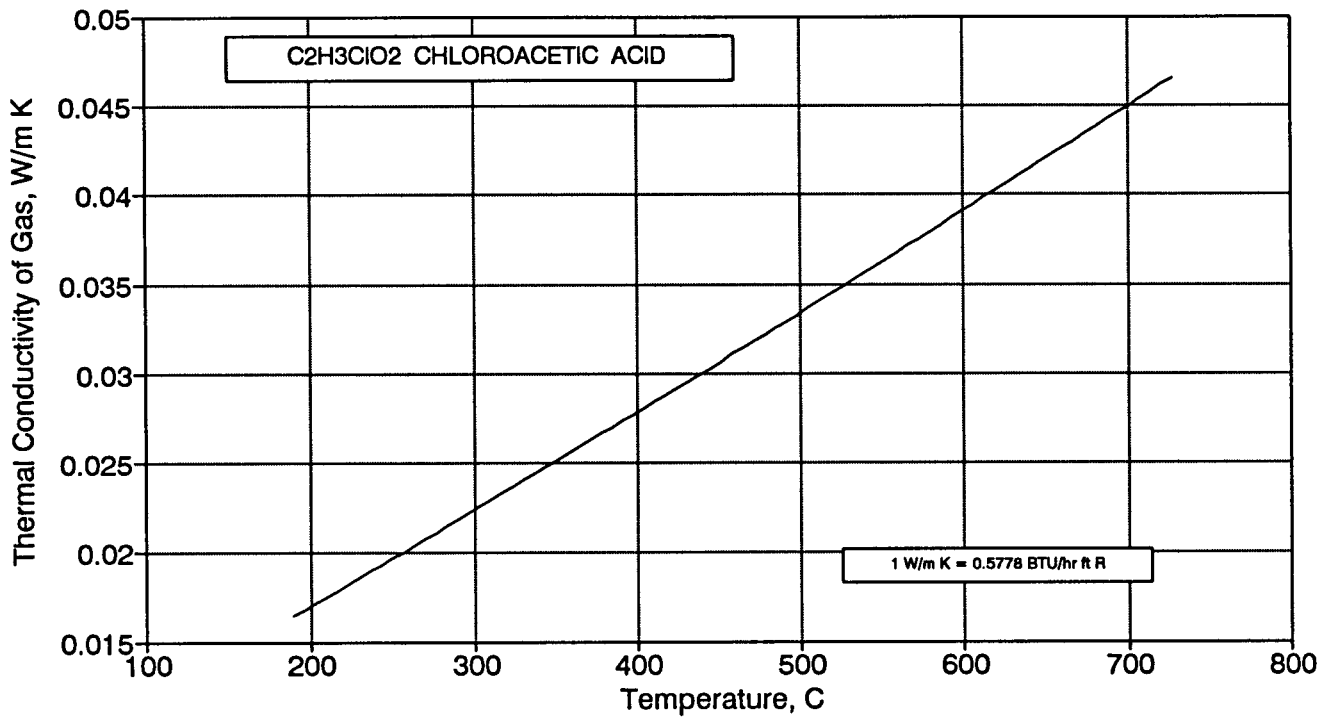


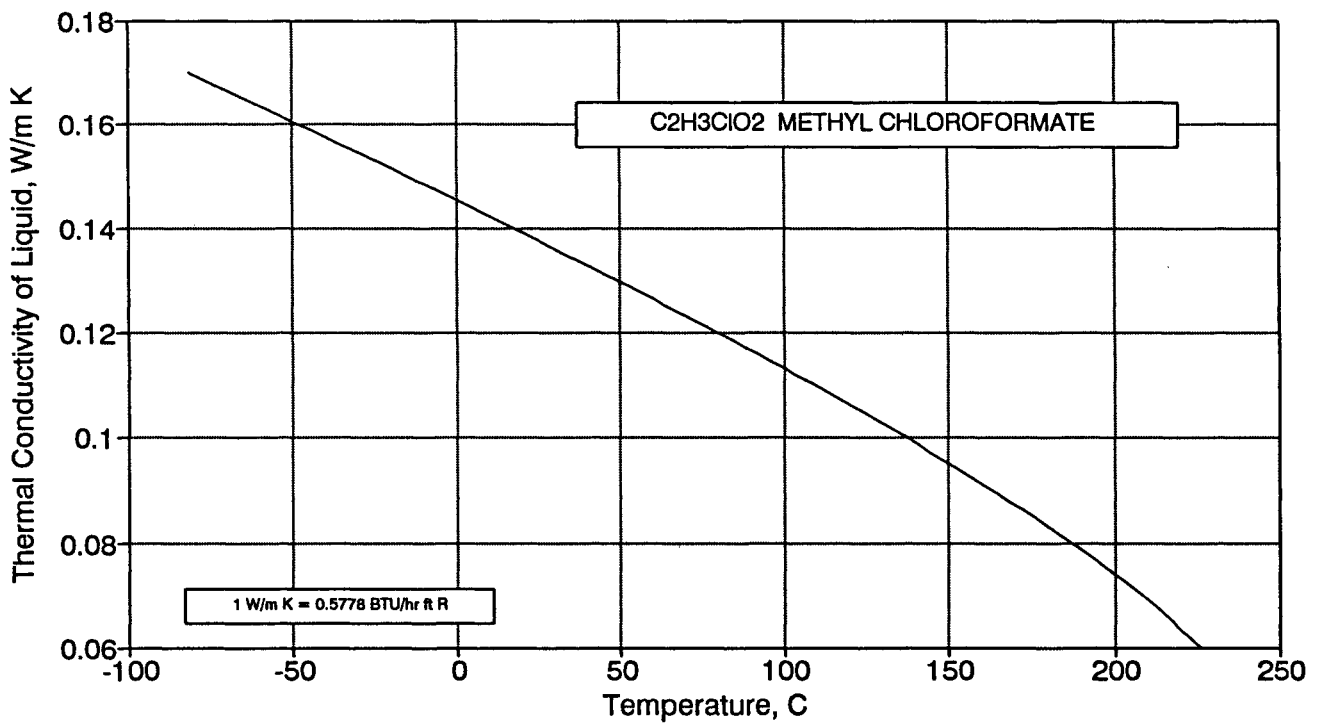
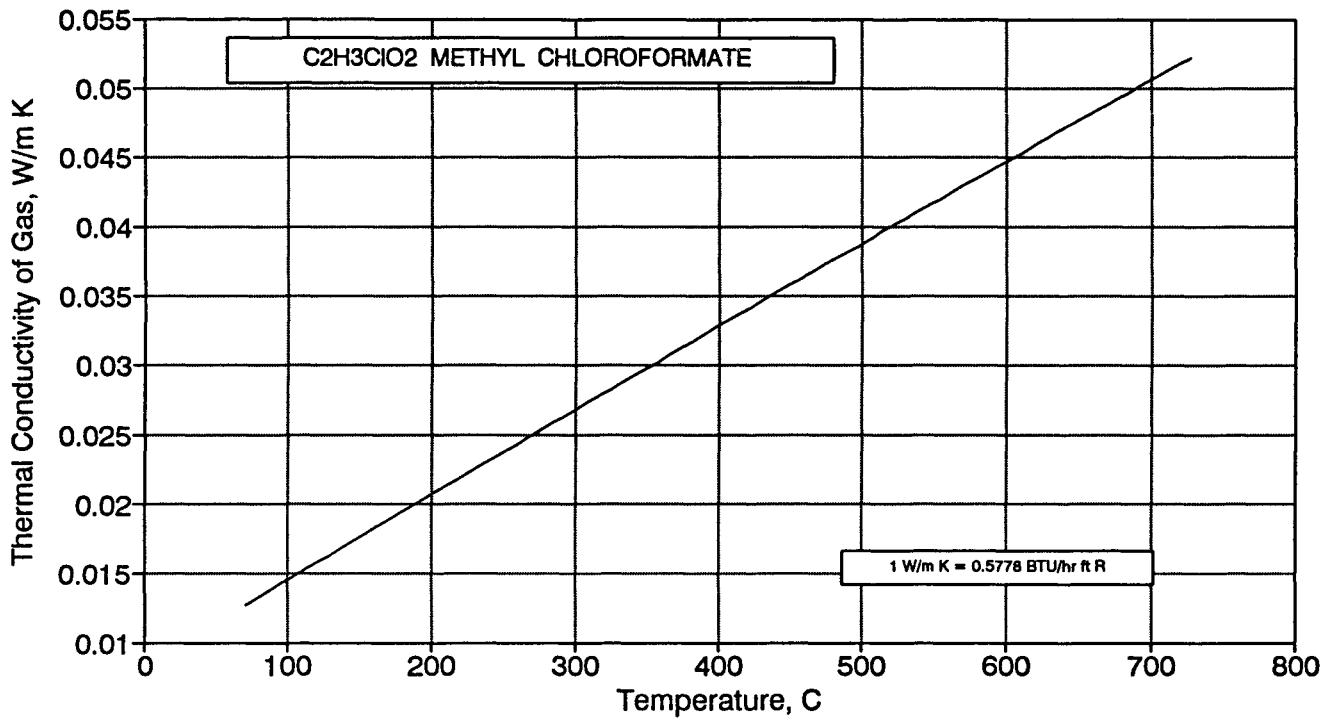


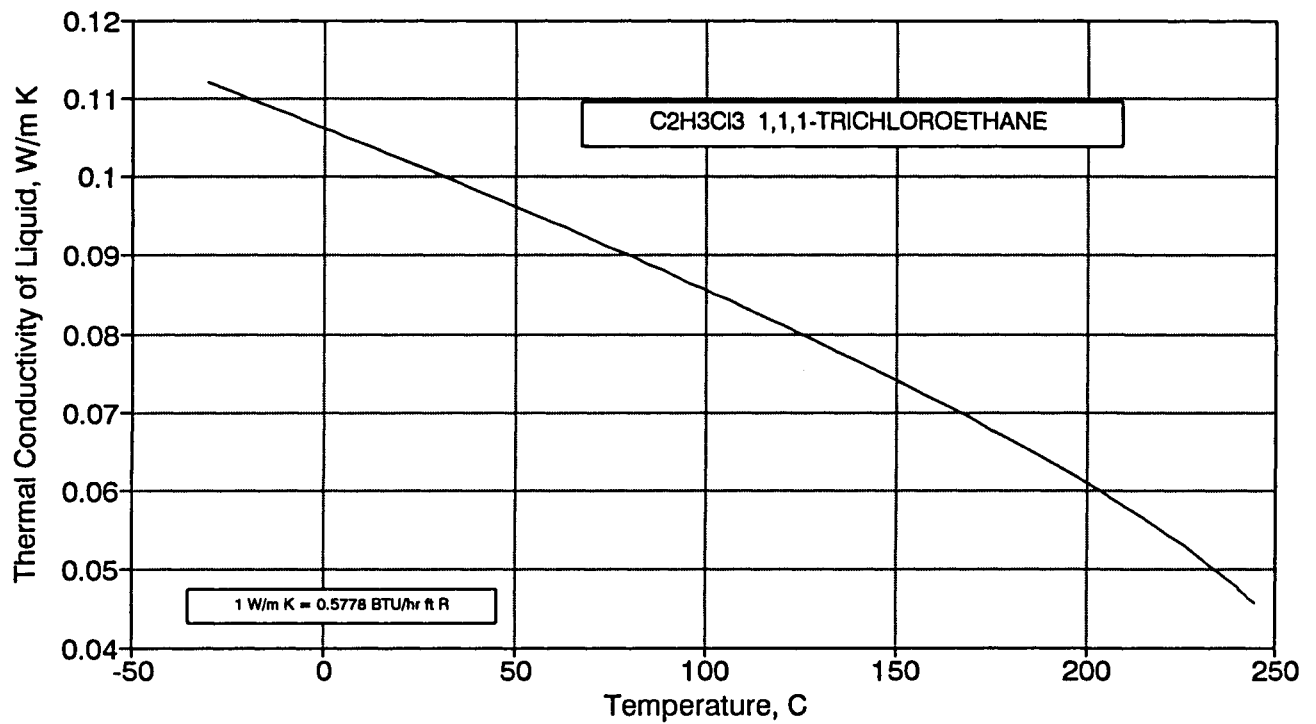
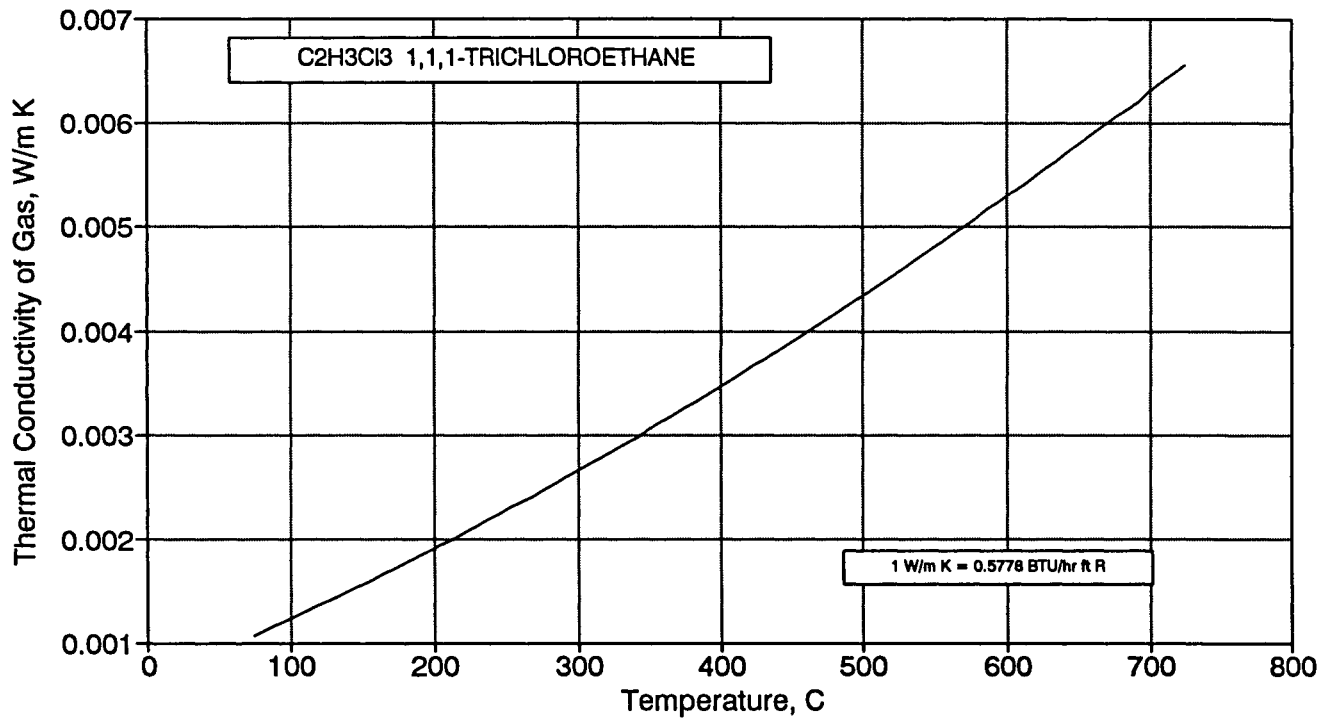


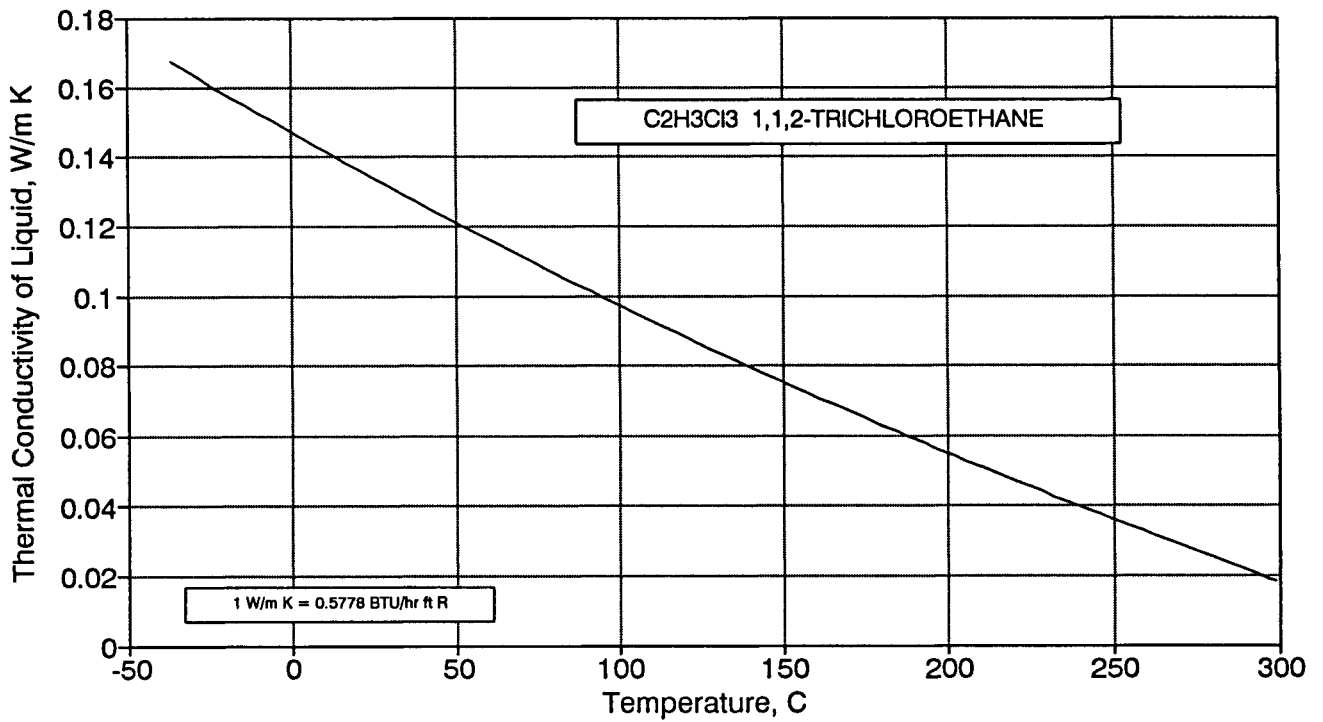
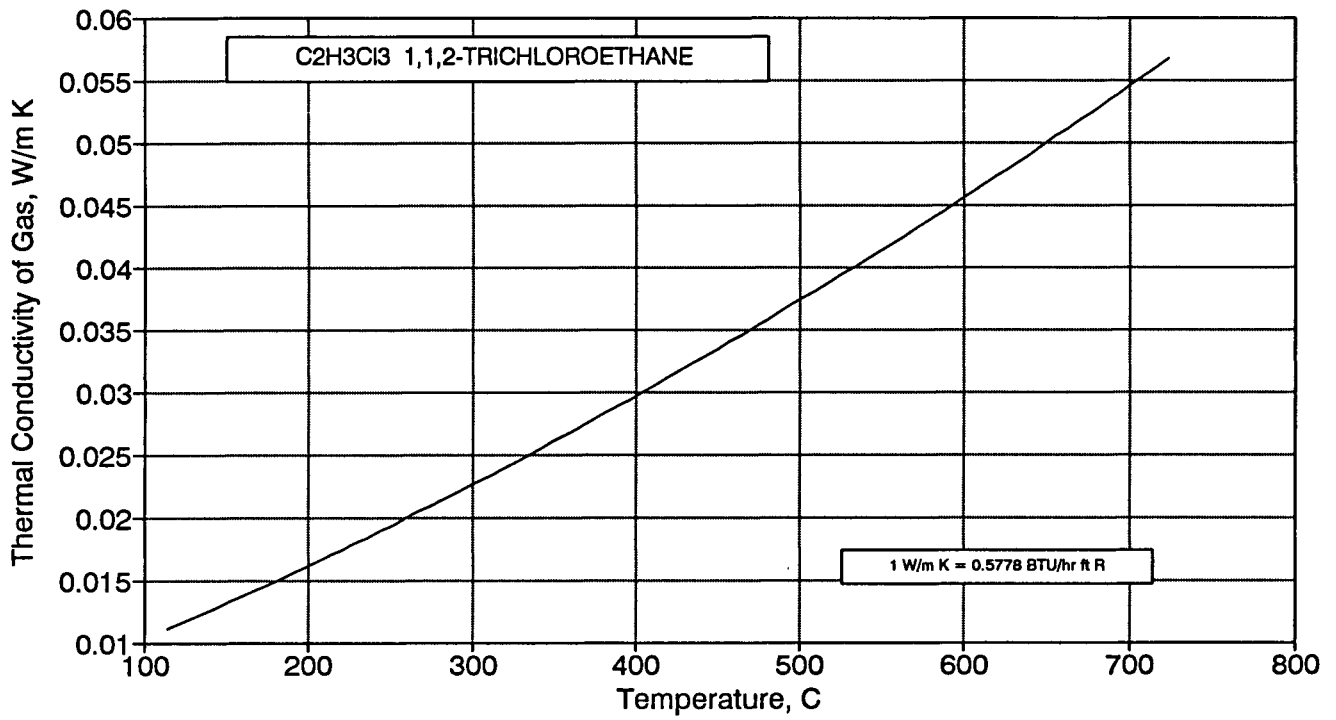


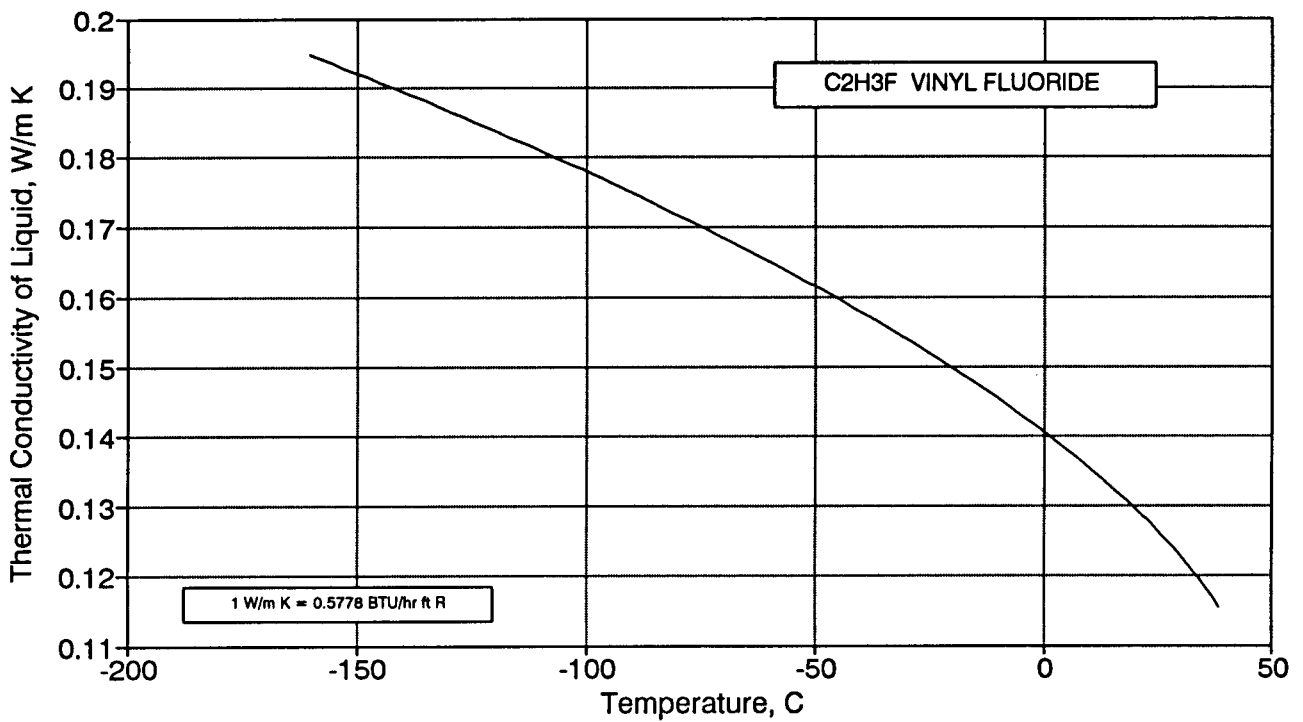
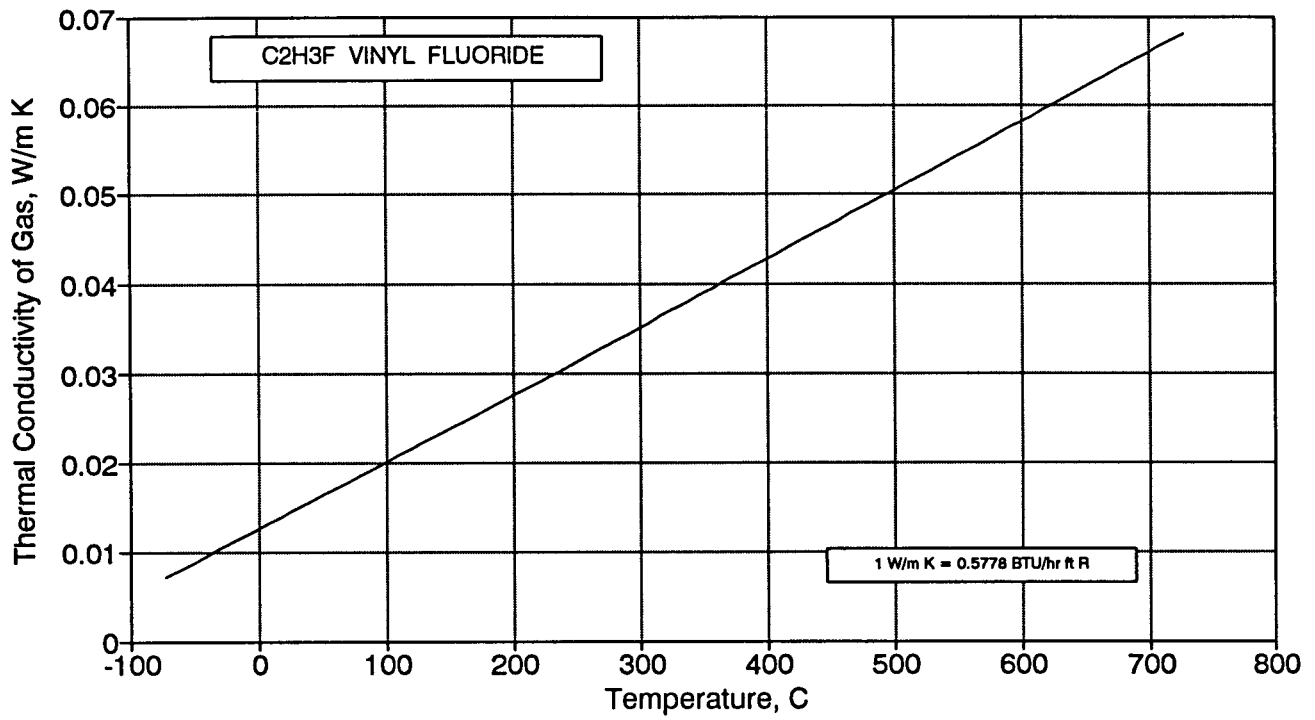


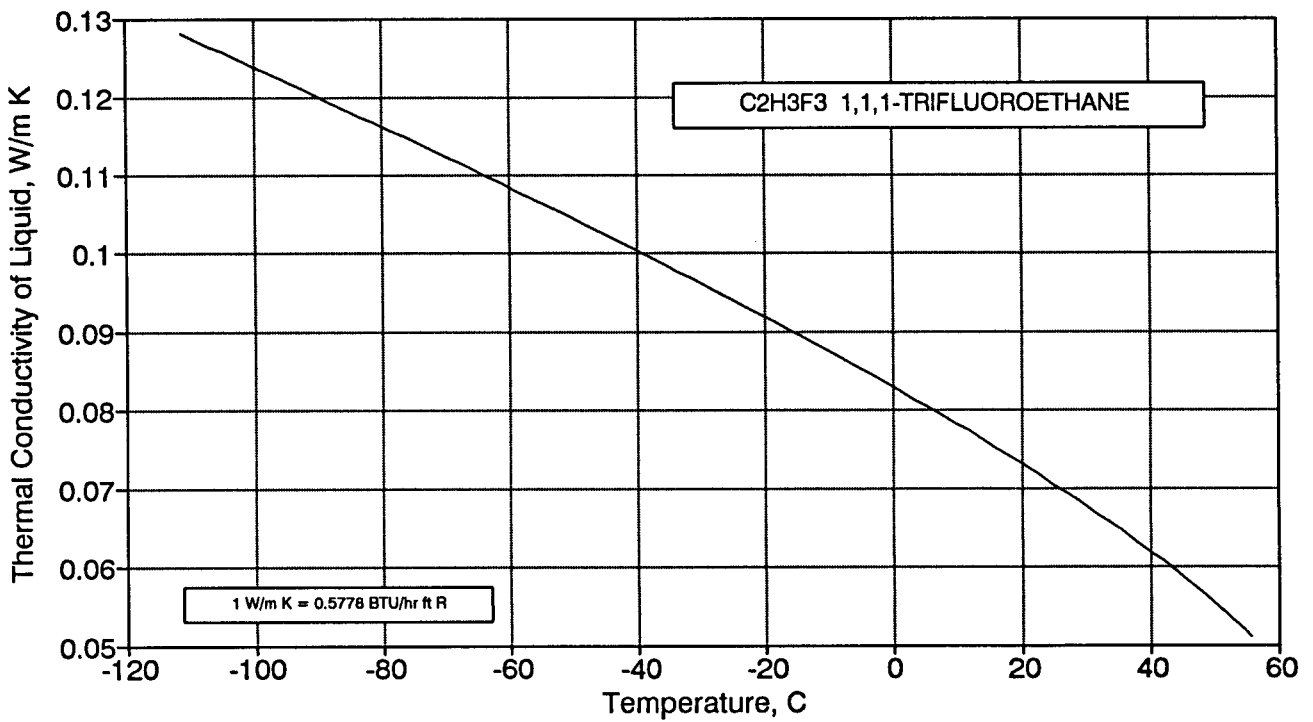
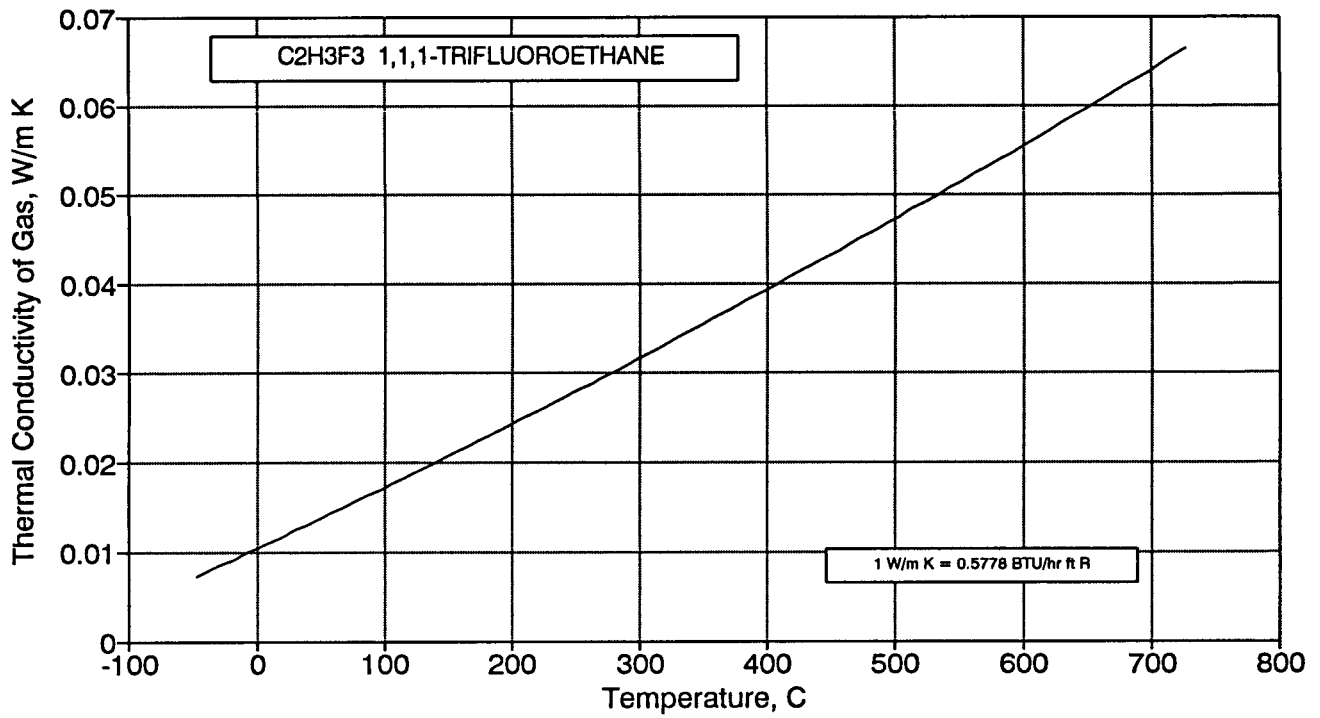


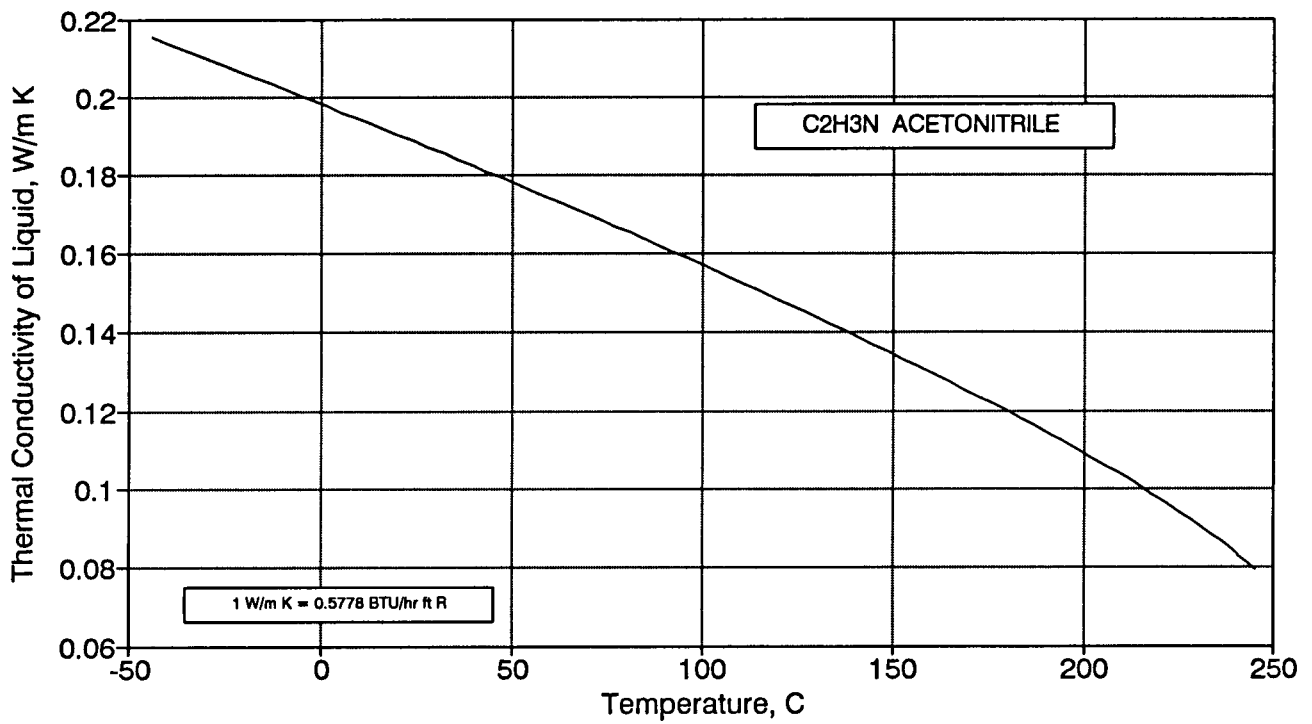
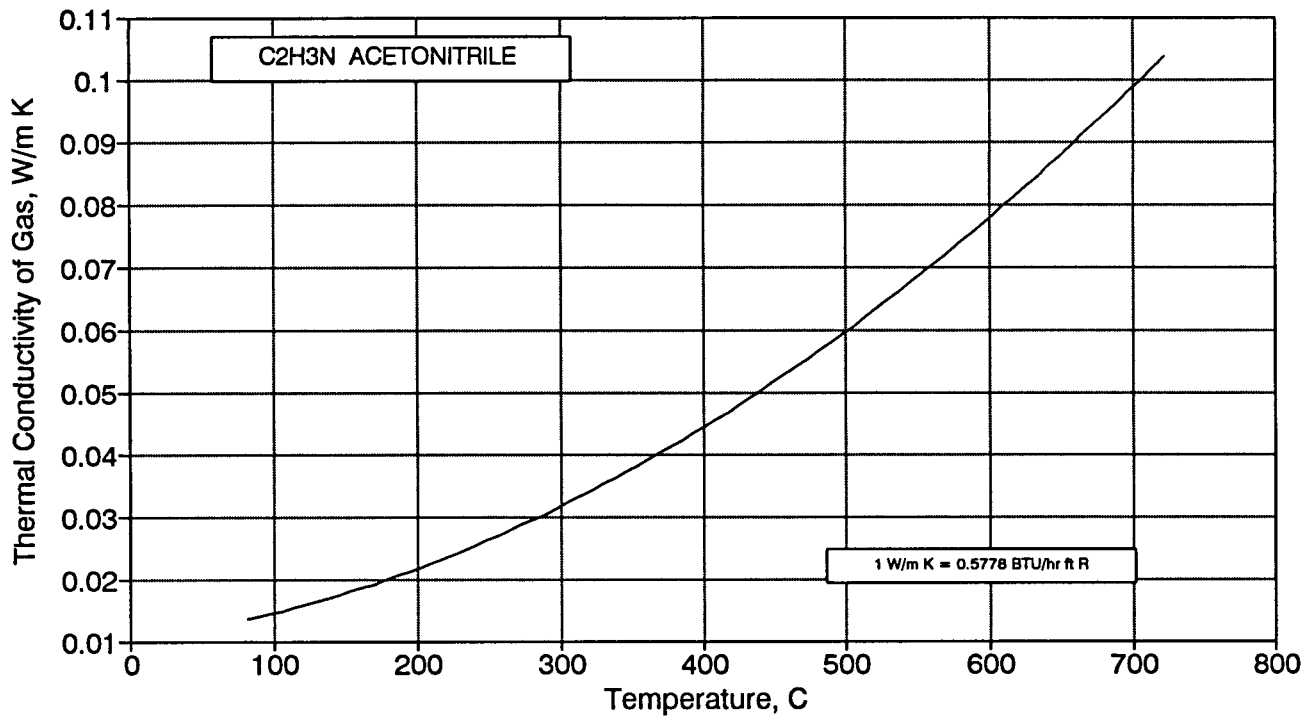


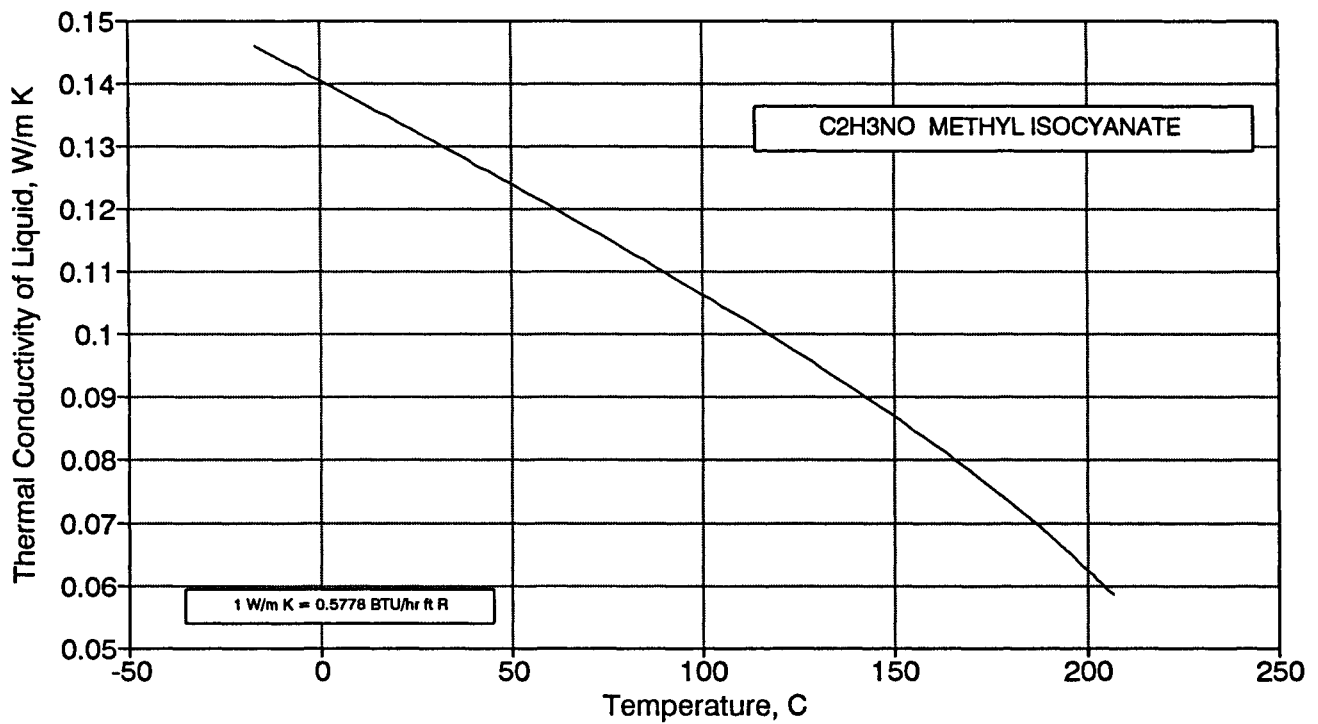
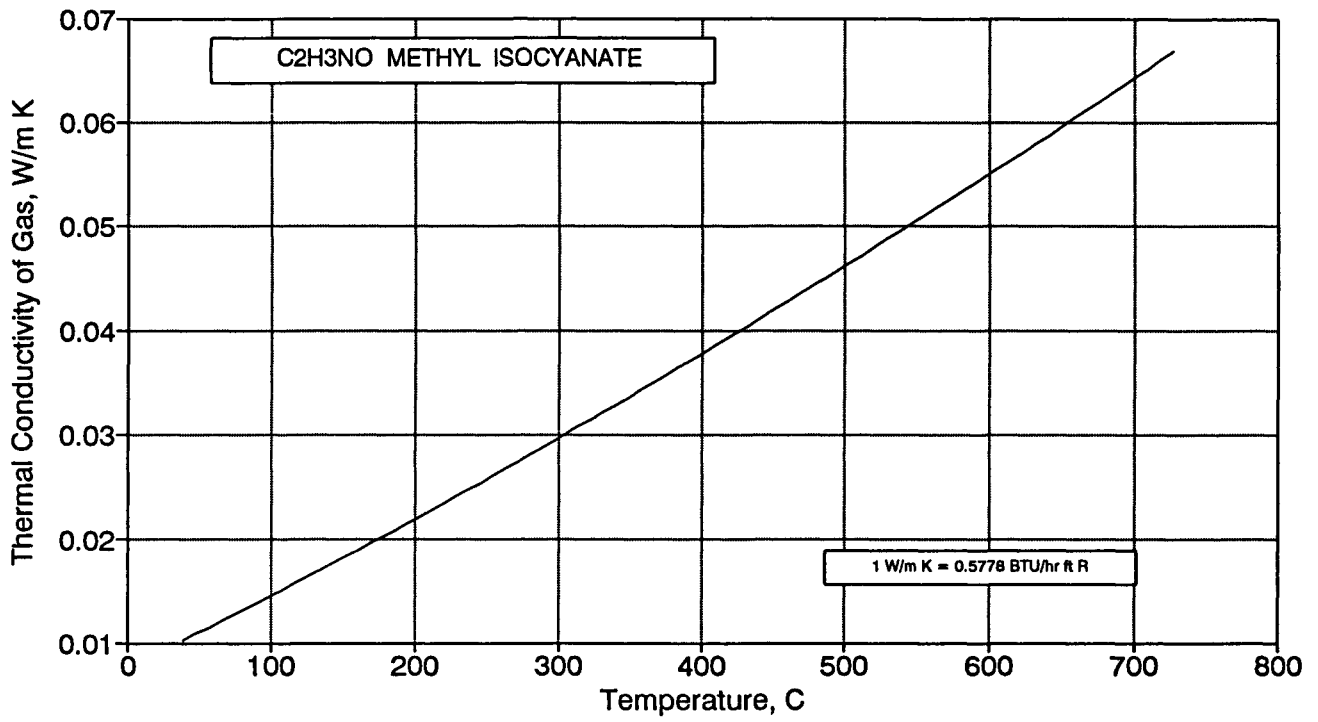




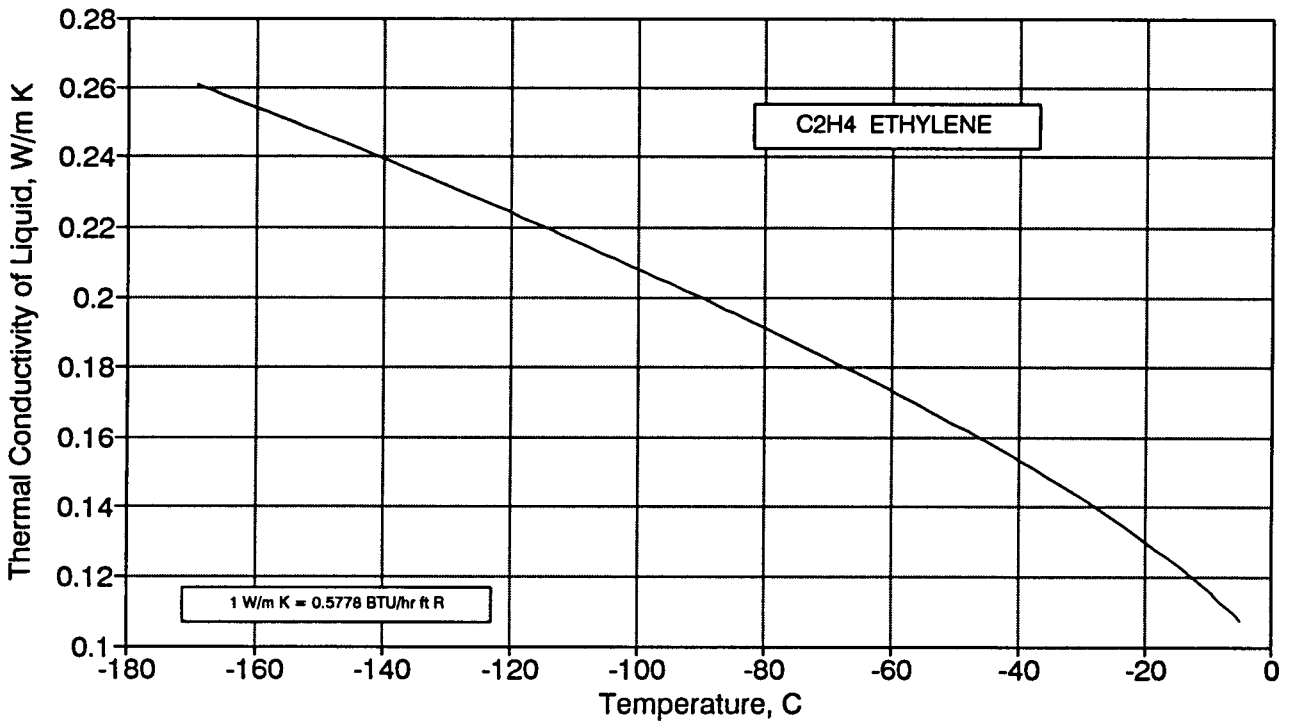
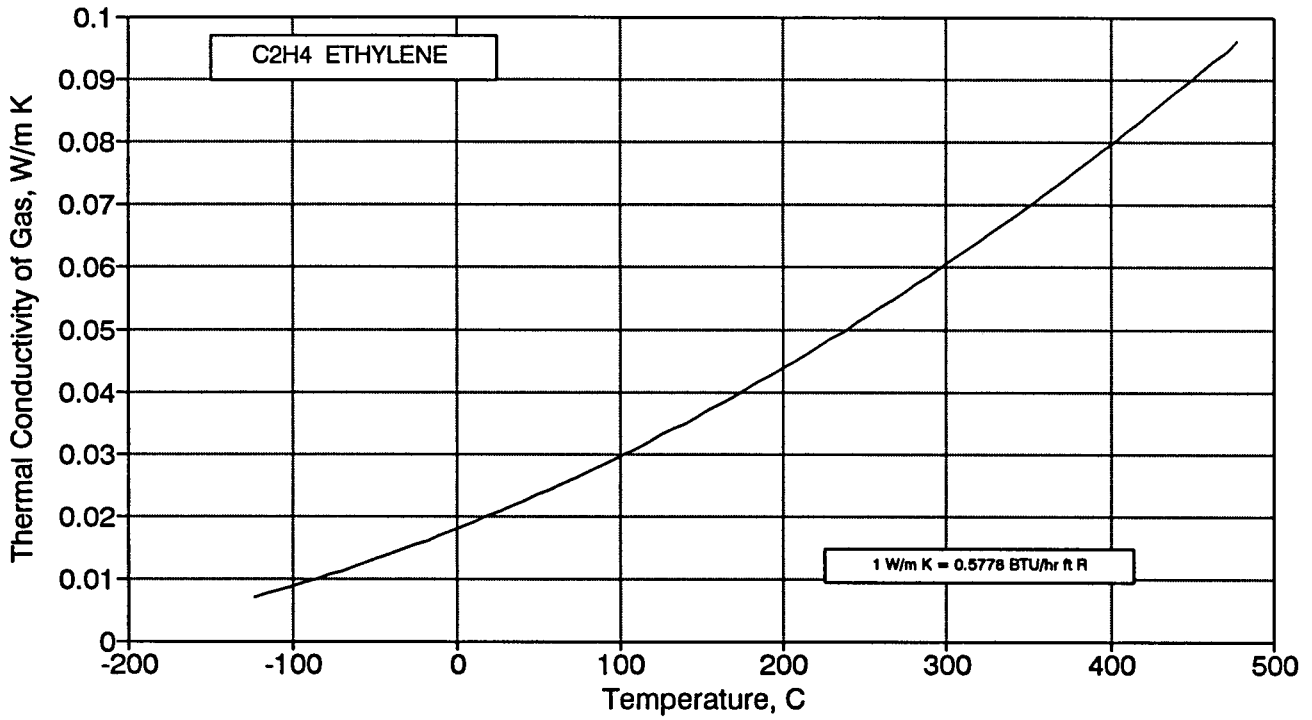


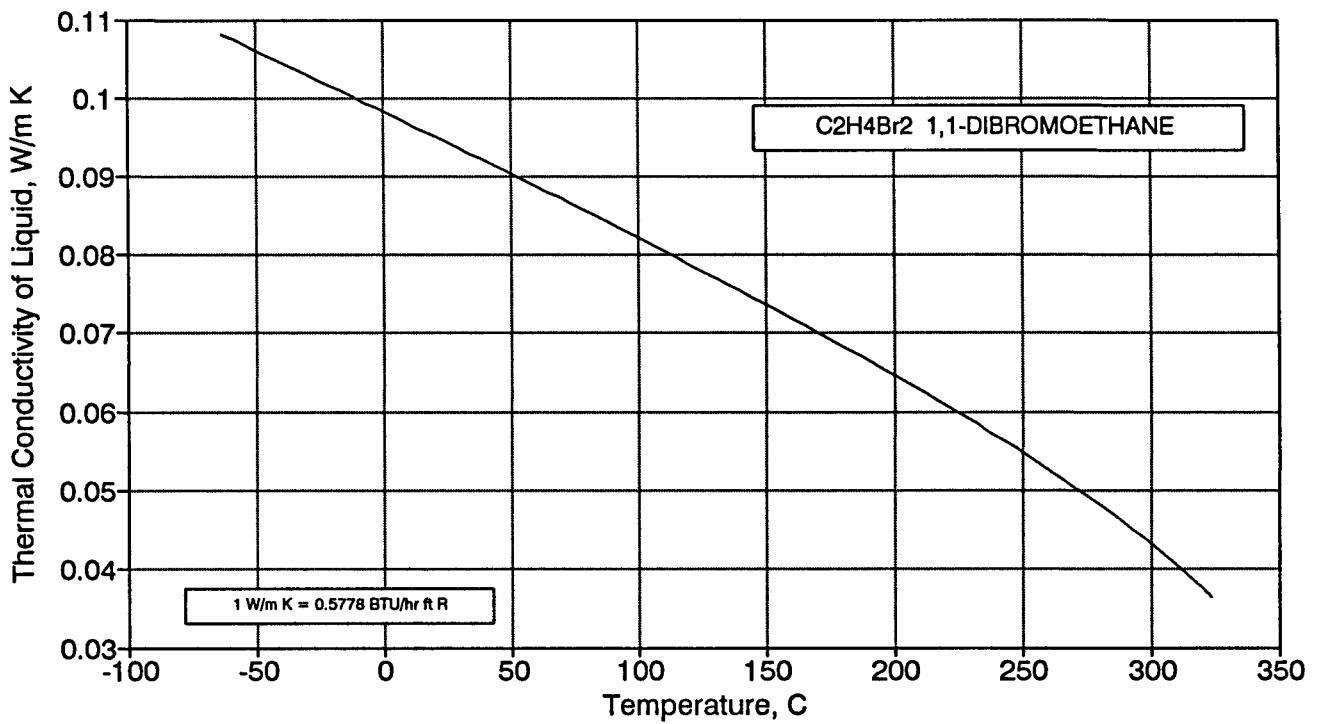
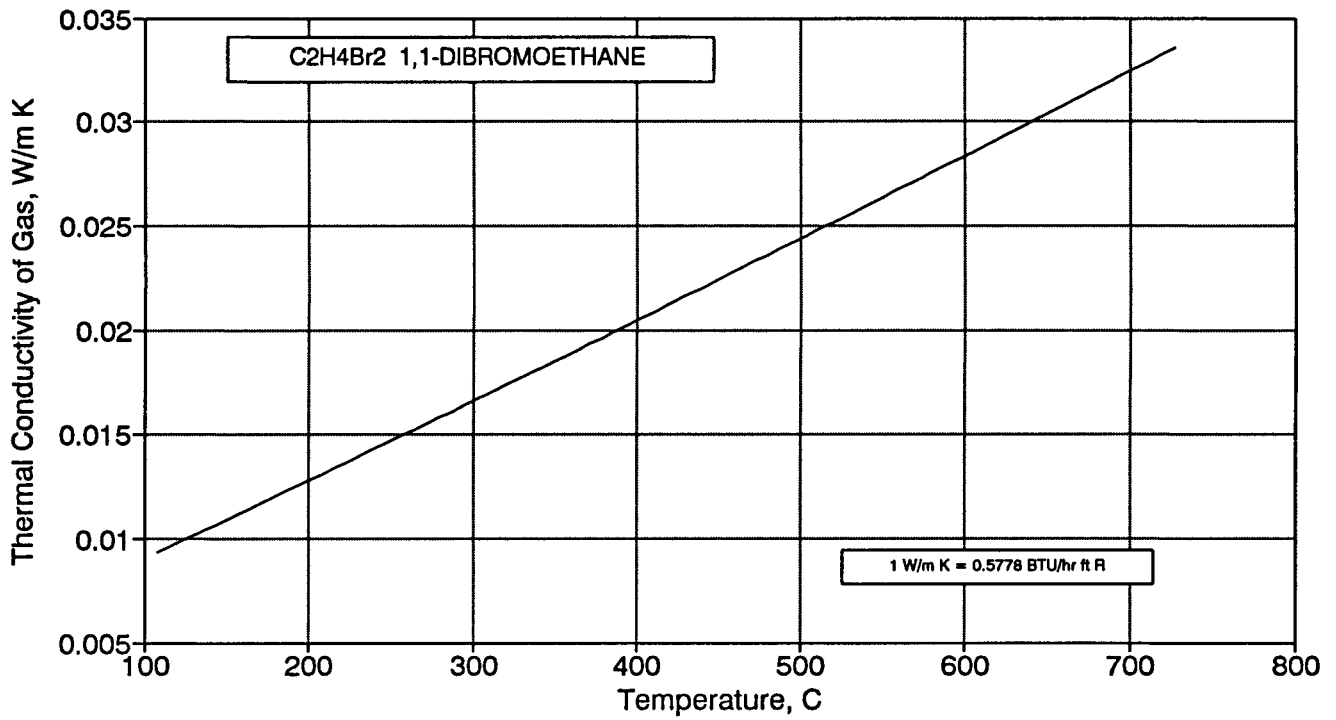


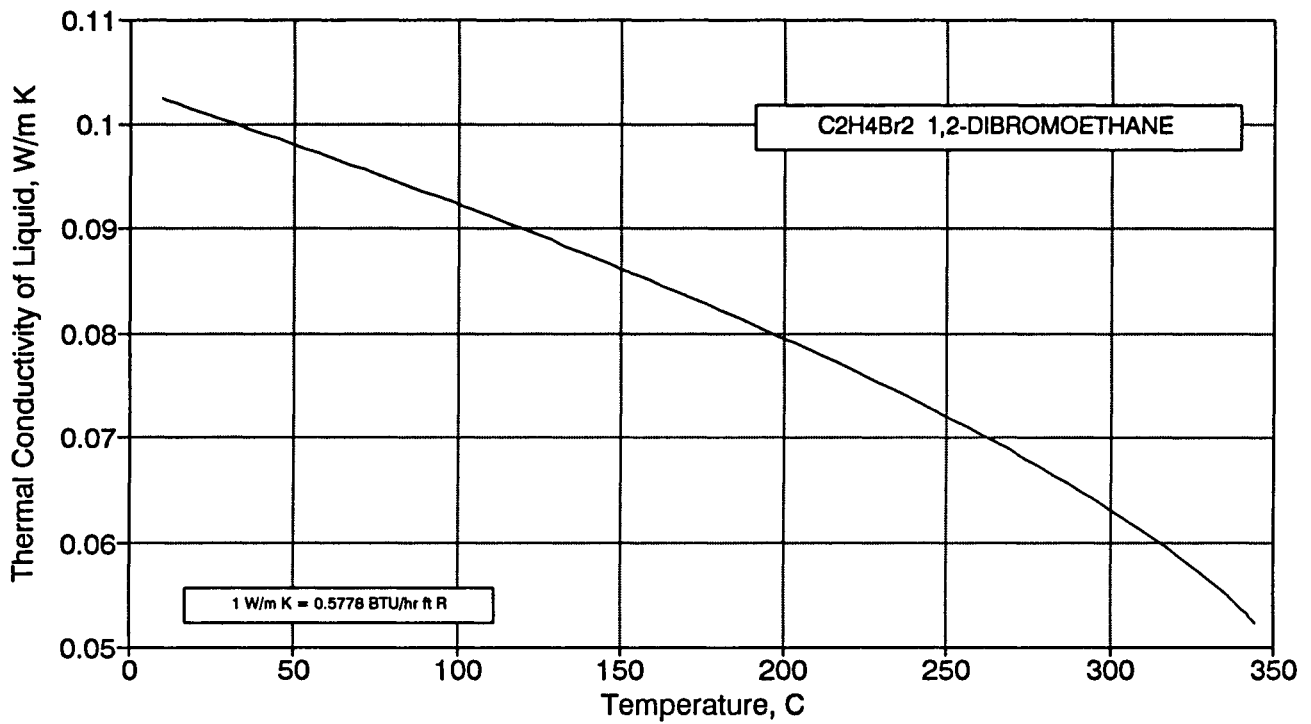
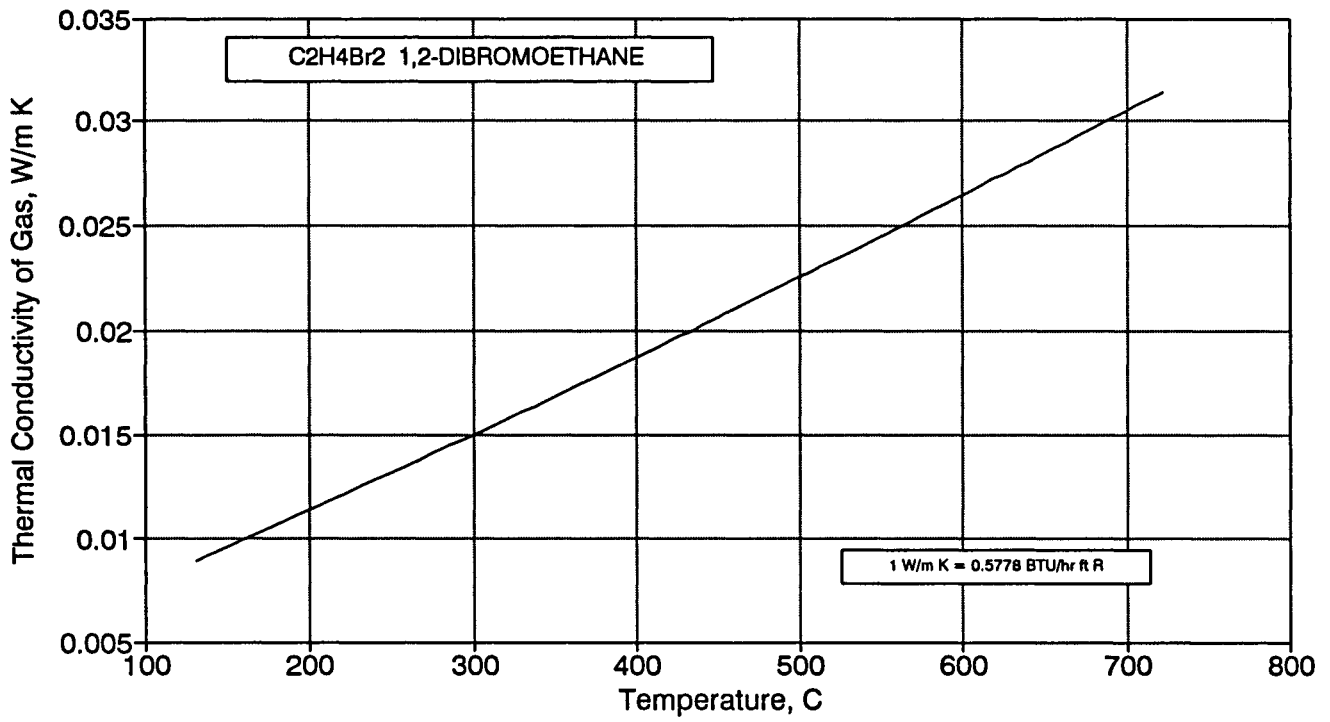


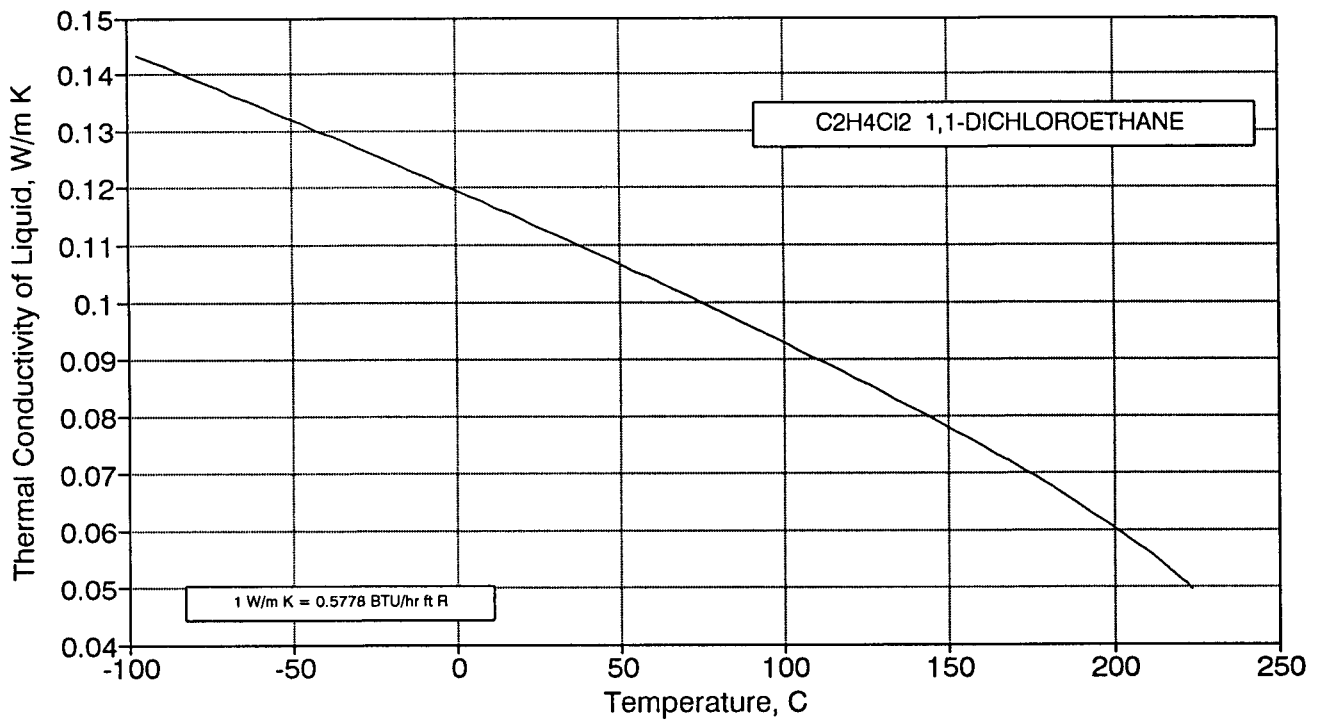
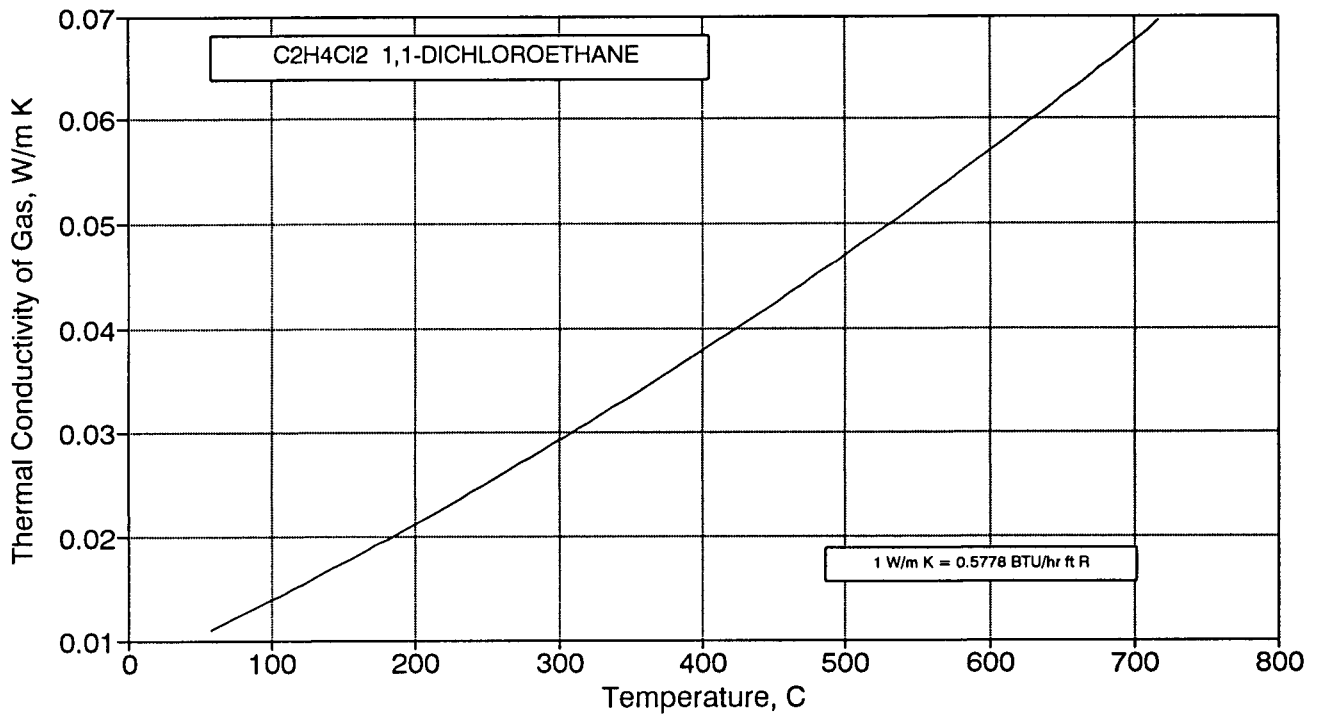


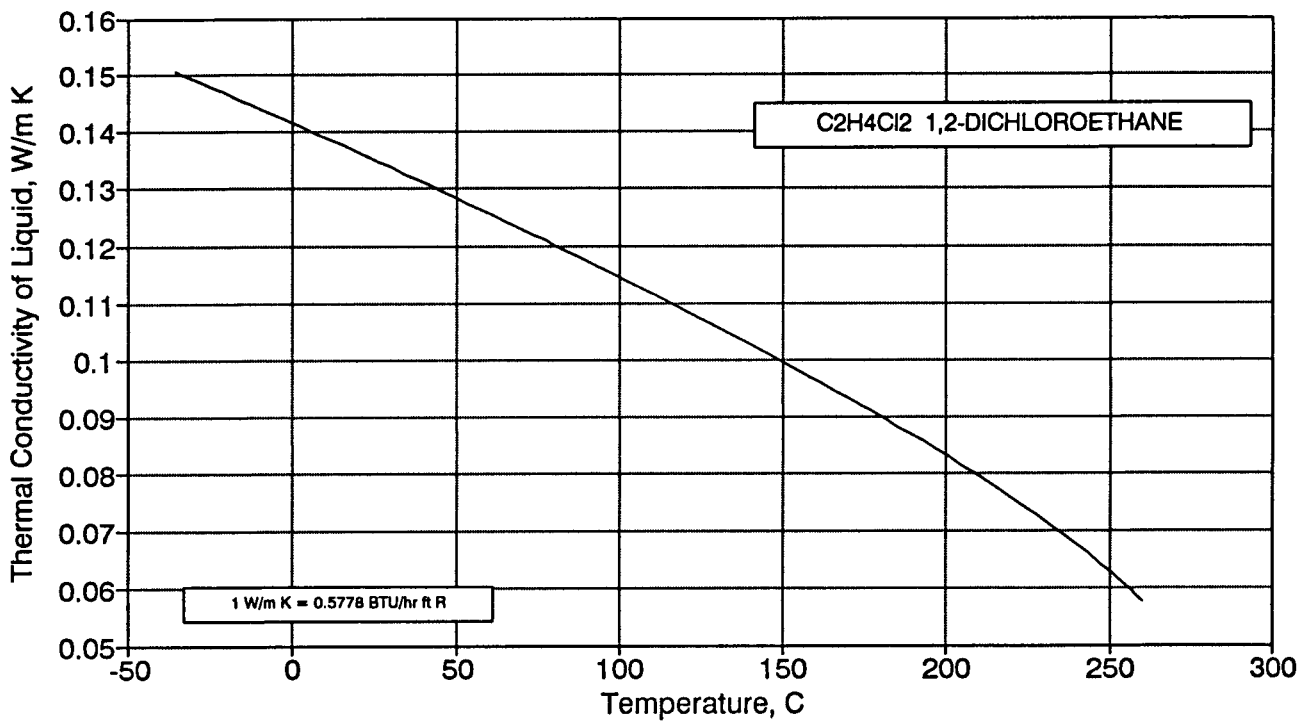
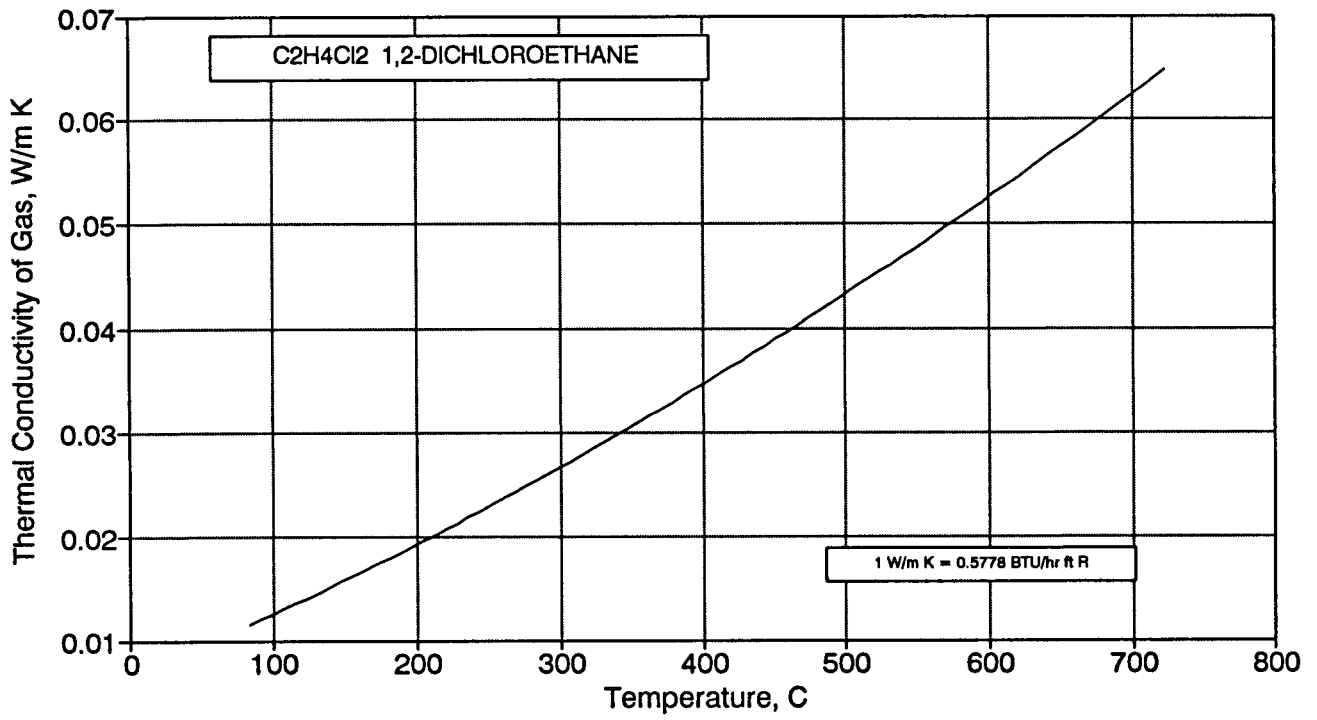


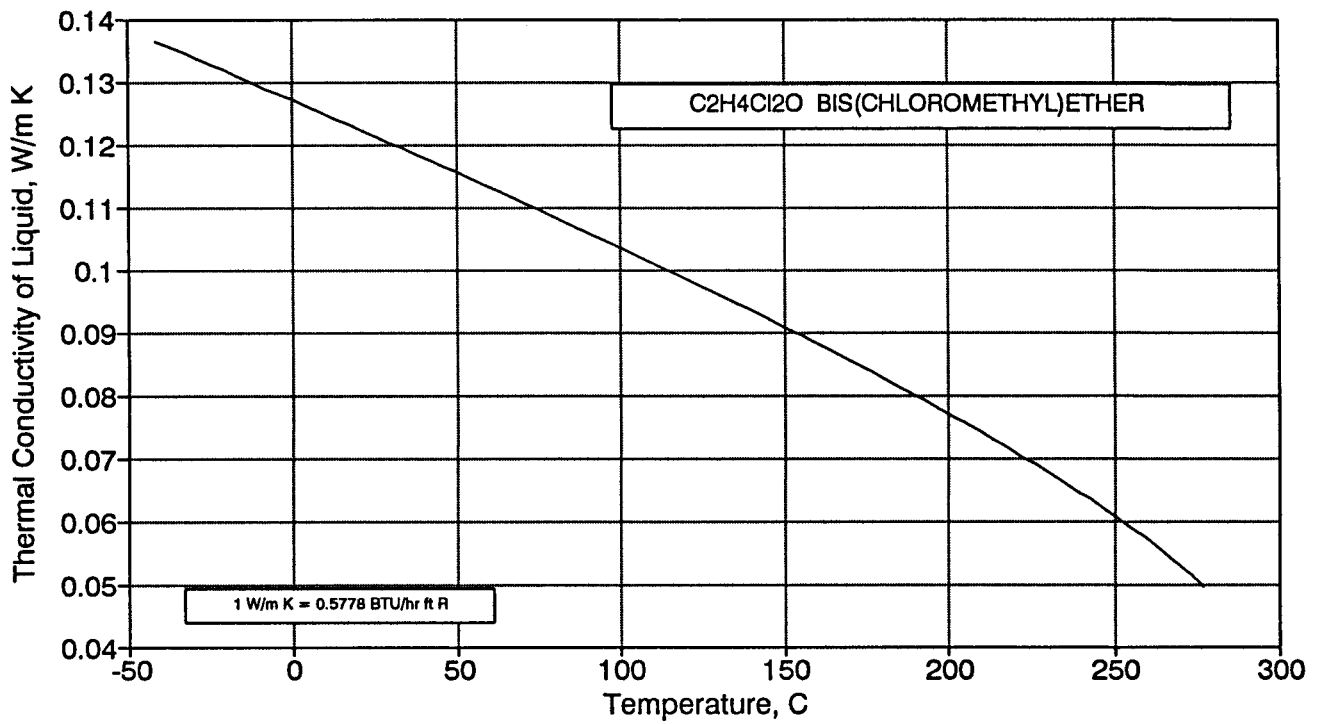
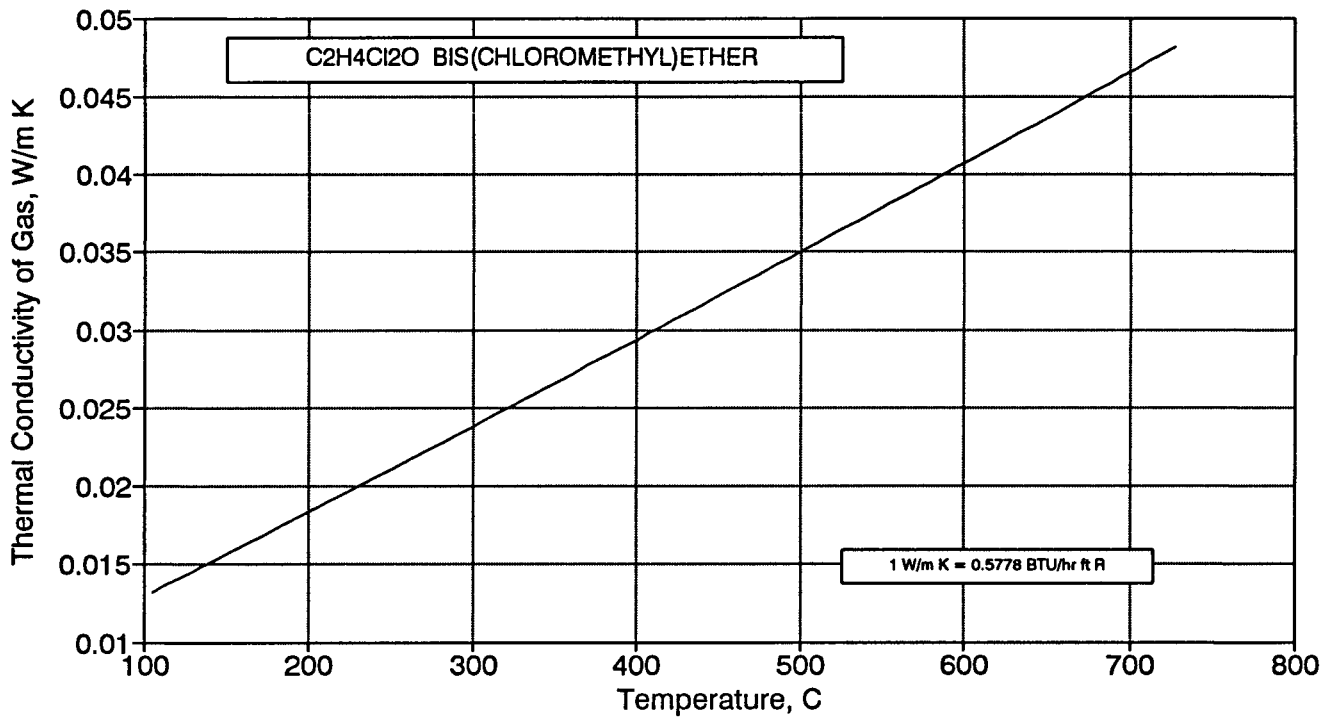


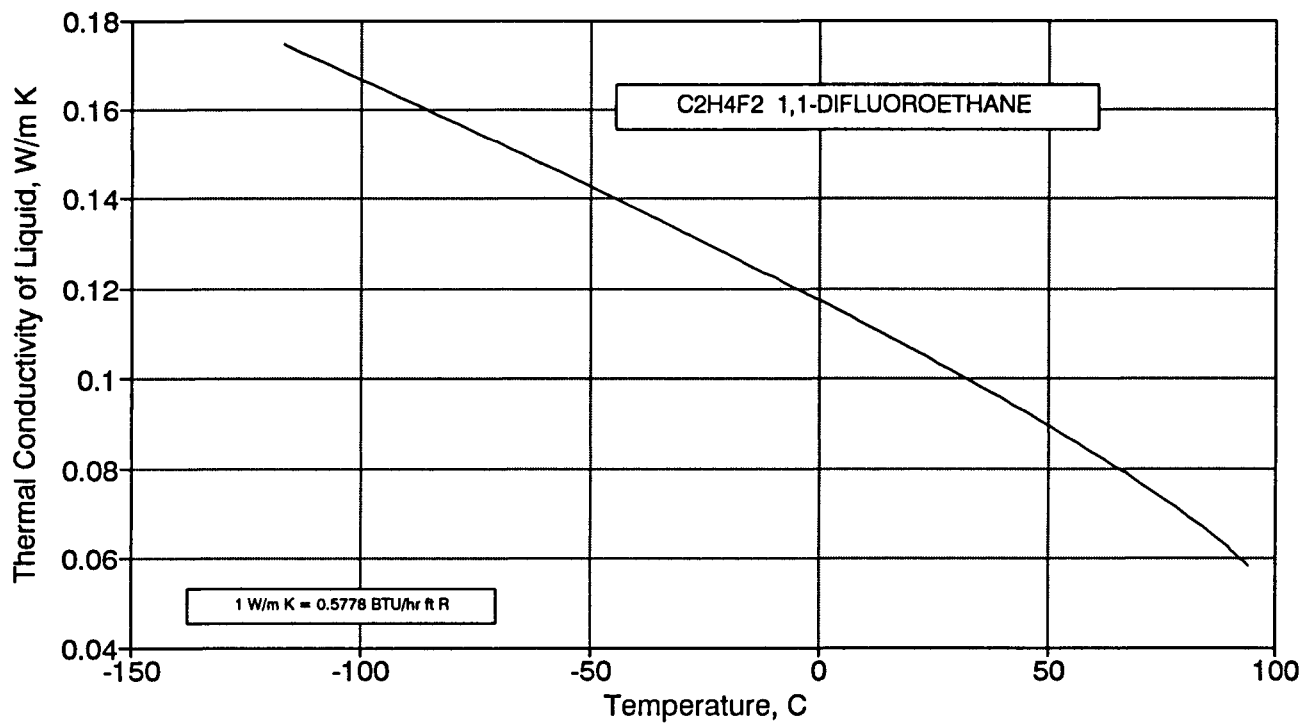
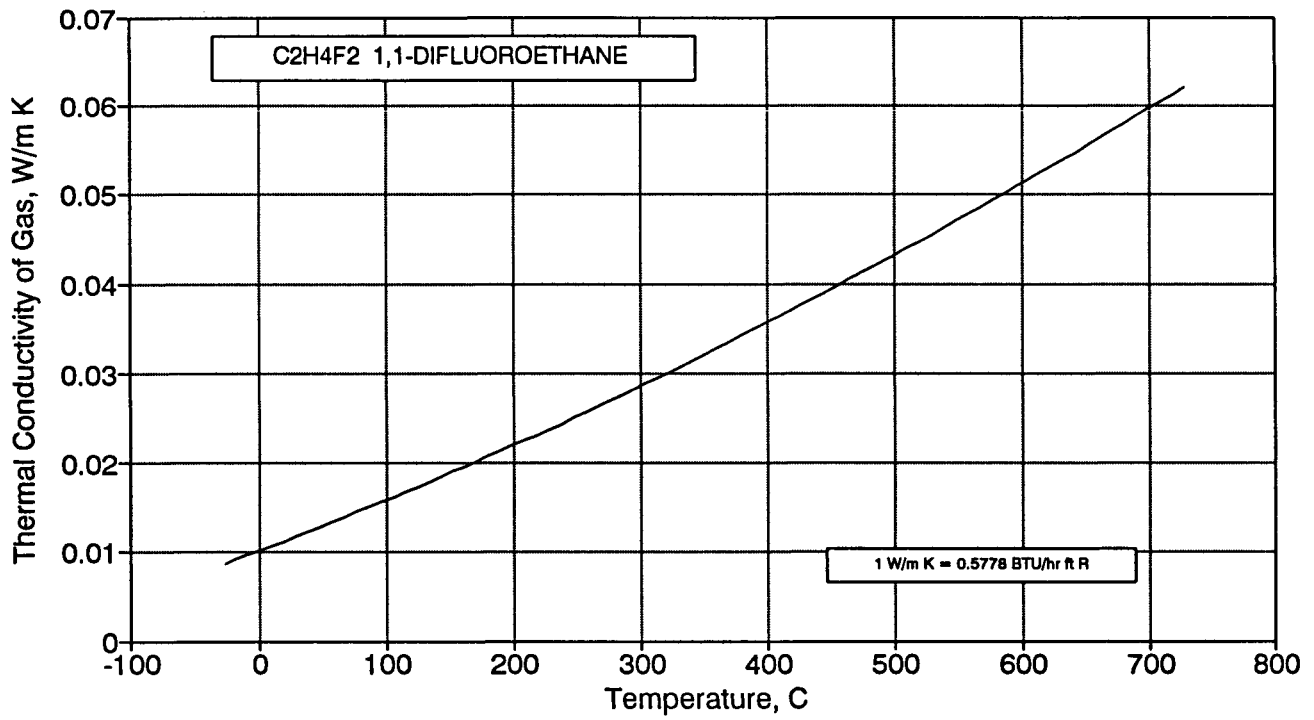


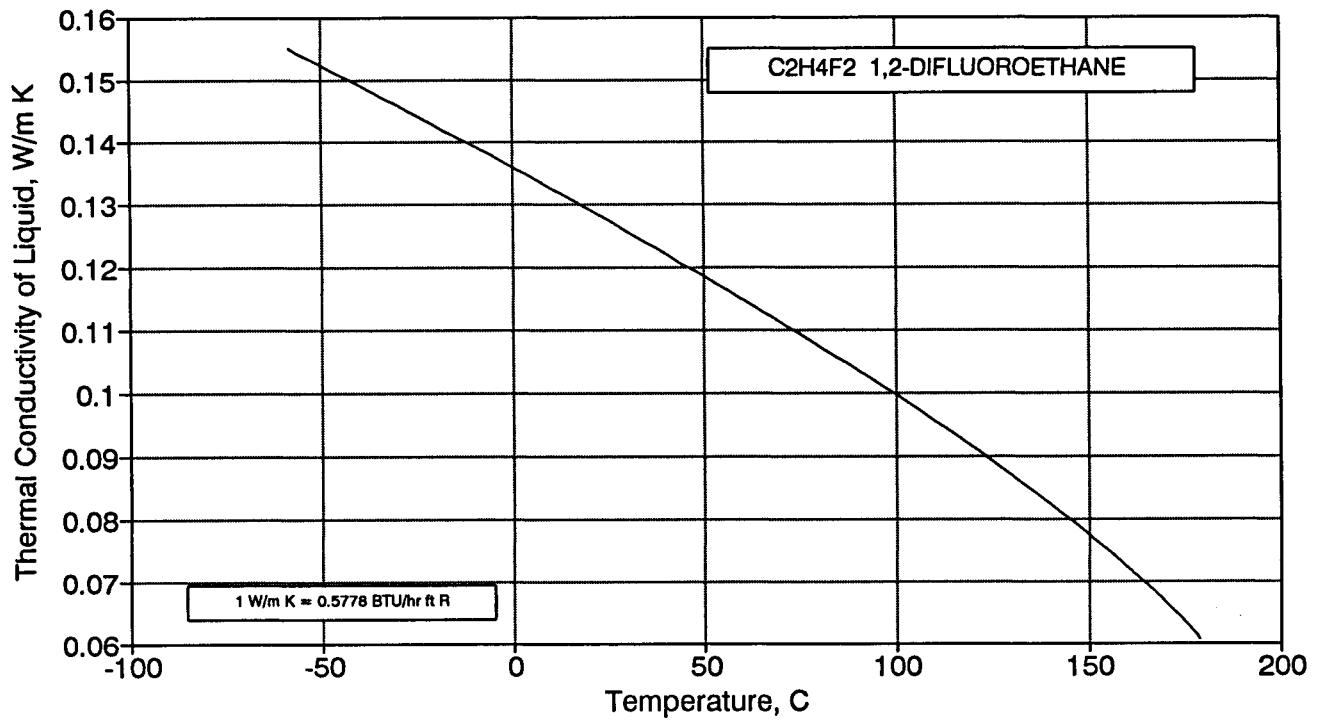
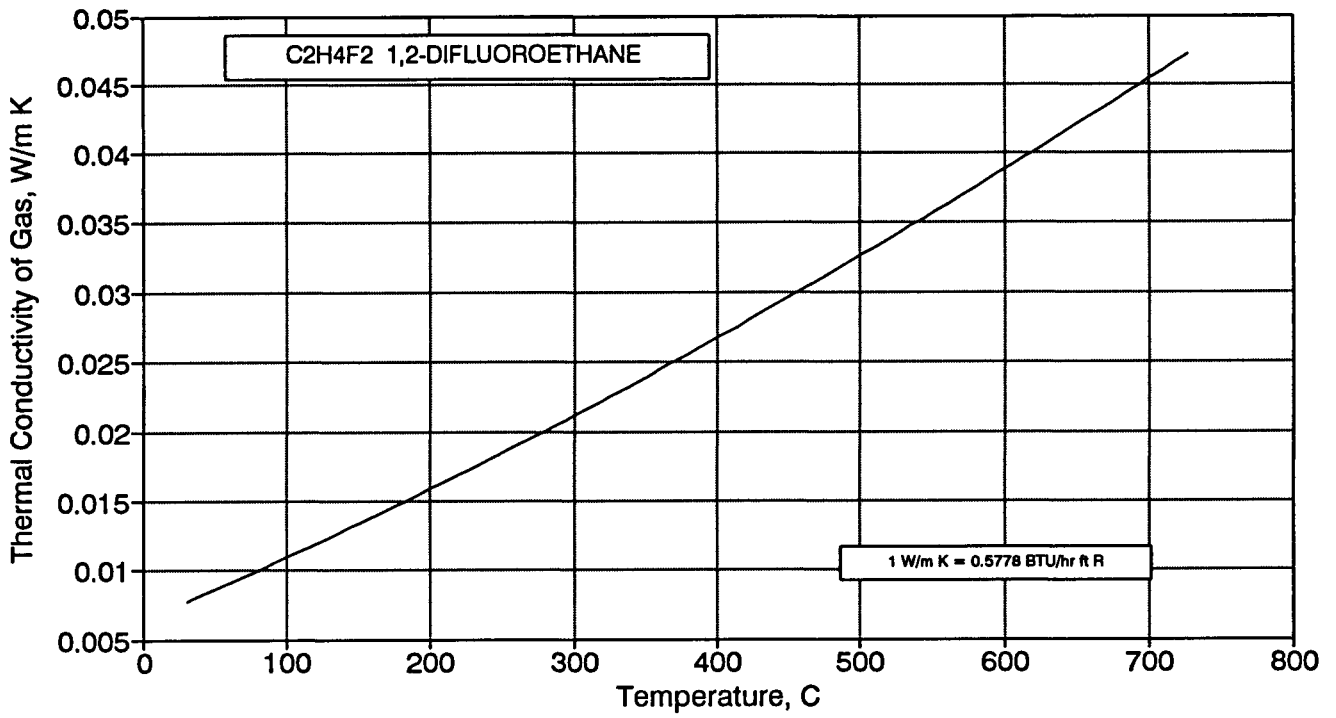




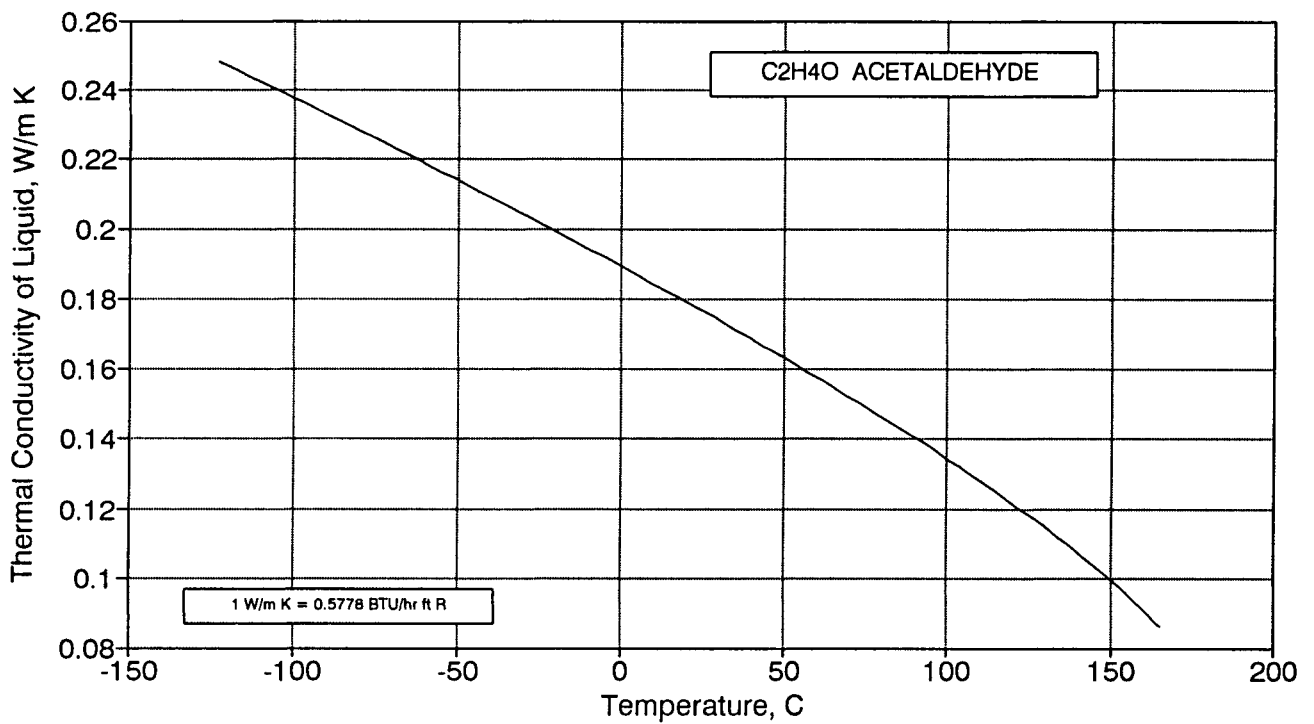
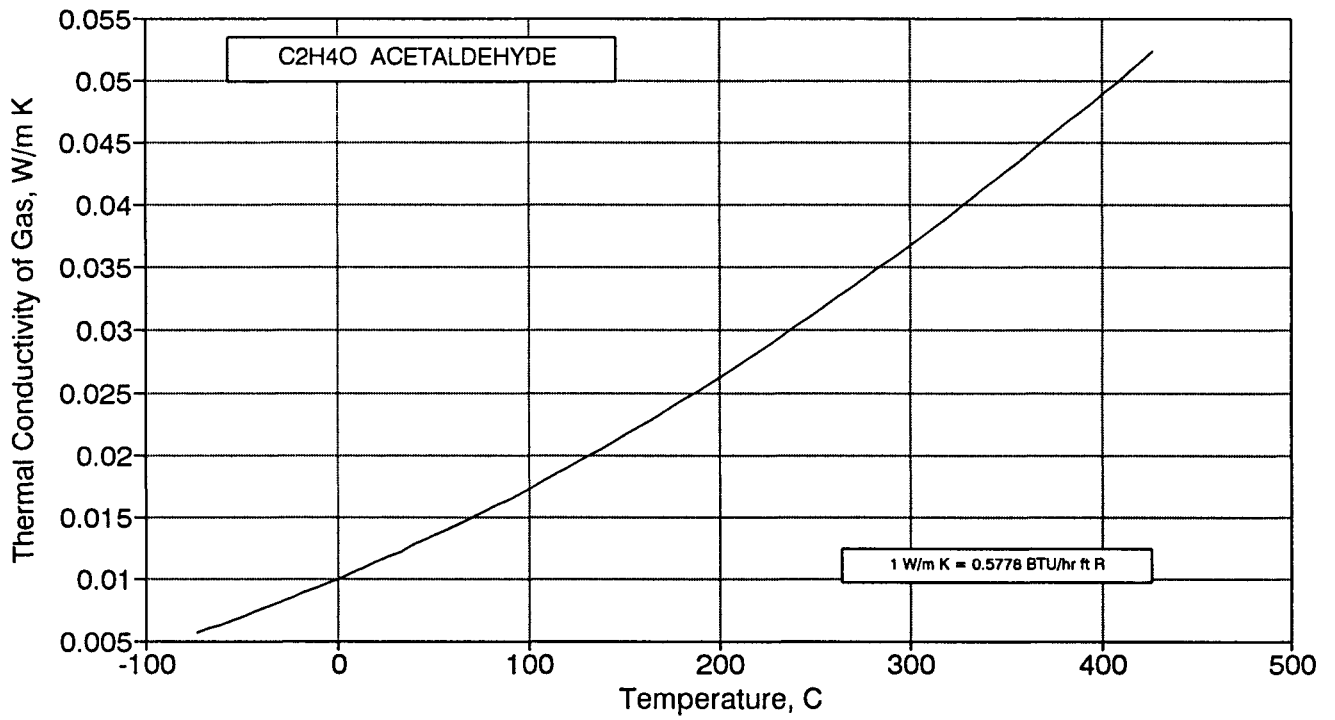


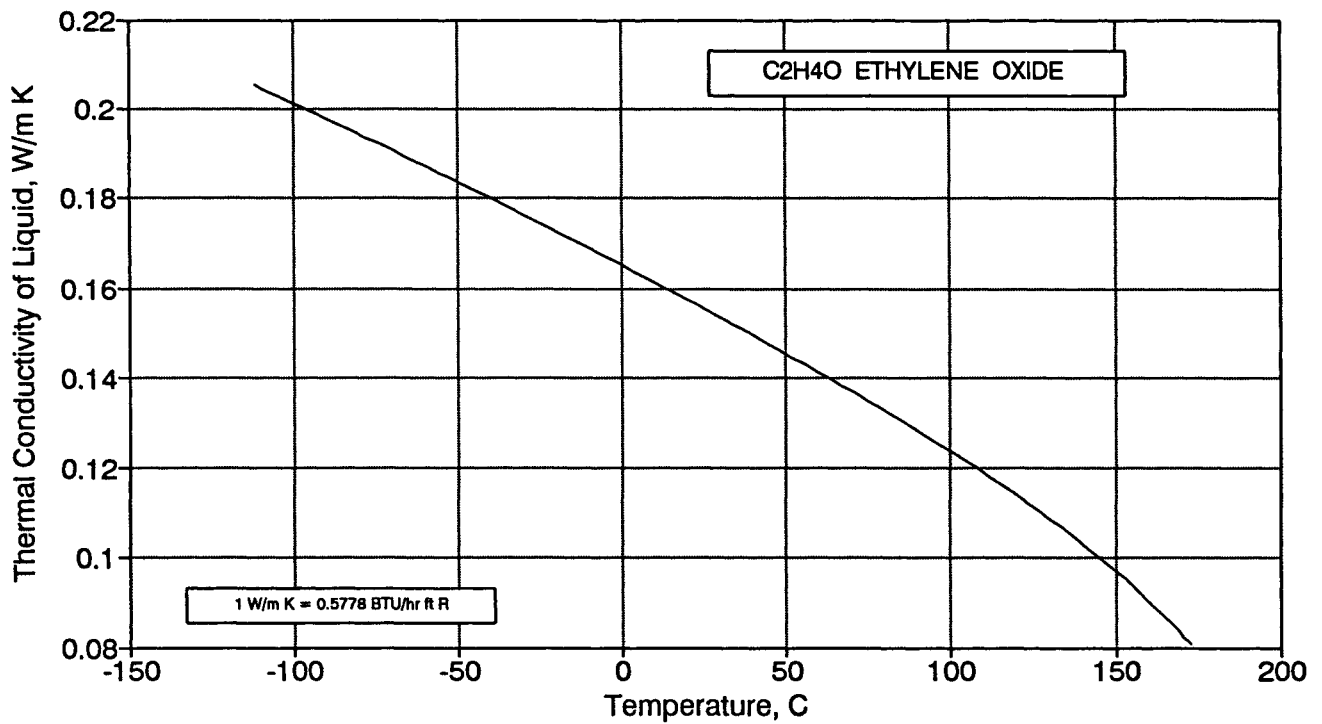
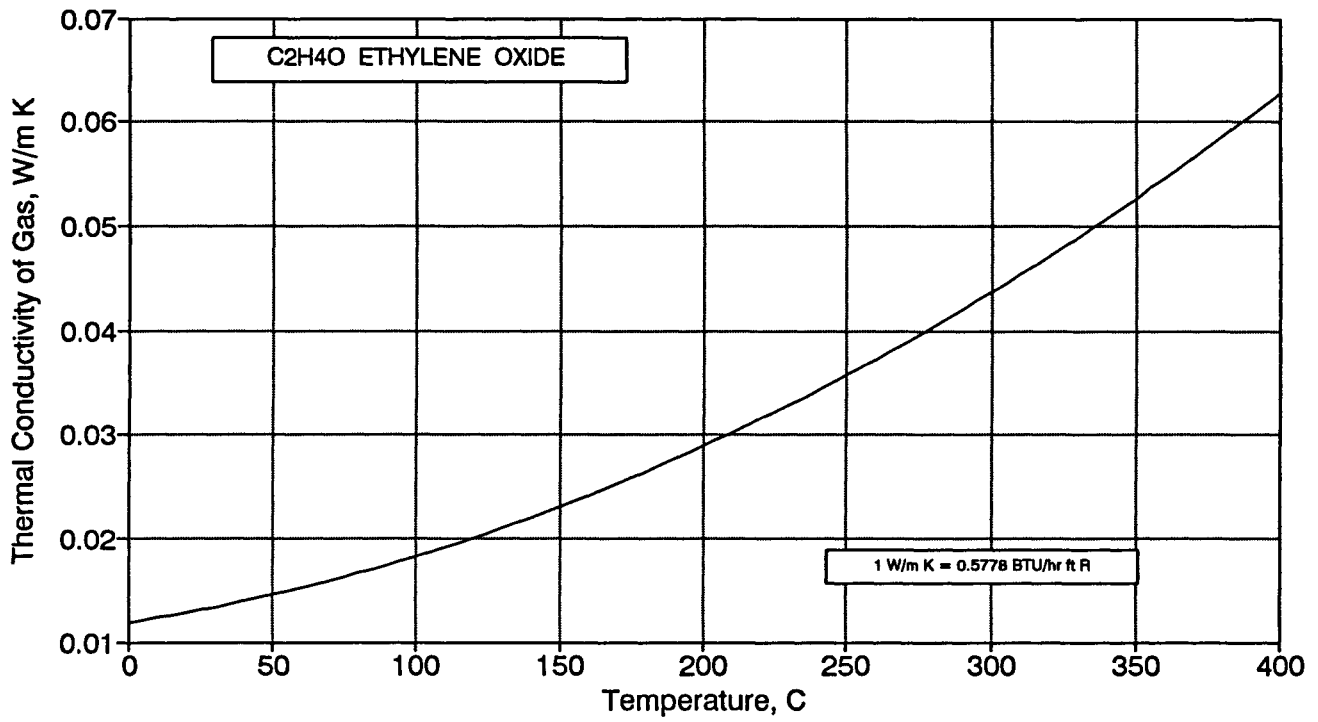


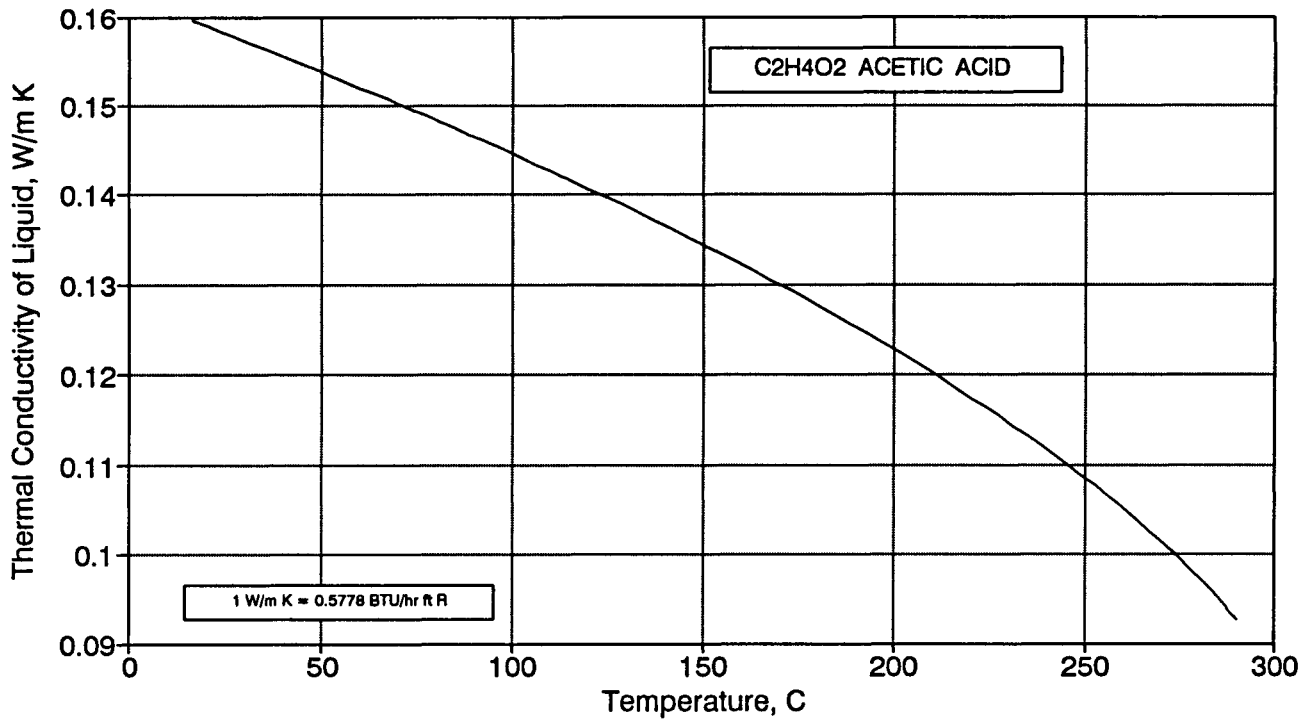
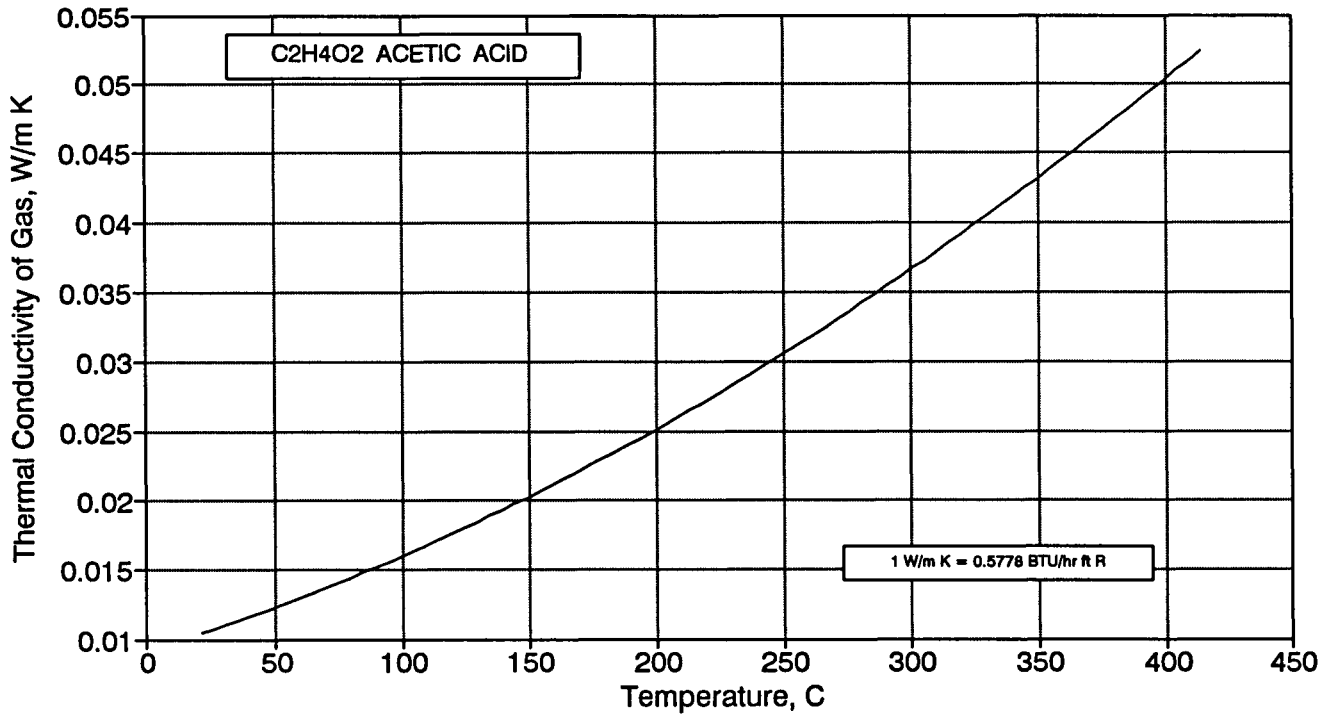


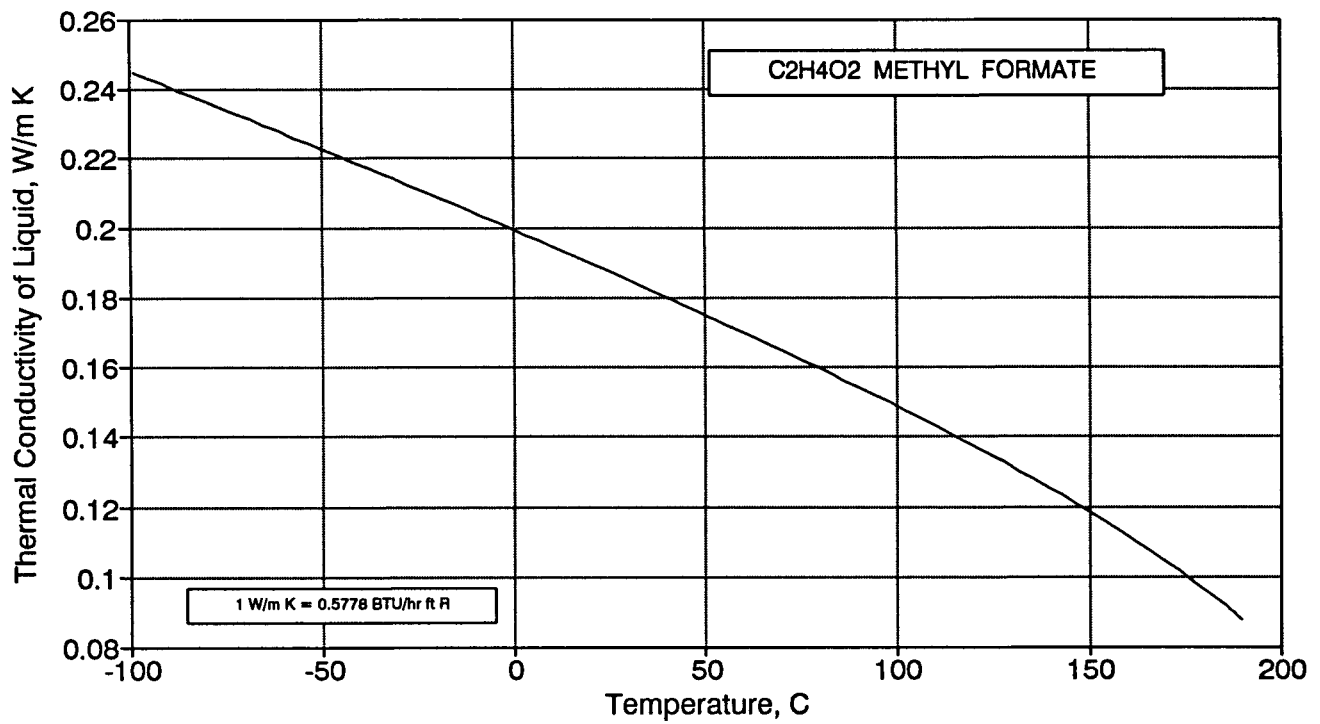
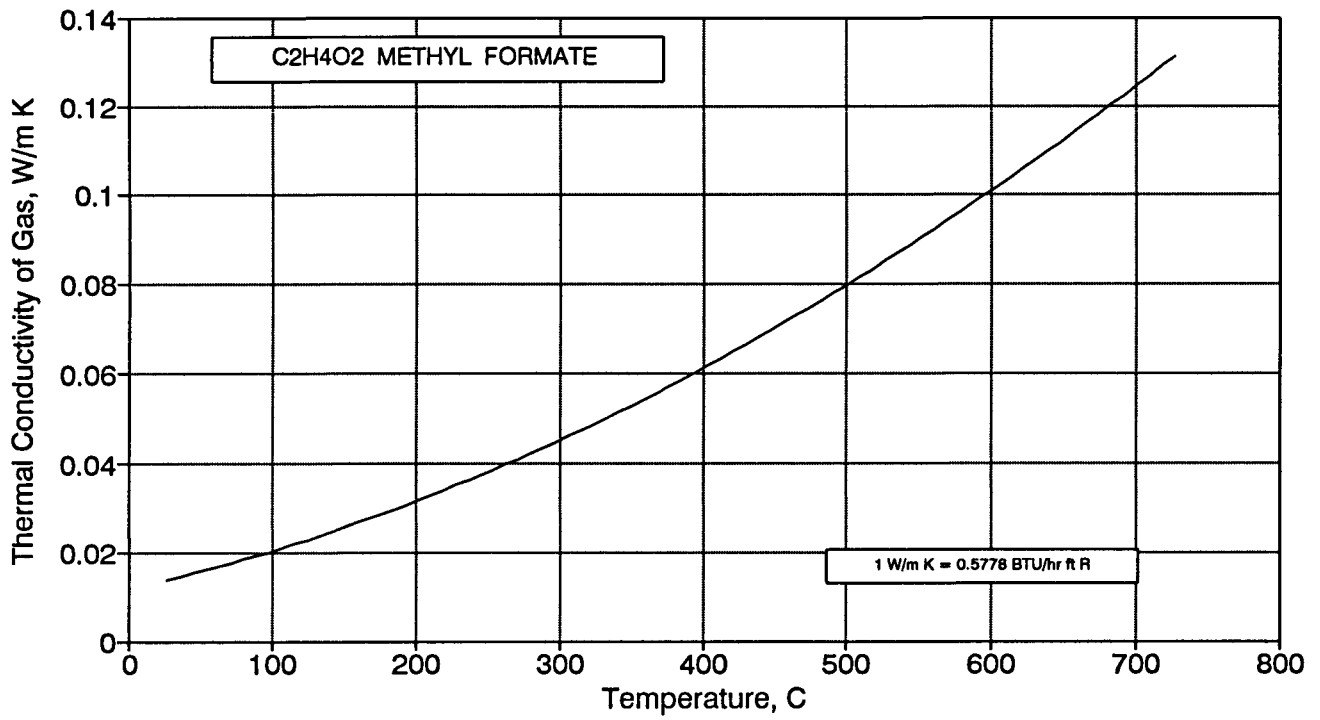


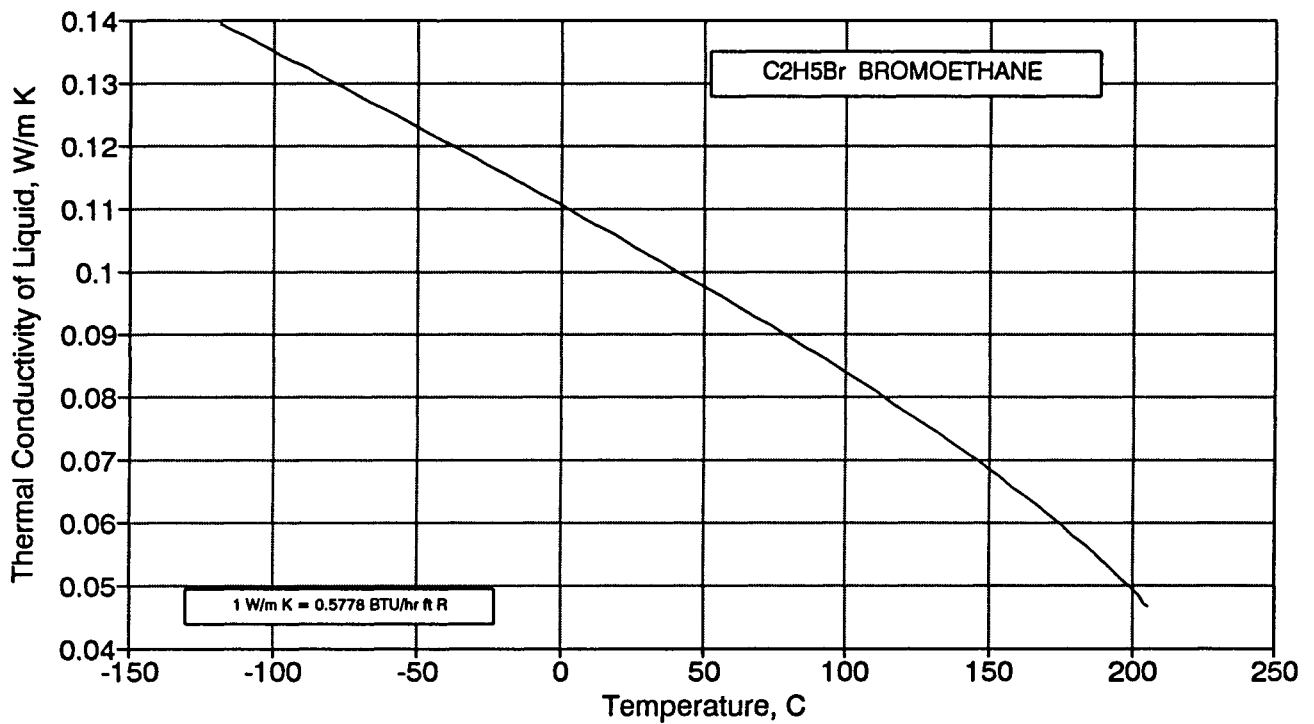
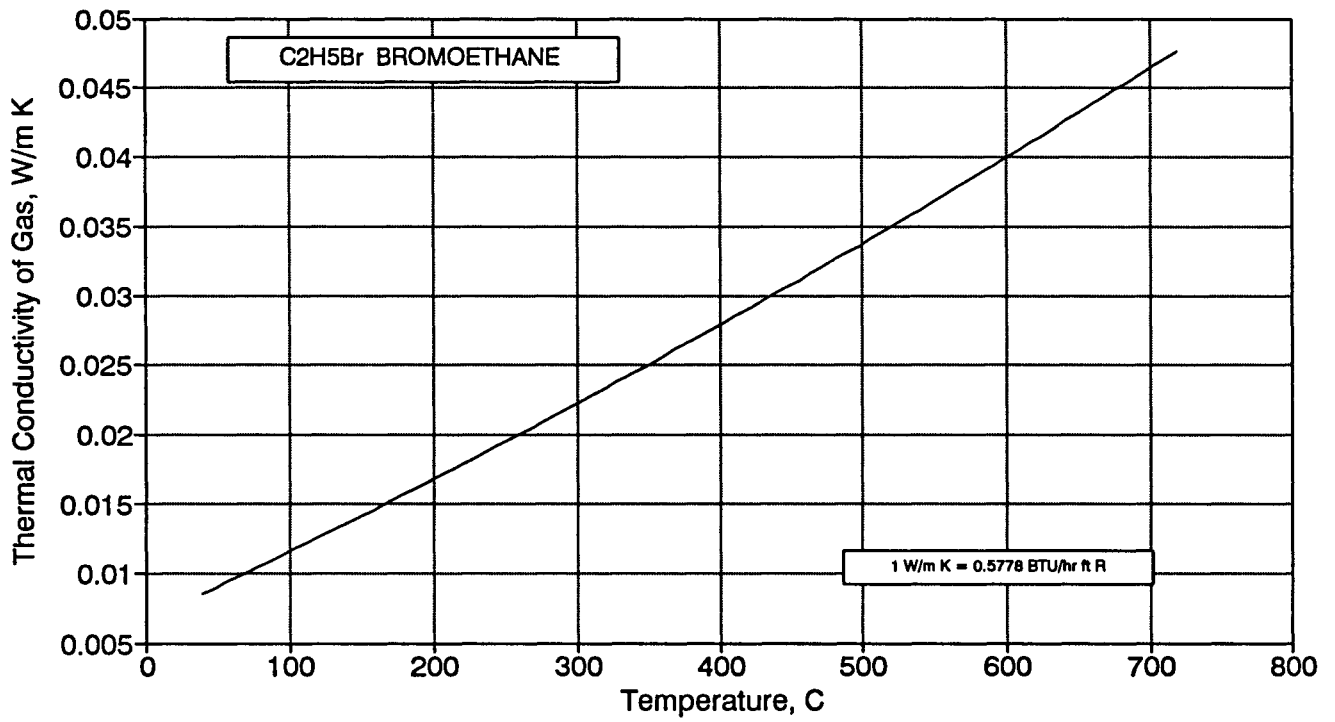


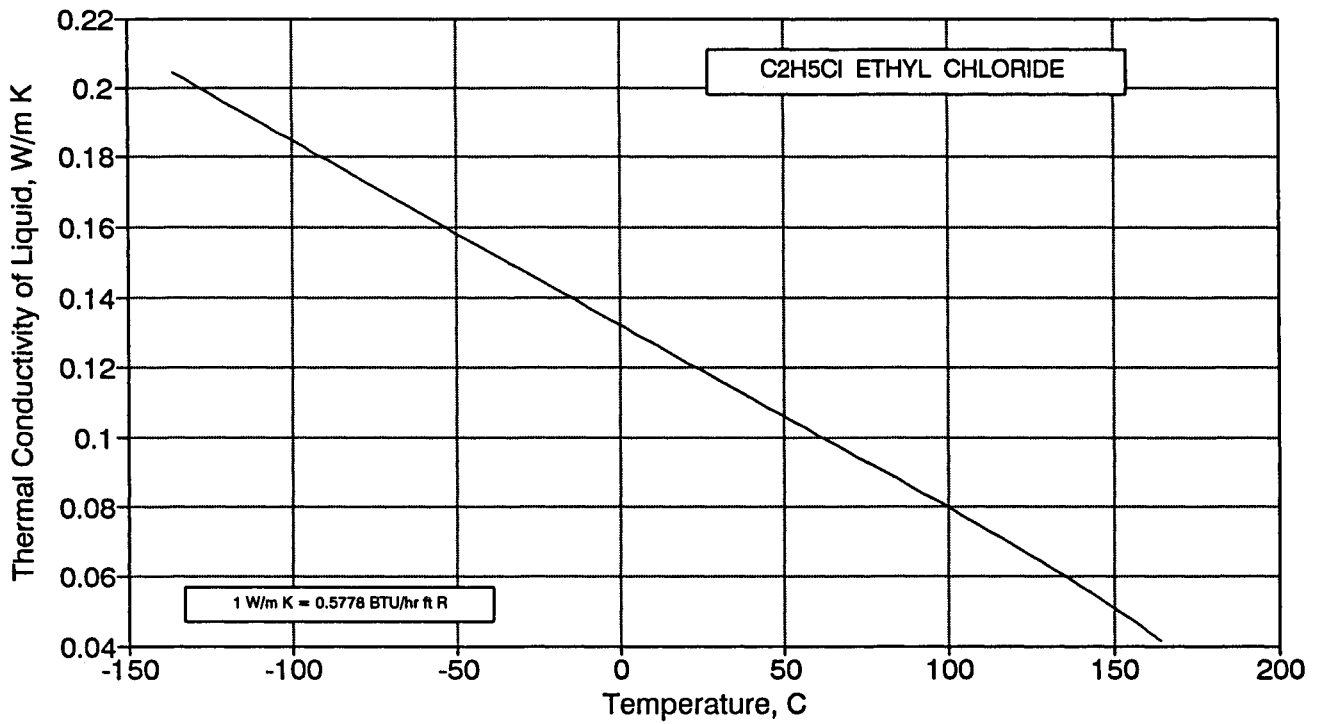
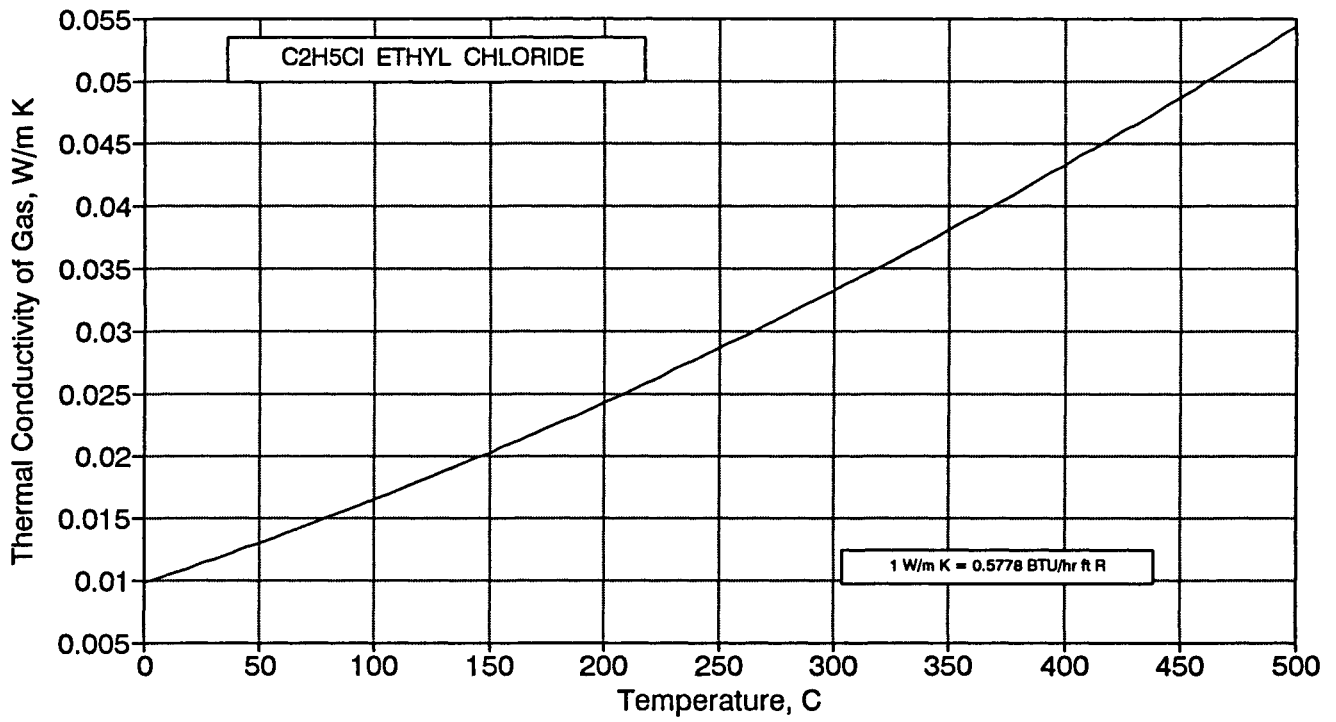


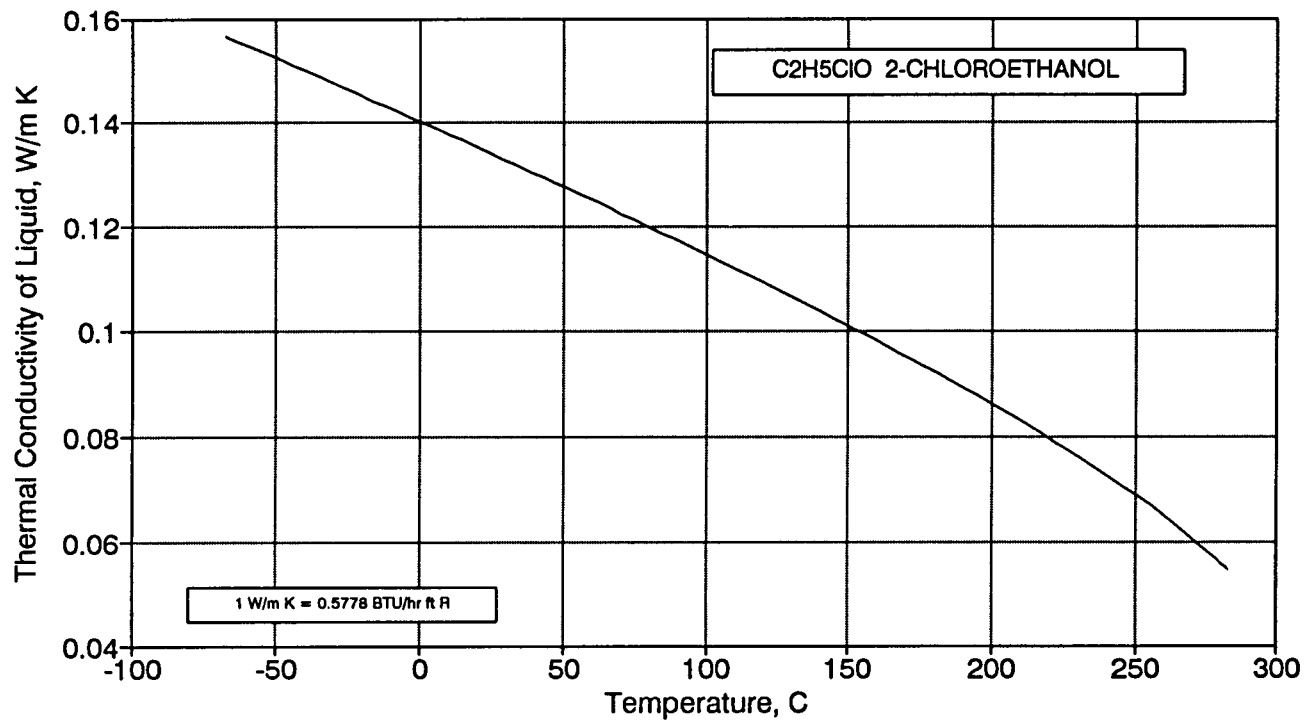
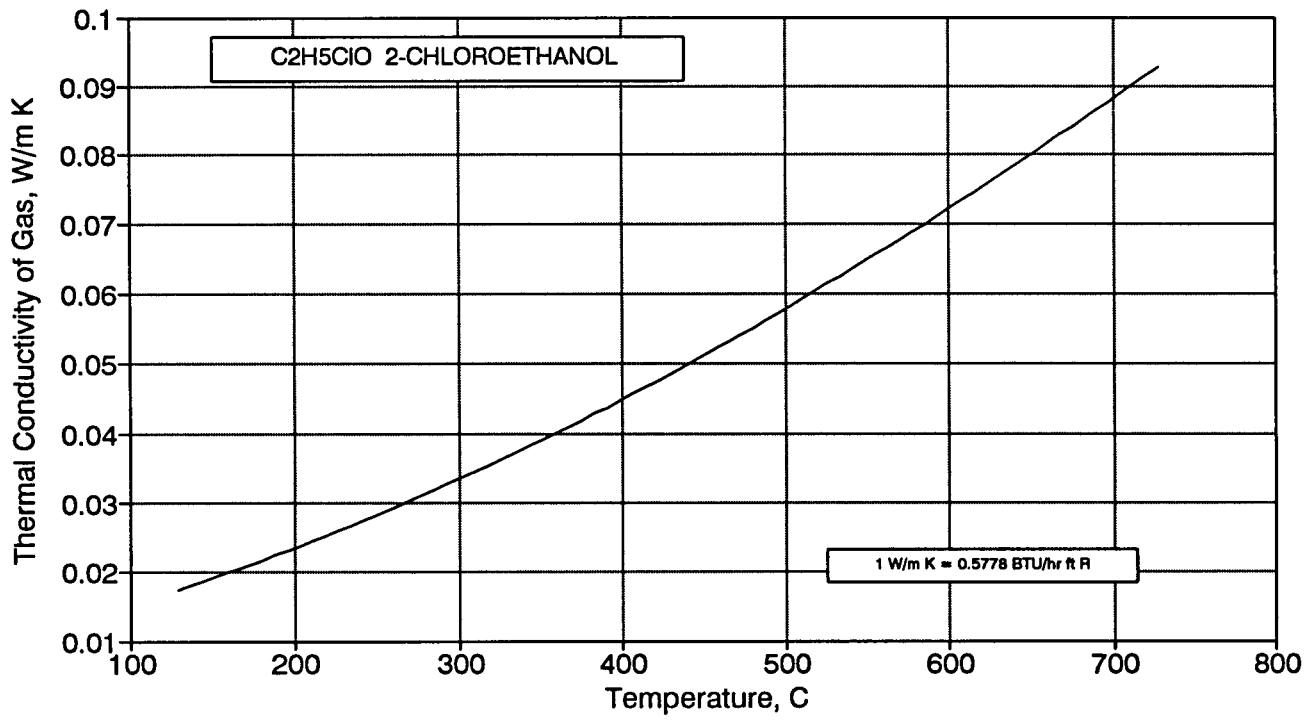


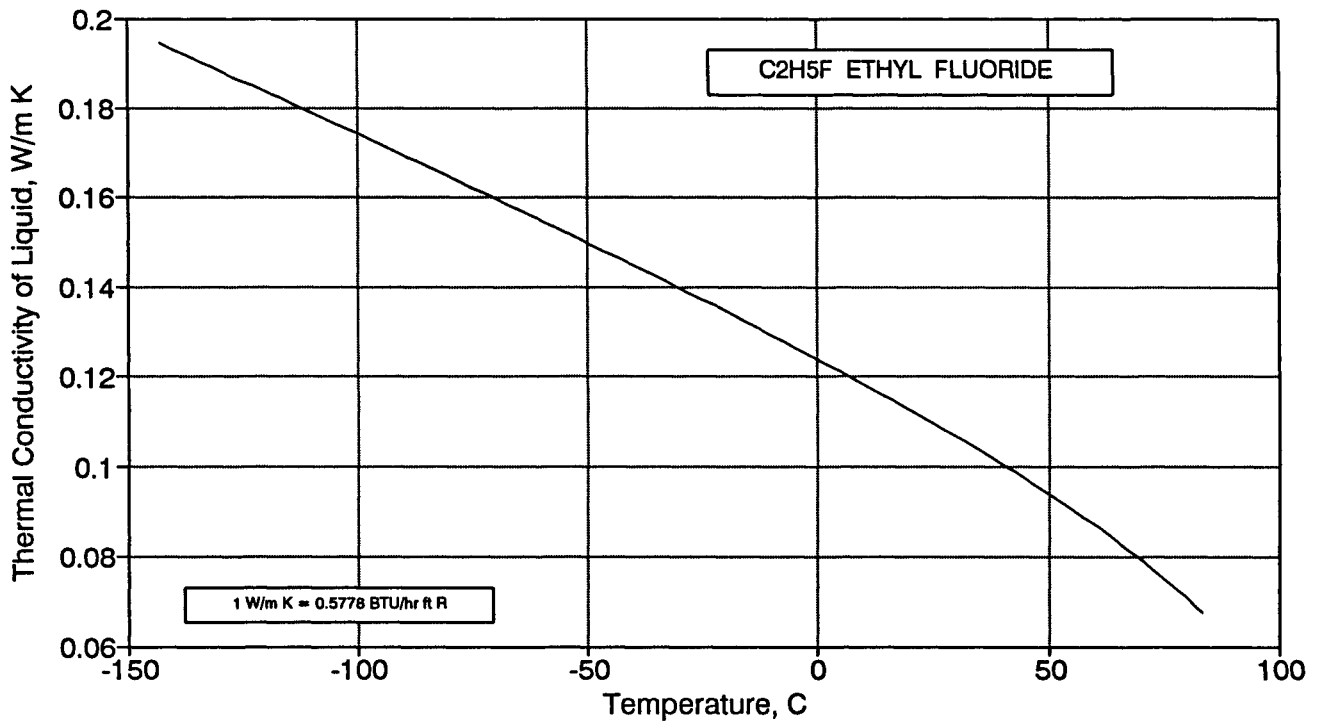
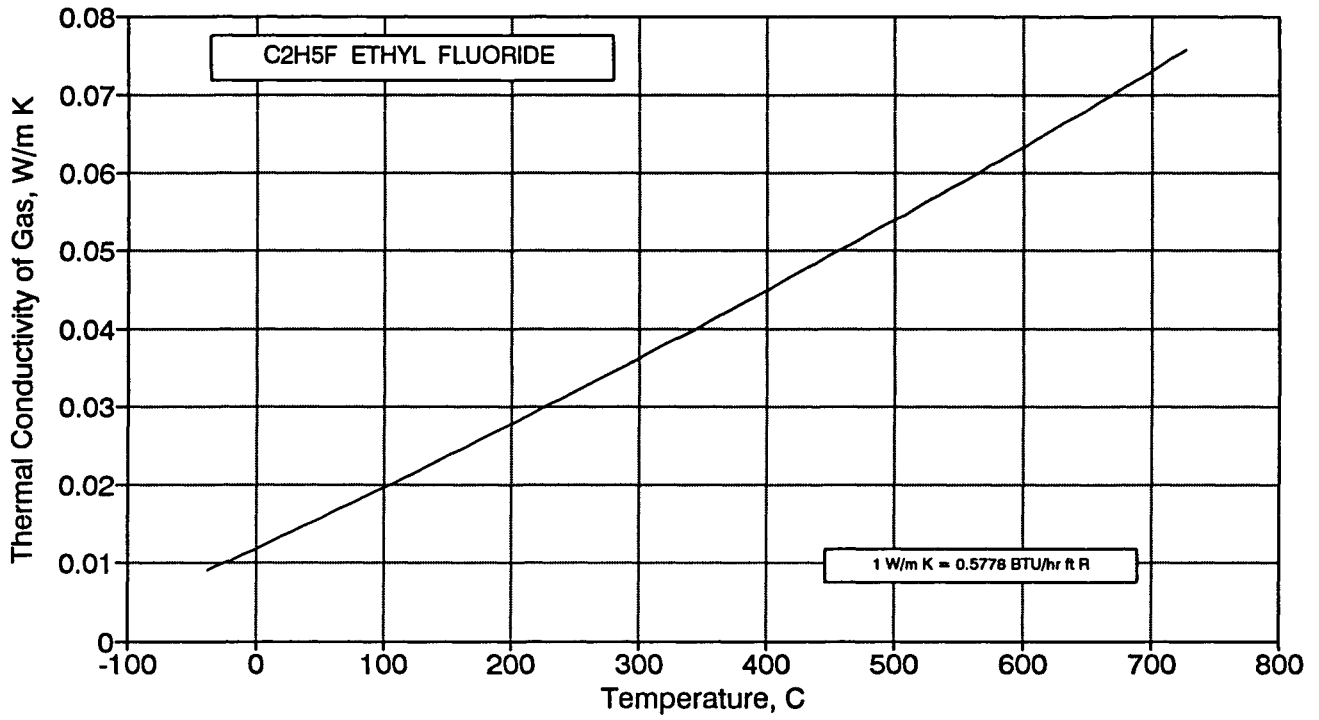




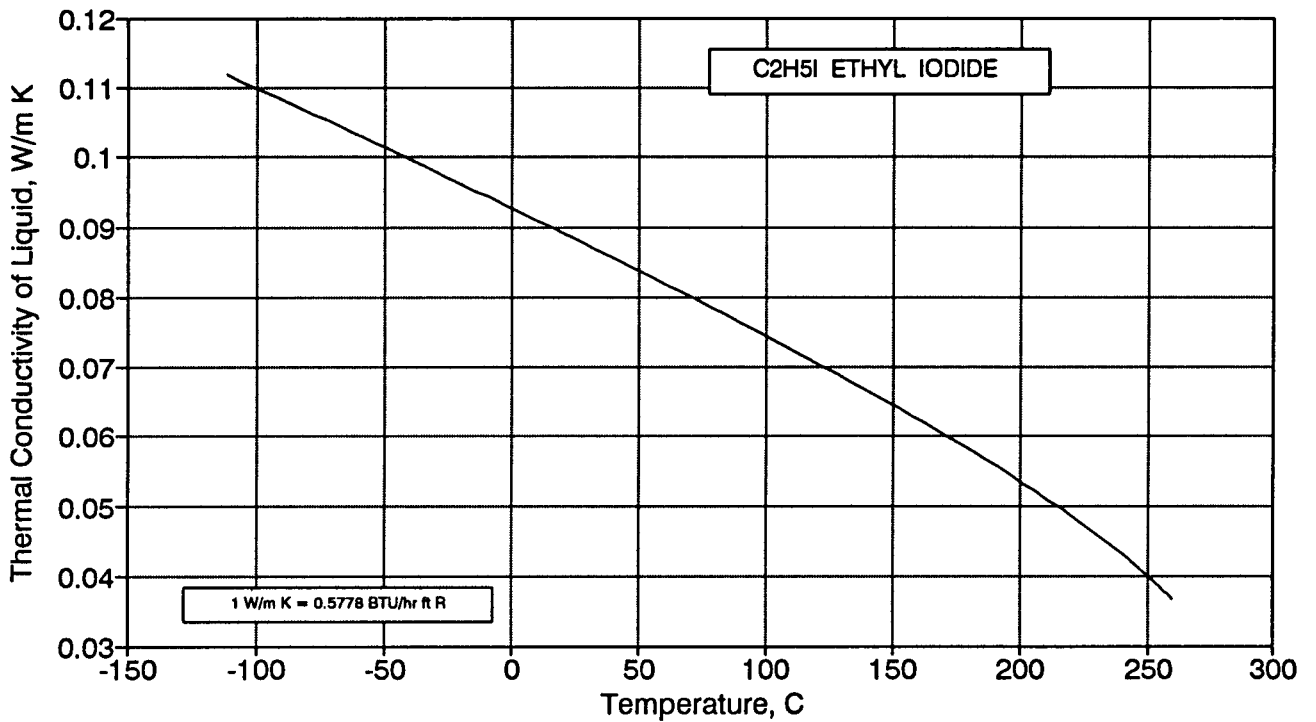
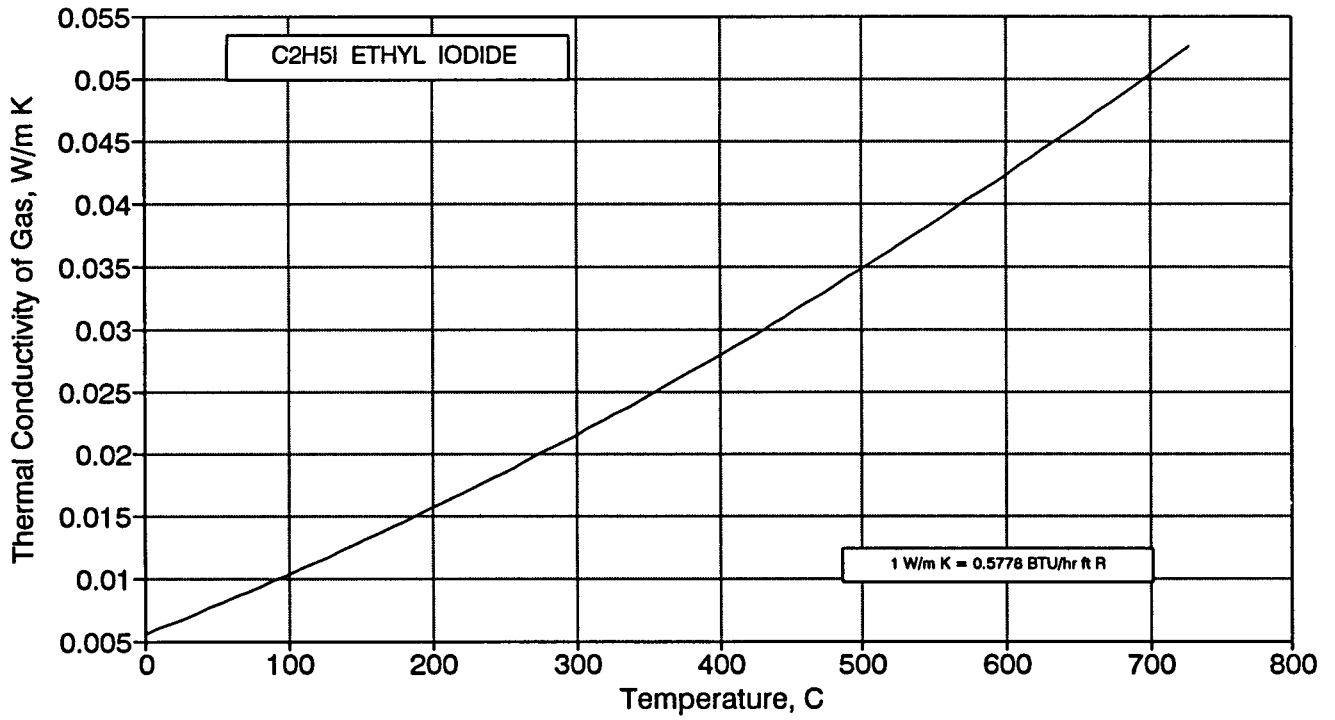


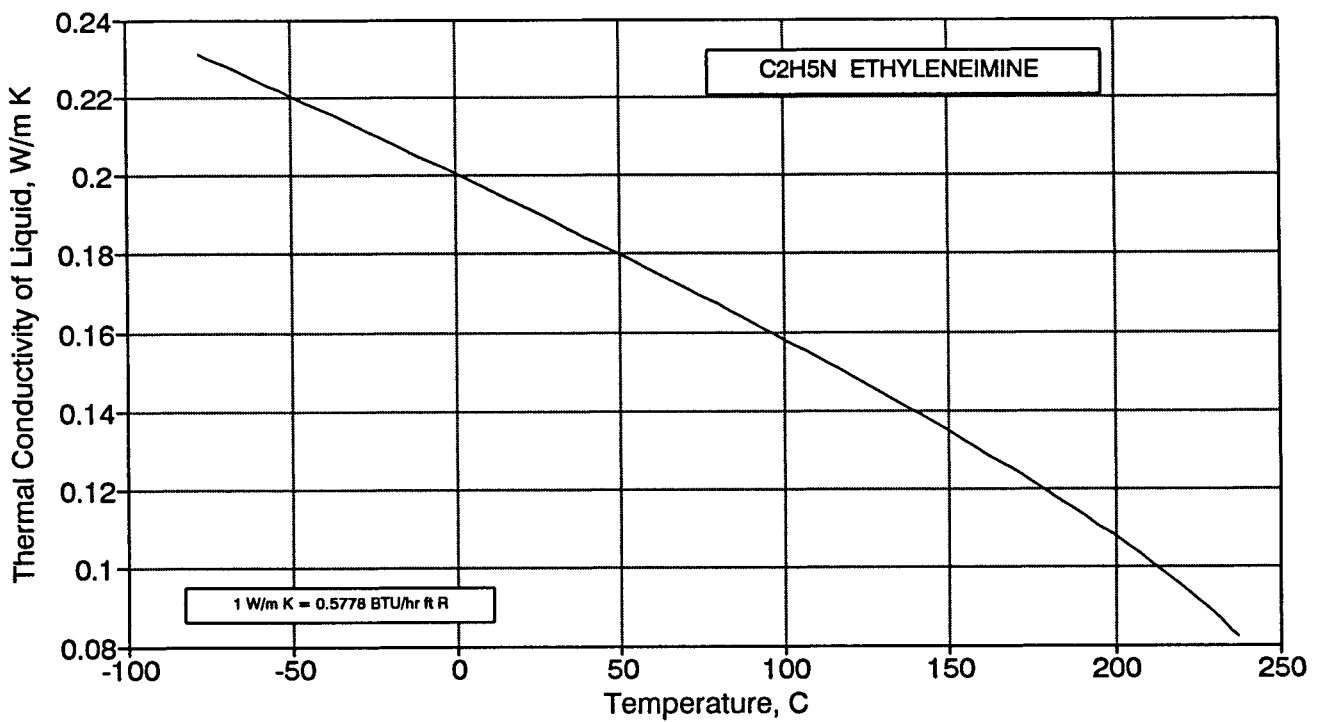
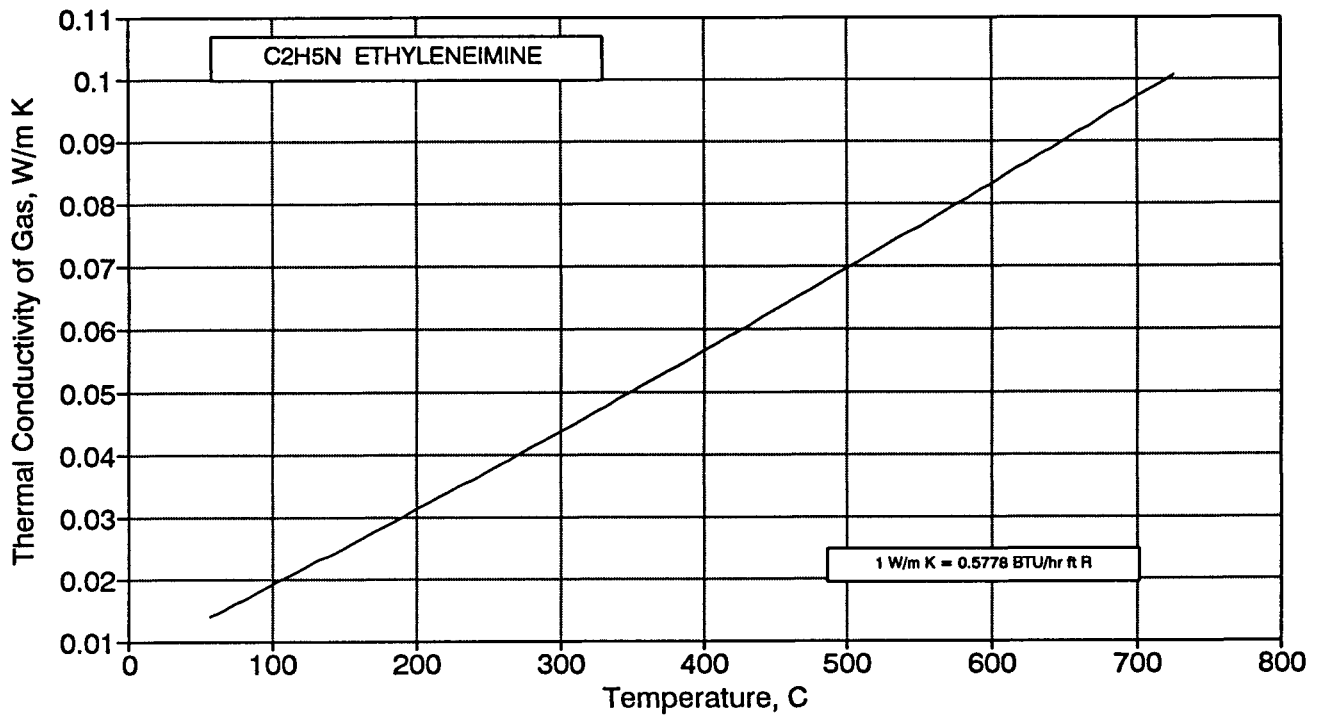


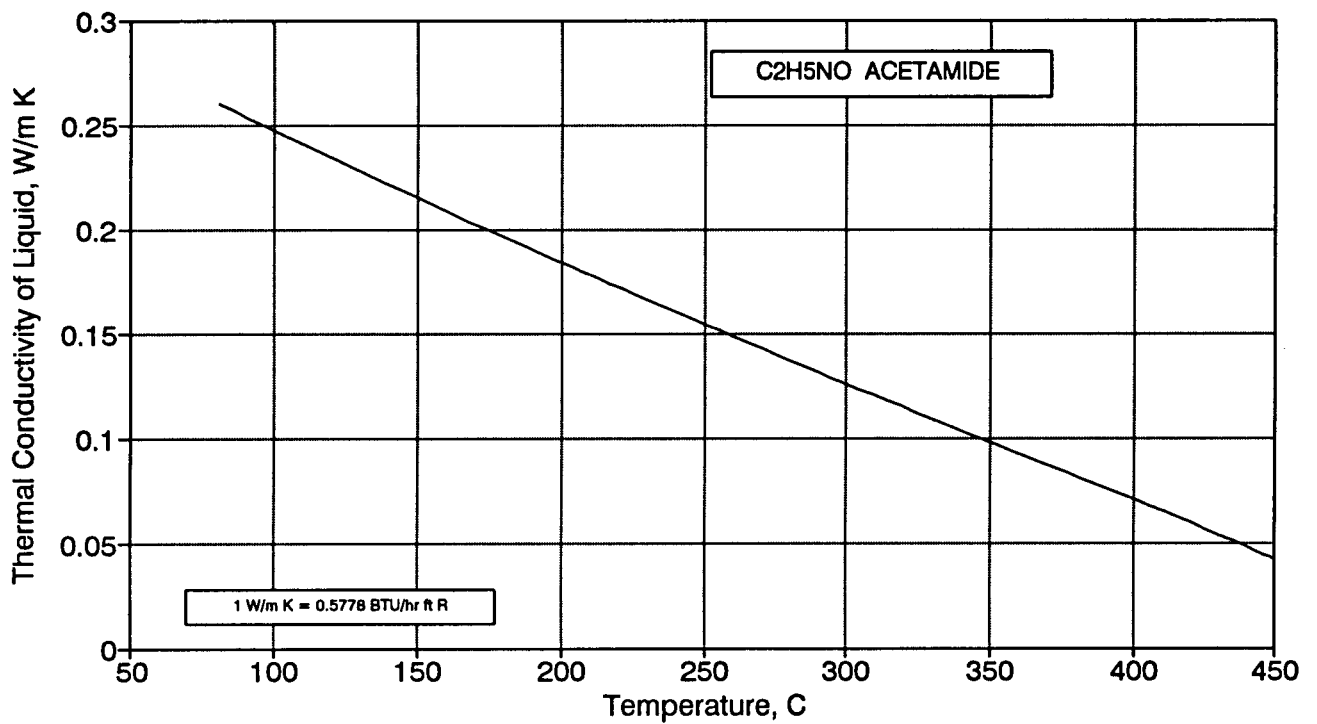
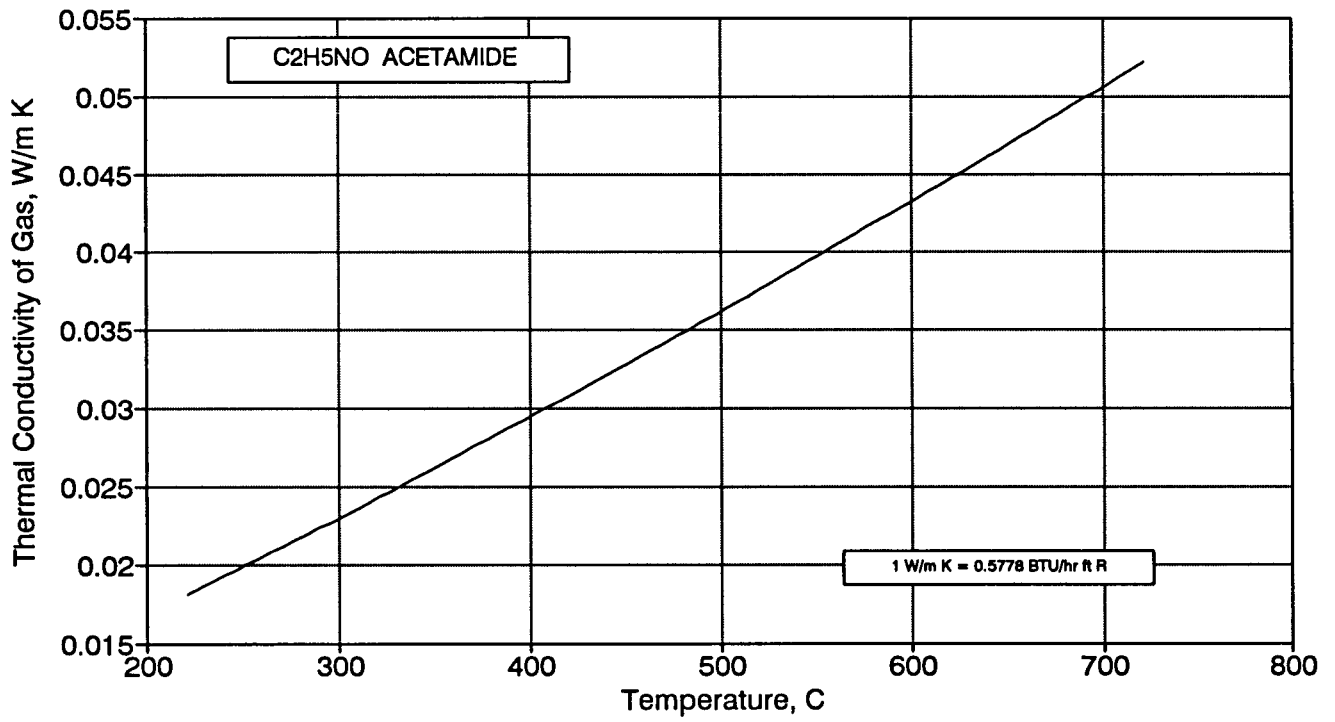


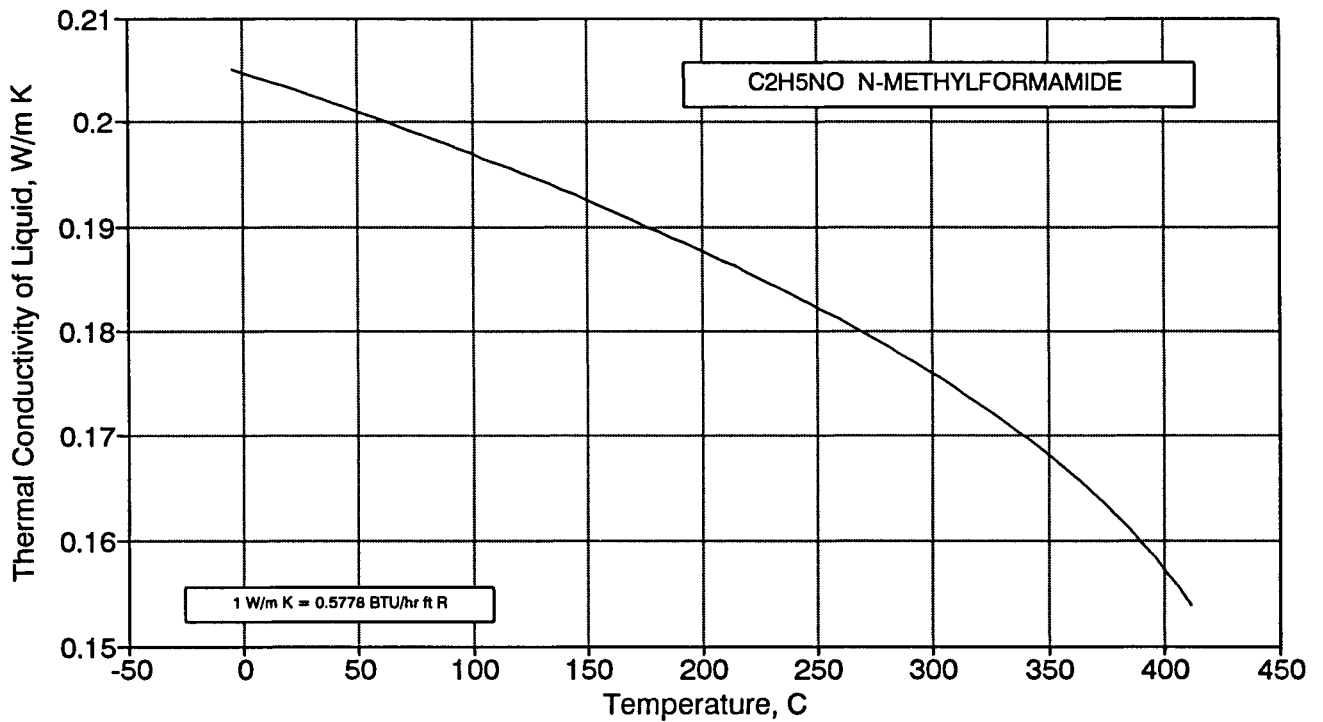
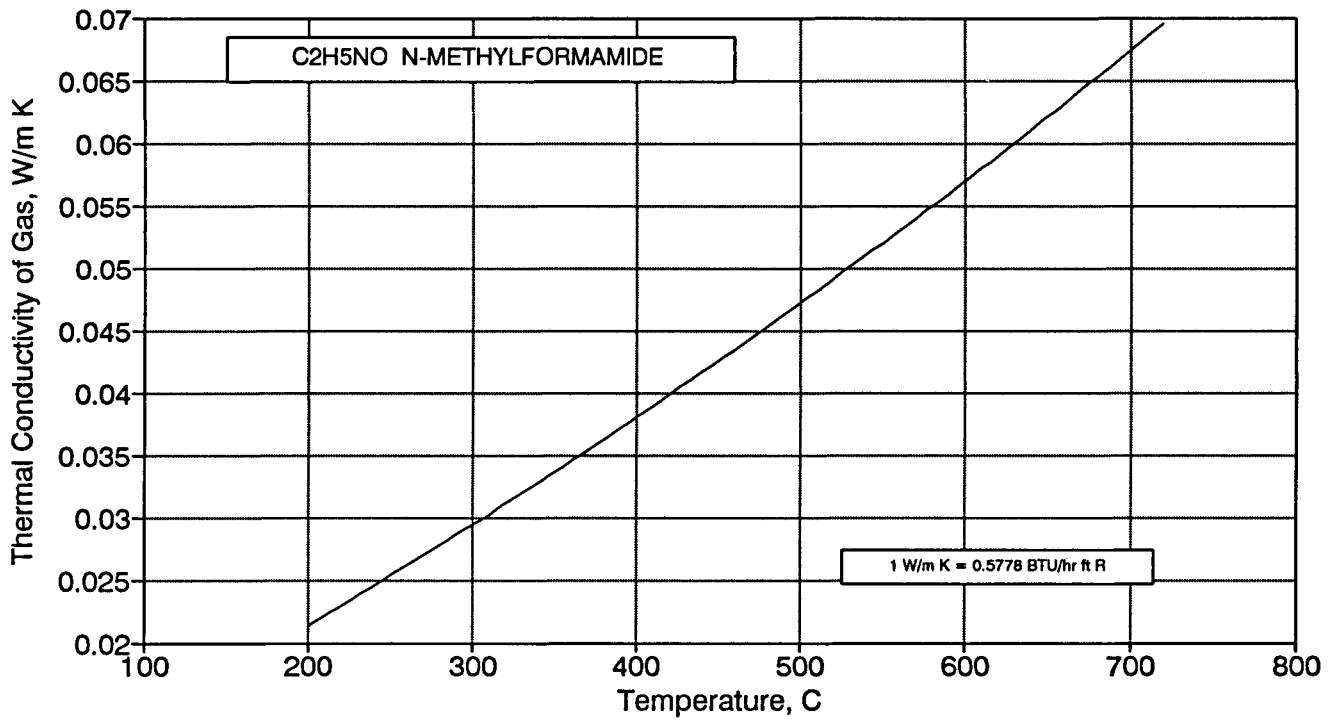


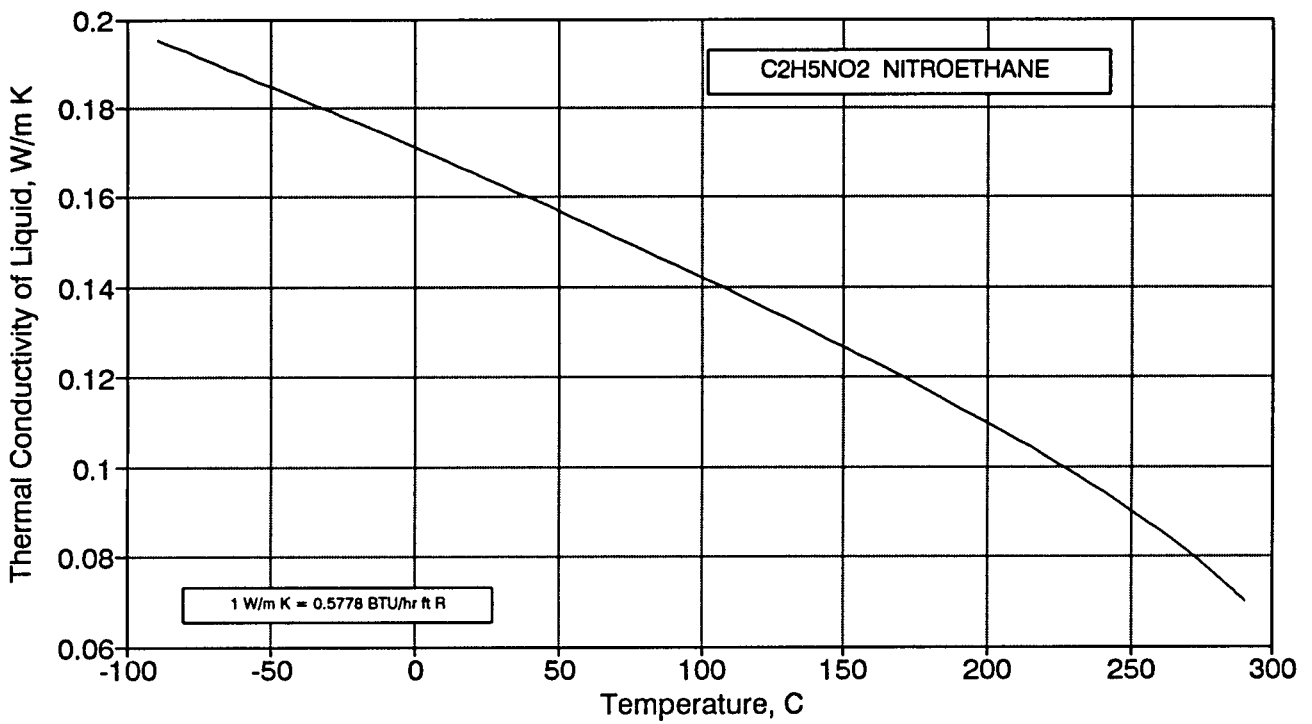
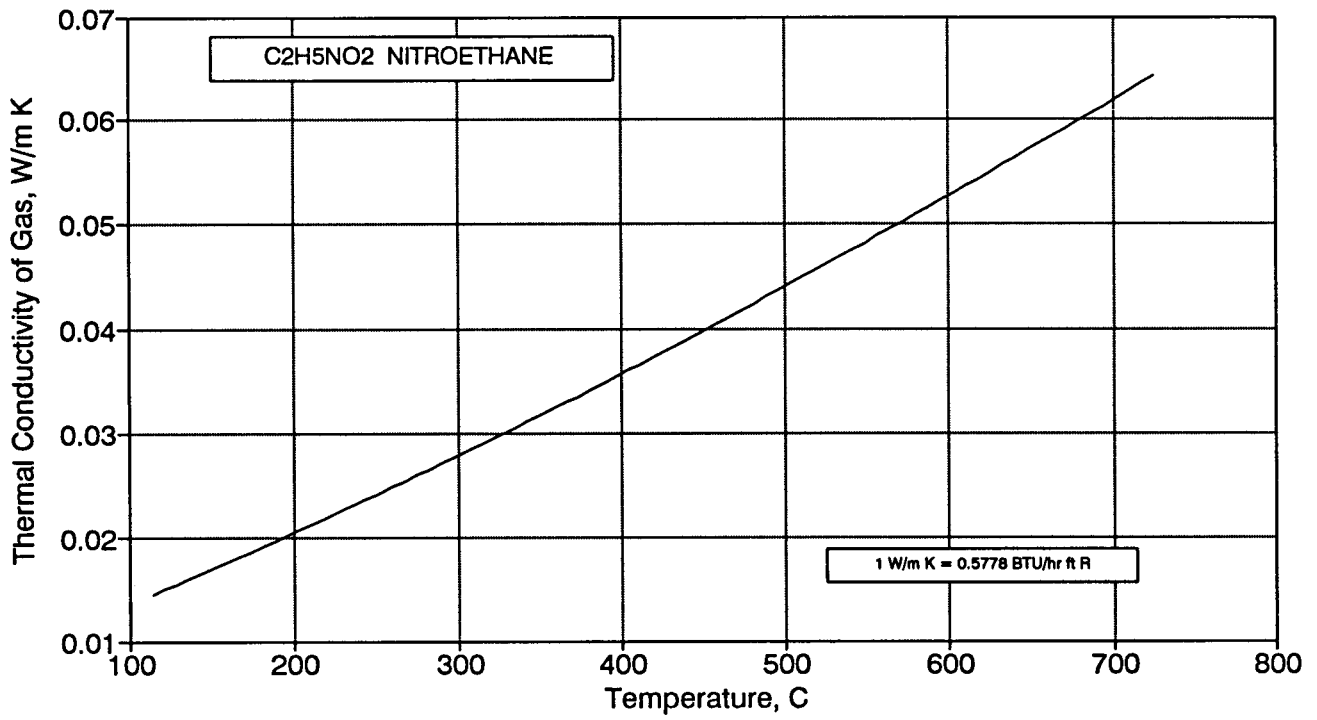


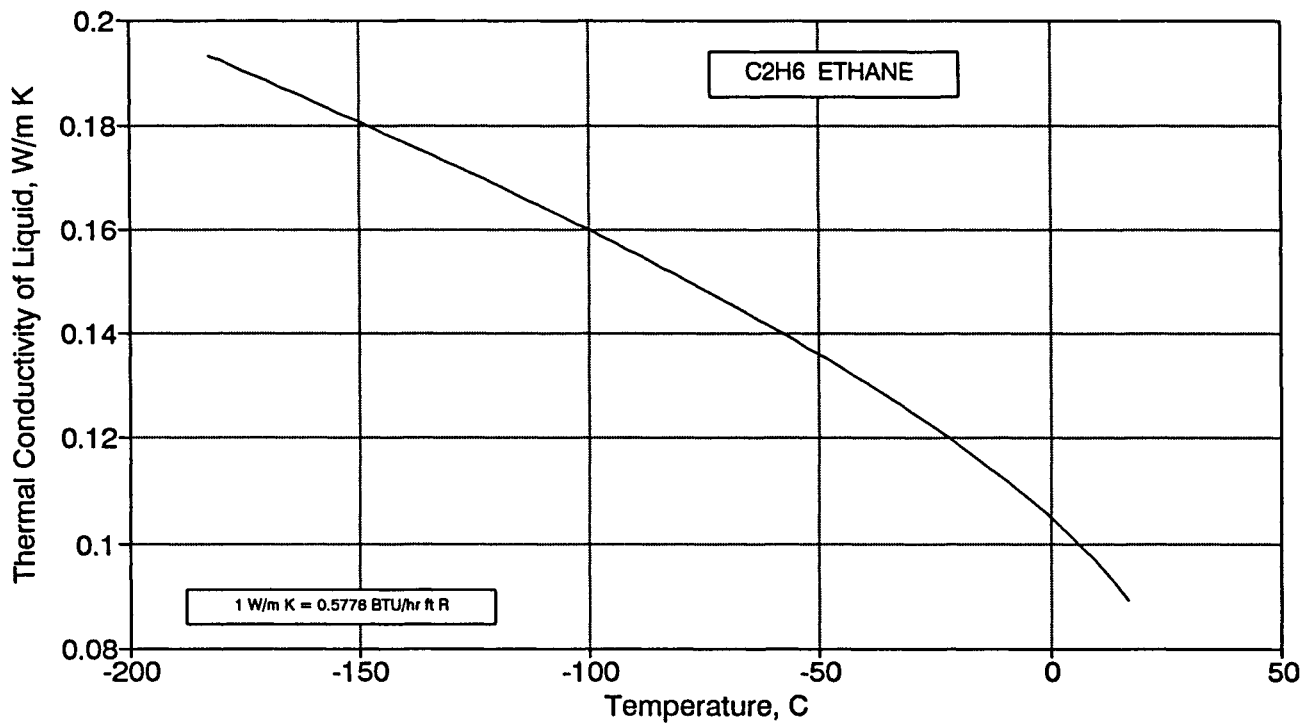
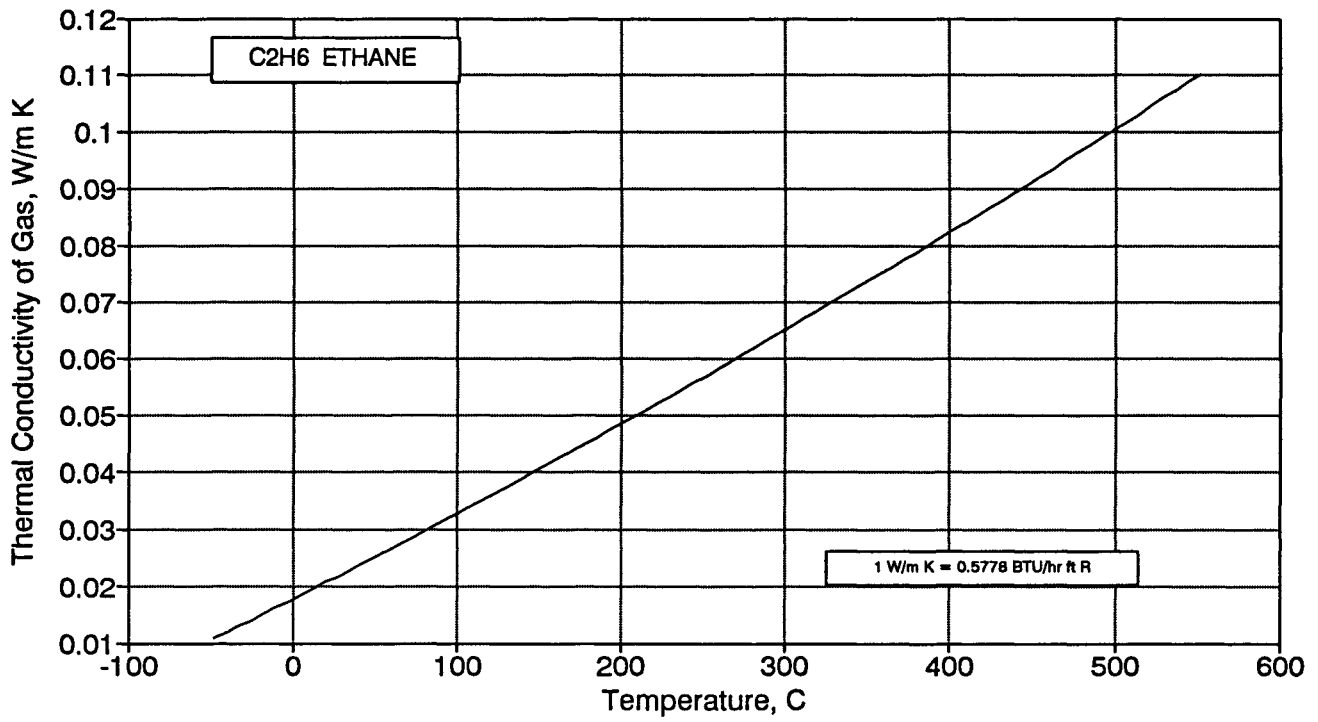


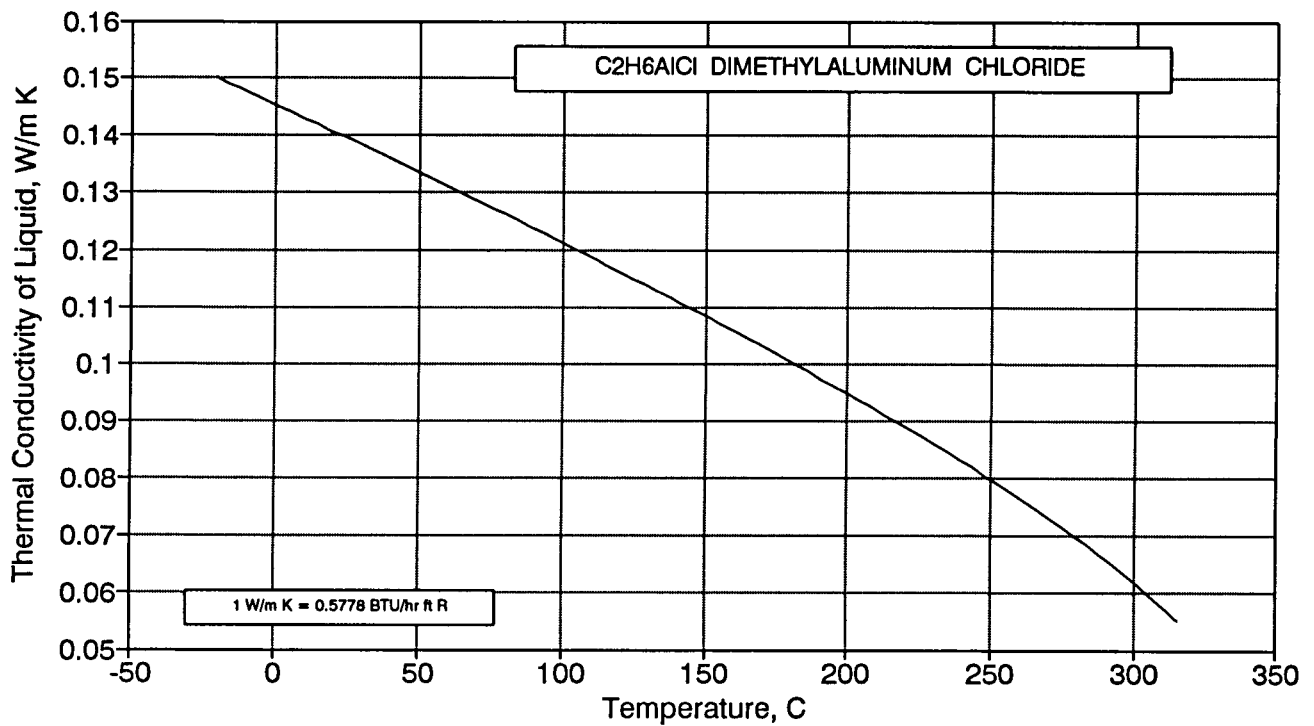
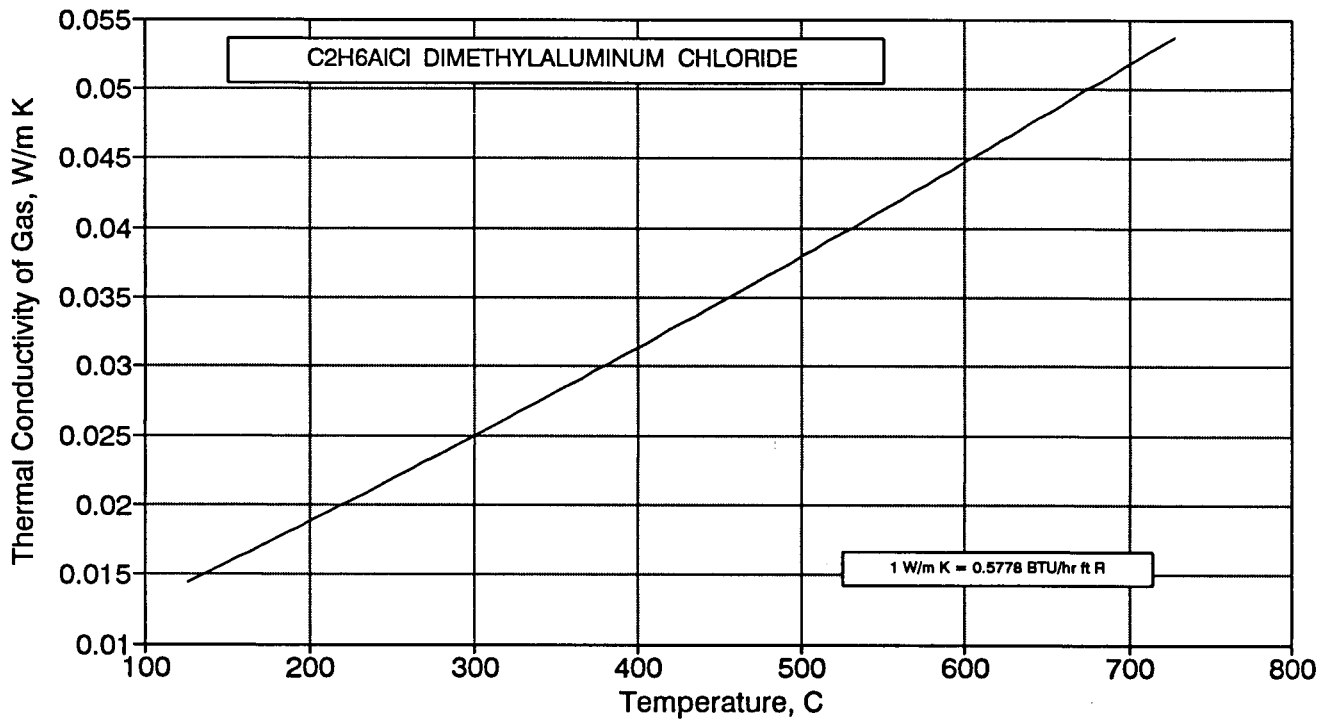


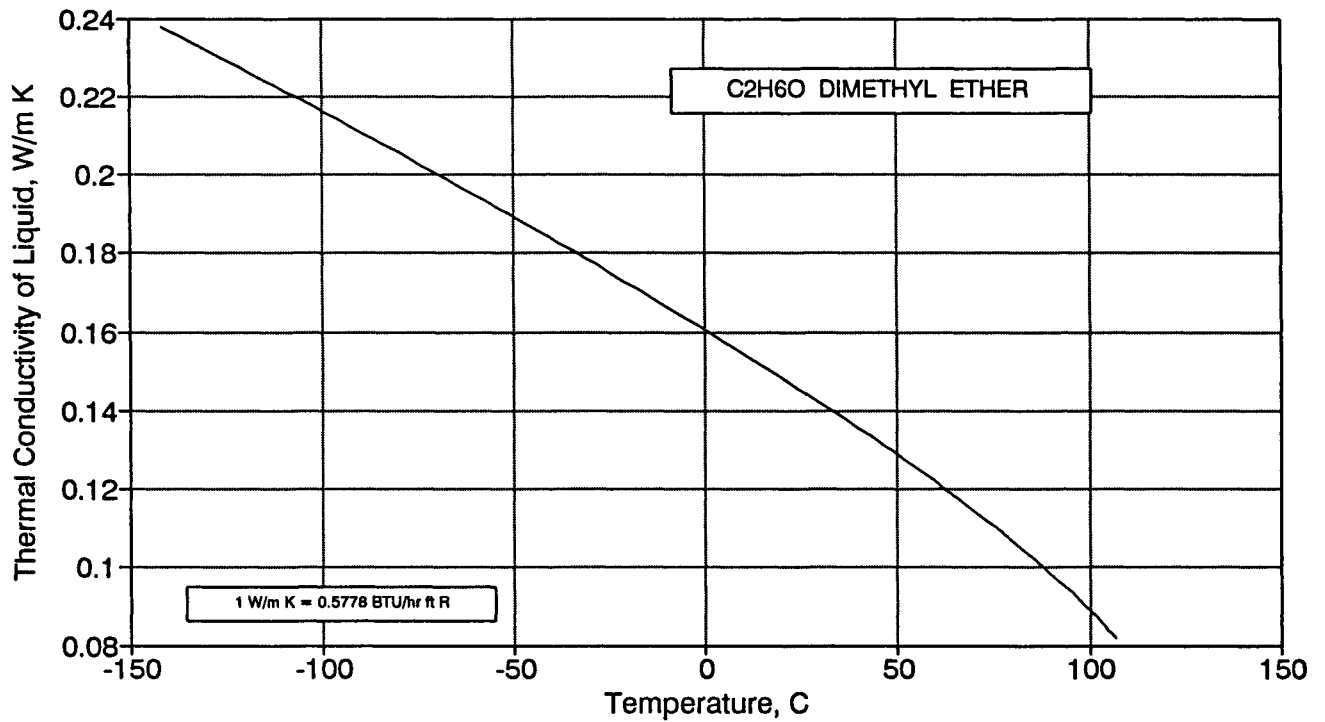
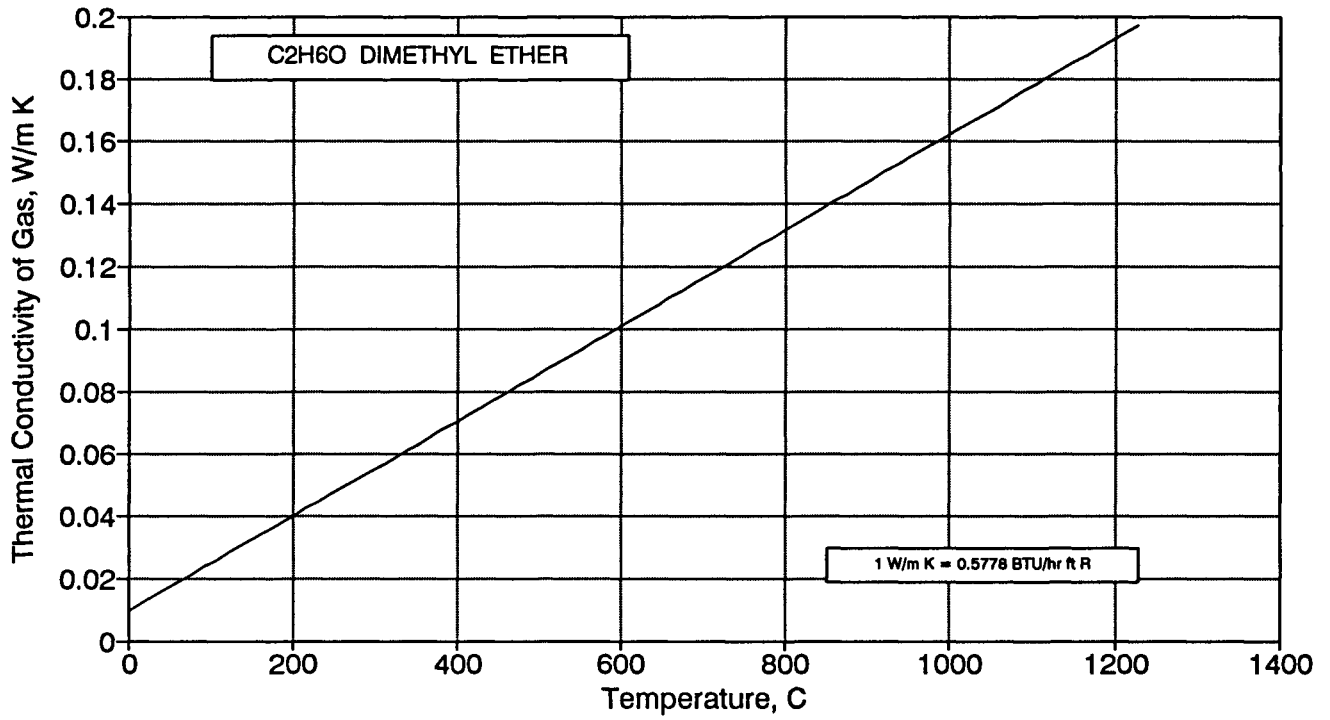




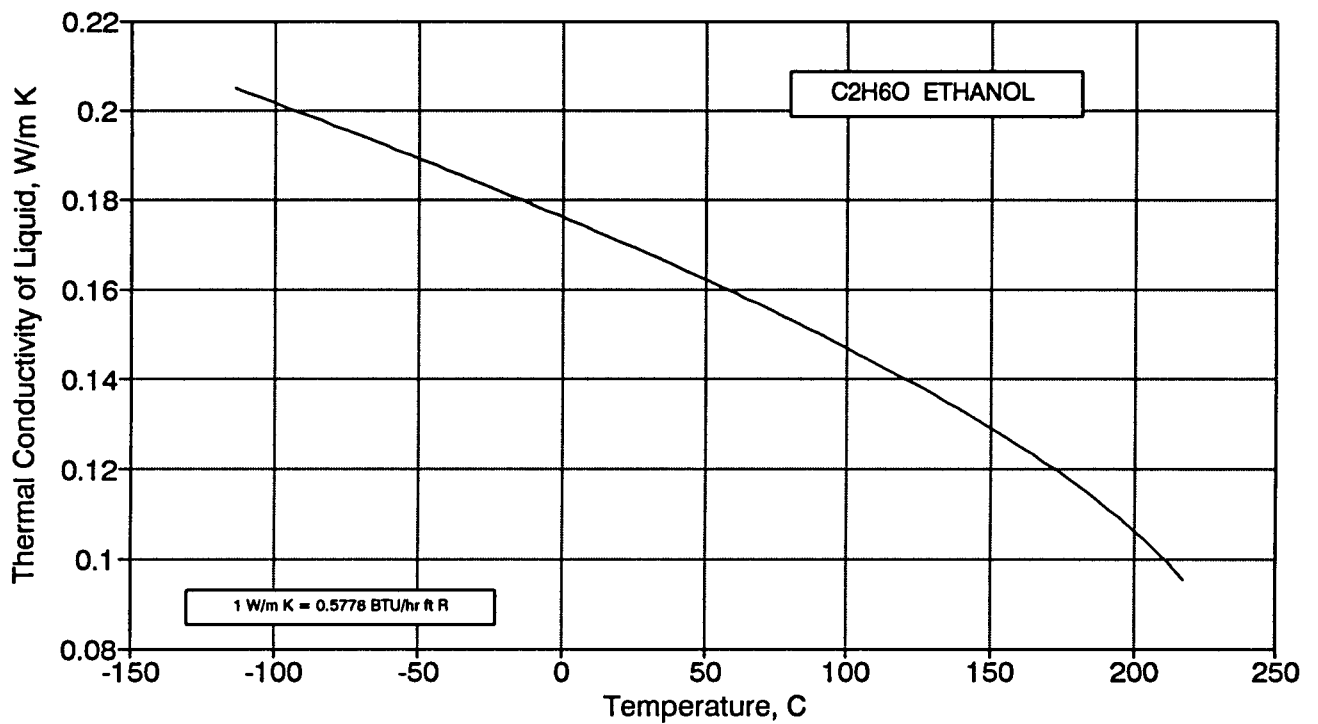
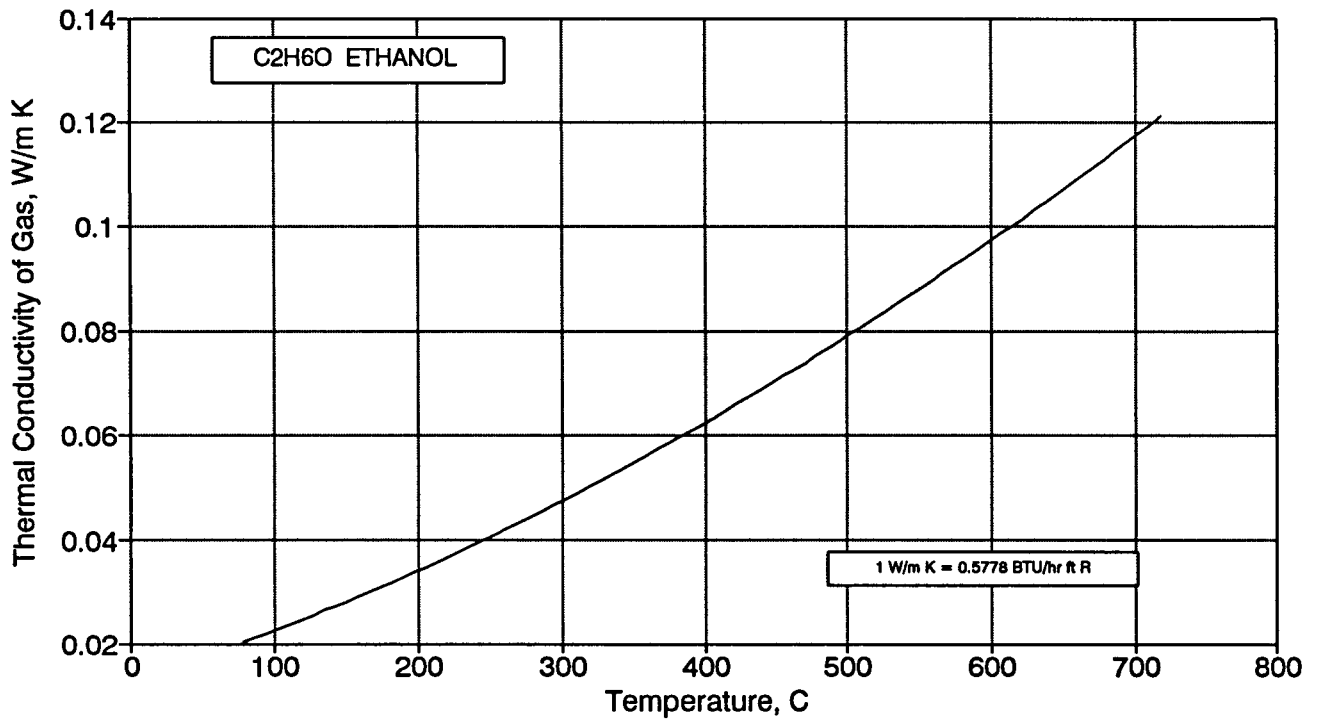


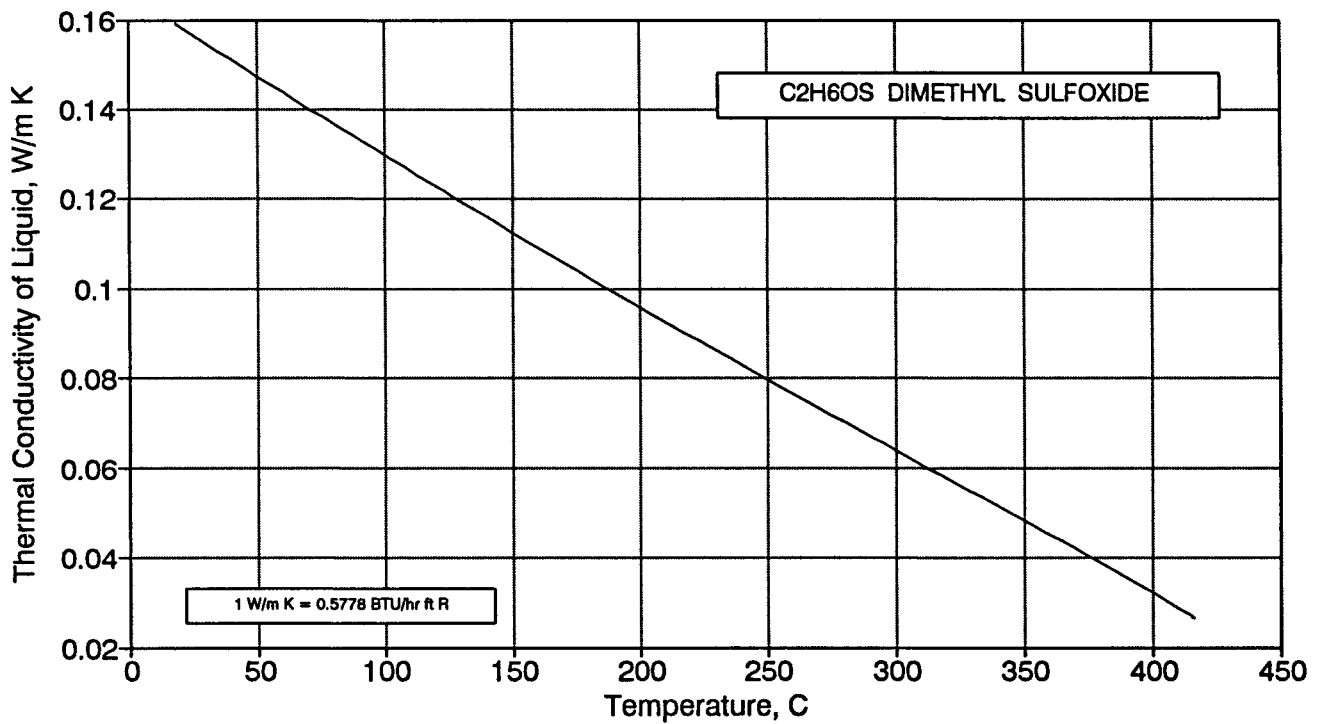
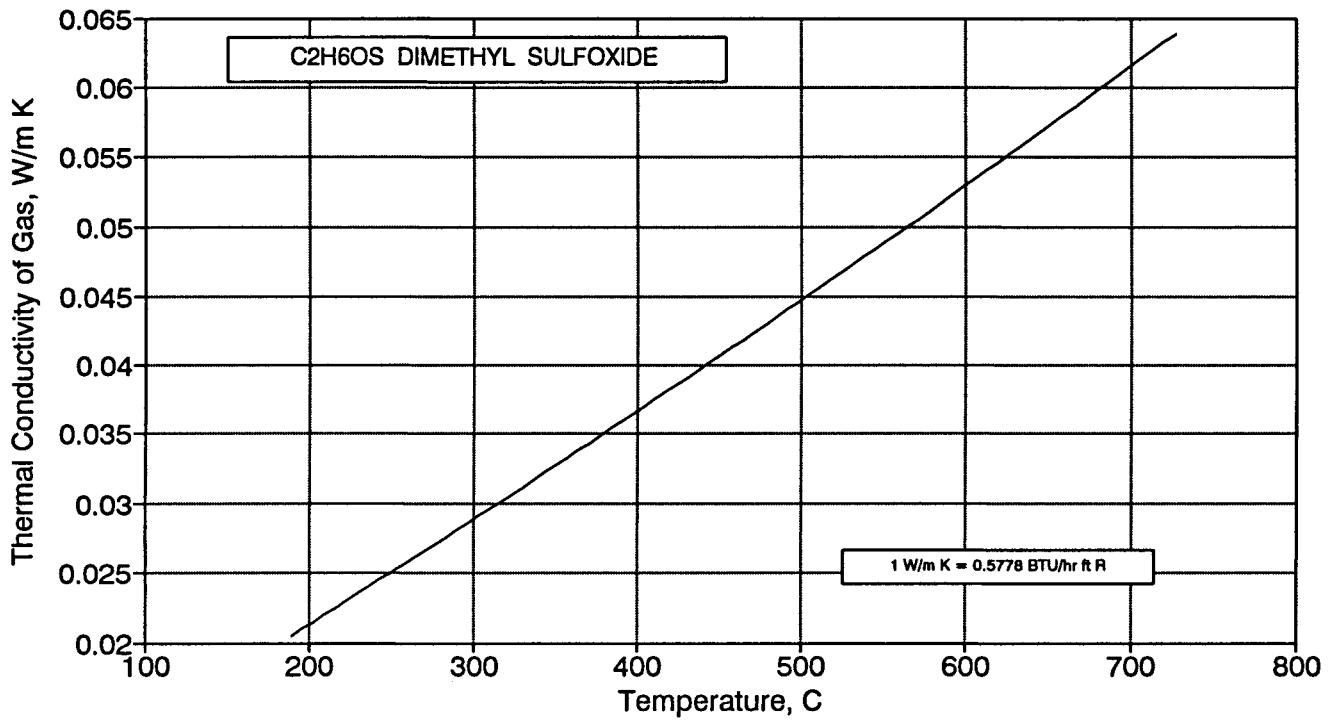


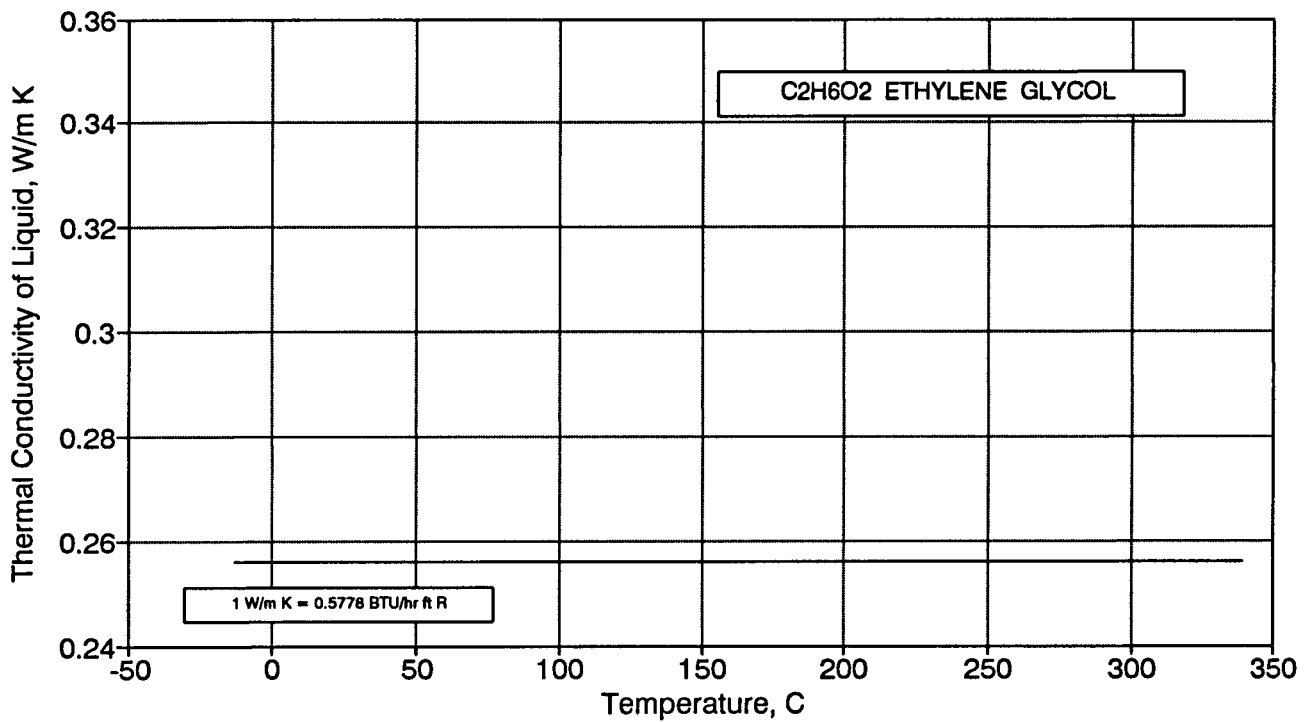
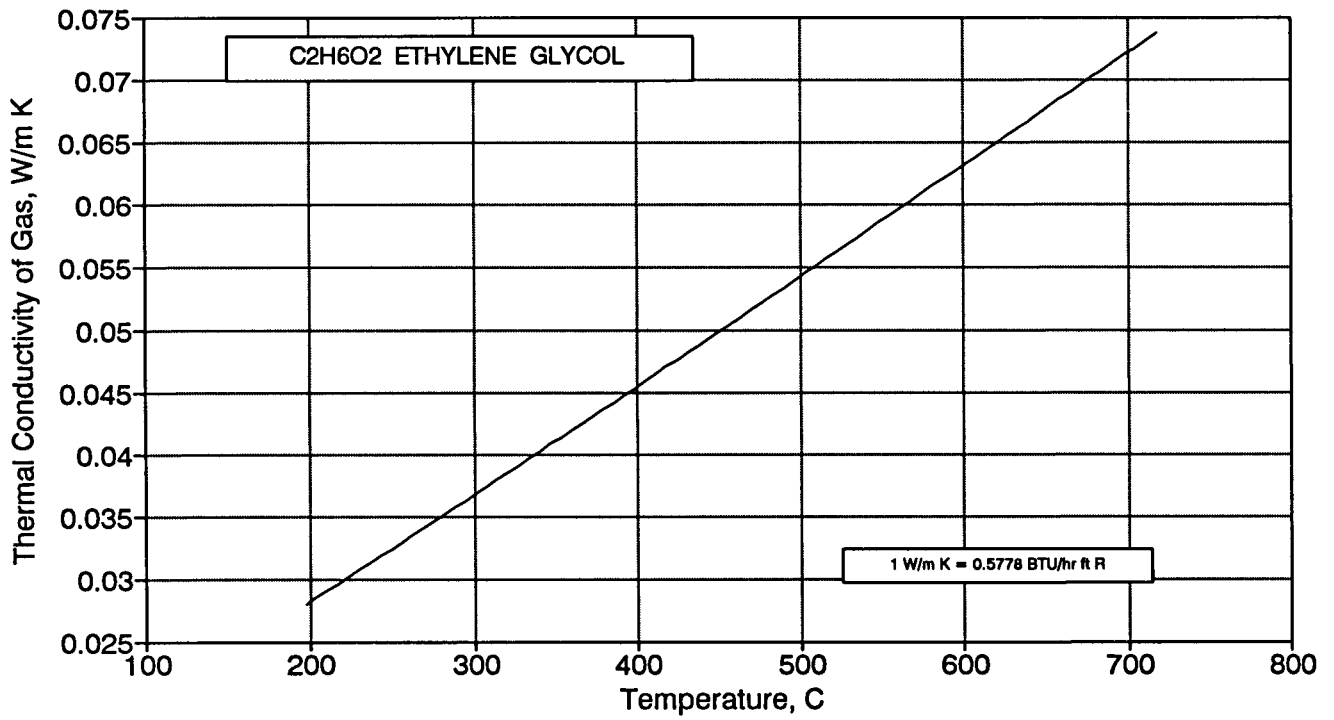










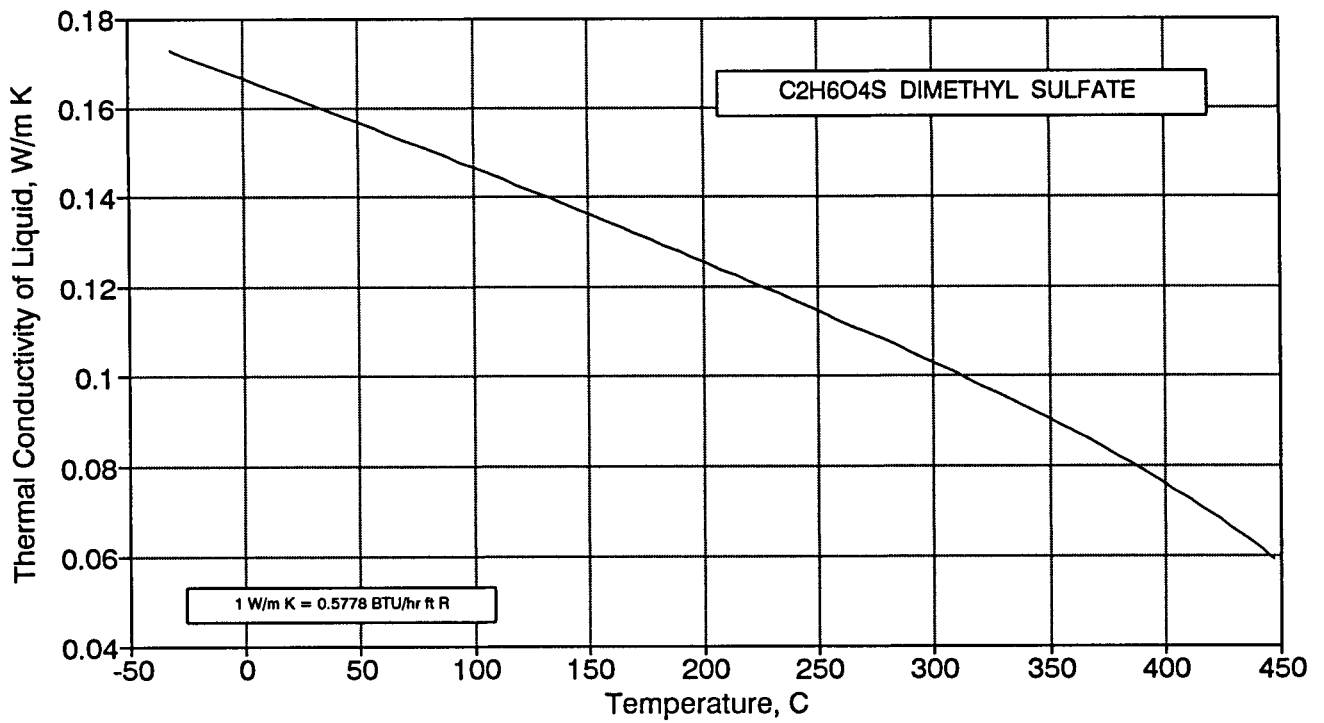


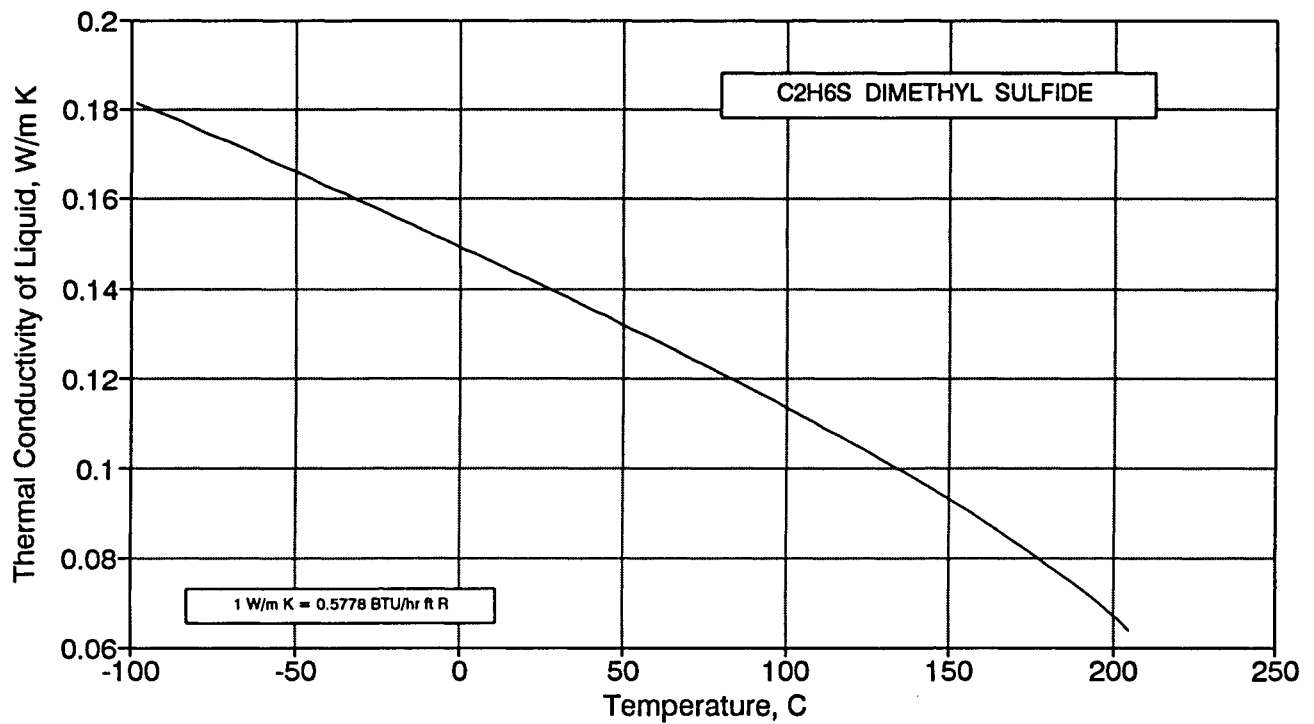
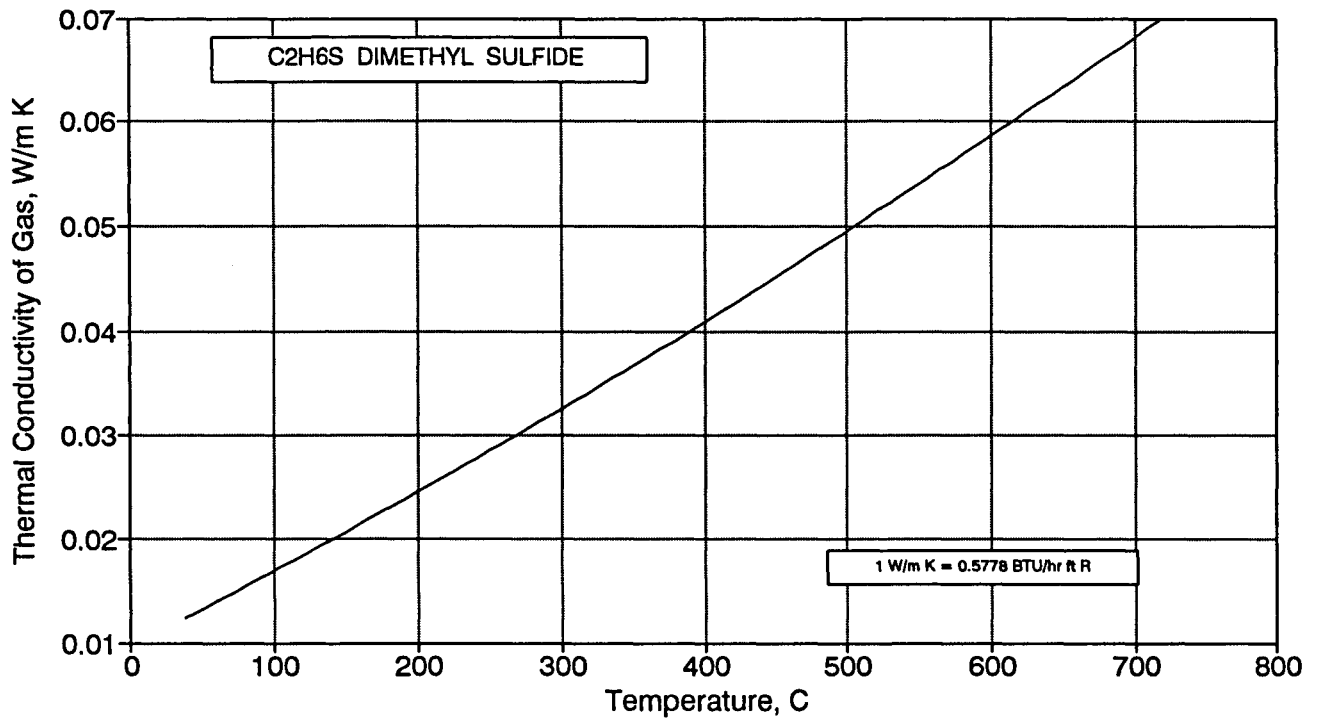
C<sub>2</sub>H<sub>6</sub>O<sub>4</sub>S DIMETHYL SULFATE

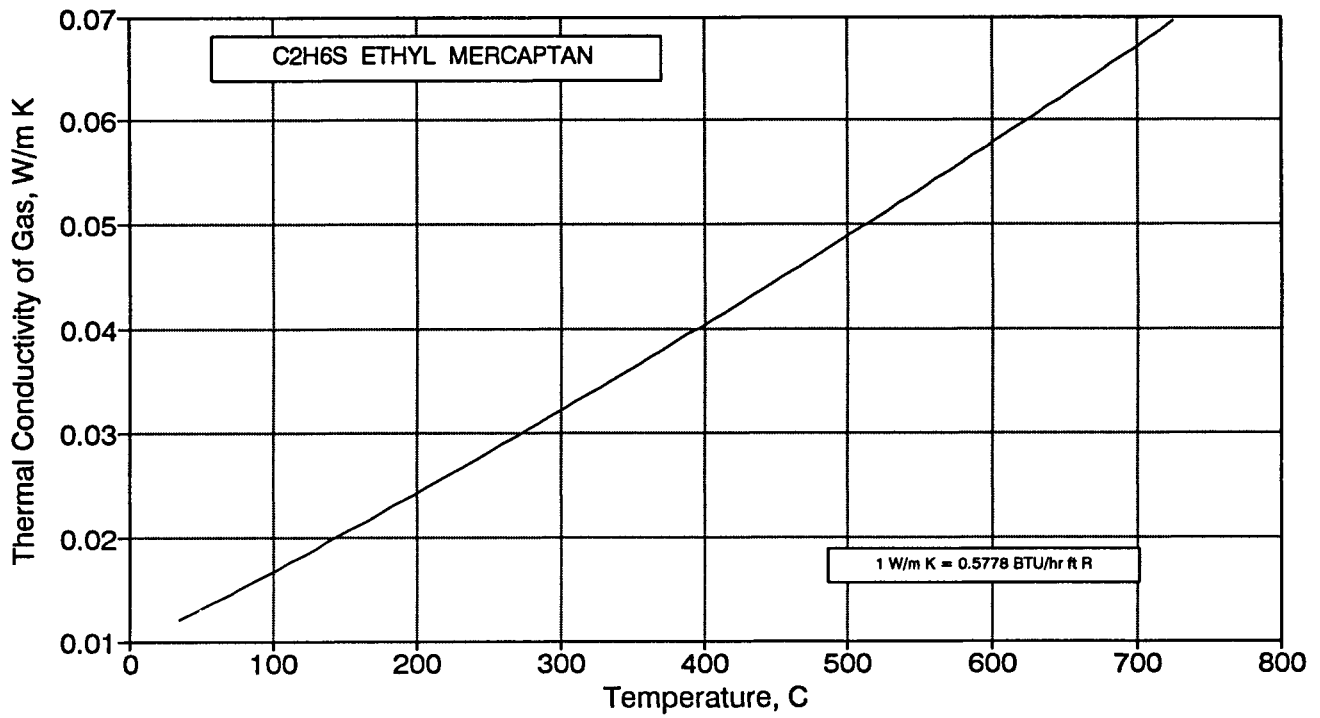
Gas thermal conductivity data are not available .

TF , K = 241.35

TB , K = 461.95

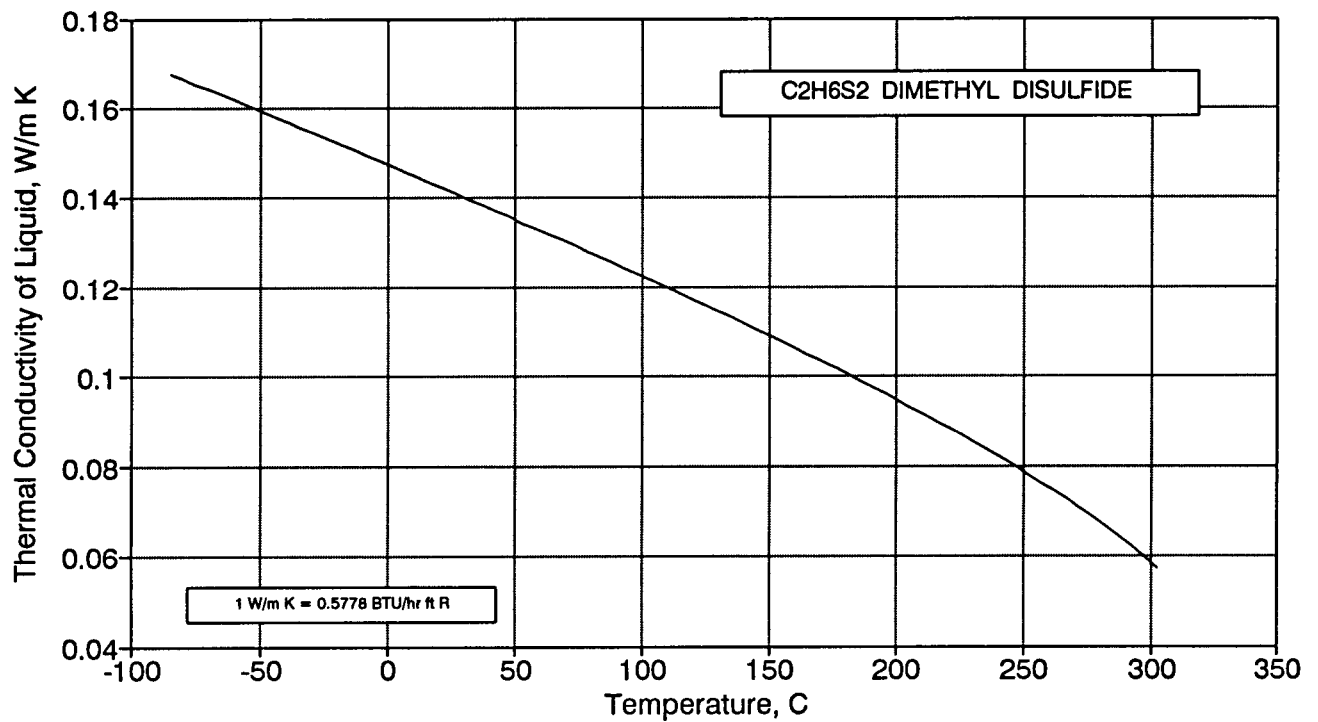
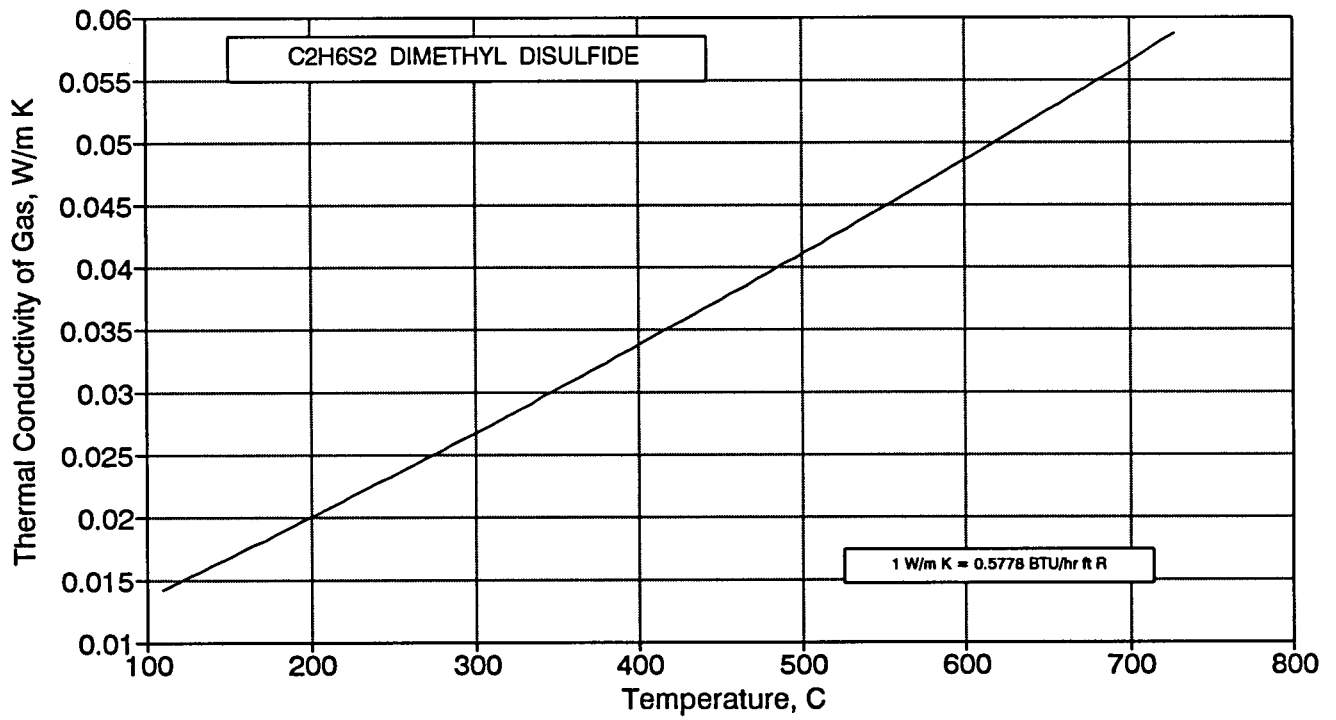


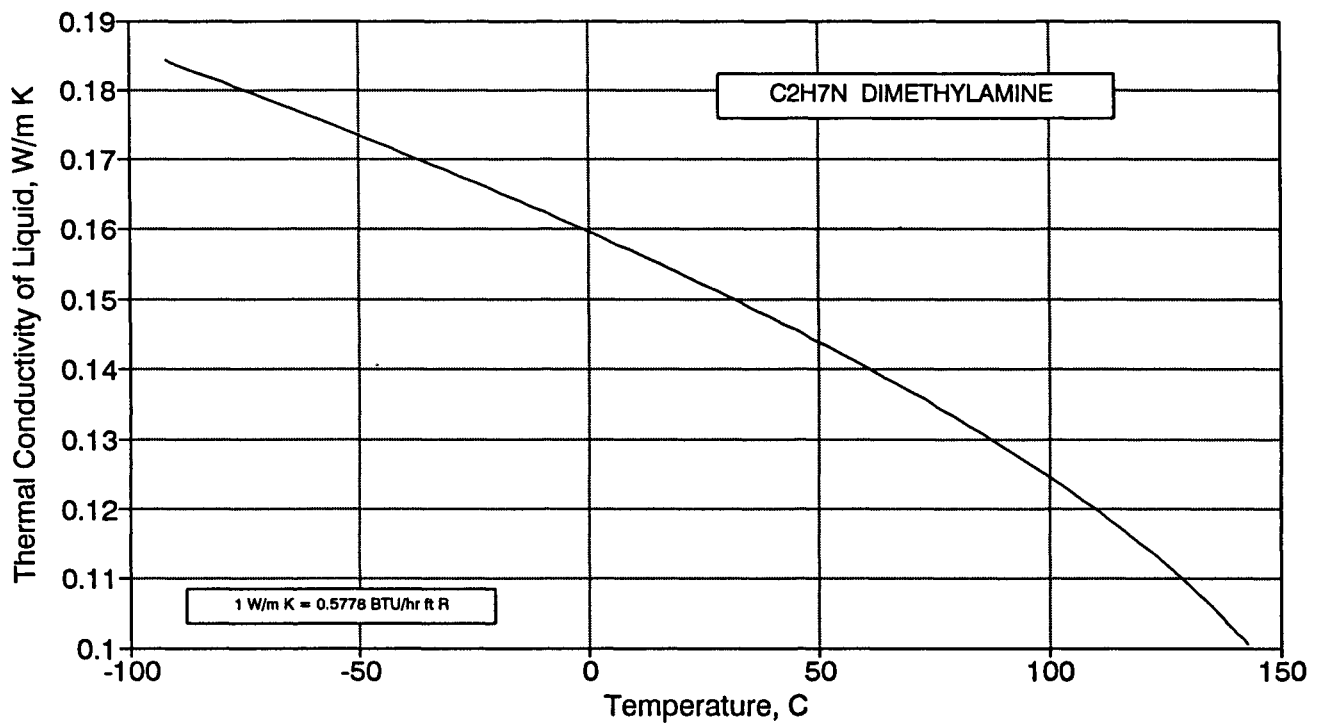
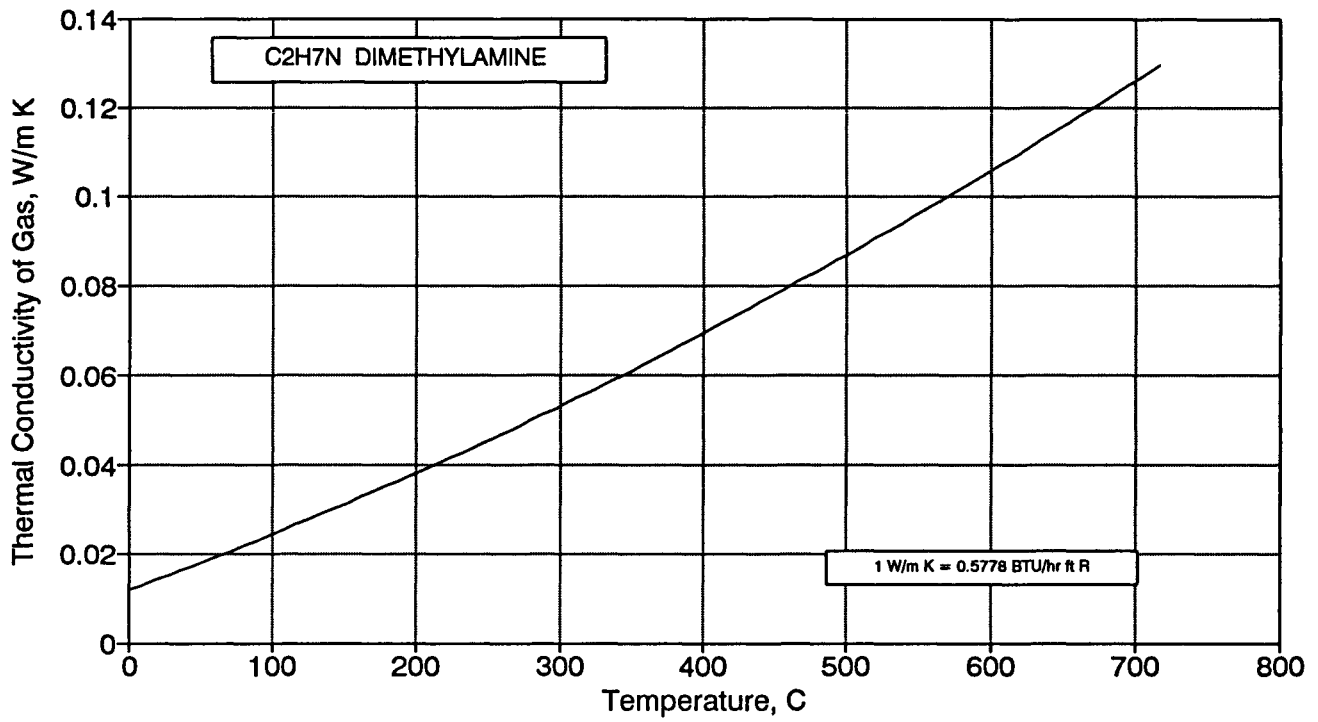




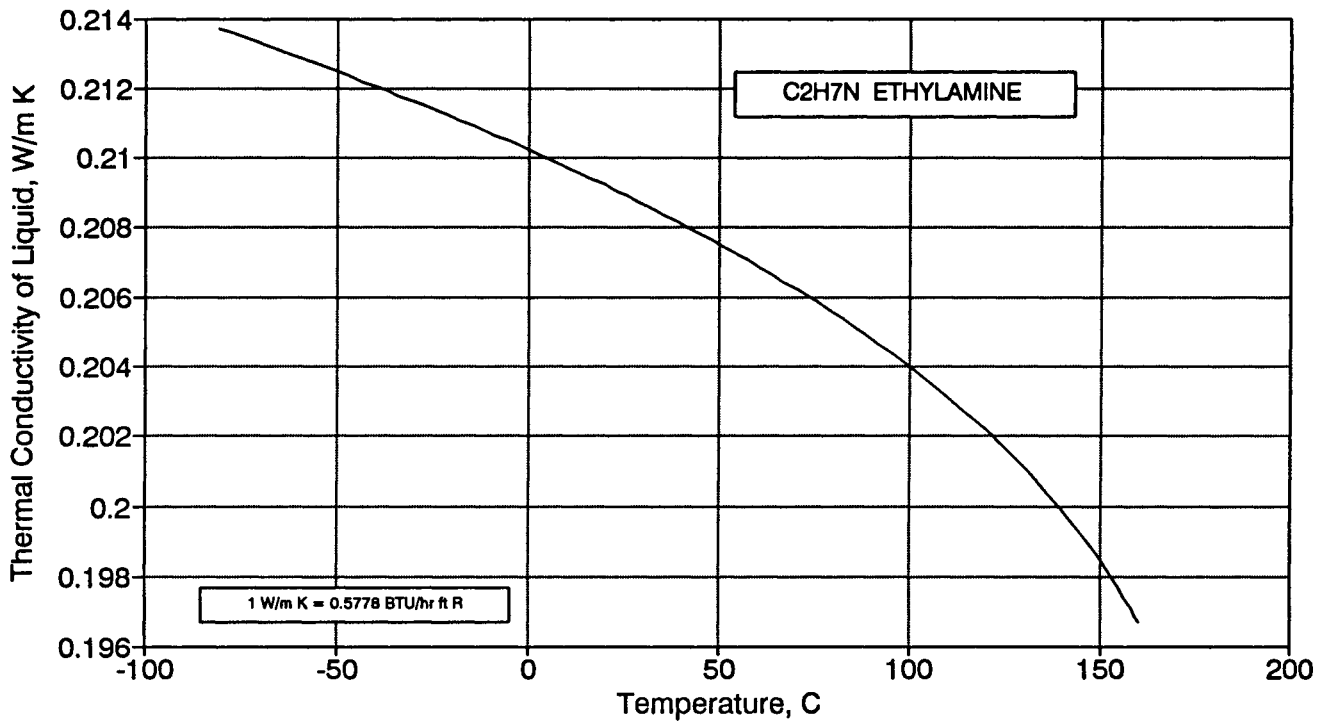
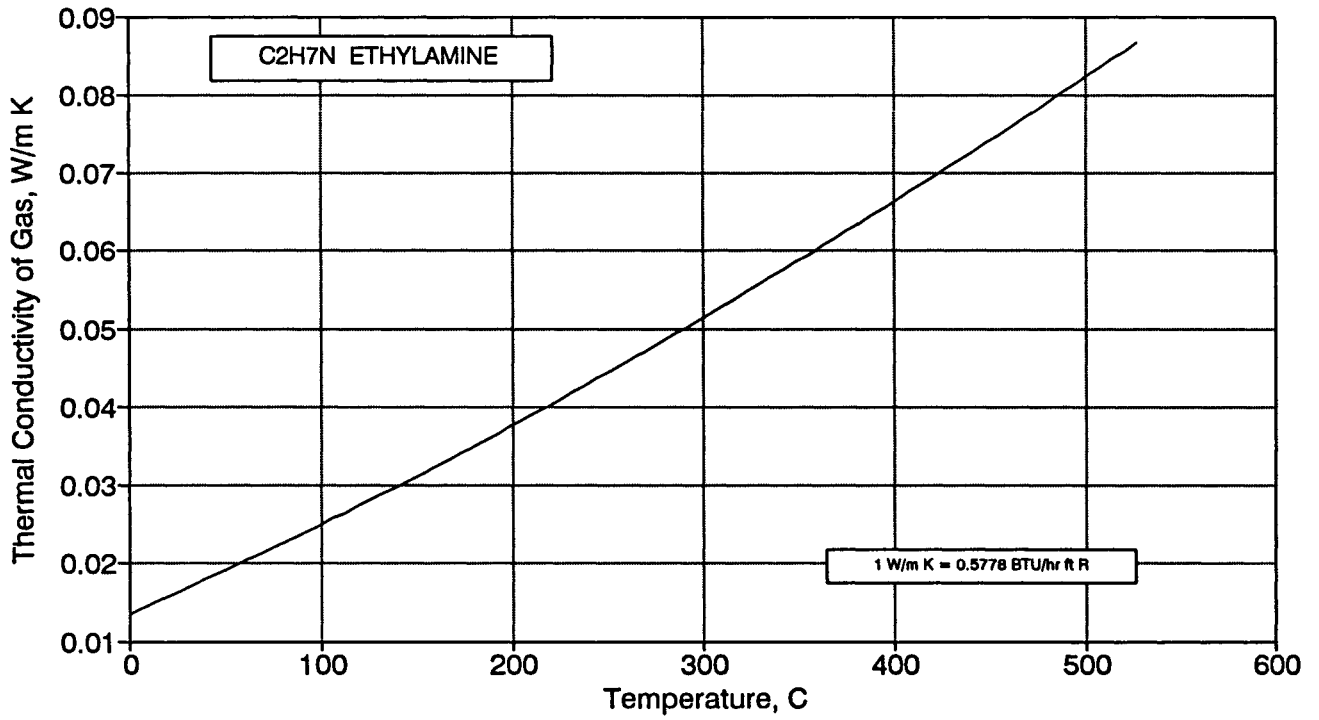
C<sub>2</sub>H<sub>6</sub>S ETHYL MERCAPTAN

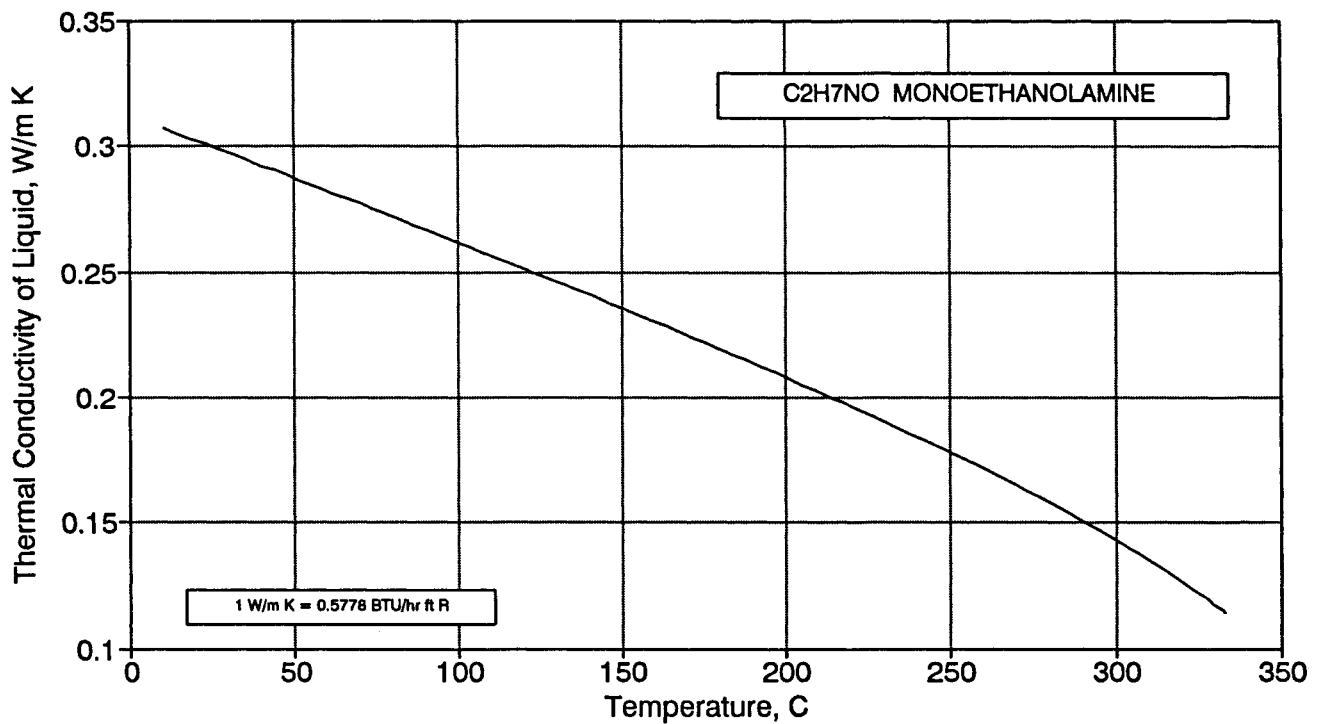
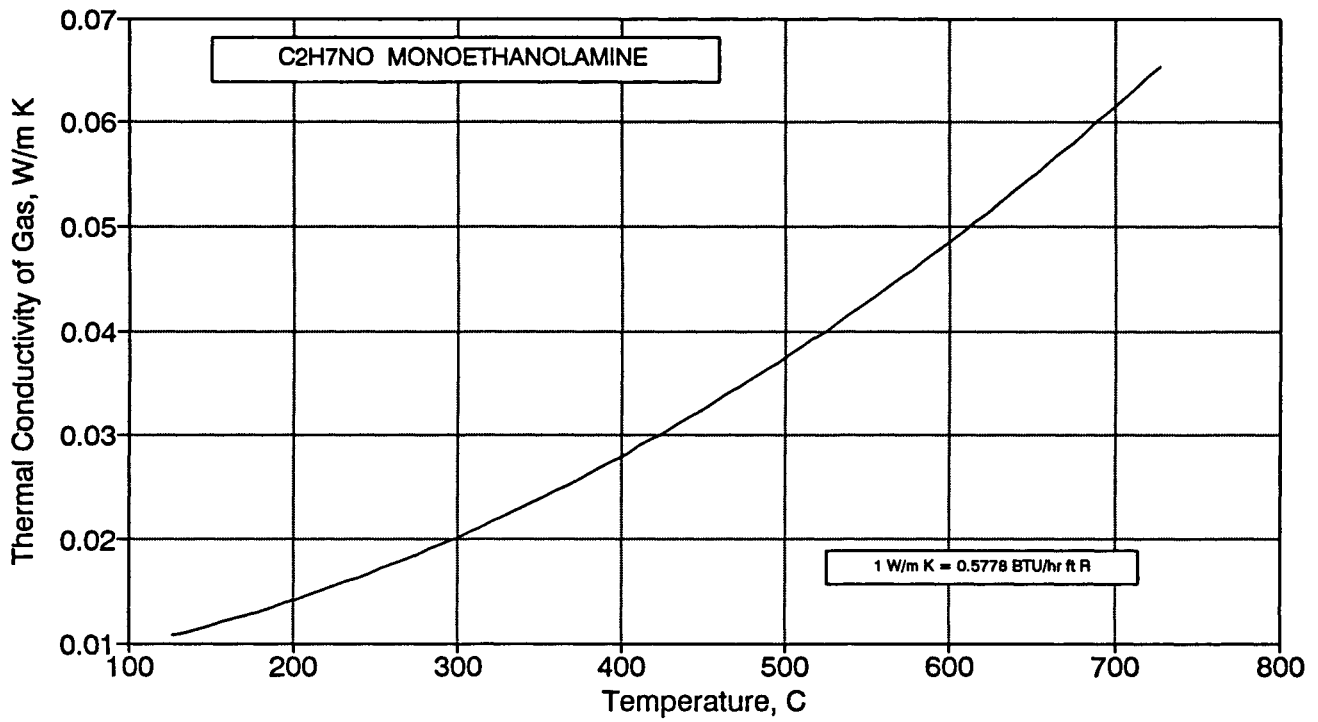
Liquid thermal conductivity data are not available .

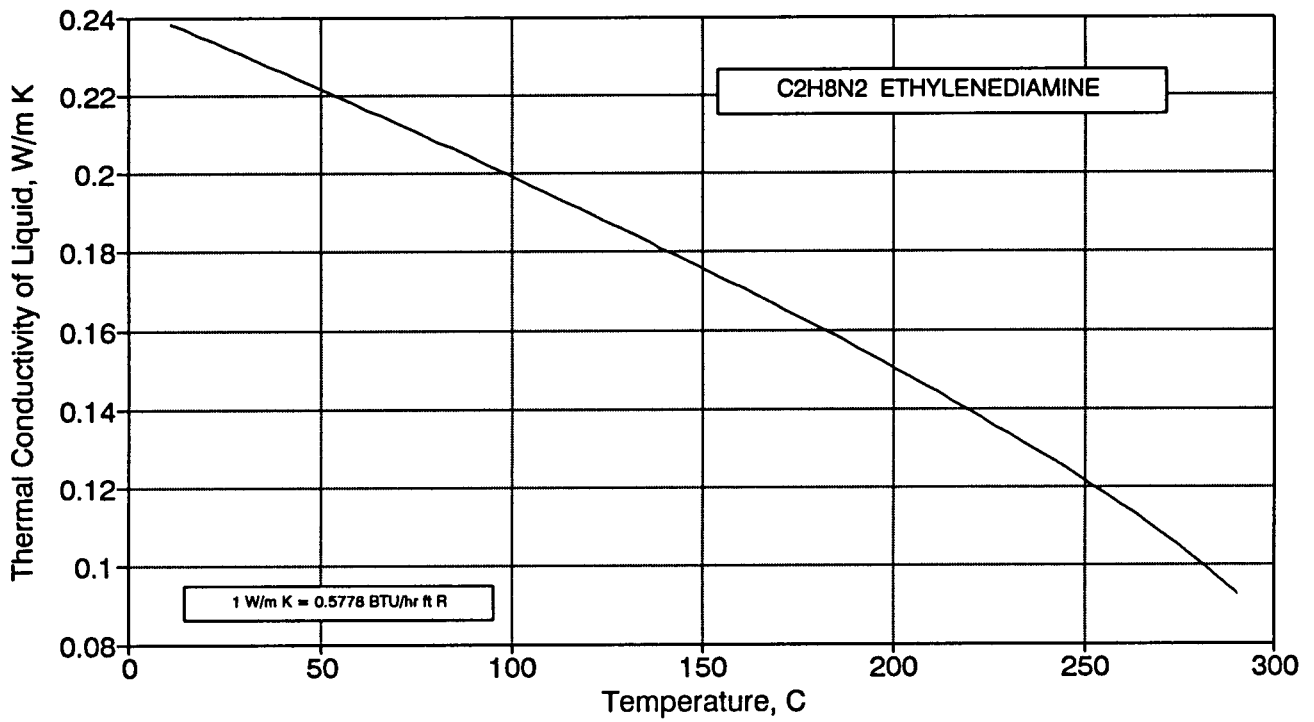
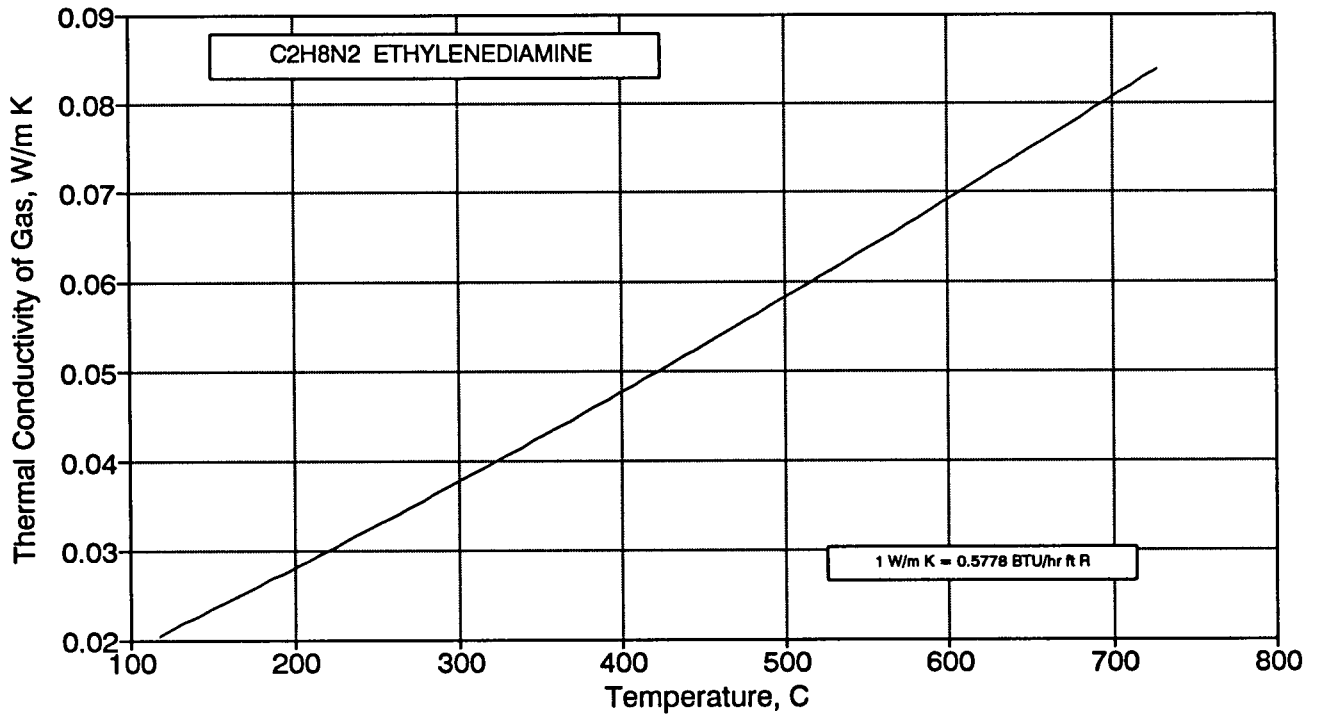


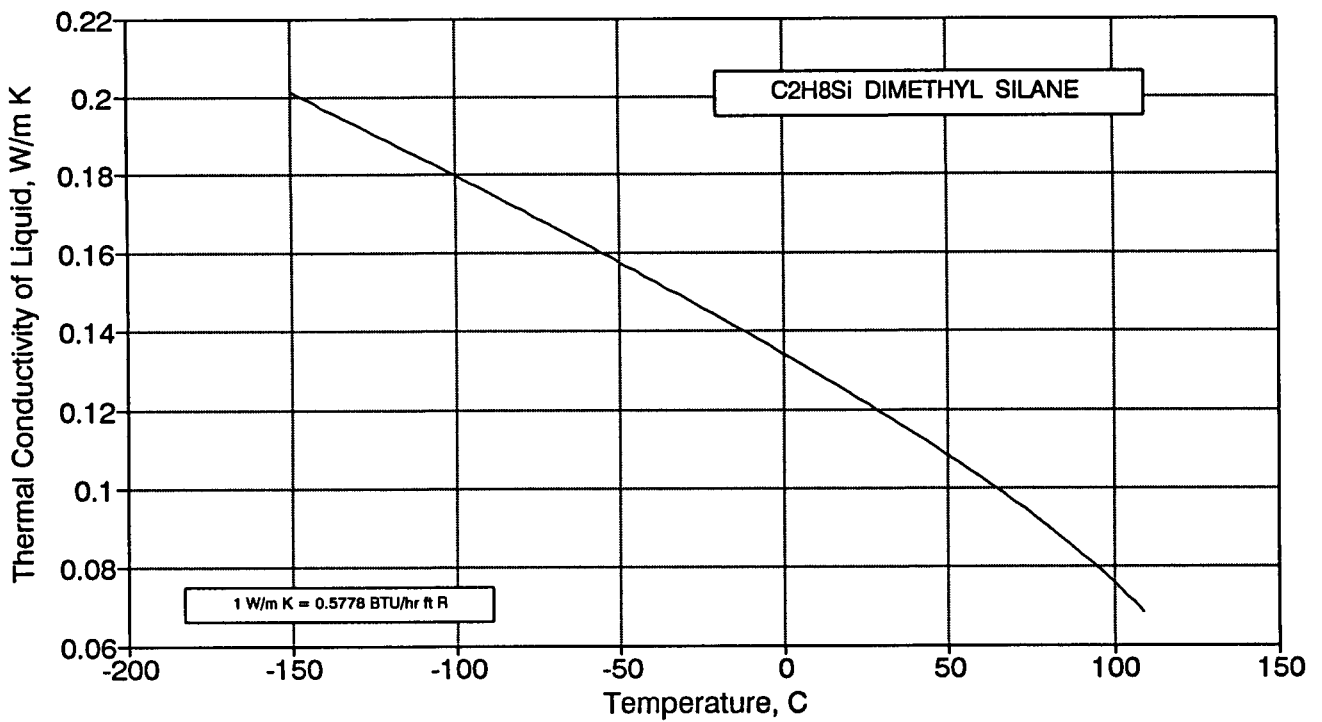
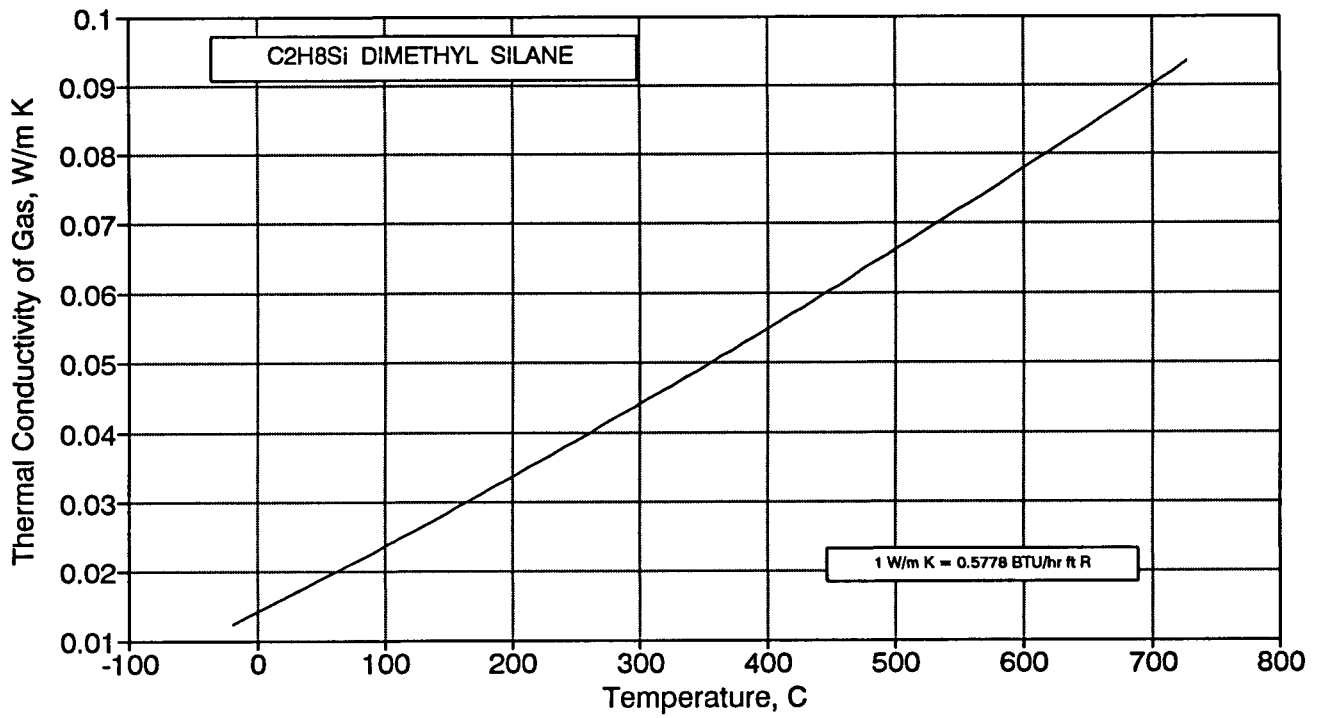


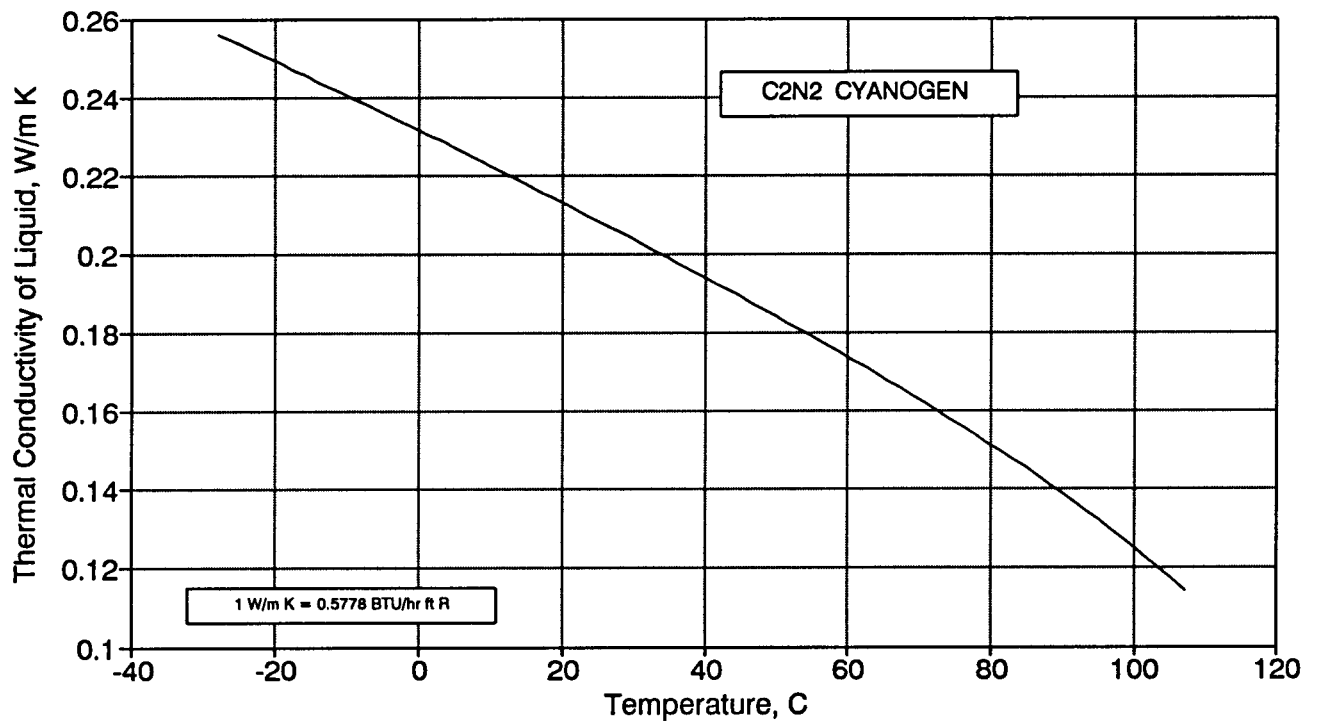
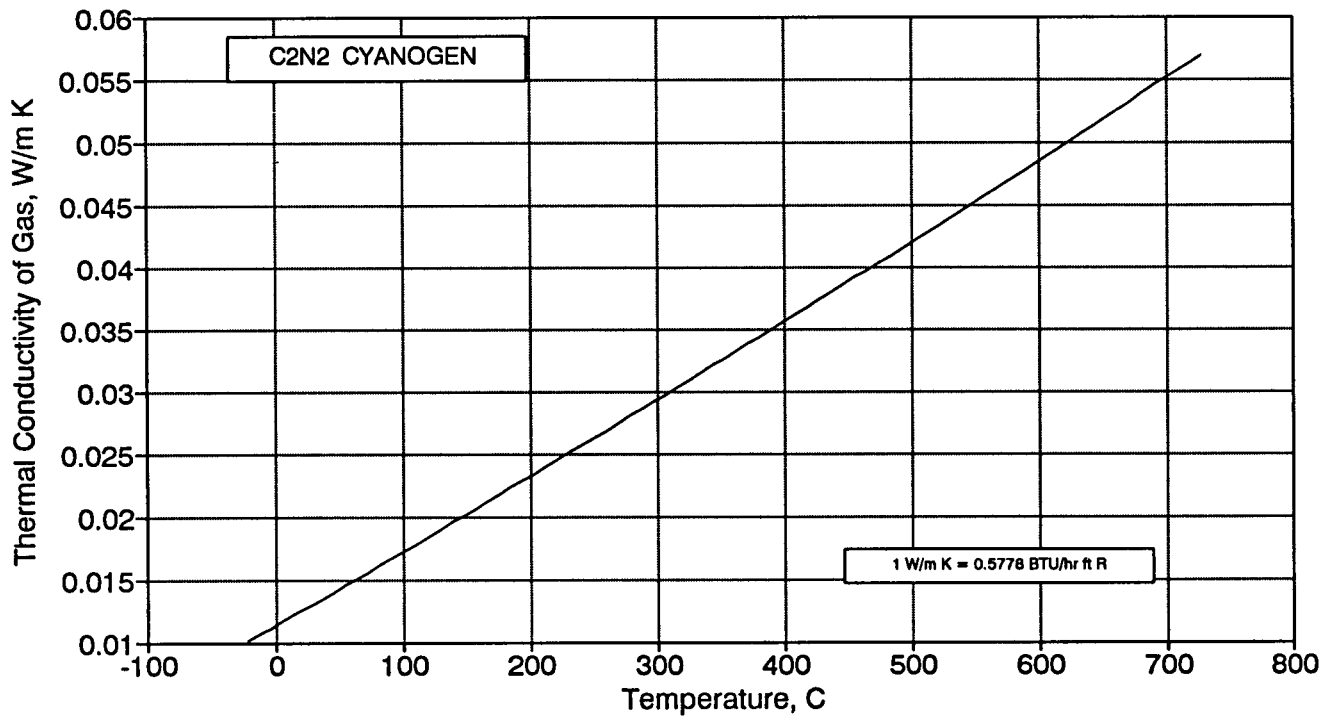


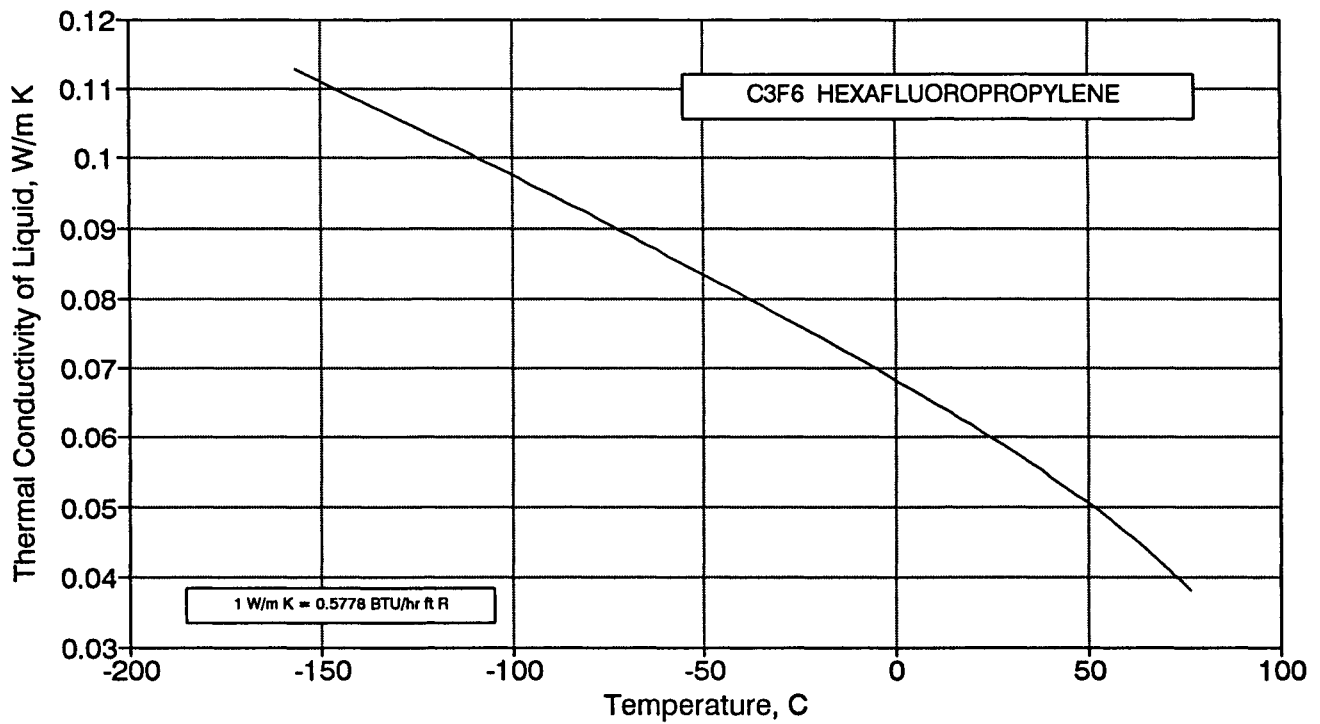
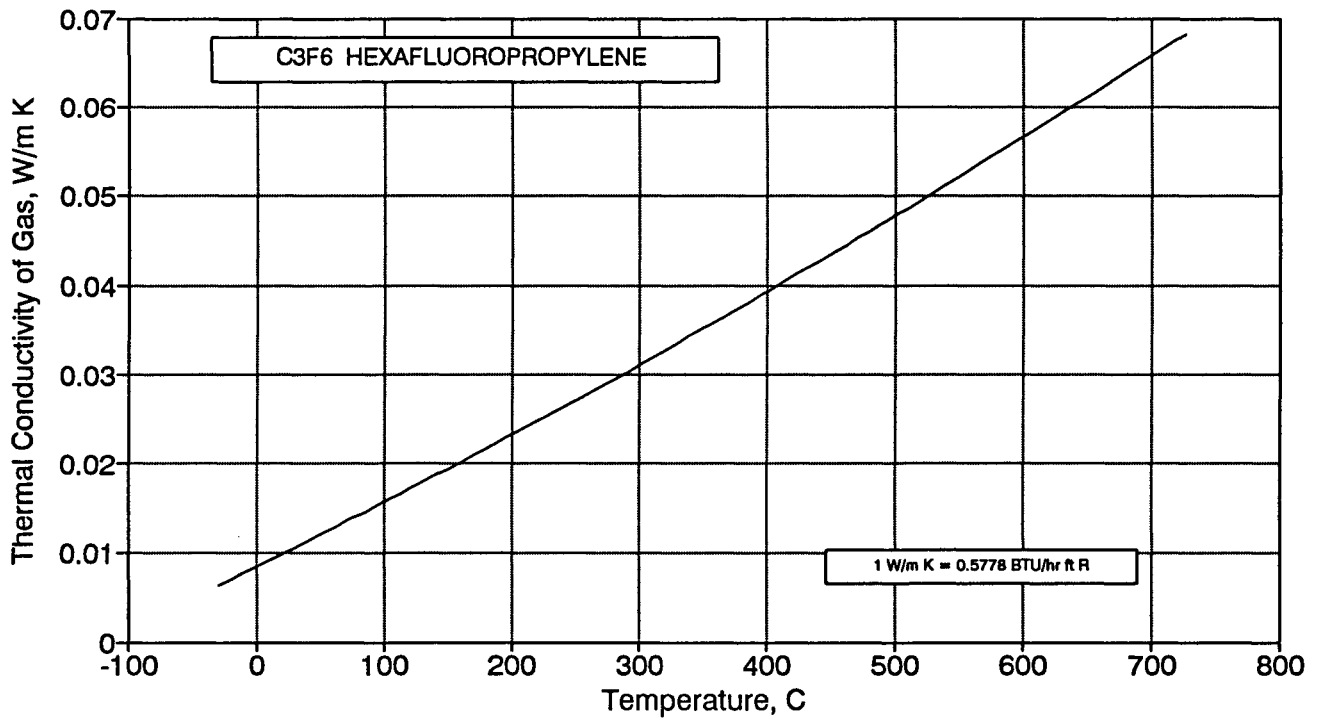


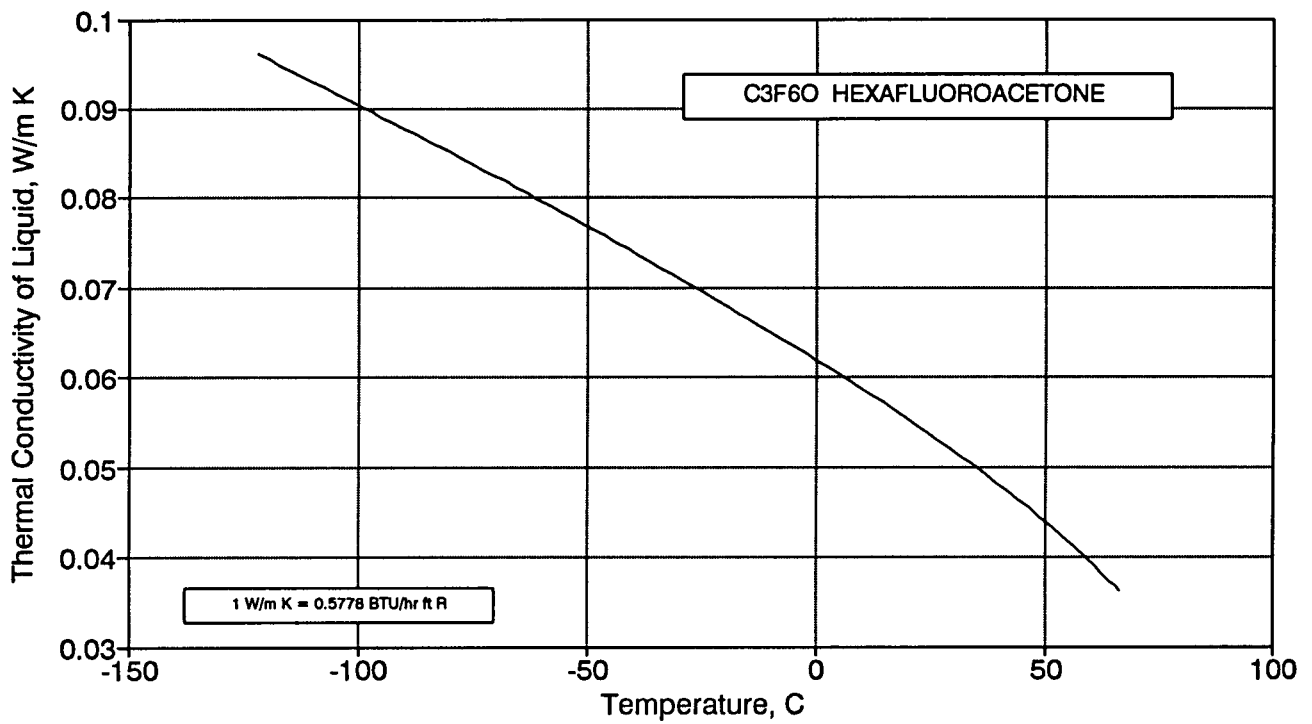
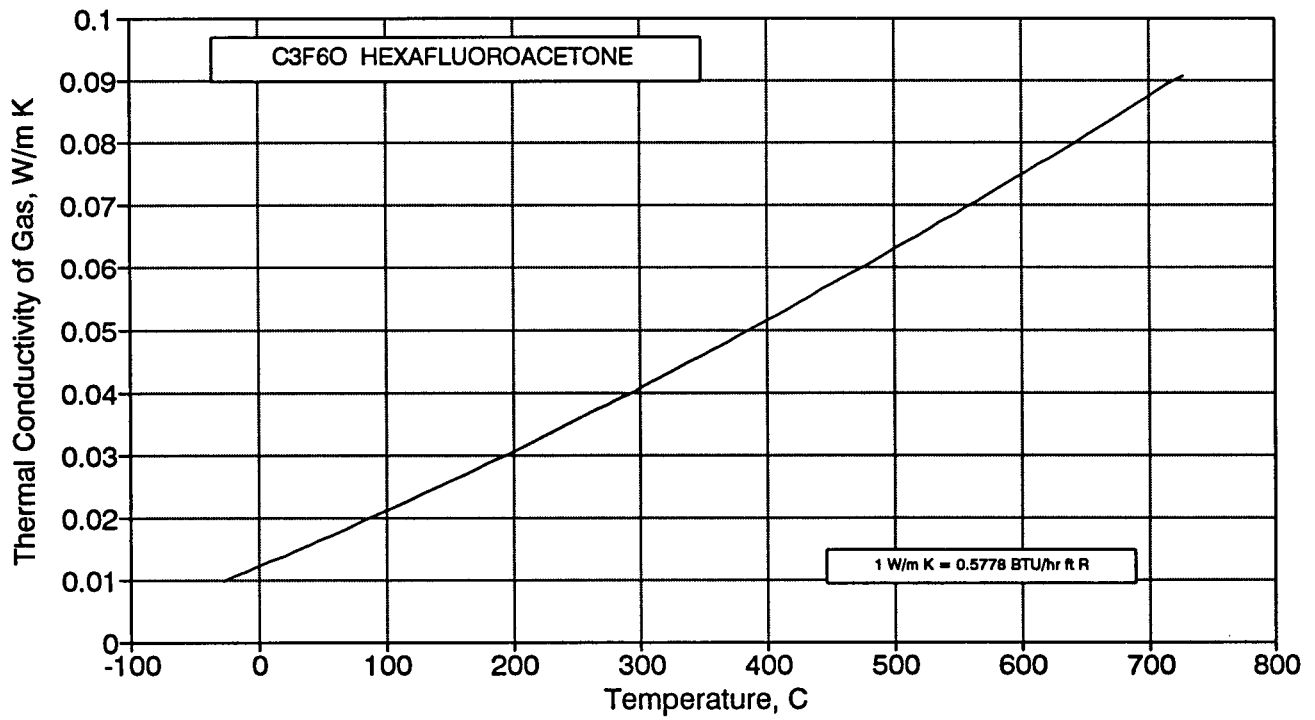


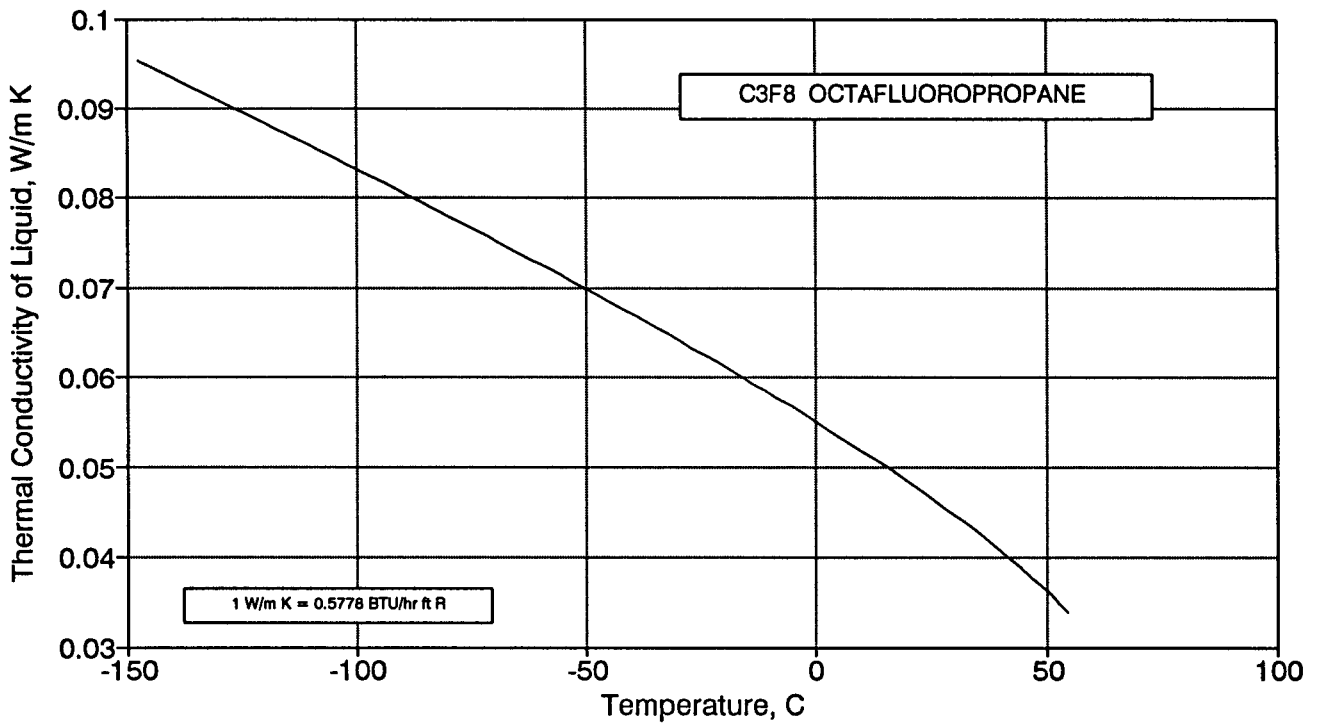
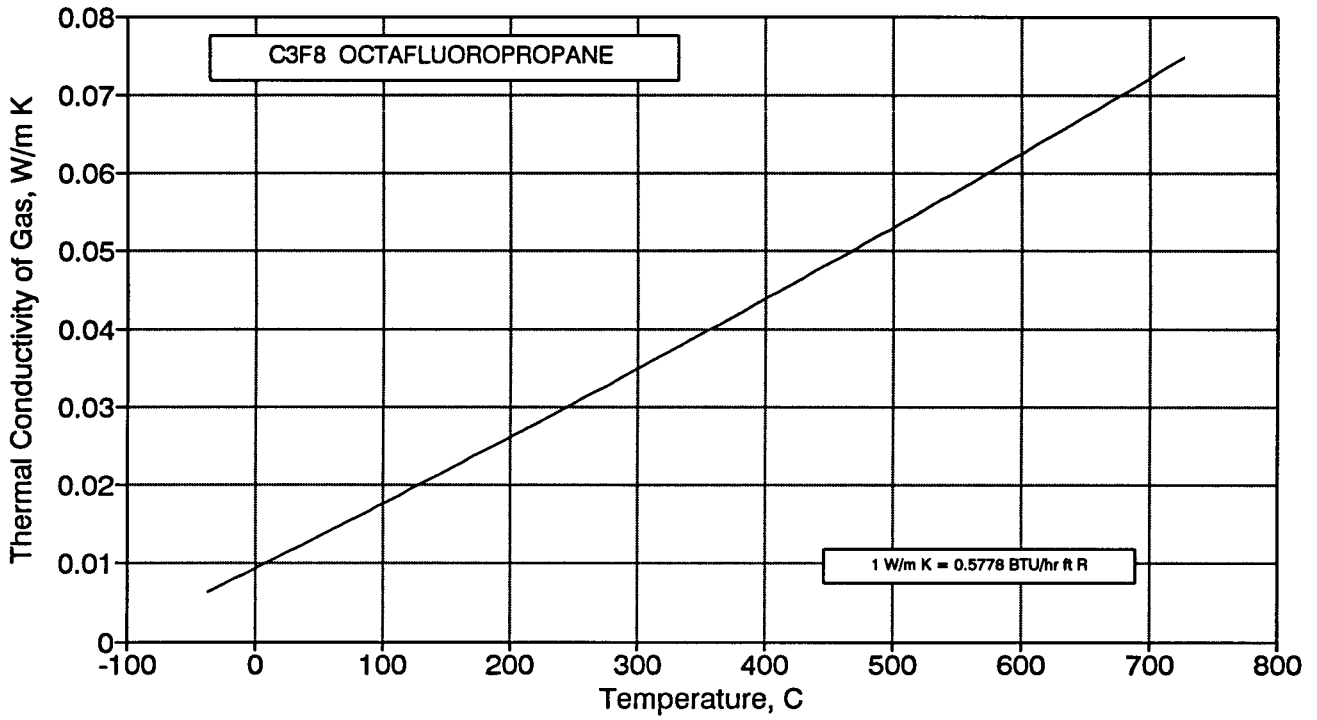




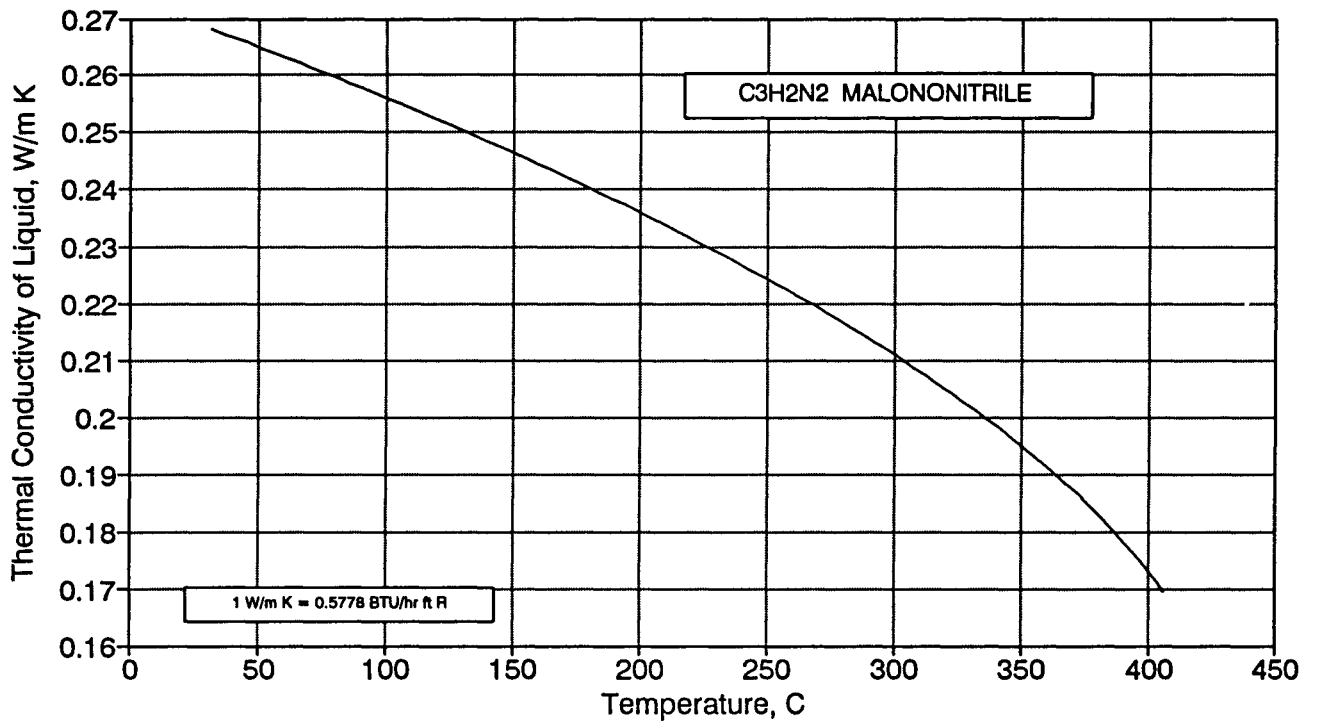
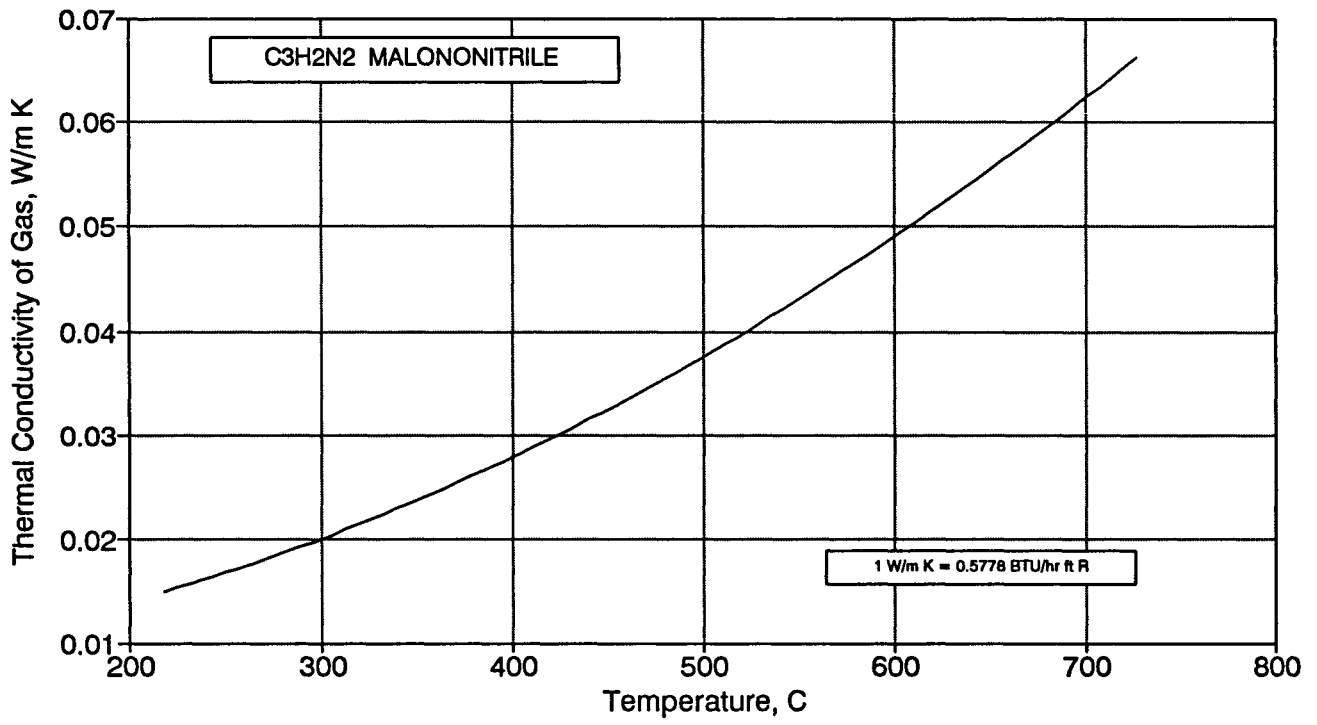


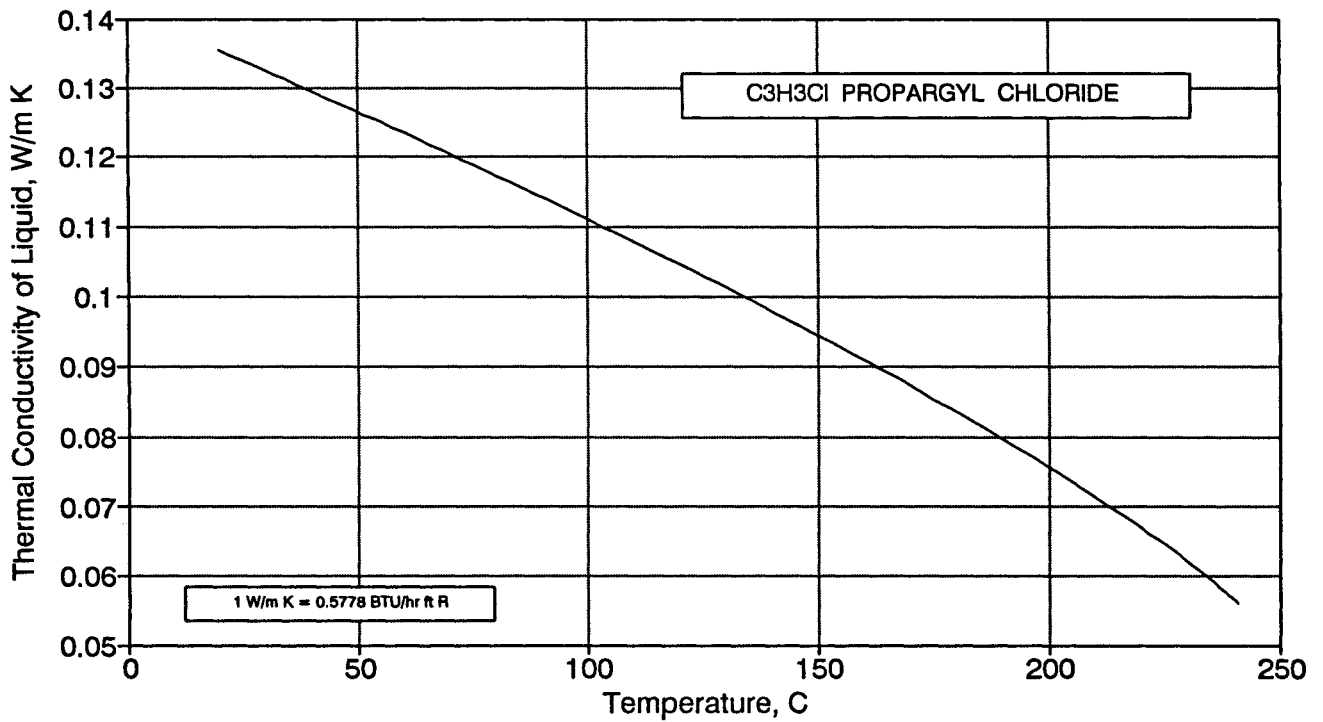
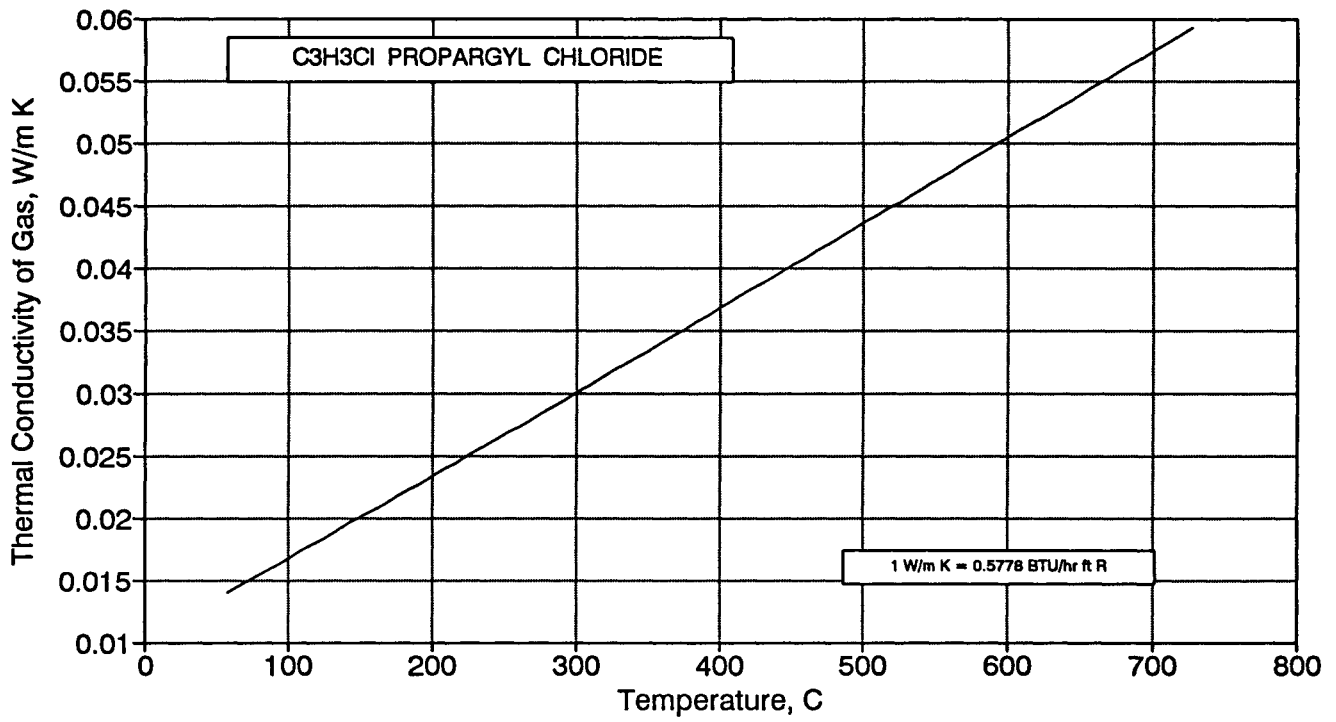


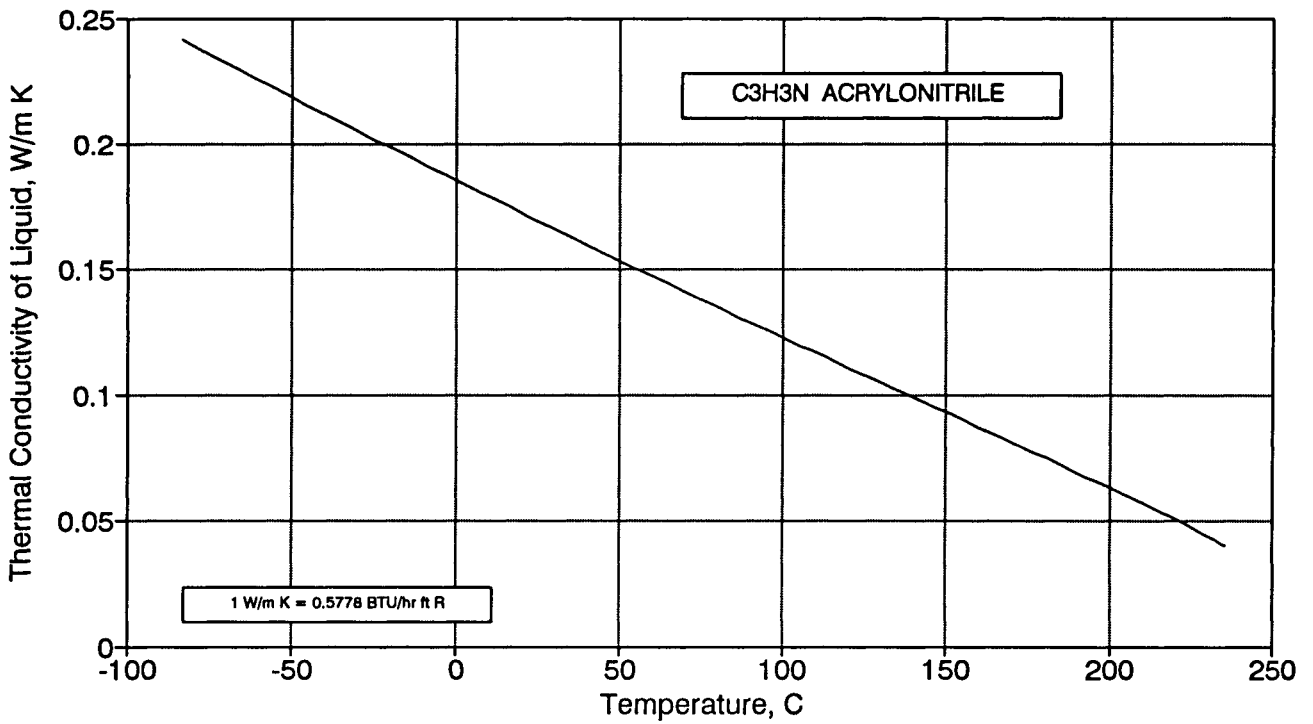
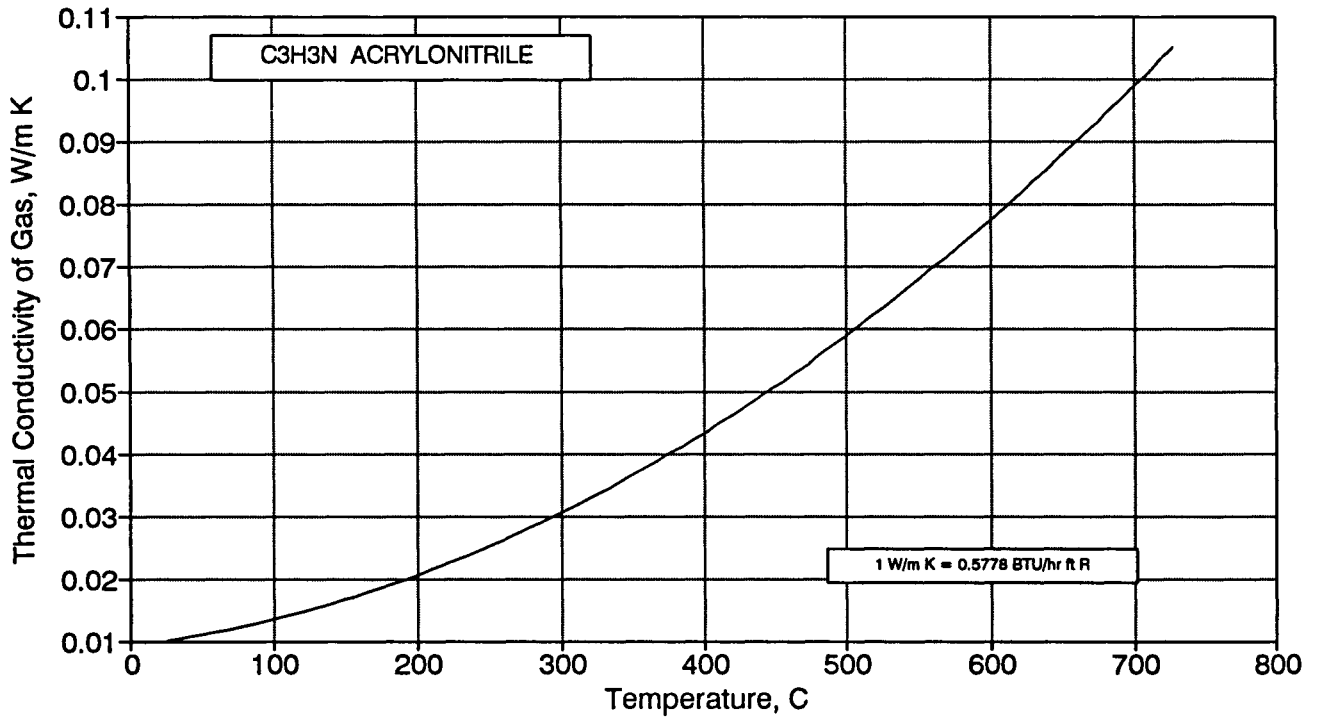


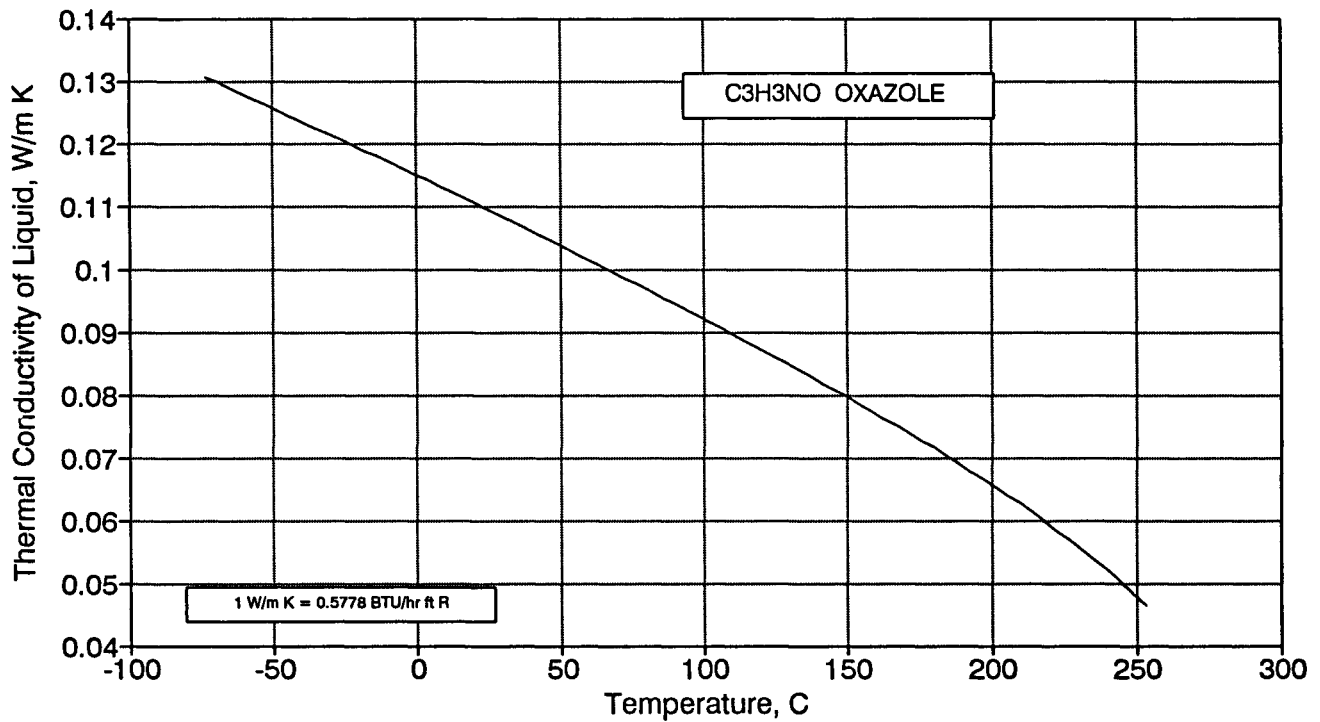
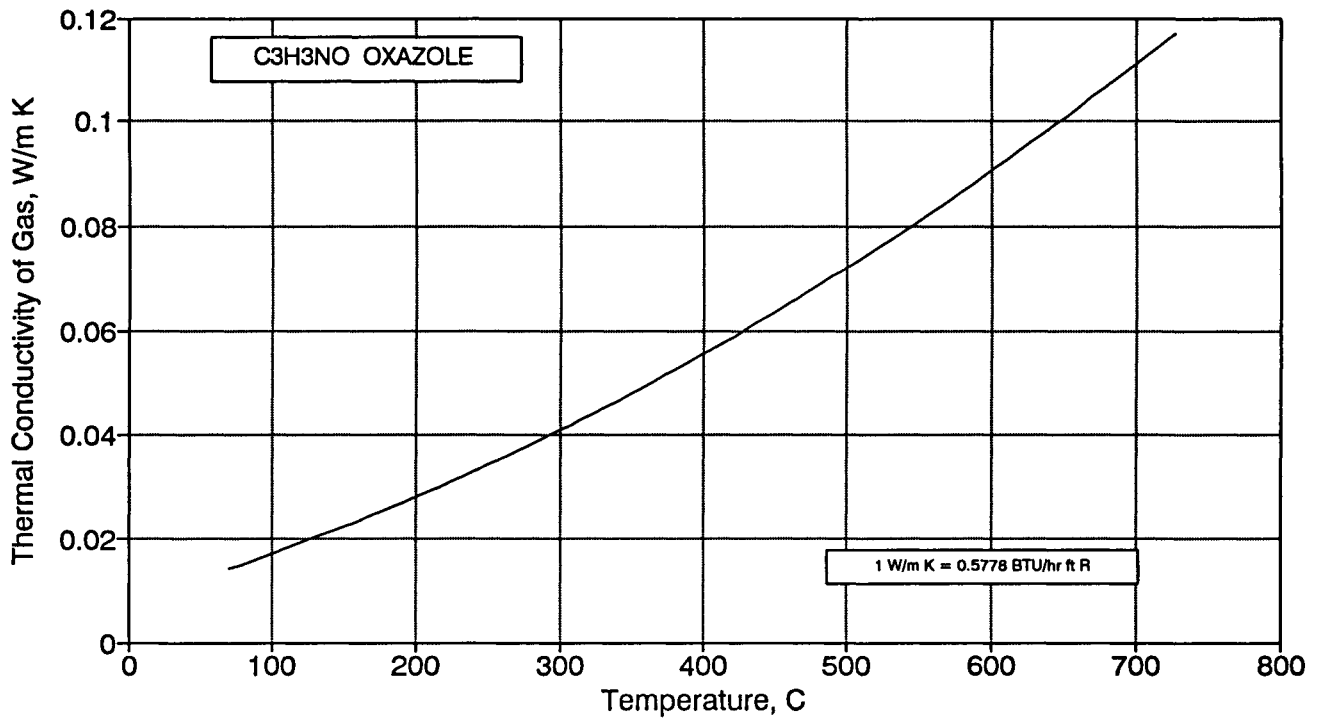


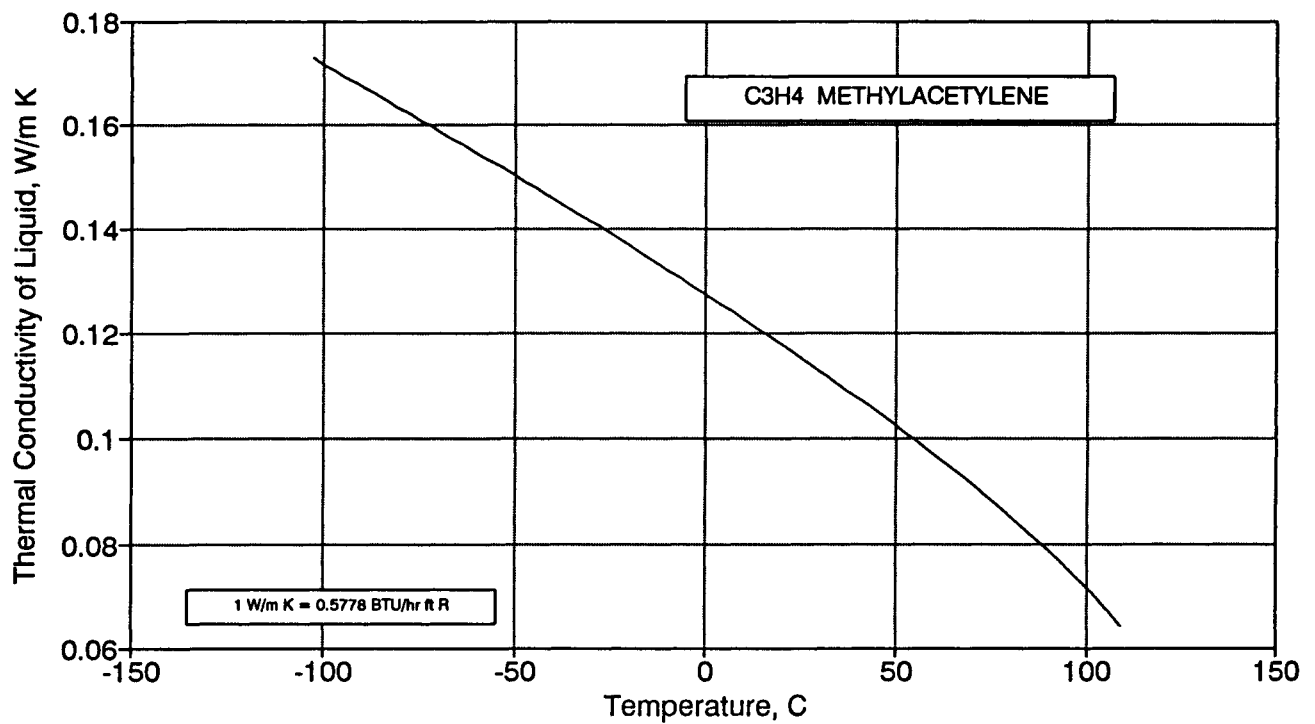
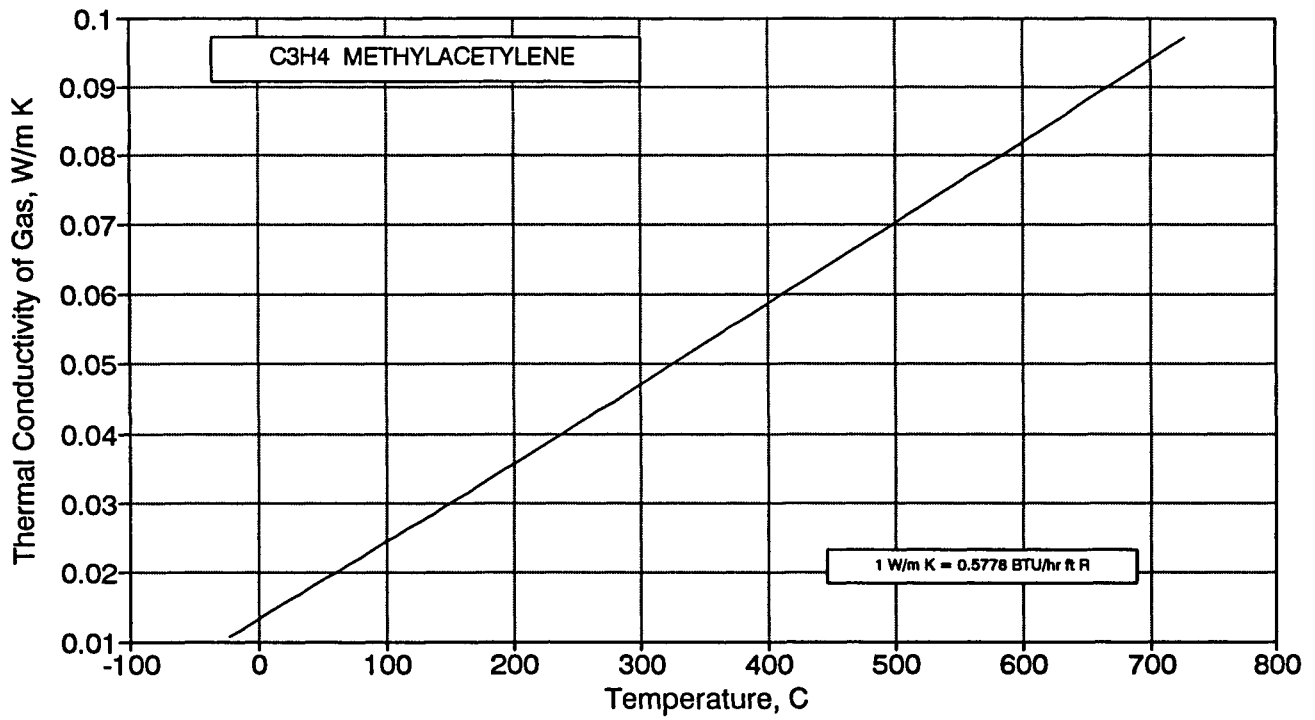


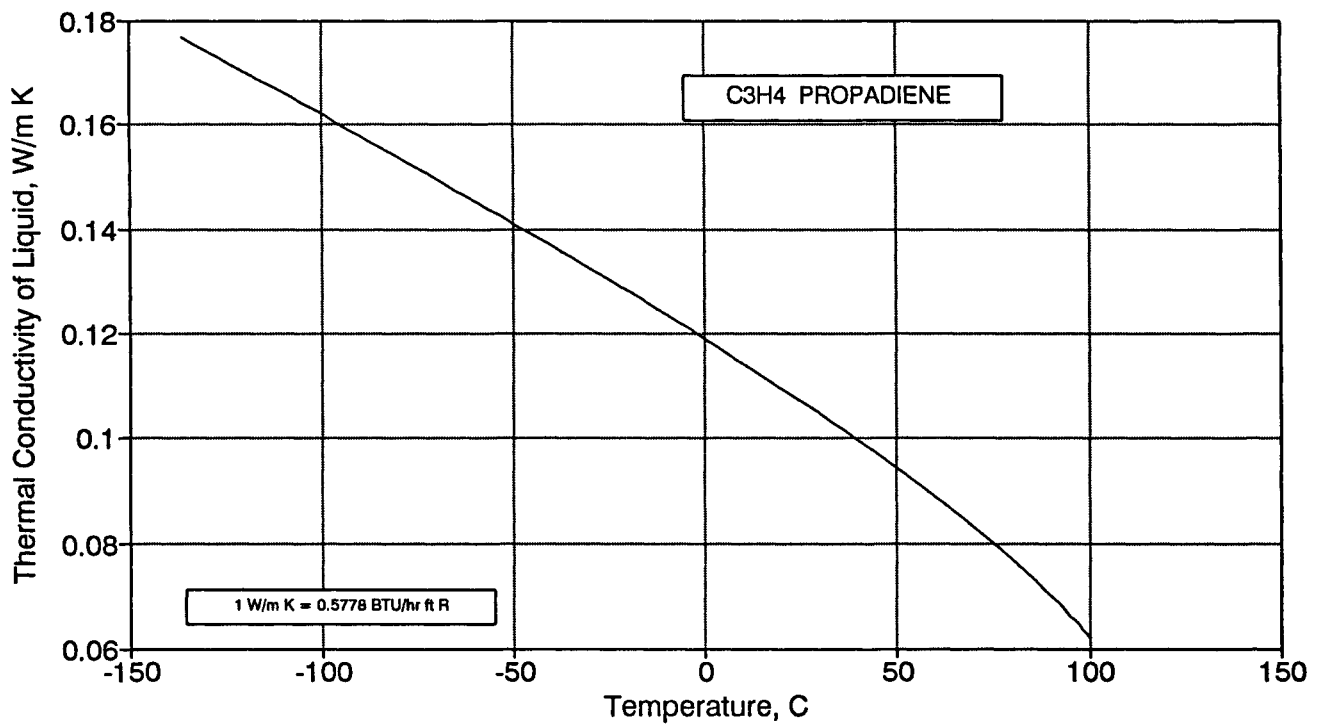
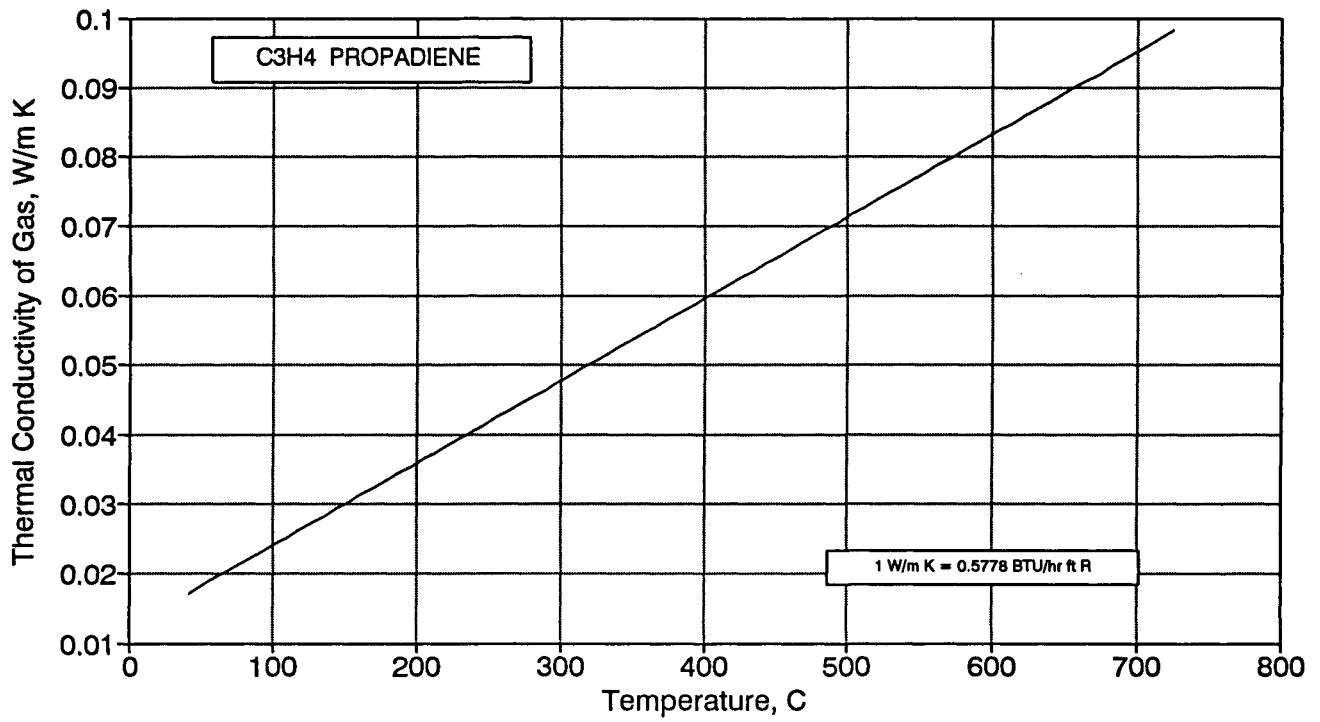


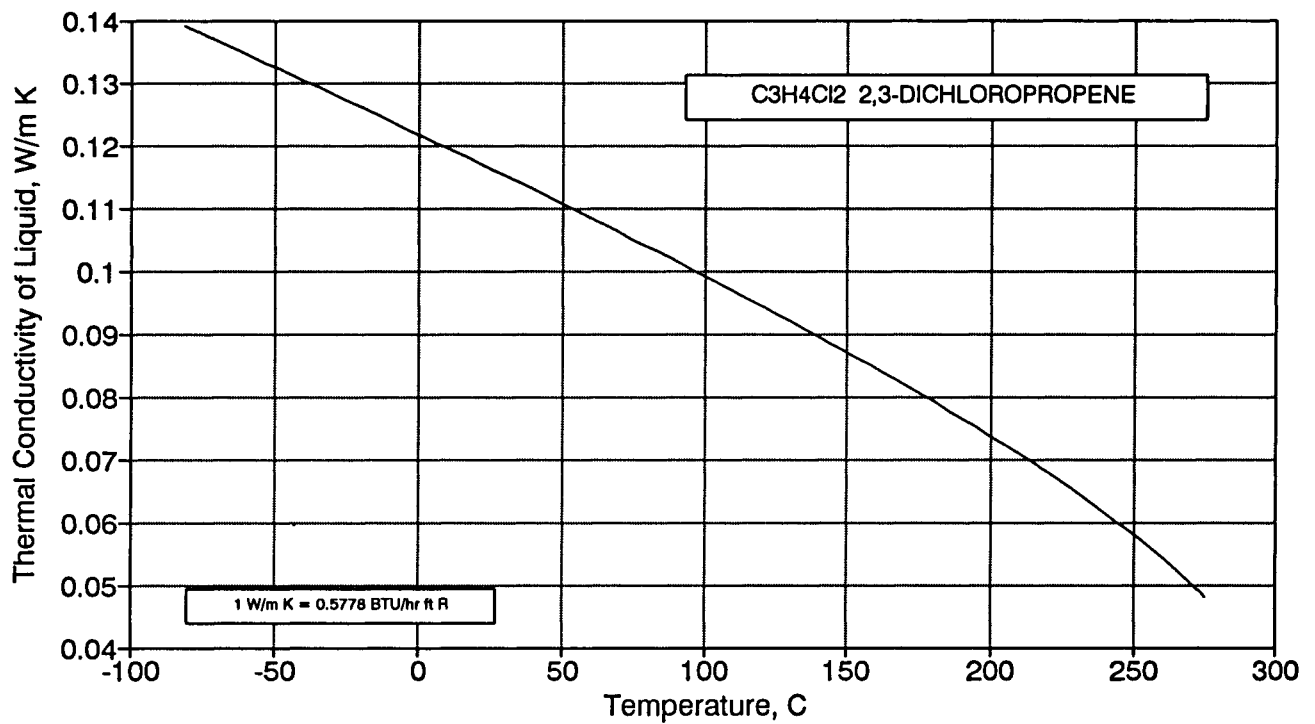
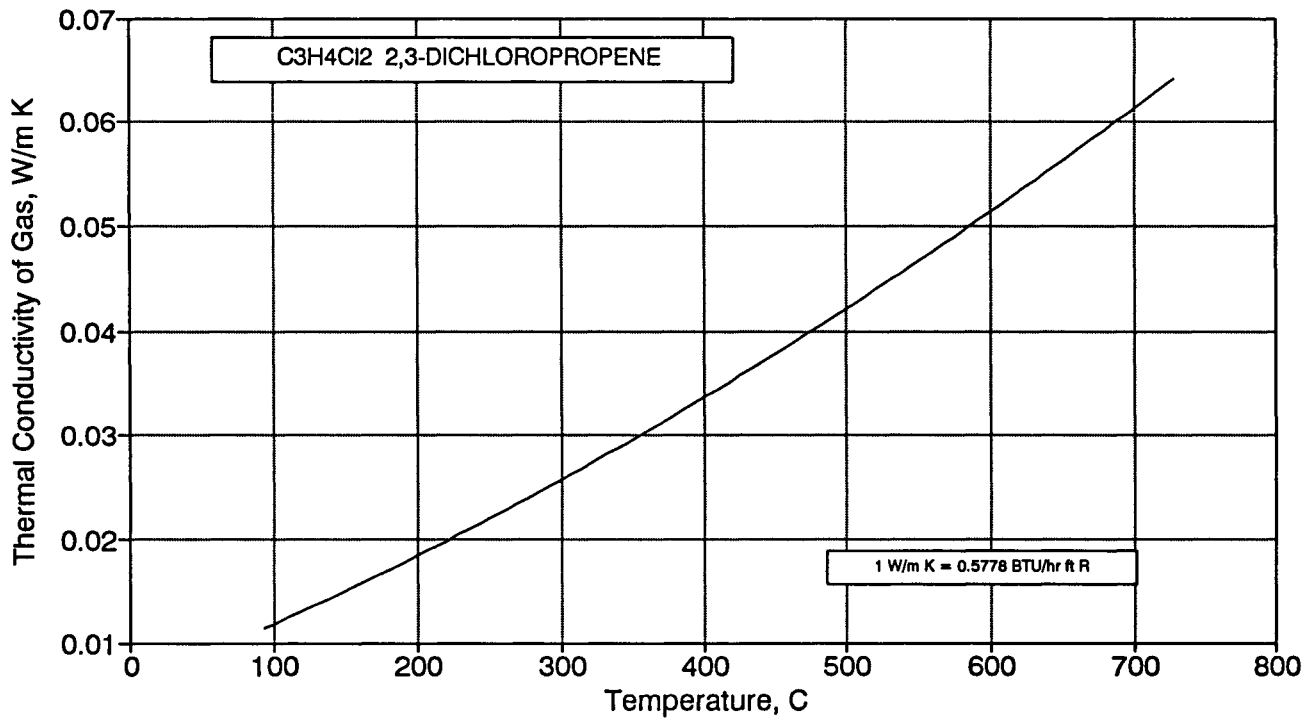


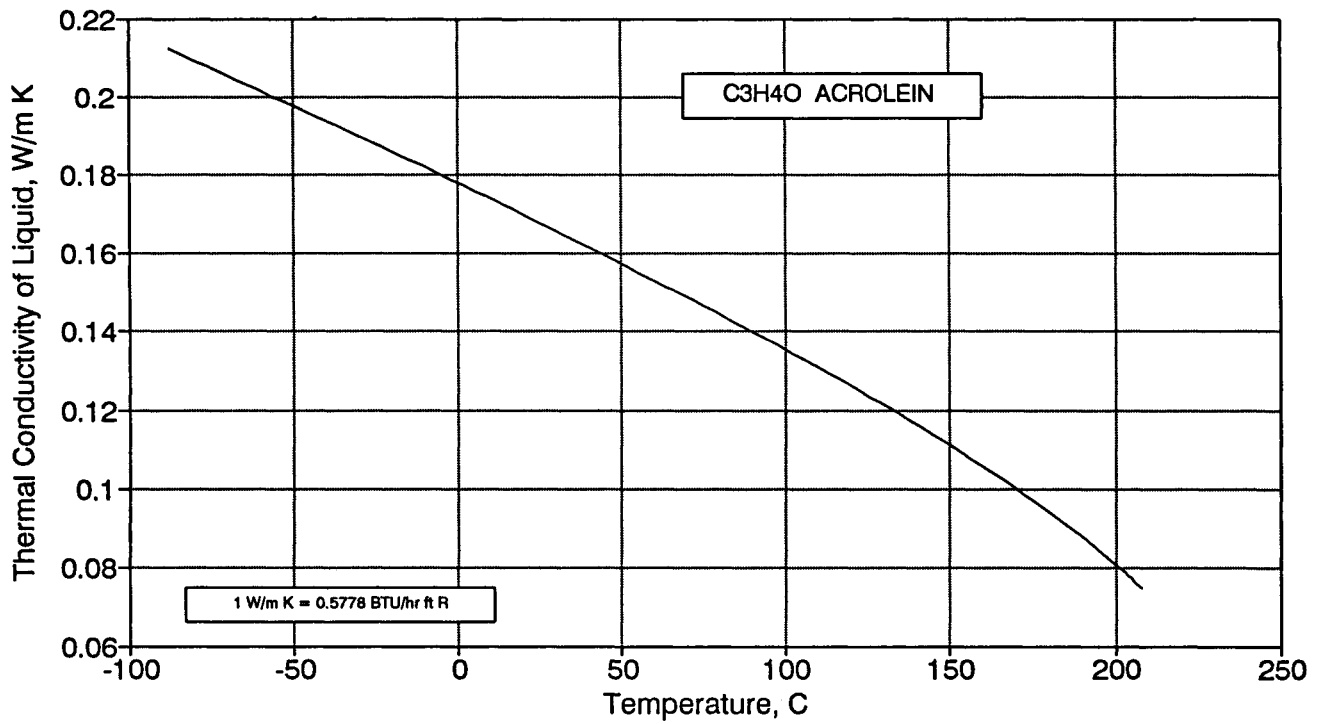
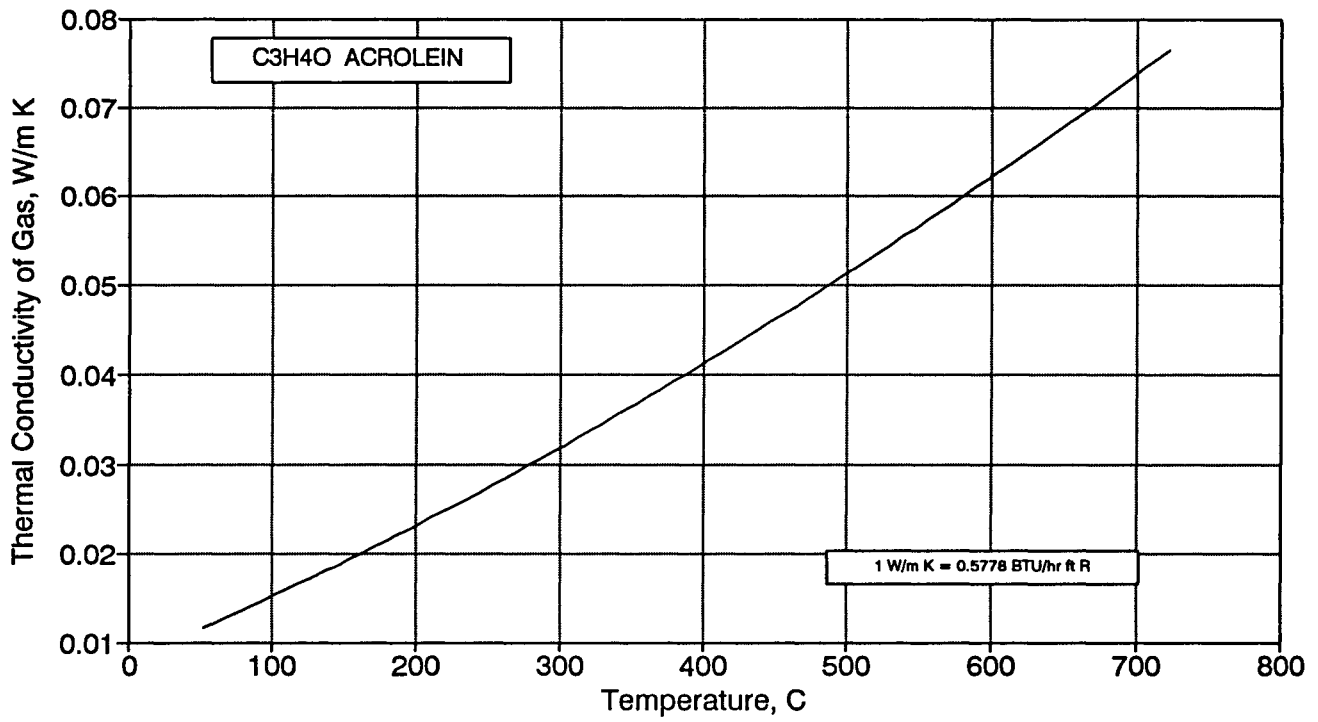




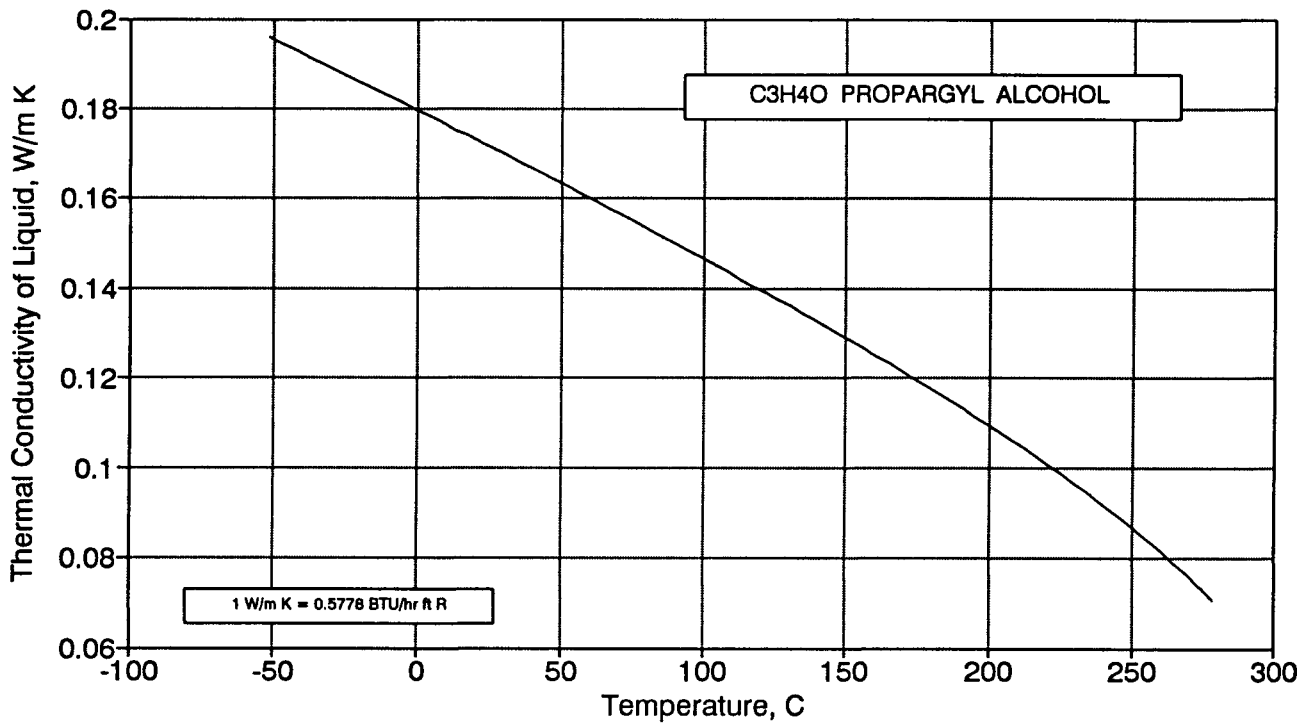
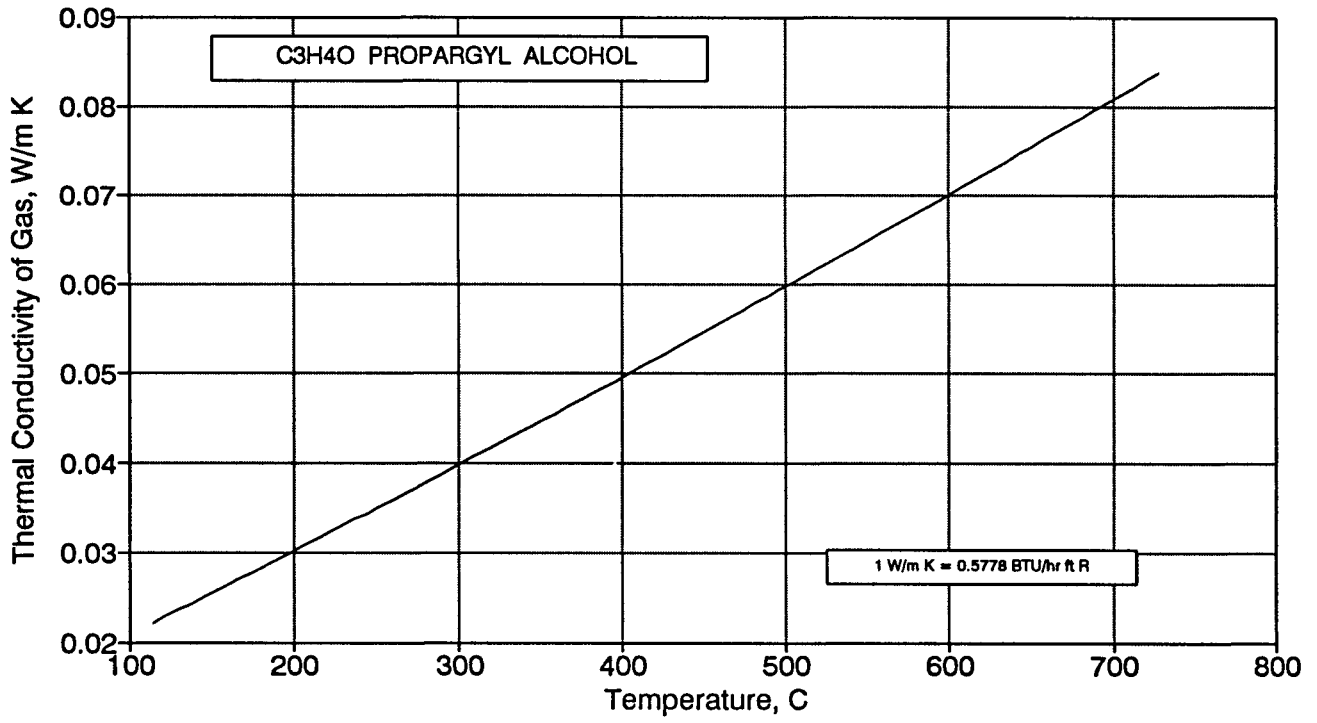


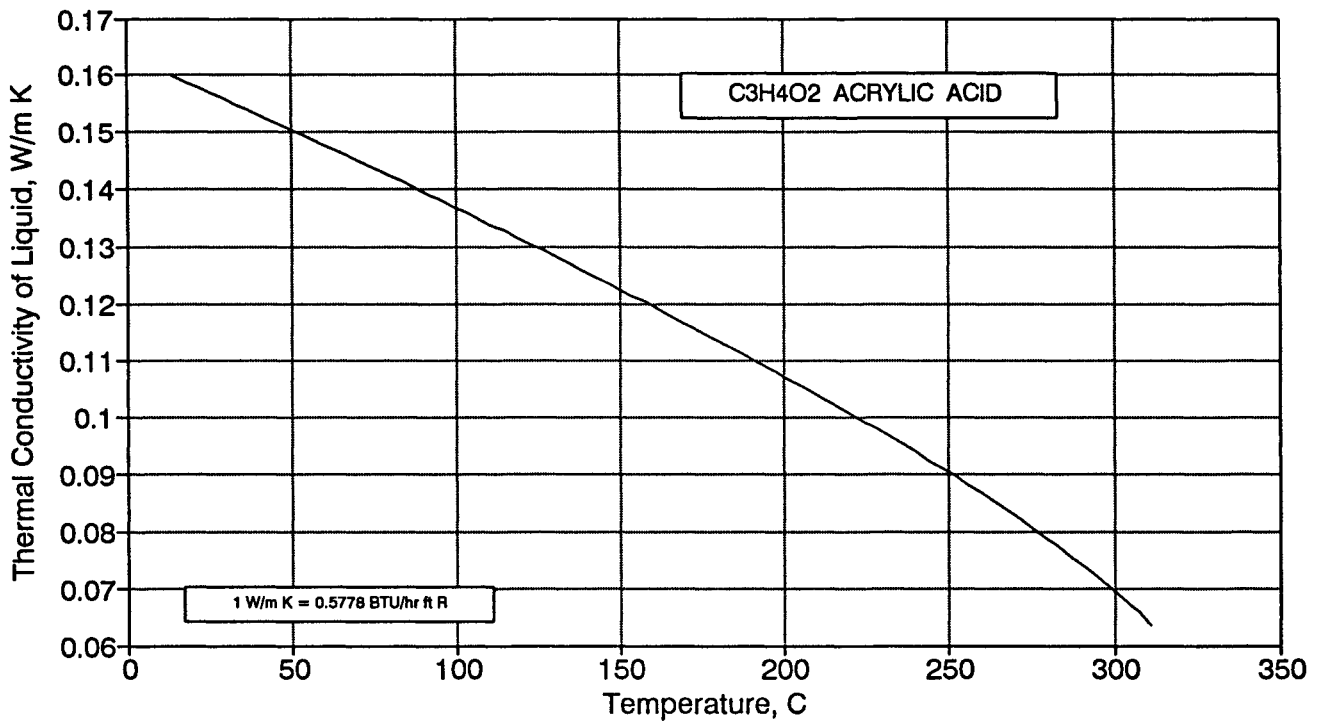
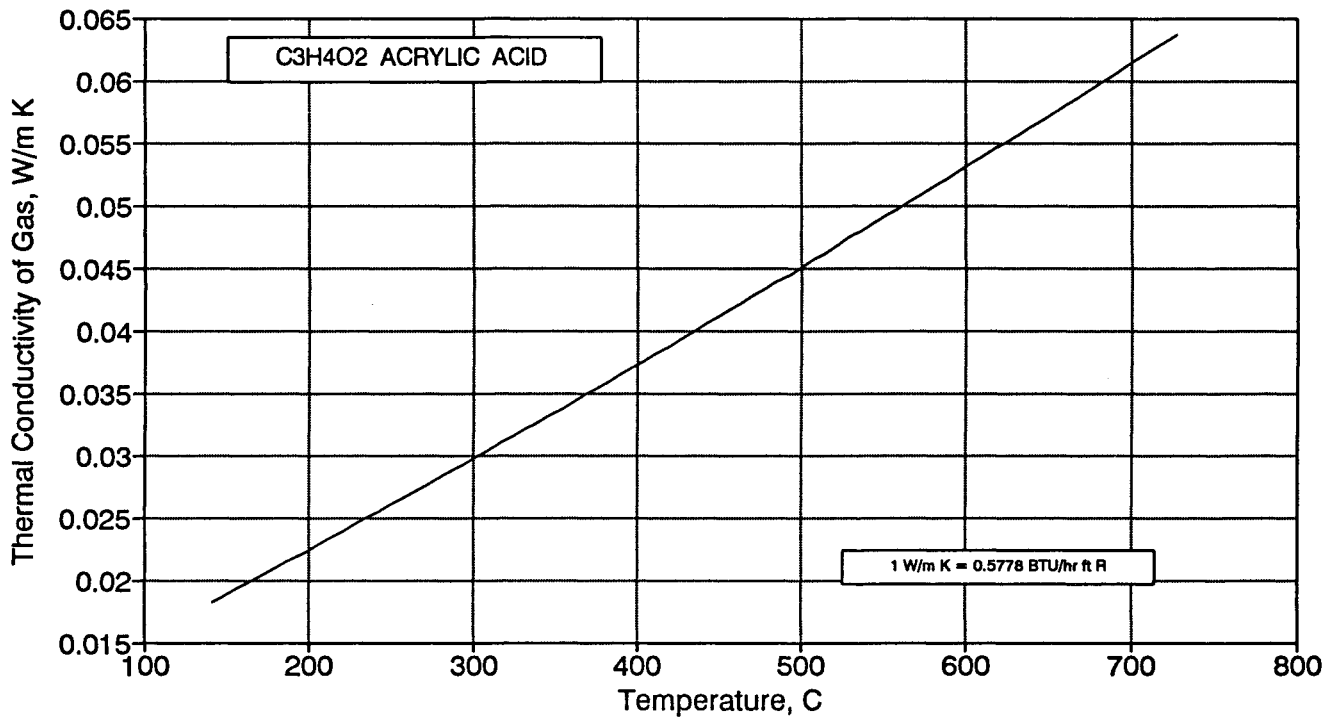


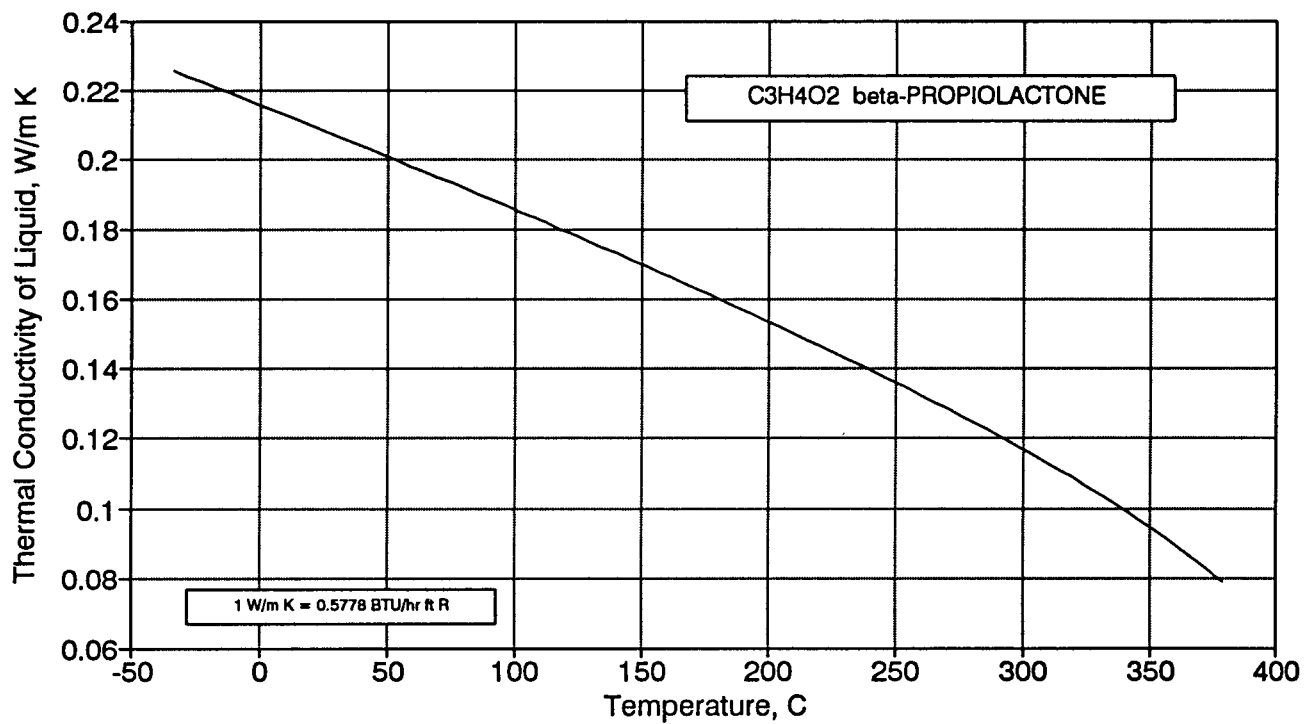
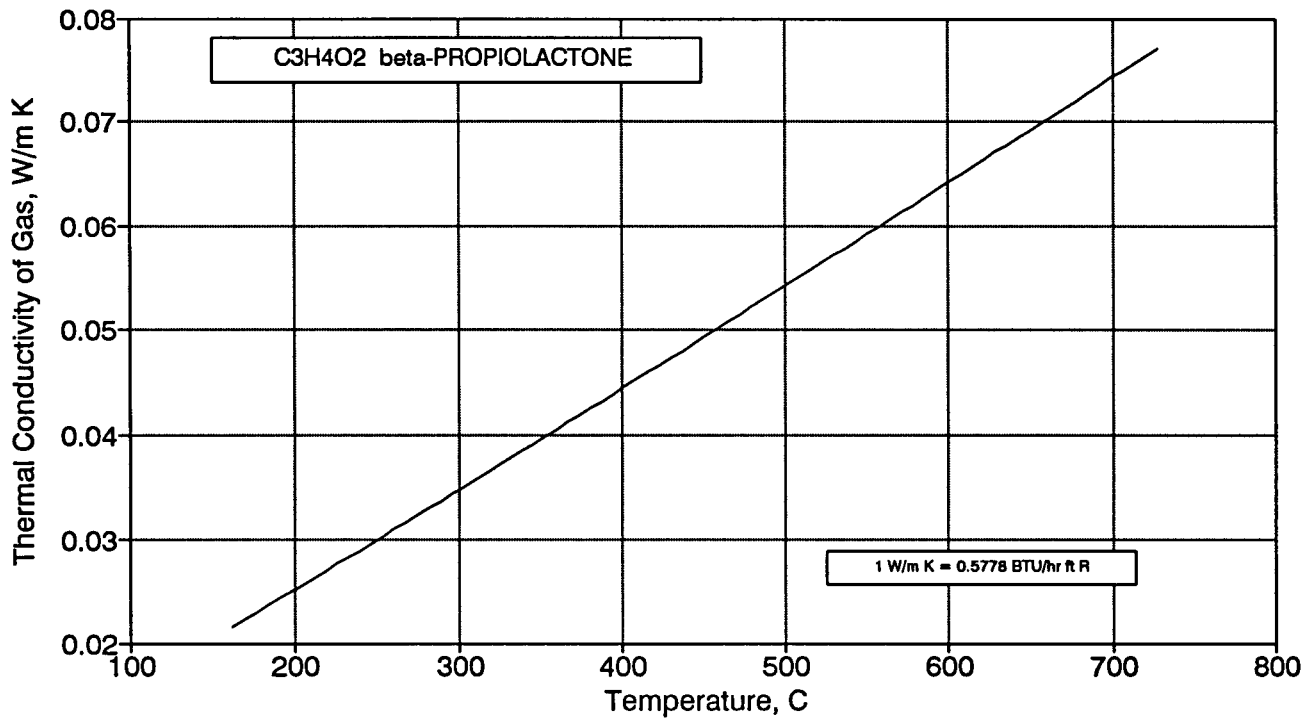


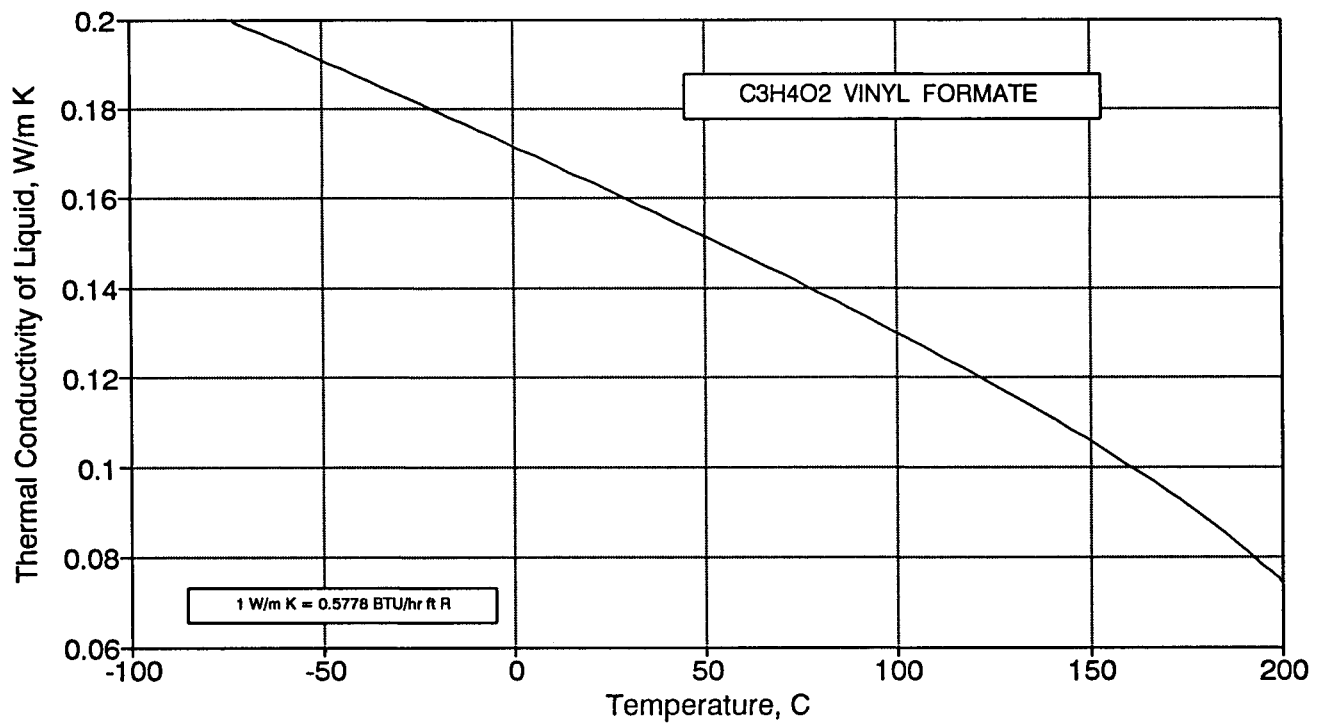
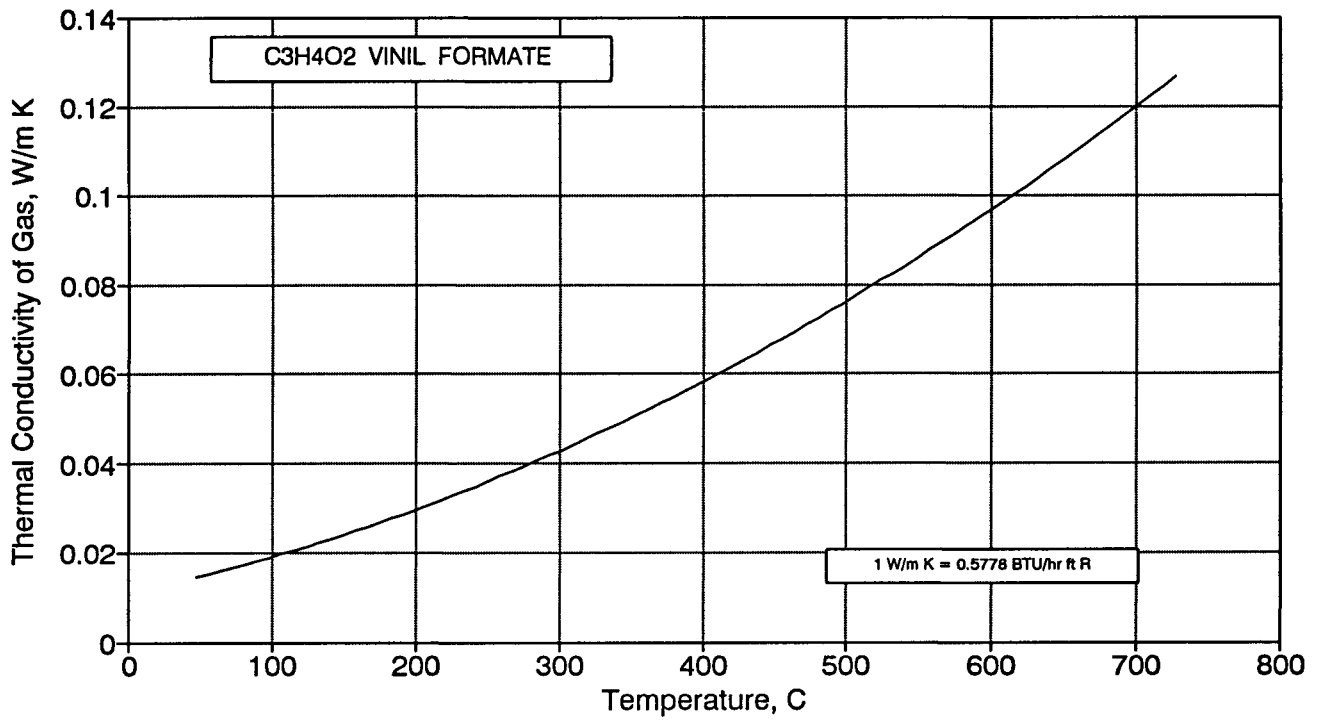












C3H4O3 ETHYLENE CARBONATE

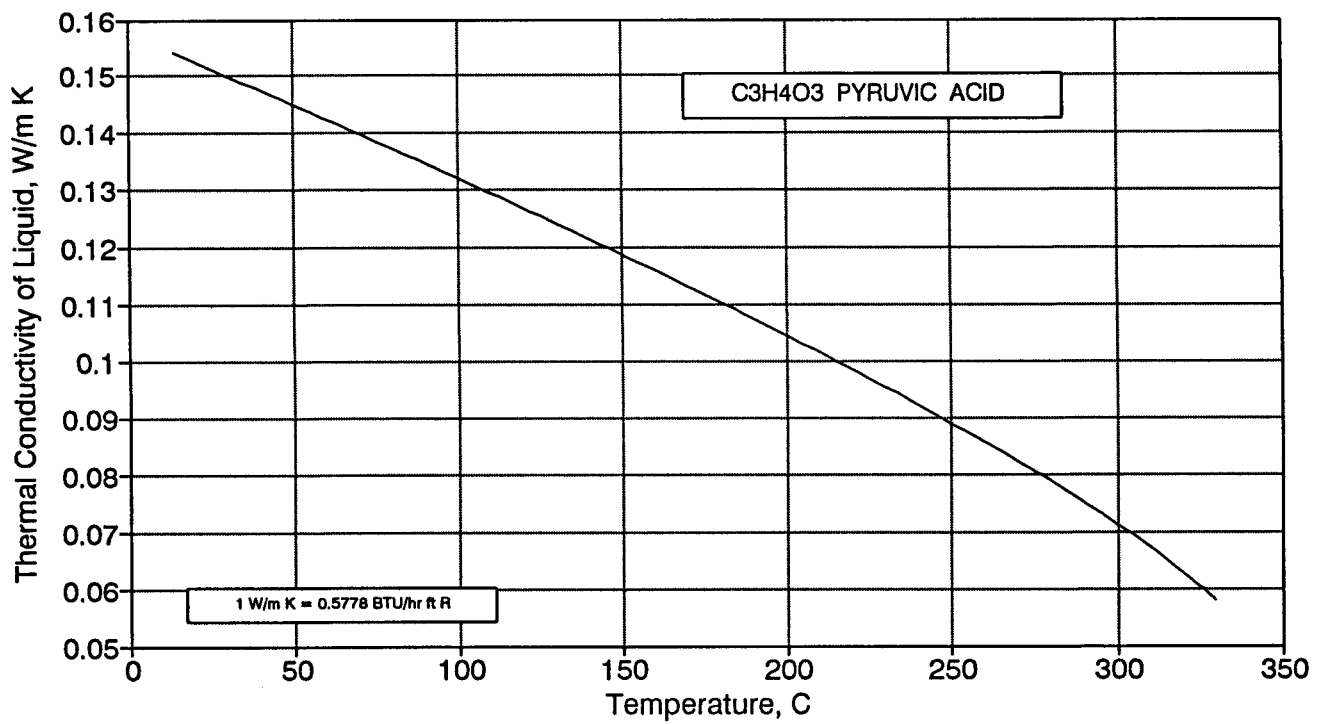
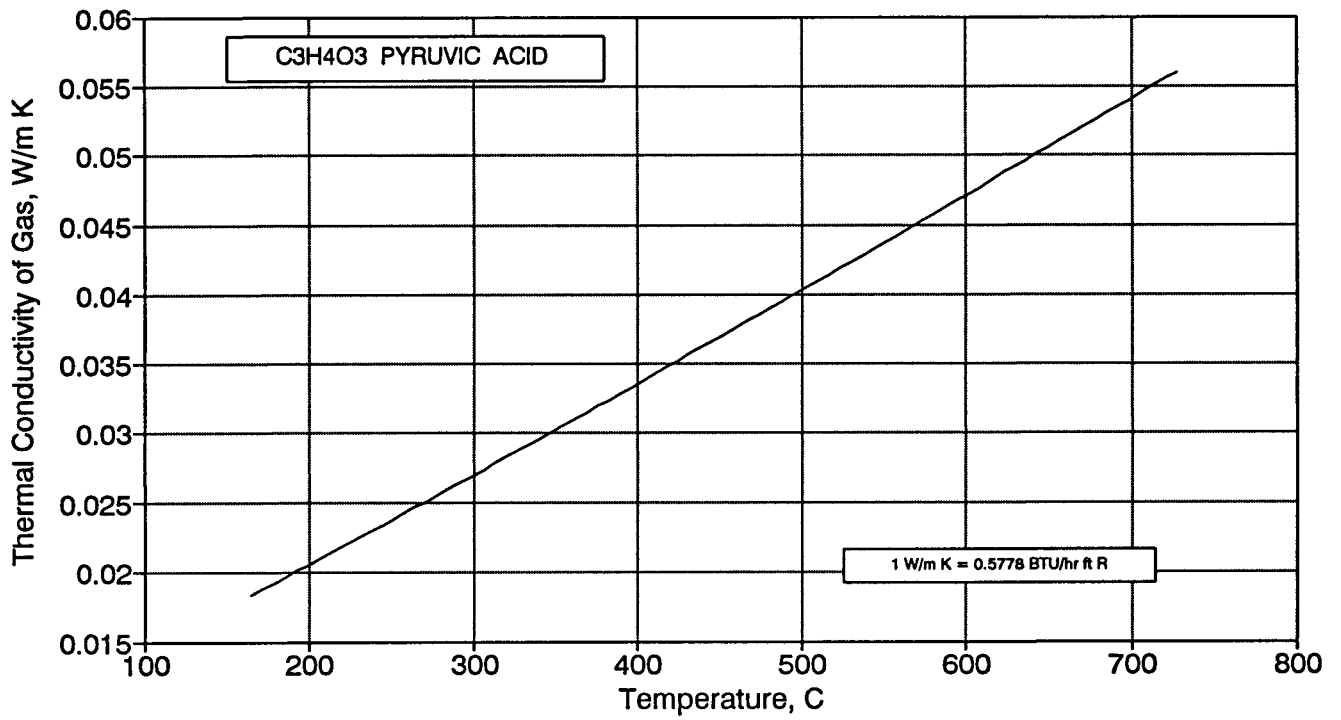
Gas thermal conductivity data are not available .

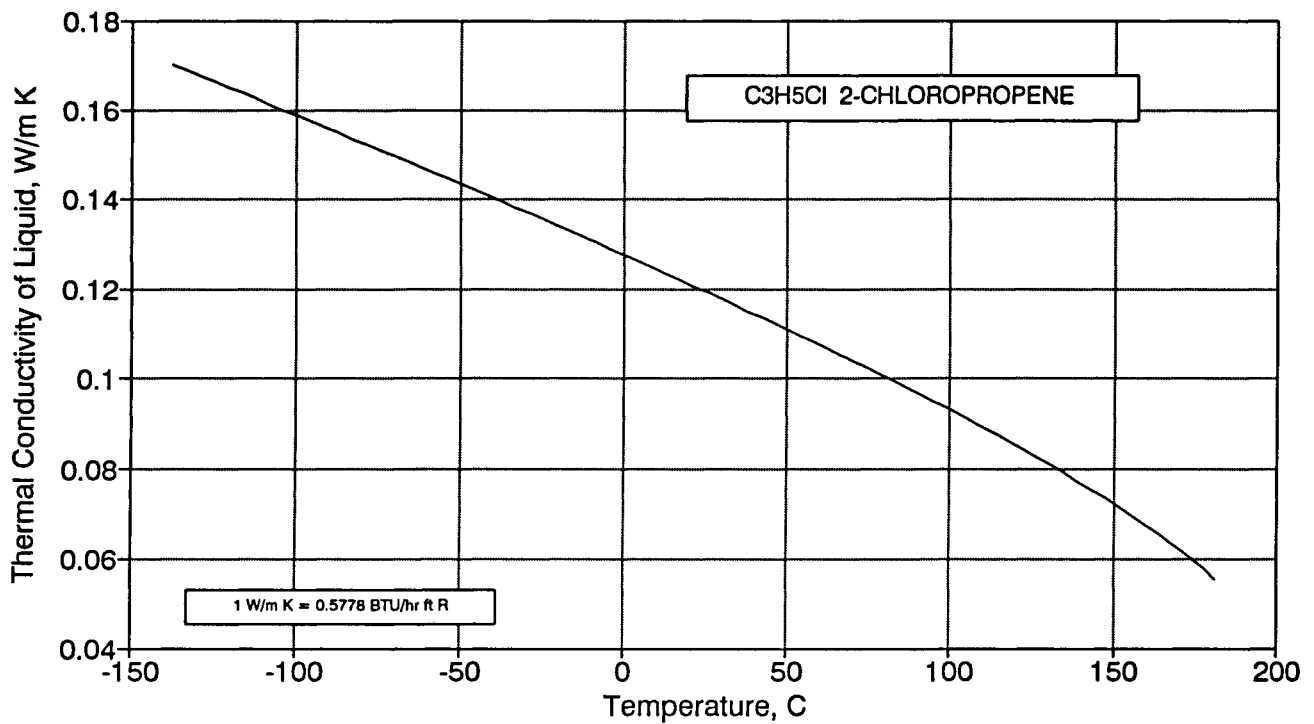
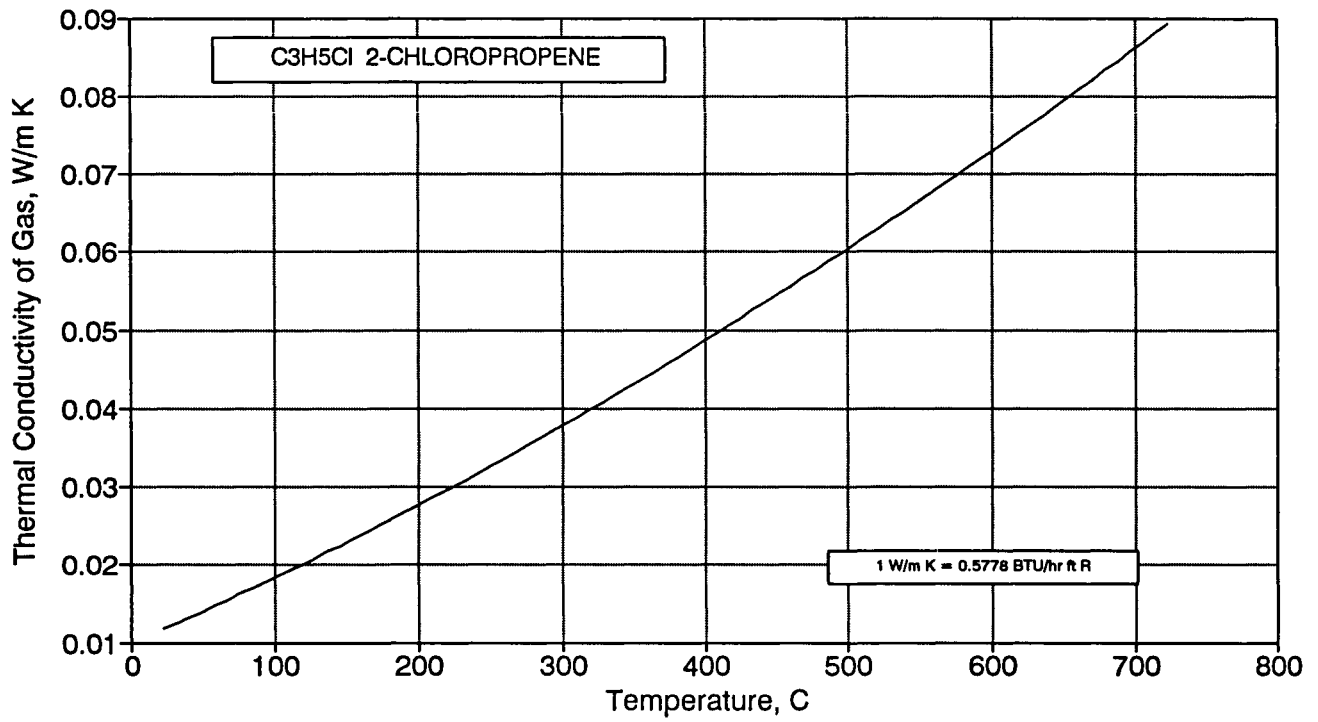
TF , K = 309.55

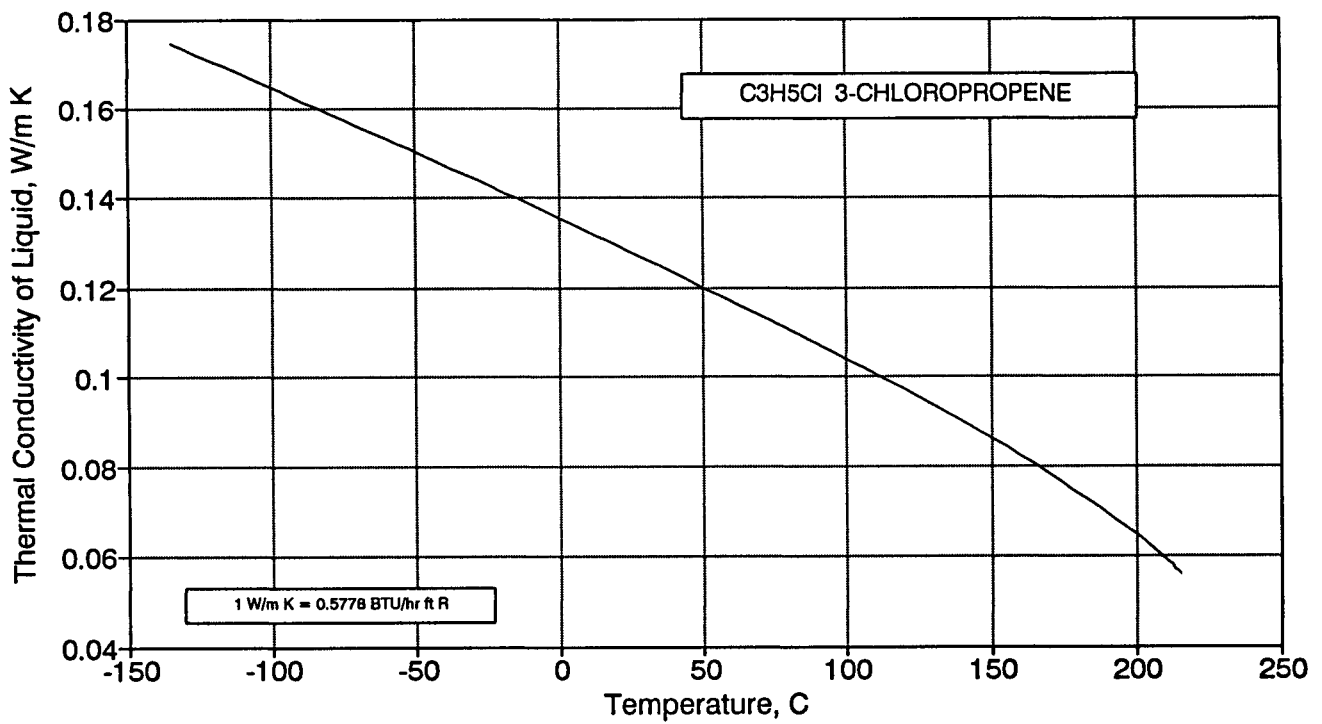
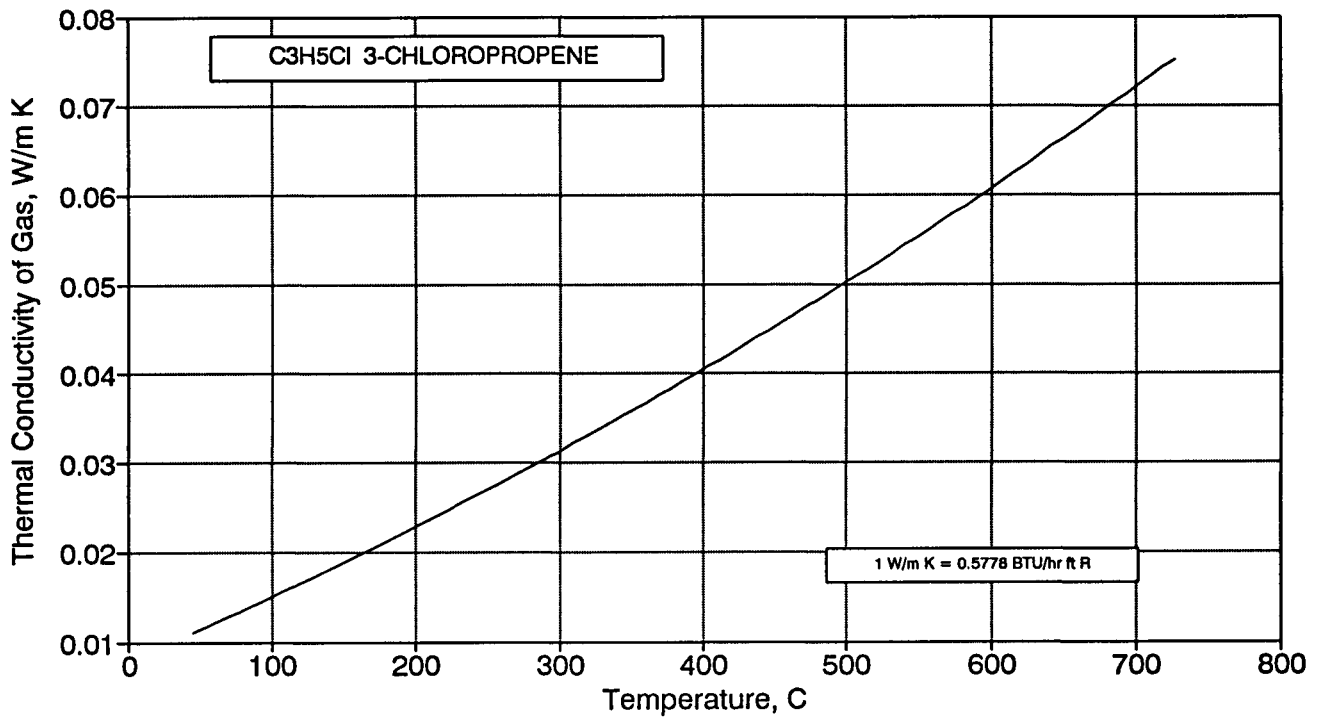
TB , K = 511.15

C3H4O3 ETHYLENE CARBONATE

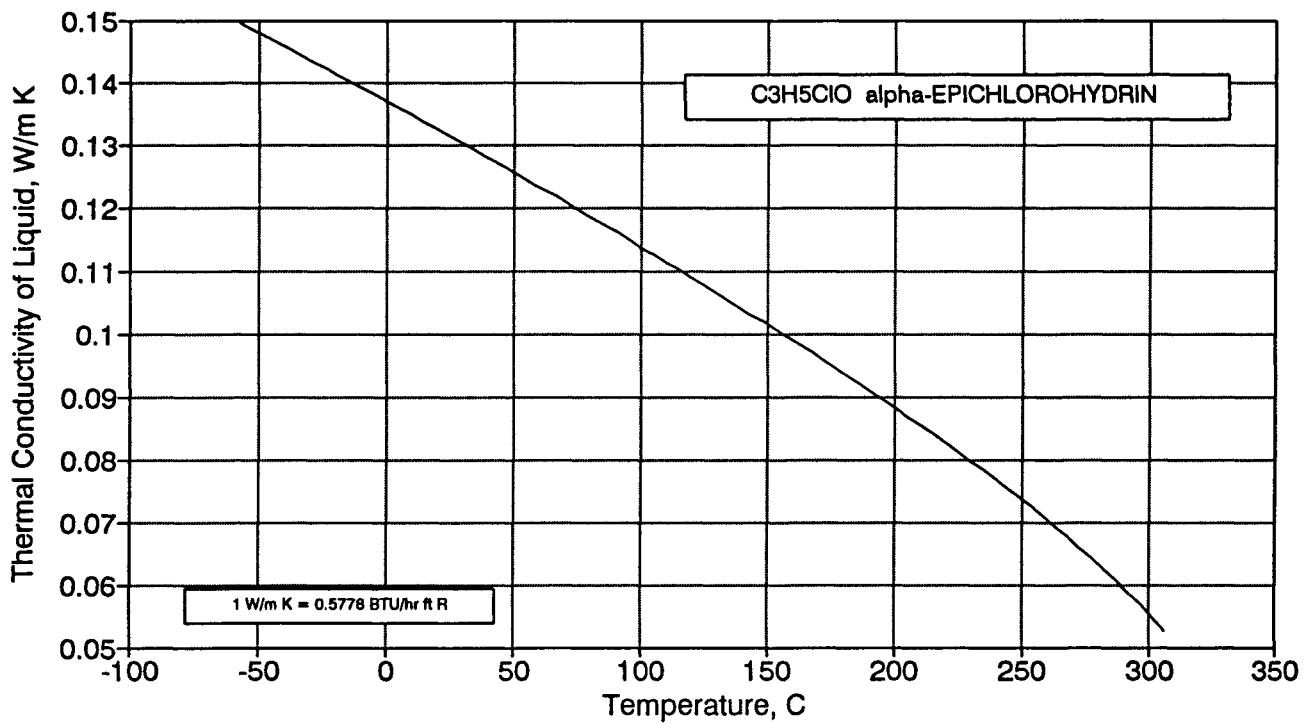
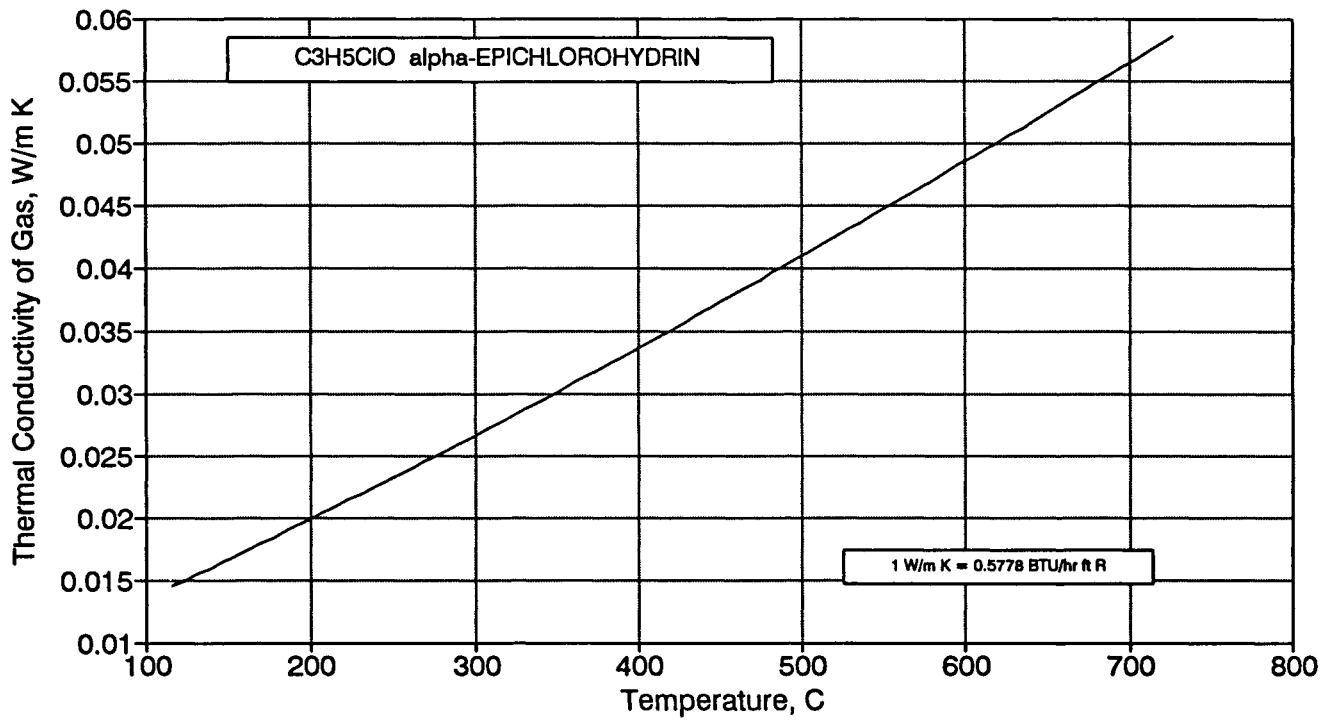
One liquid thermal conductivity value is available:  
0.2063 W/m K @ 314.15 K.

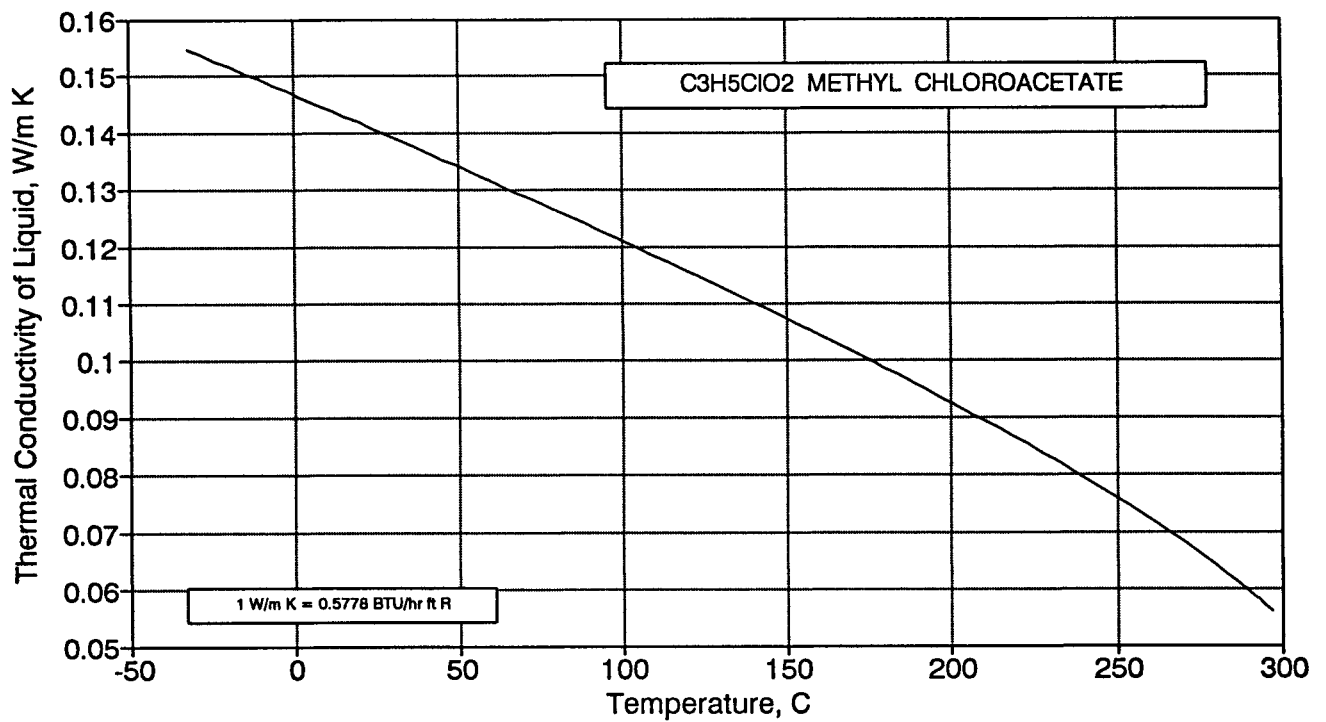
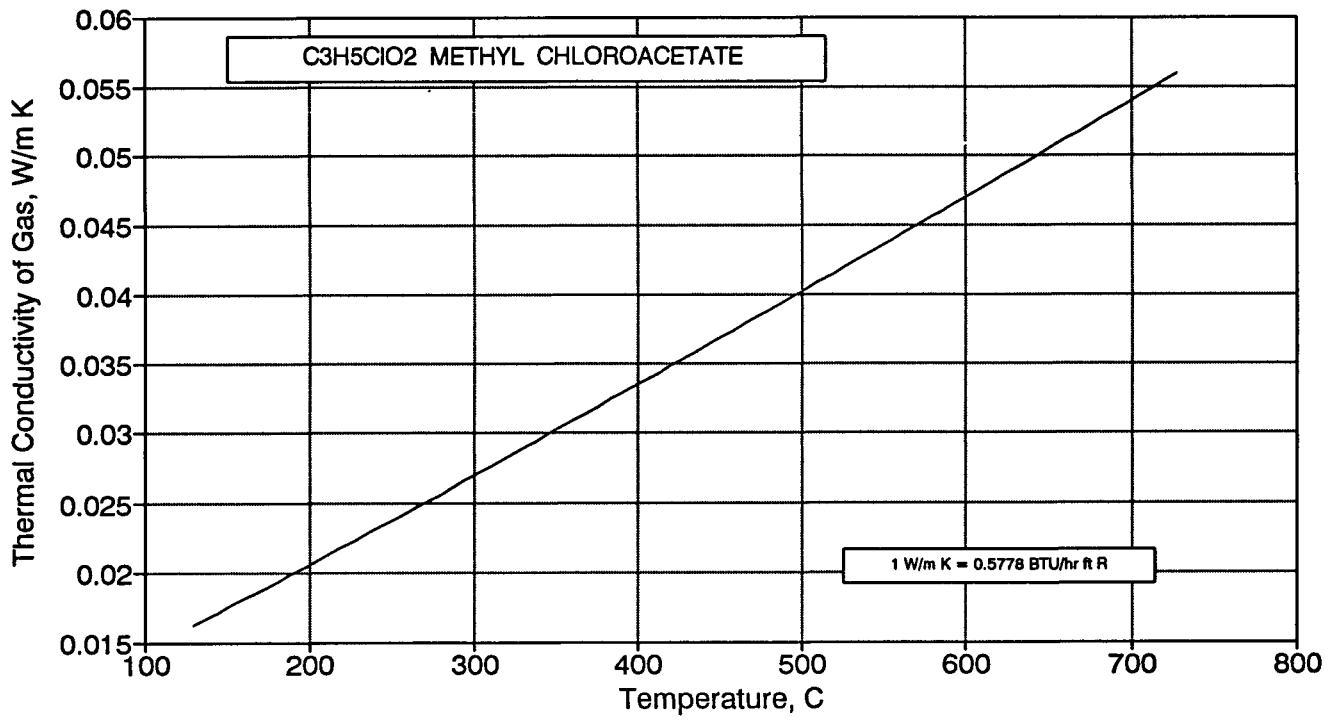


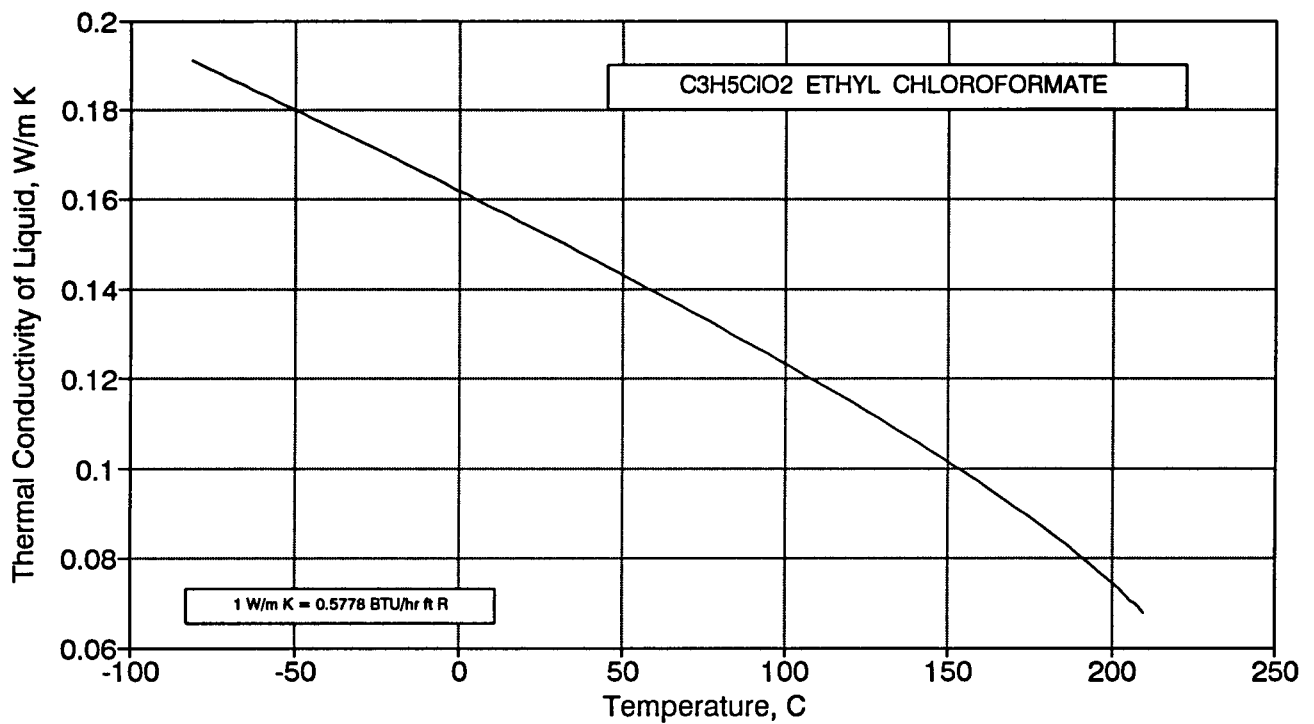
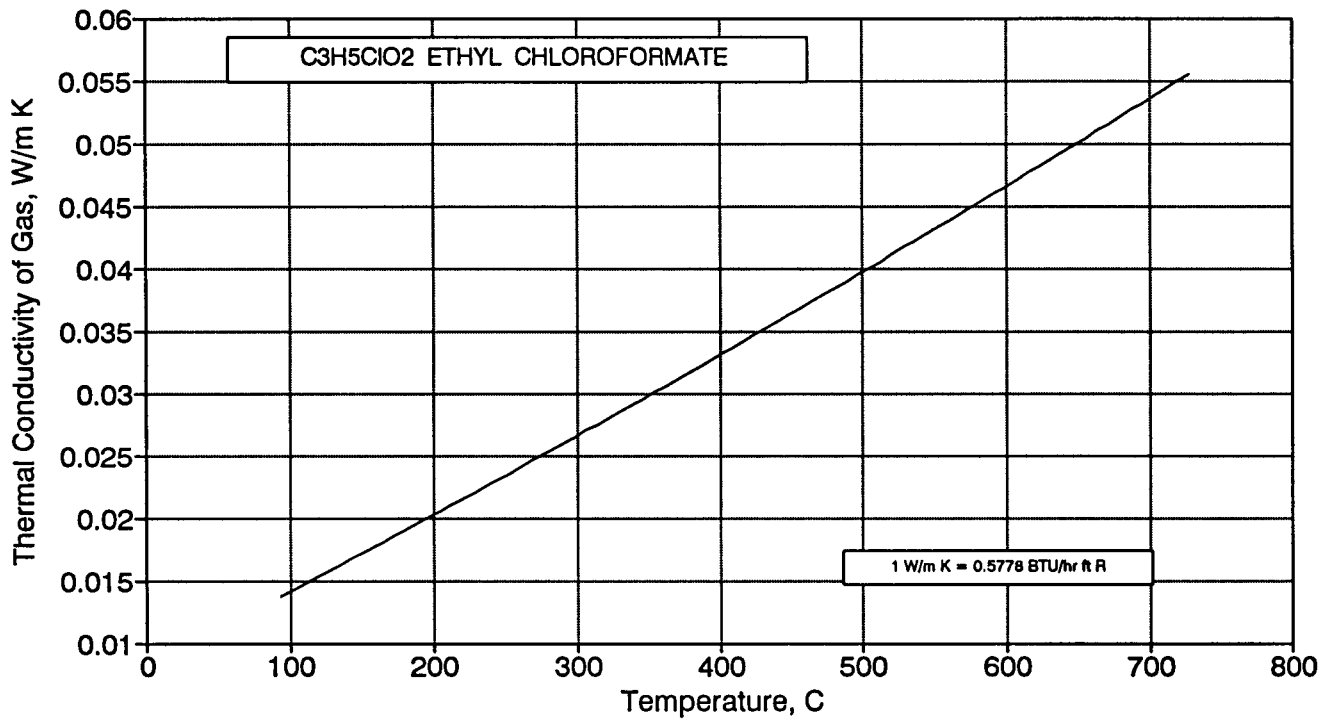


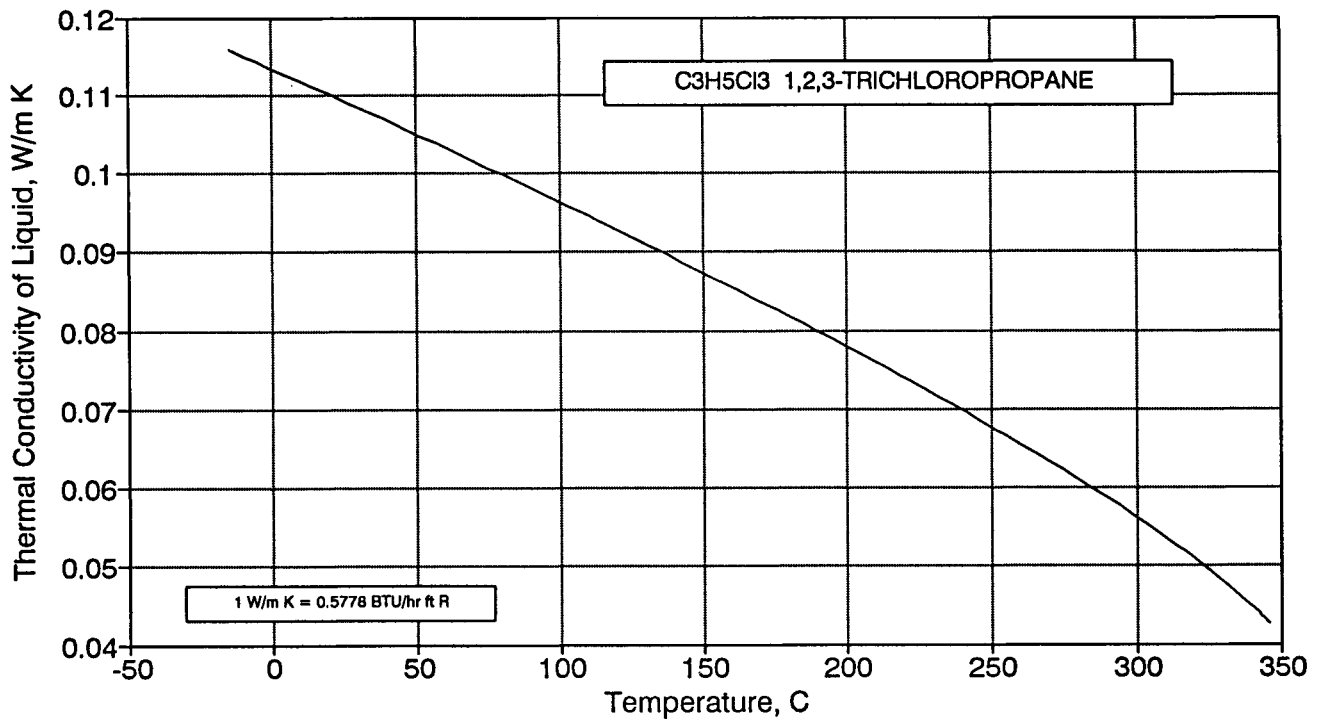
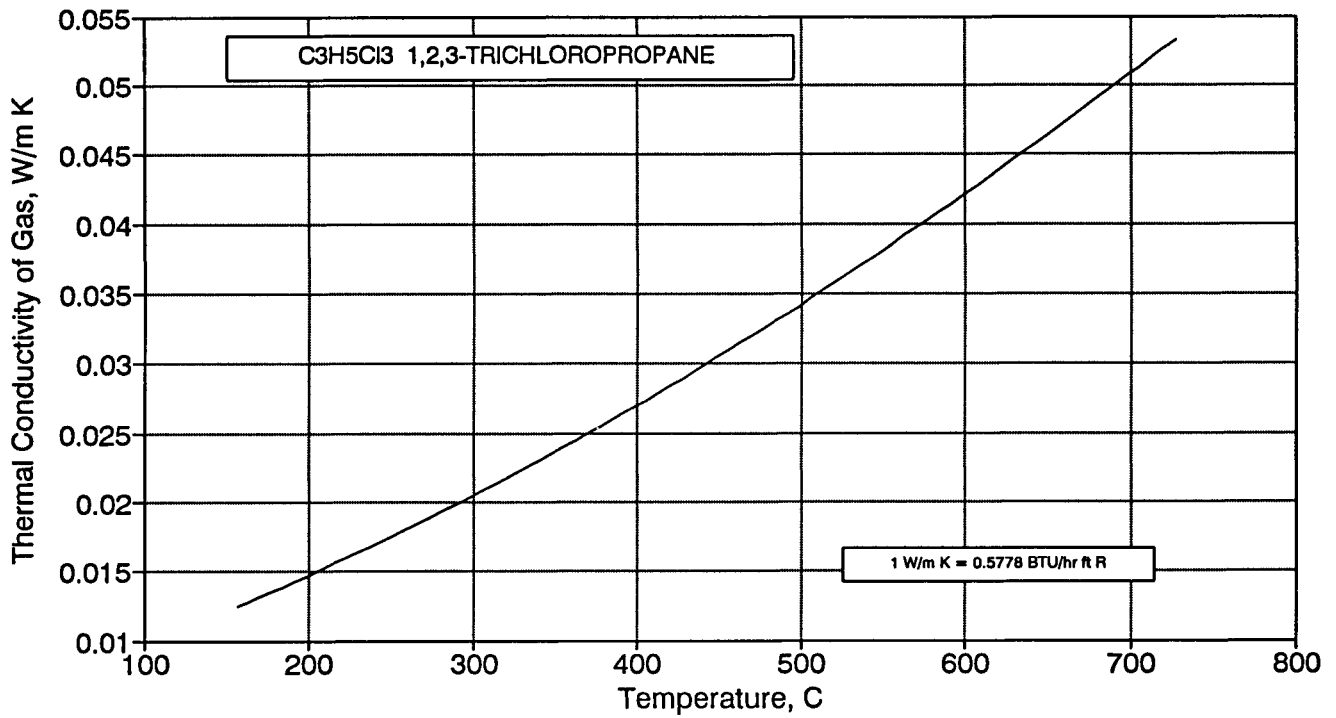


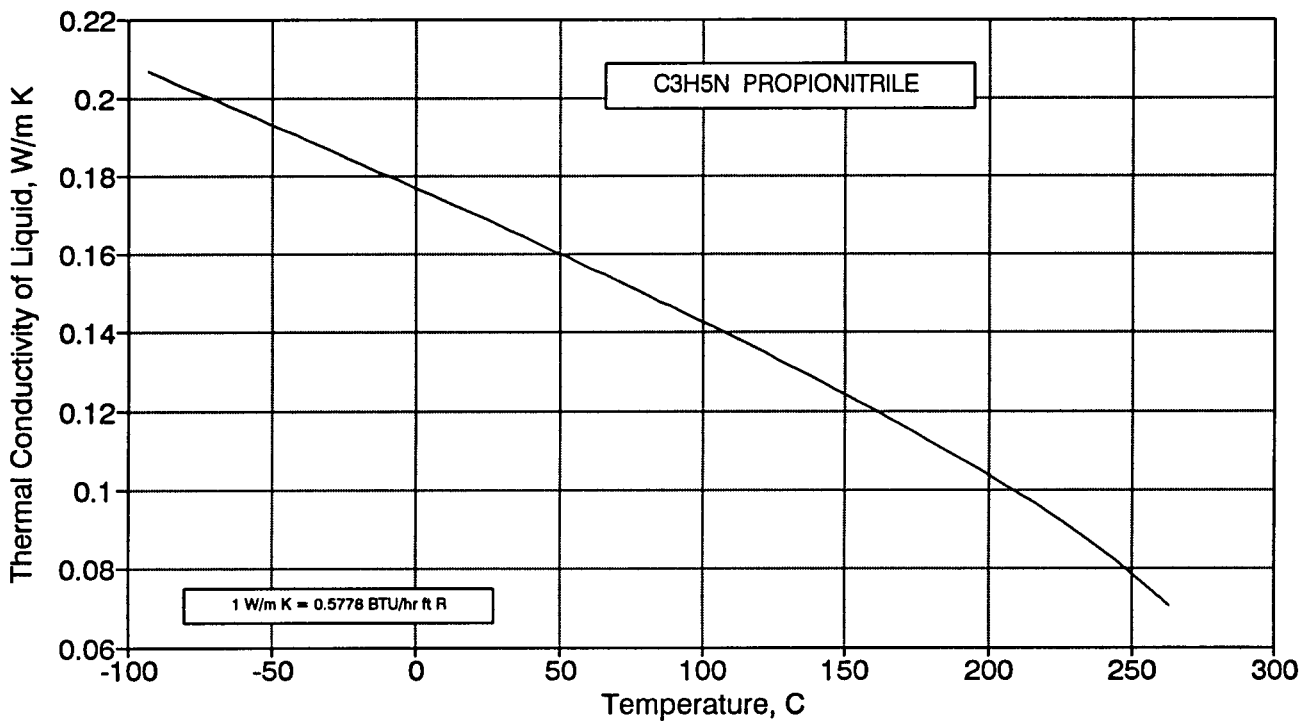
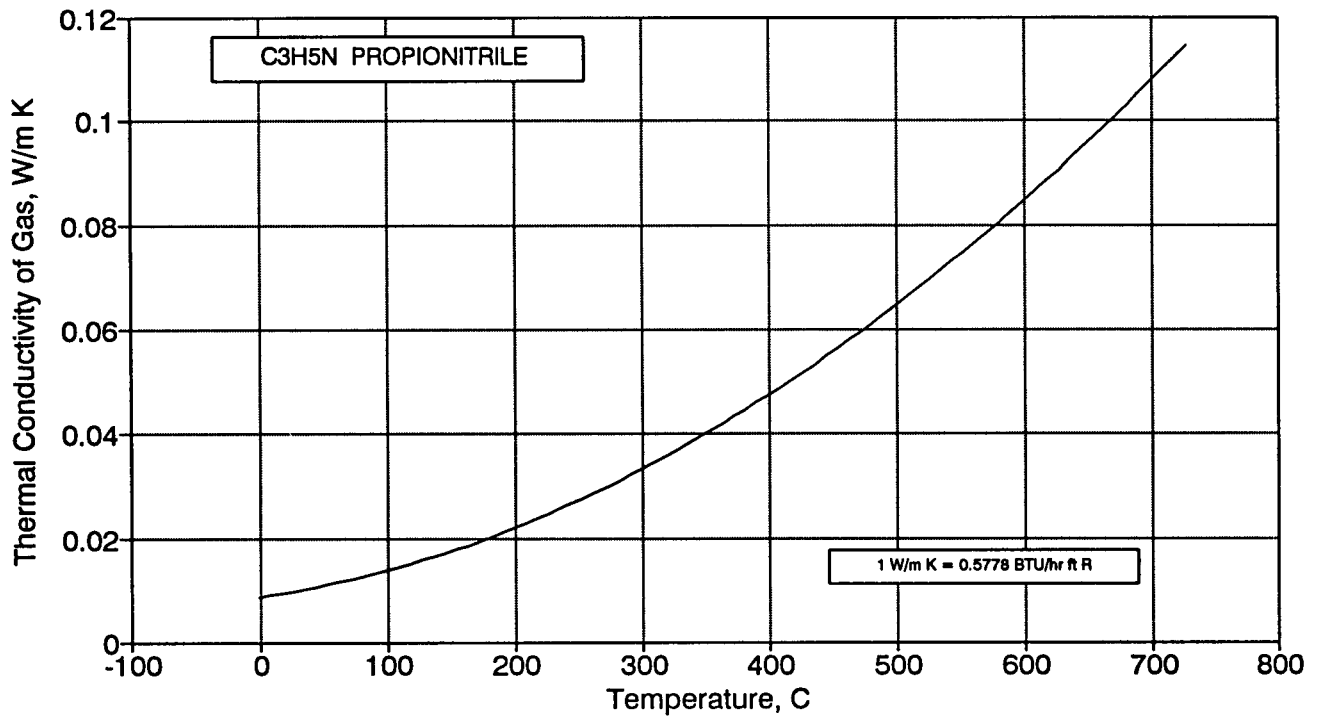


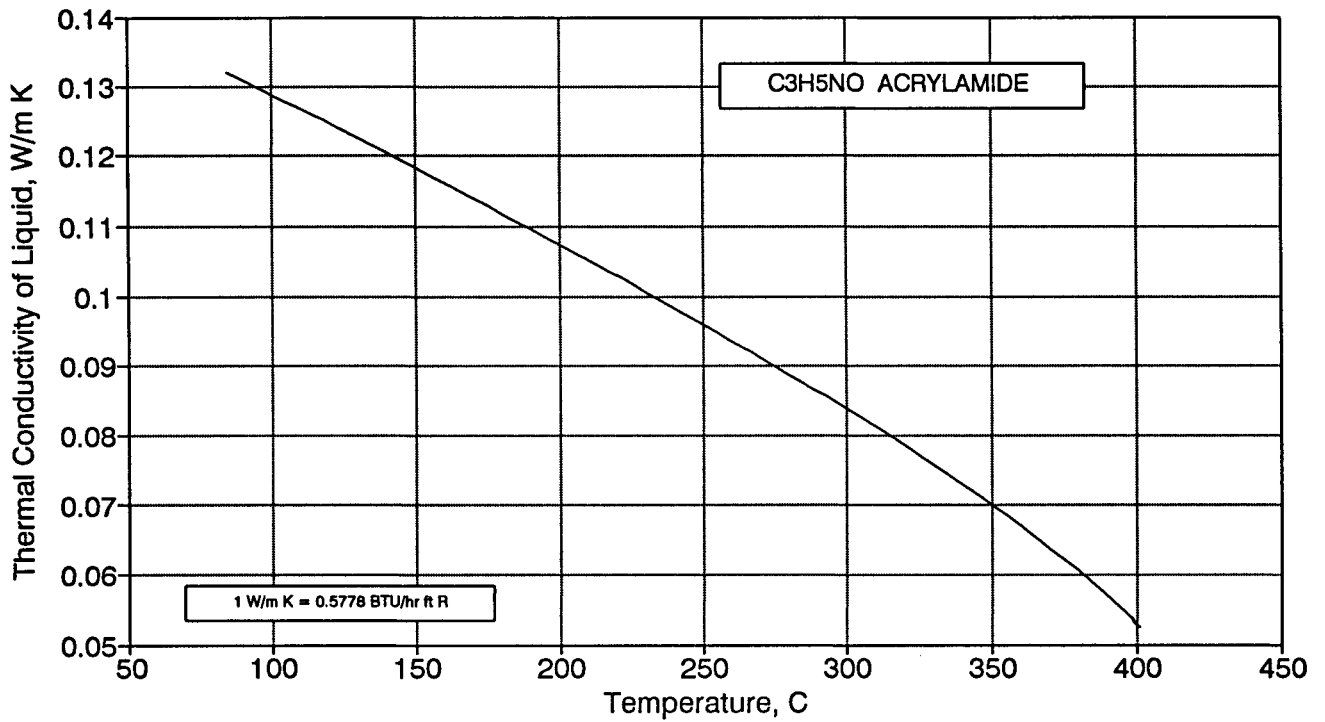
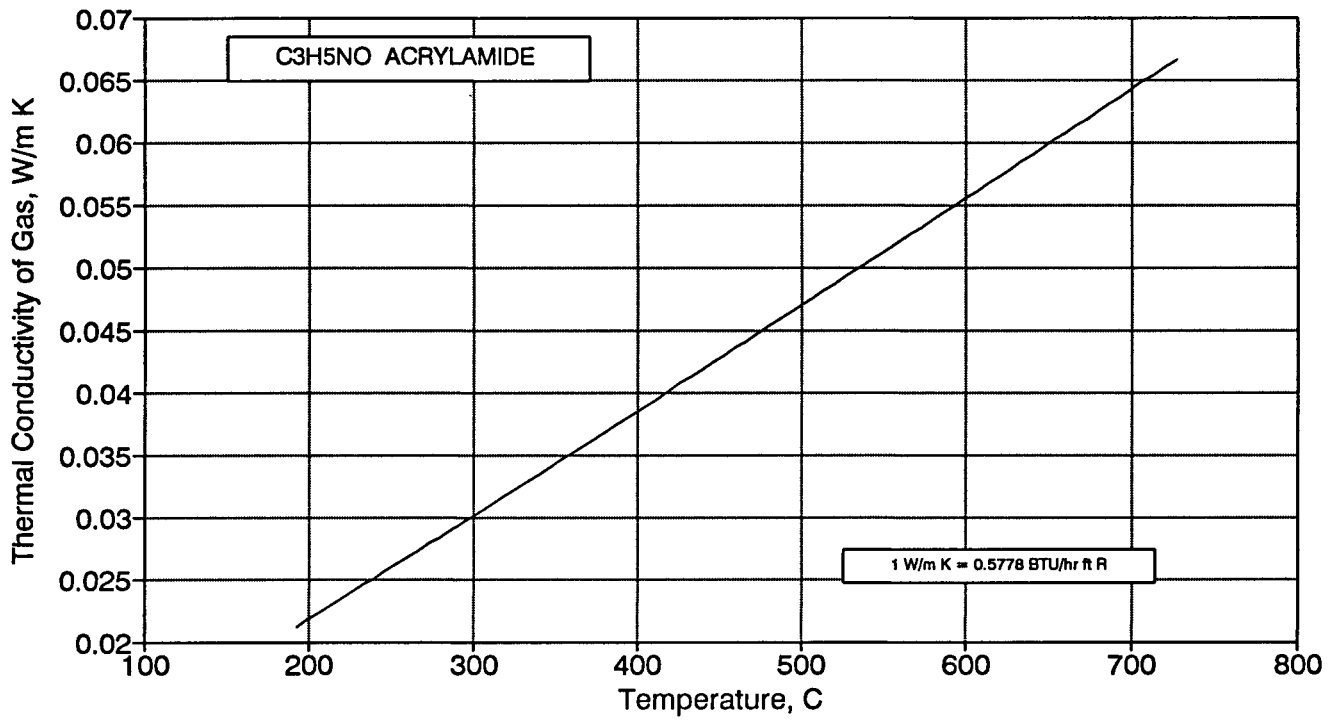










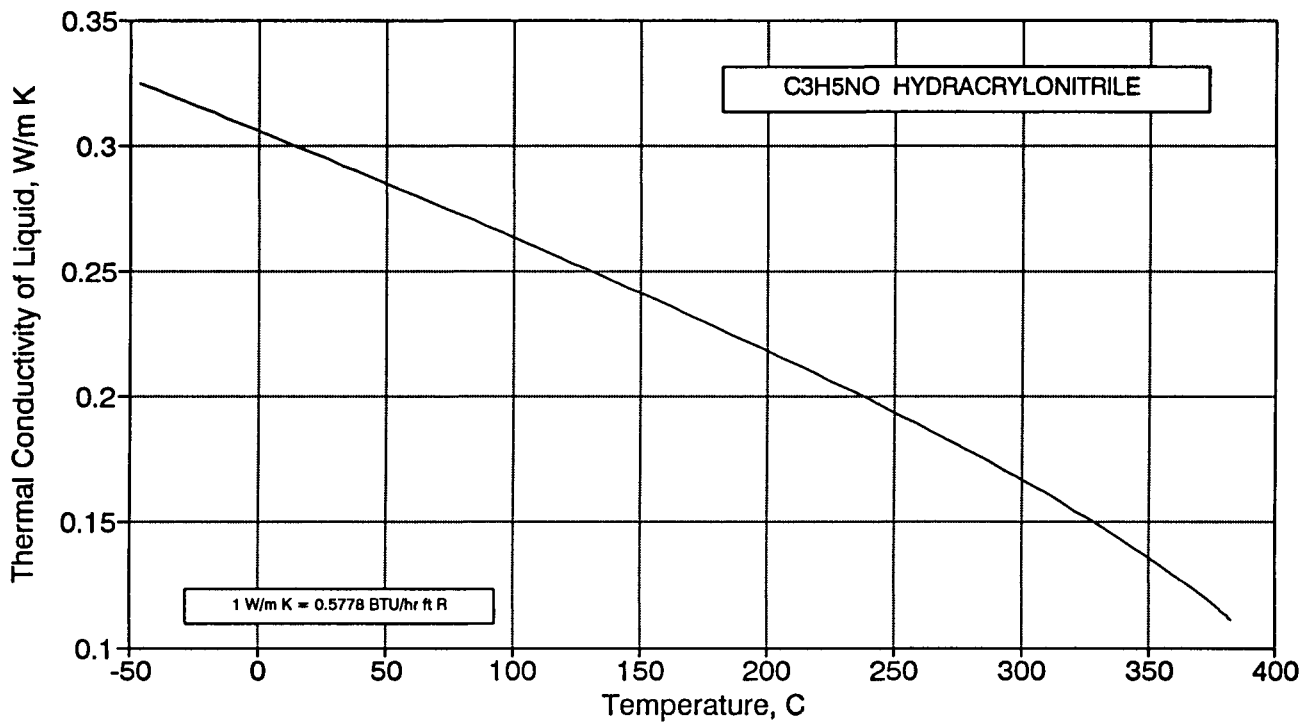


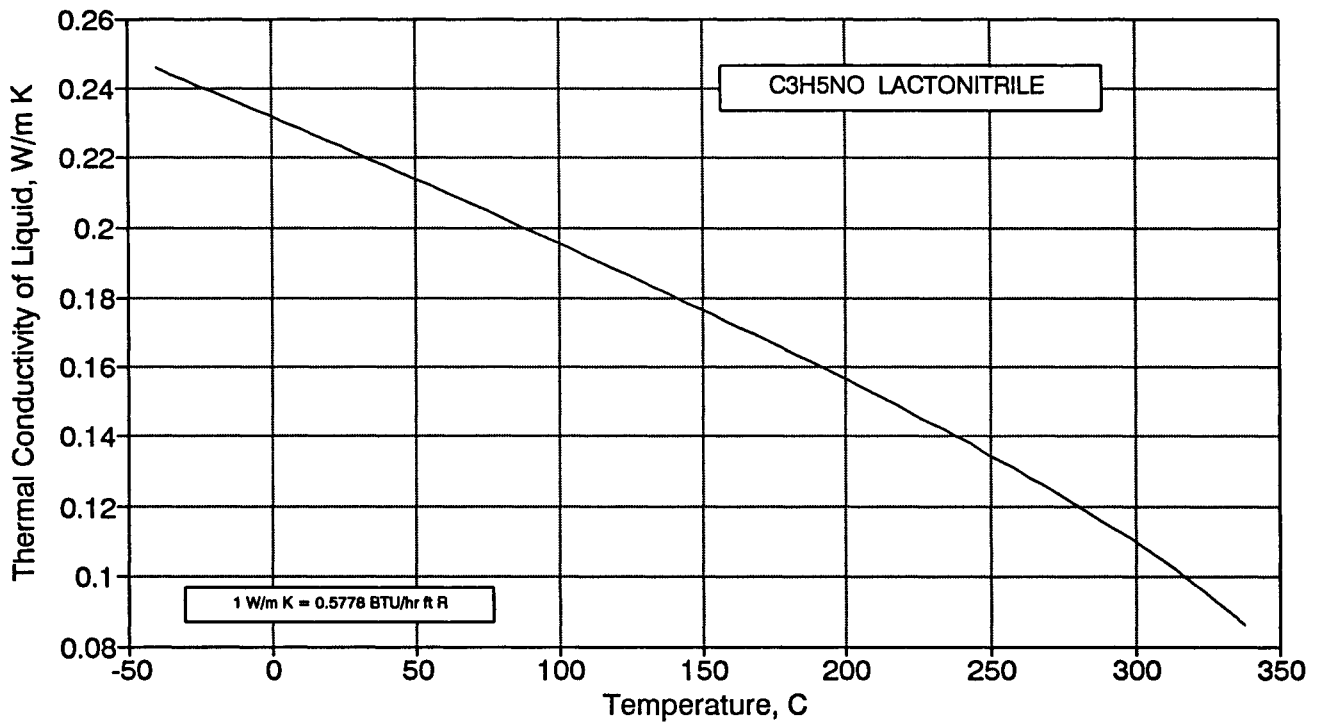
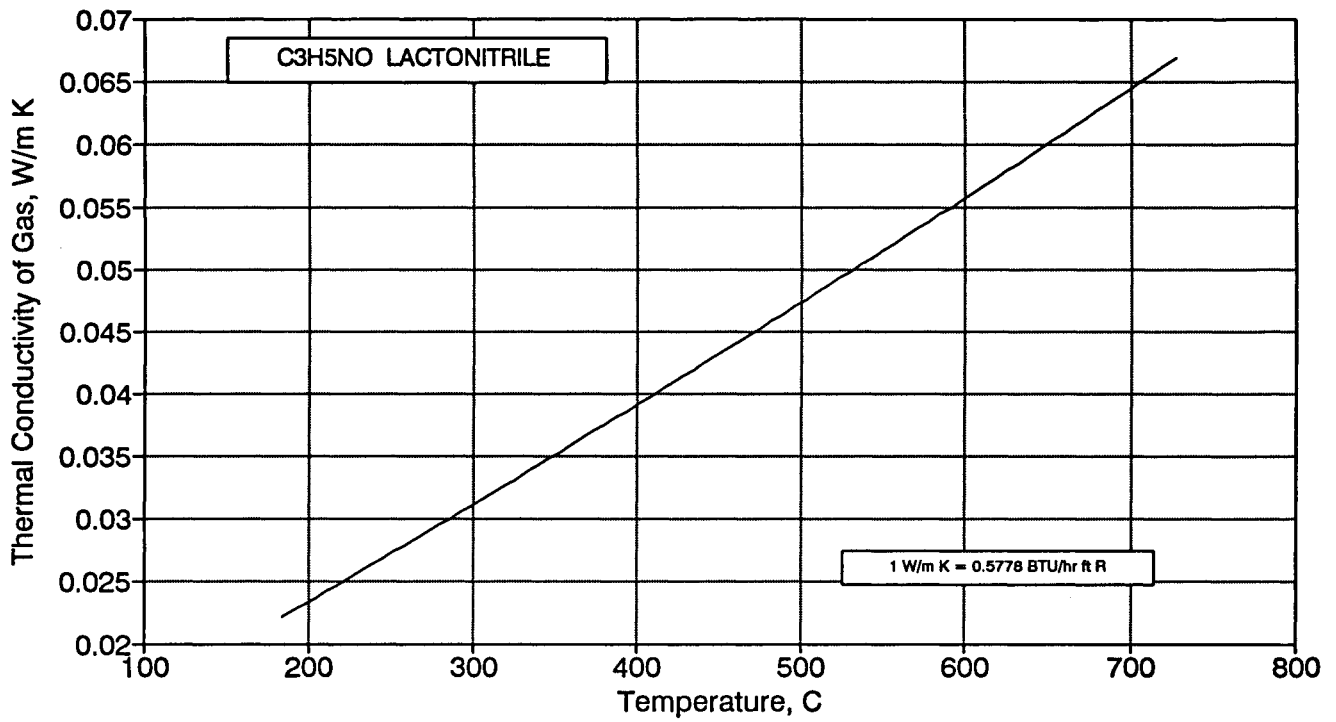
C3H5NO HYDRACRYLONITRILE

Gas thermal conductivity data are not available .

TF , K = 227.15

TB , K = 494.15







C3H5N3O9 NITROGLYCERINE

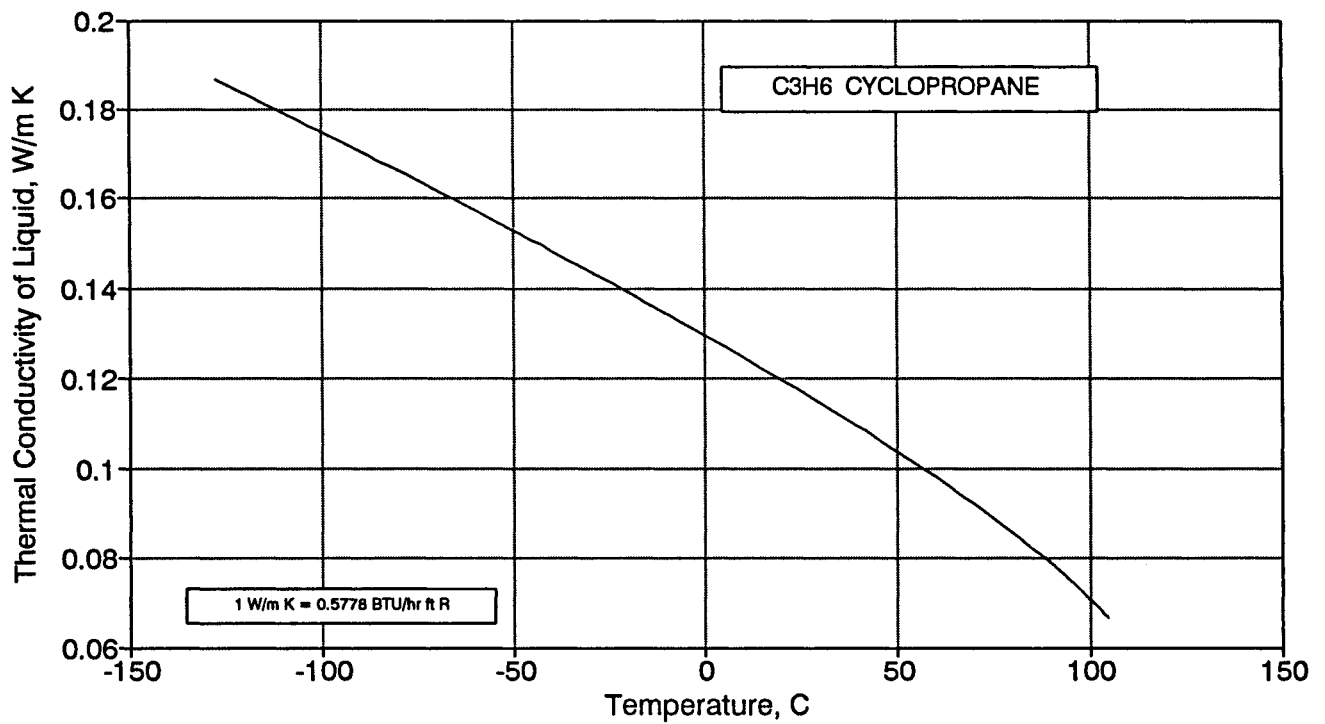
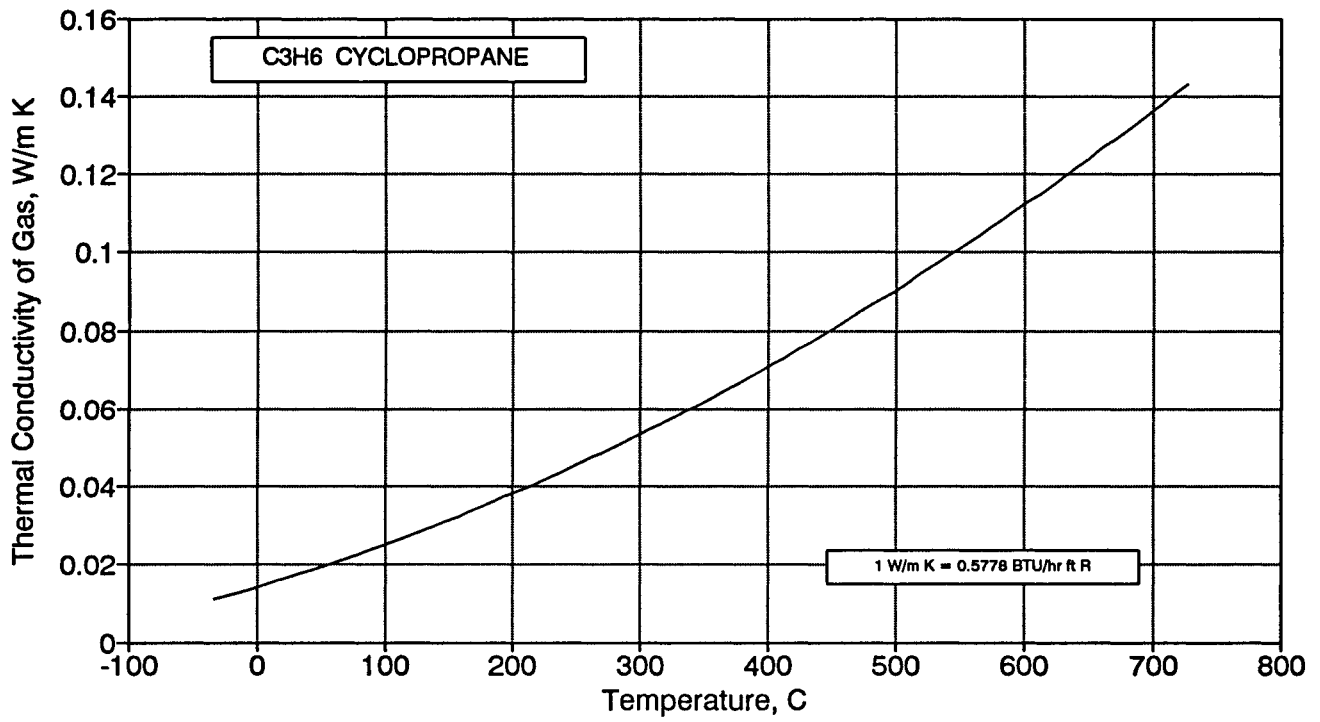
Gas thermal conductivity data are not available .

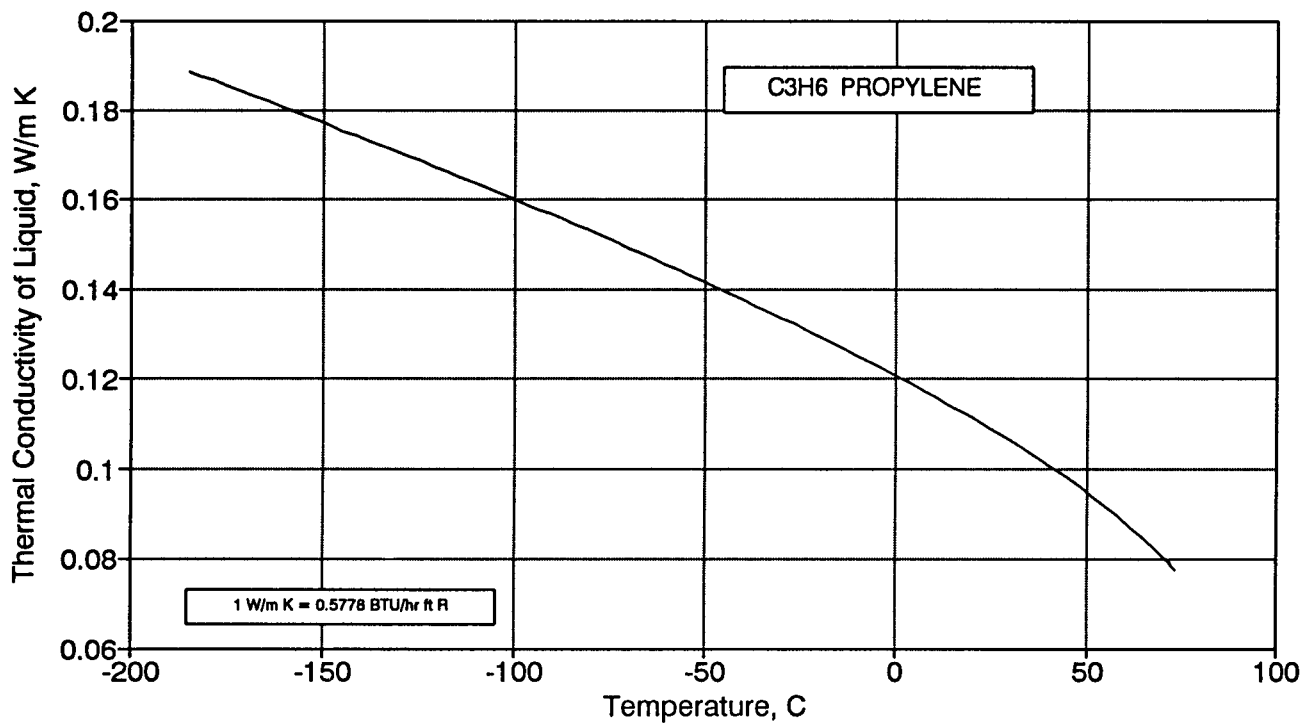
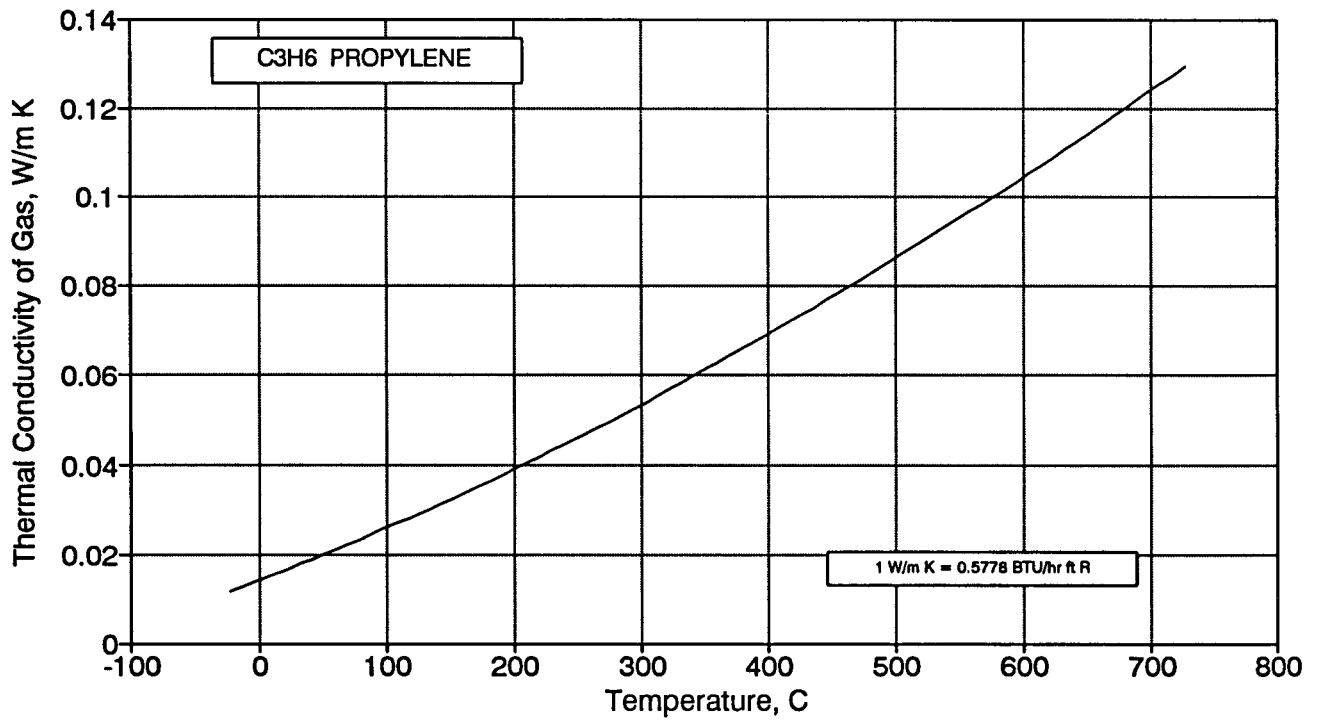
TF , K = 286.15

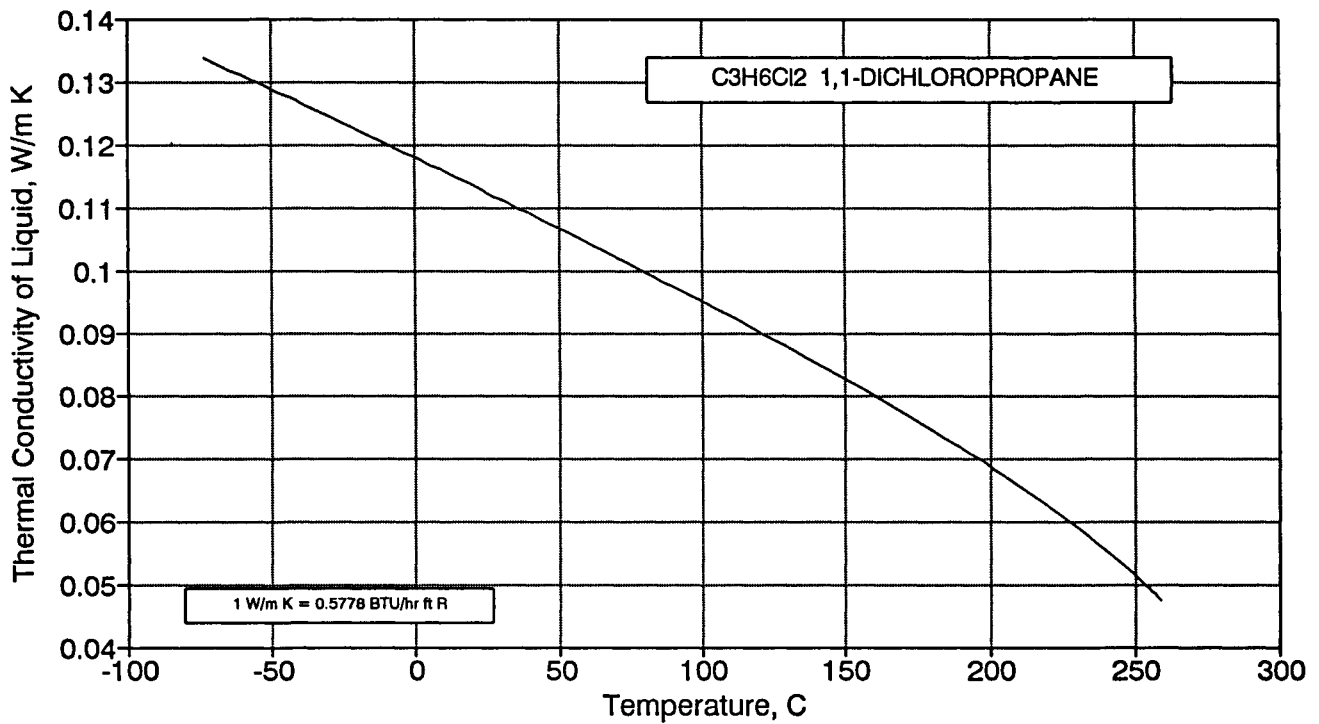
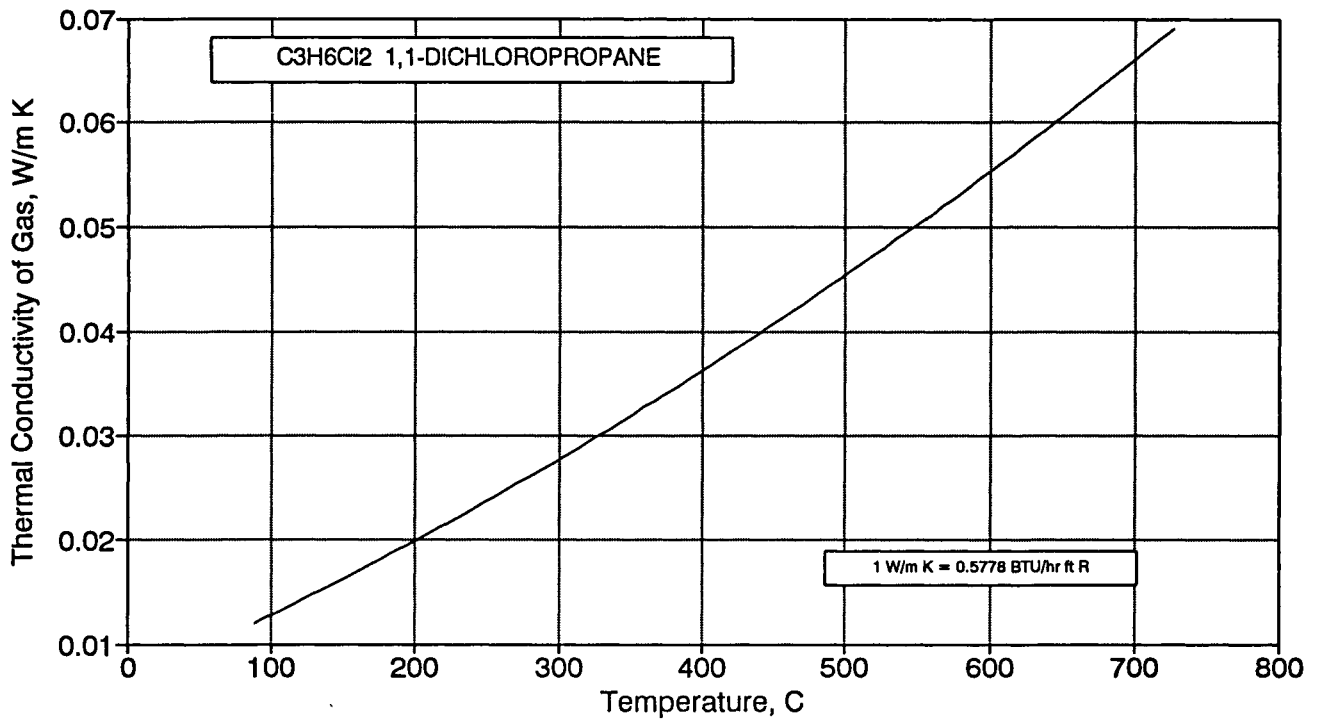
TB , K = 523.00

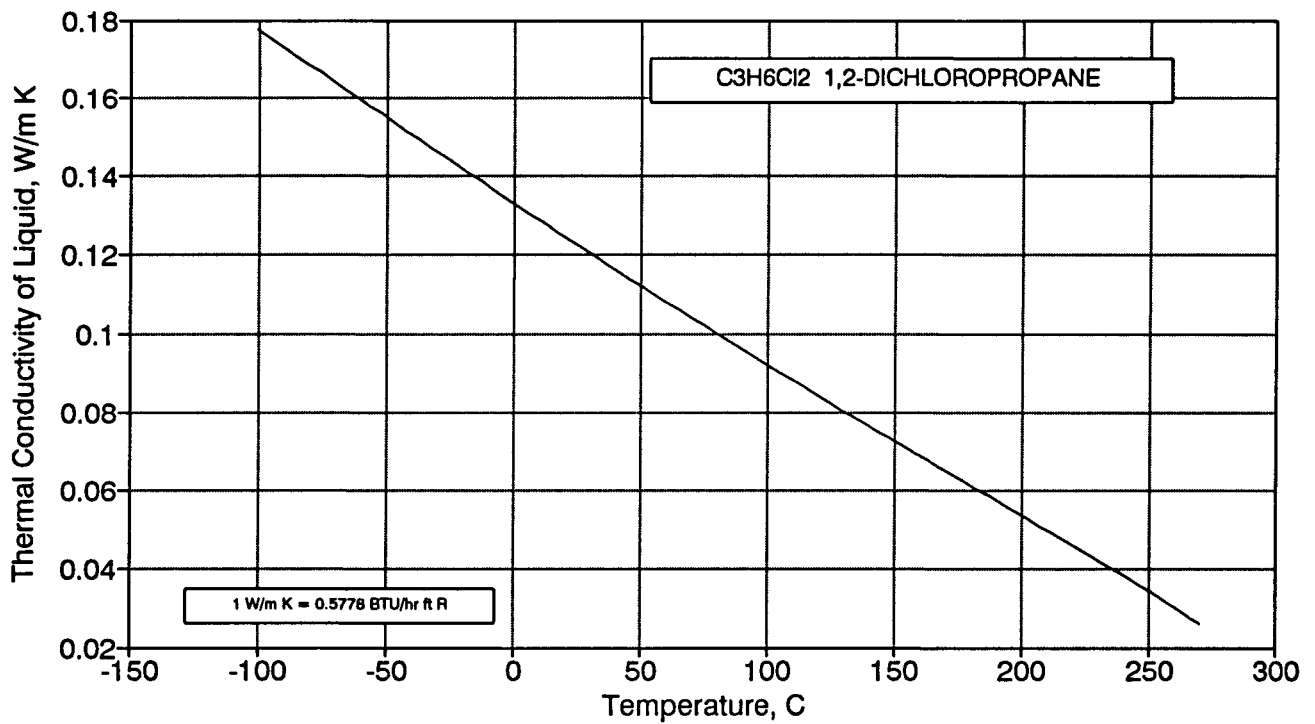
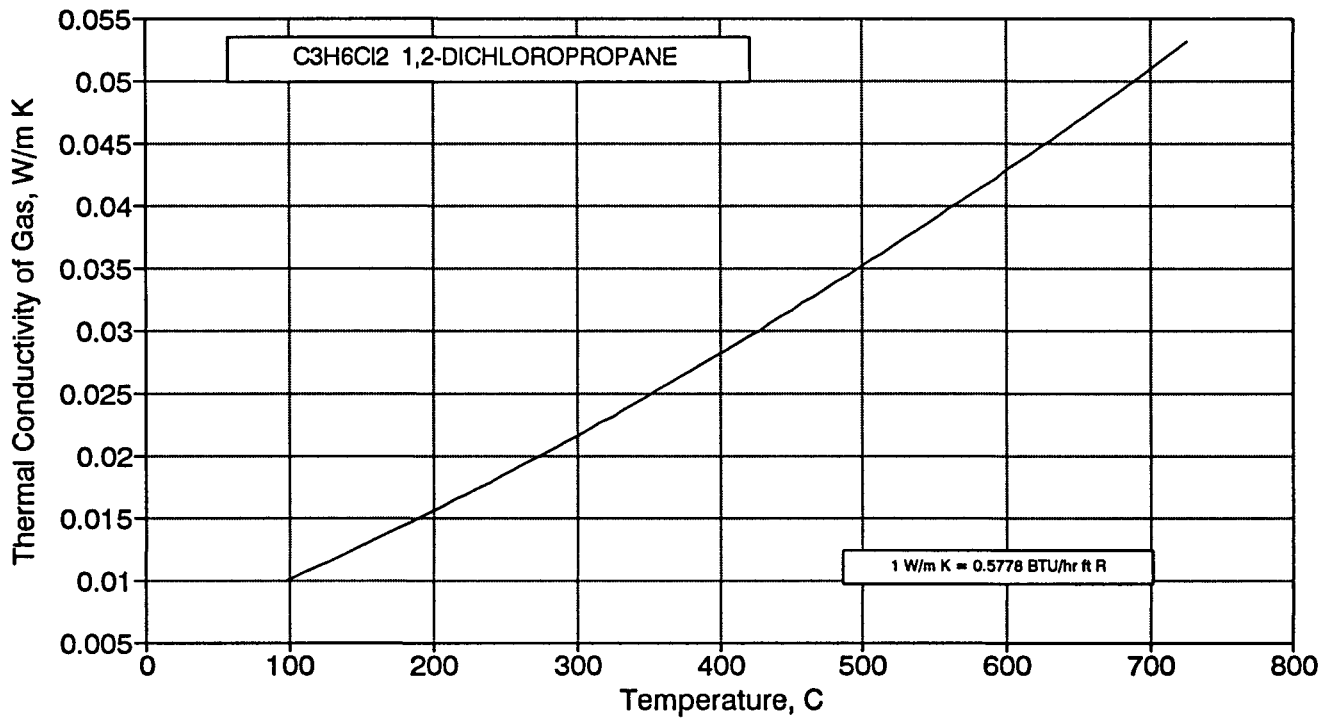
C3H5N3O9 NITROGLYCERINE

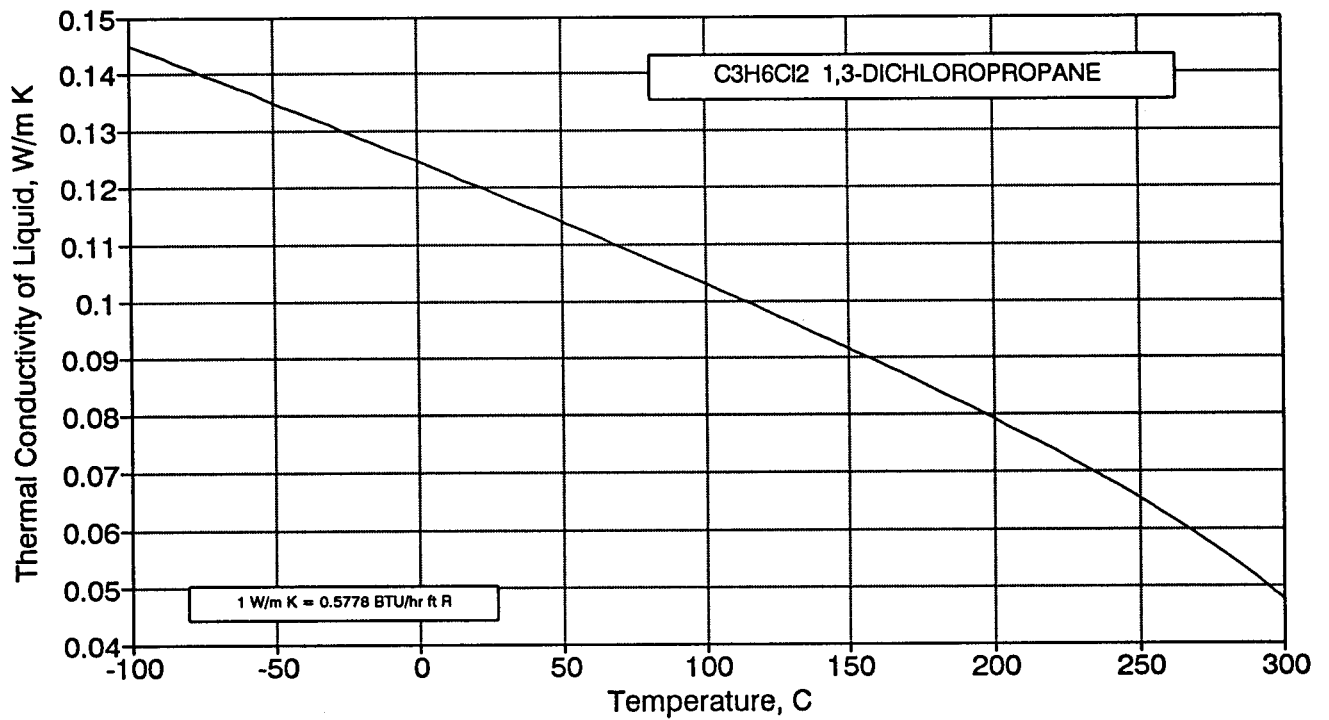
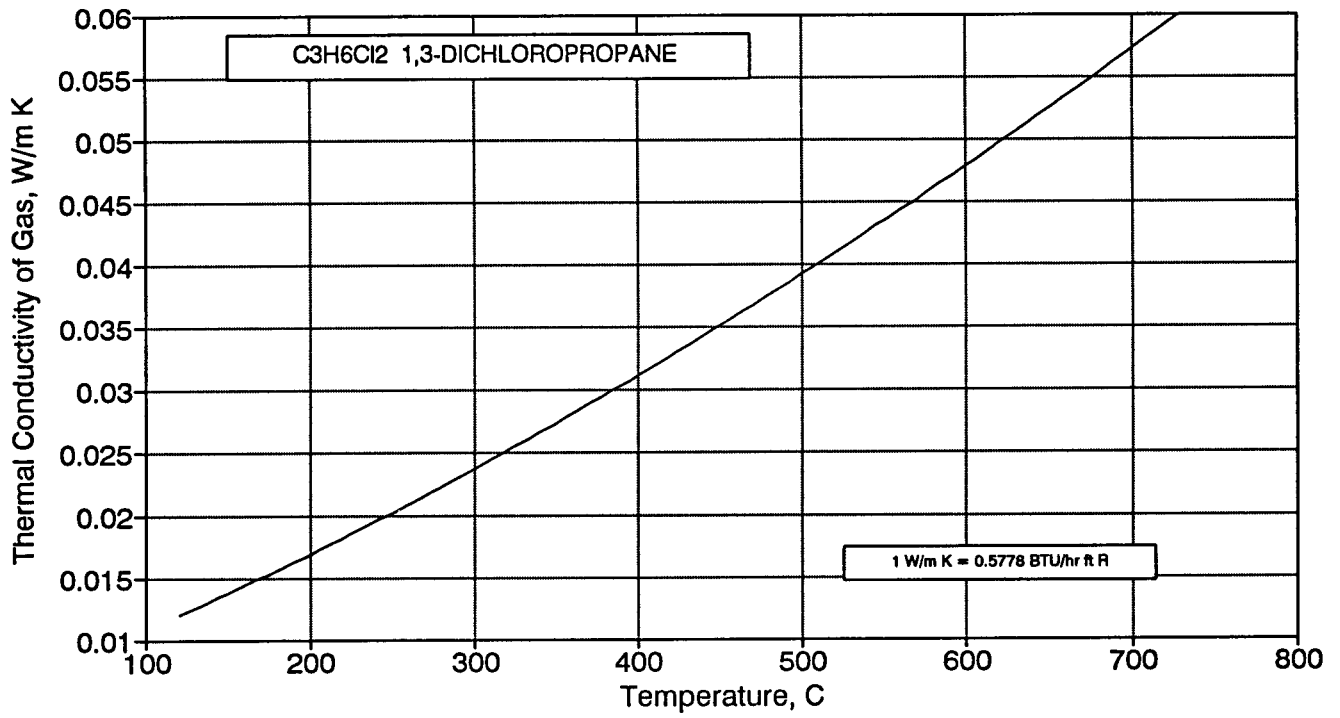
Liquid thermal conductivity data are not available .

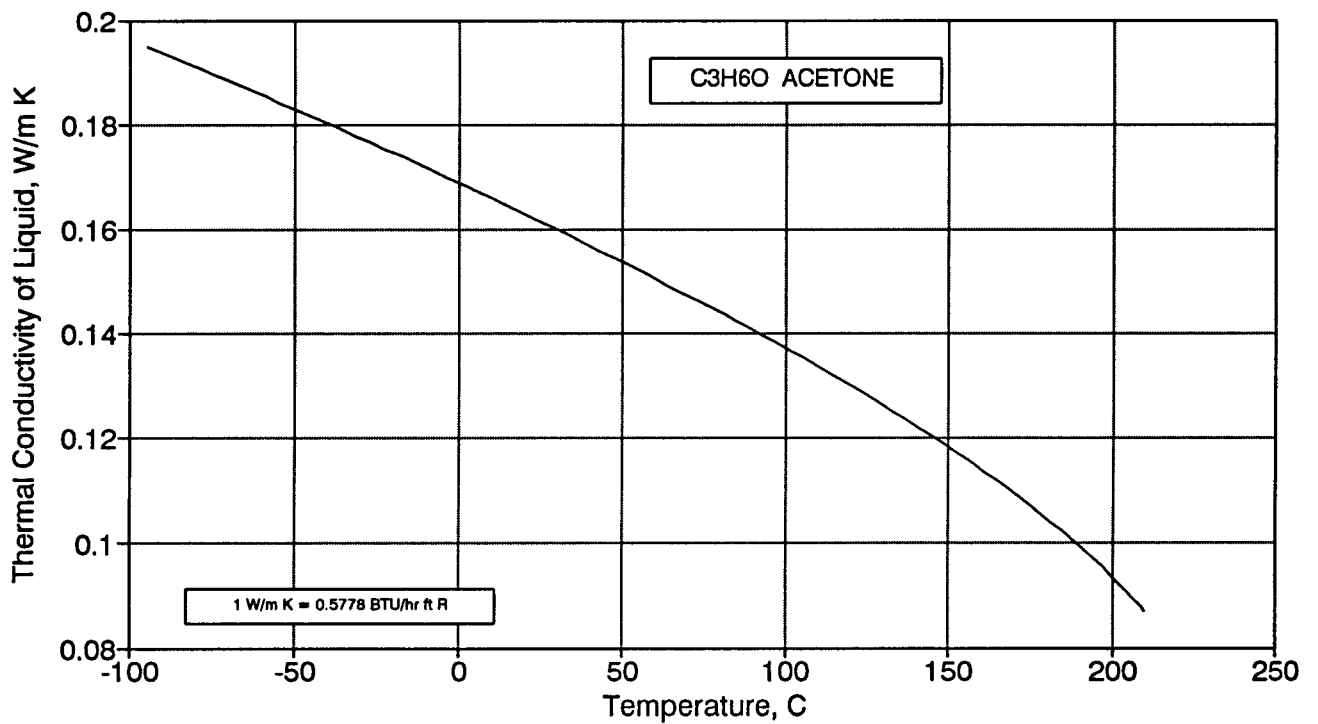
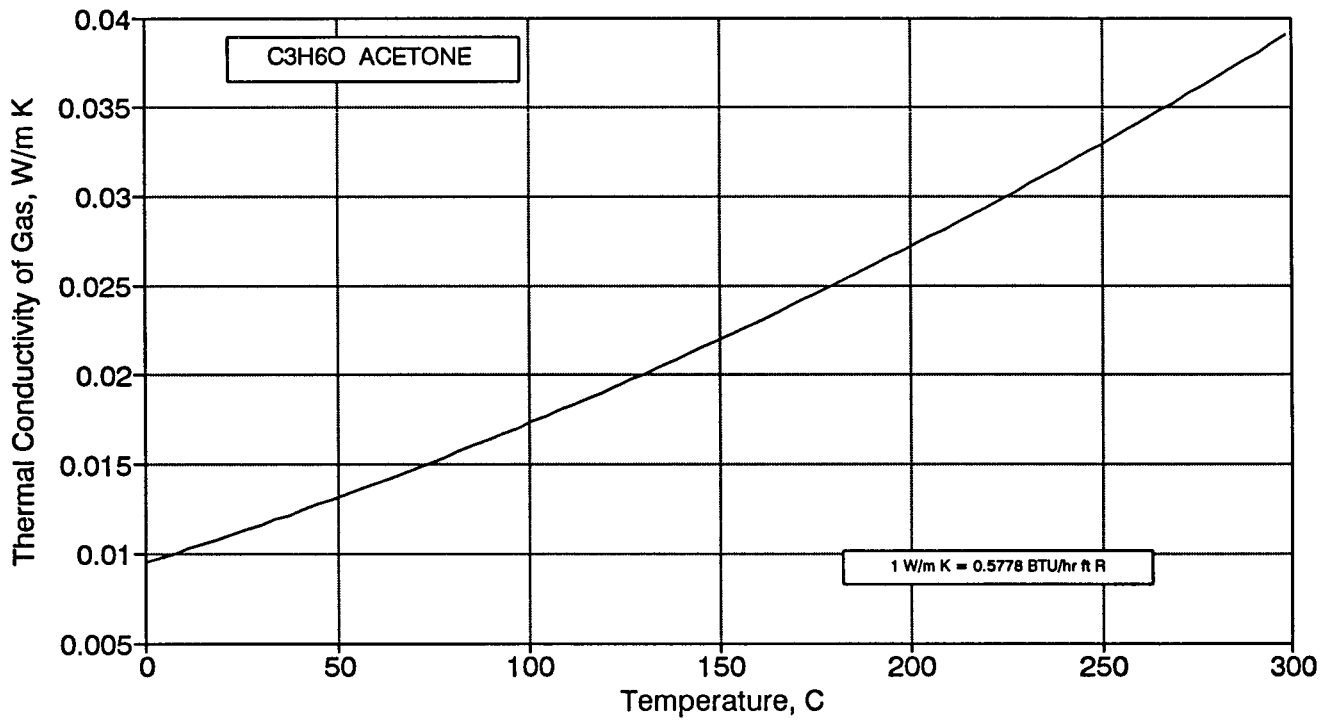


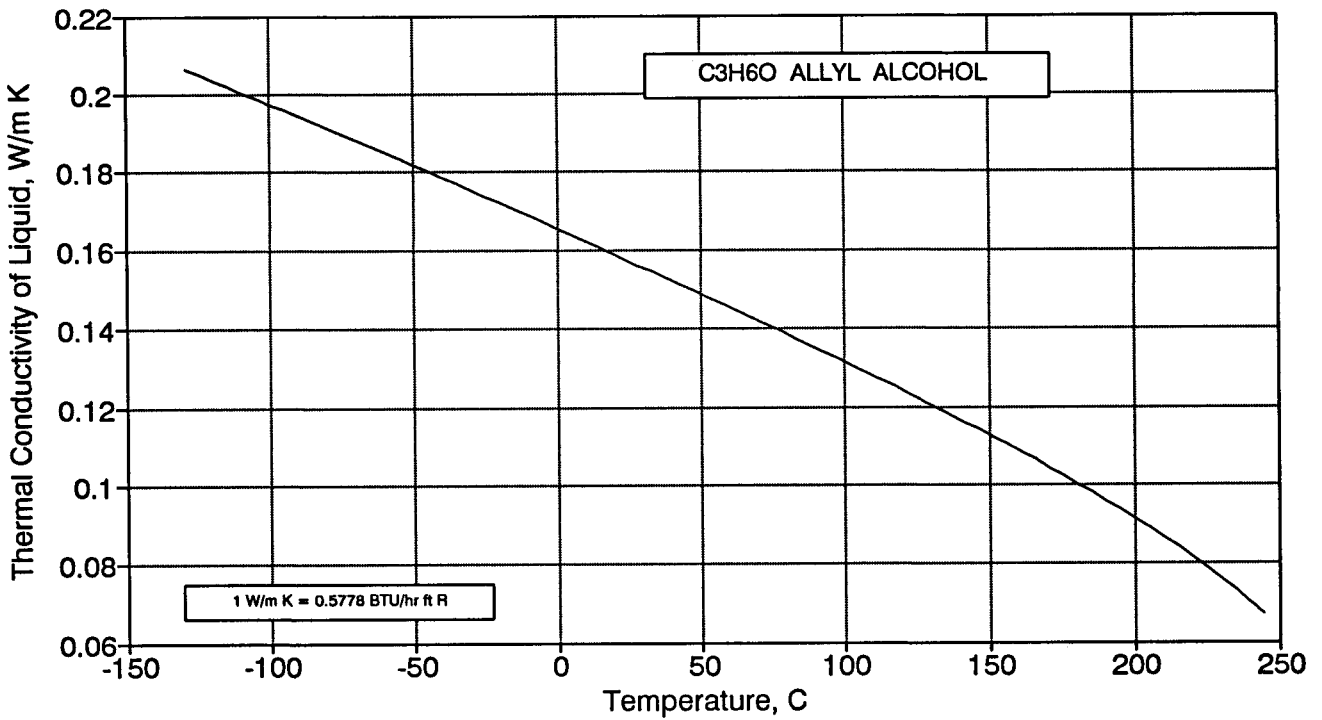
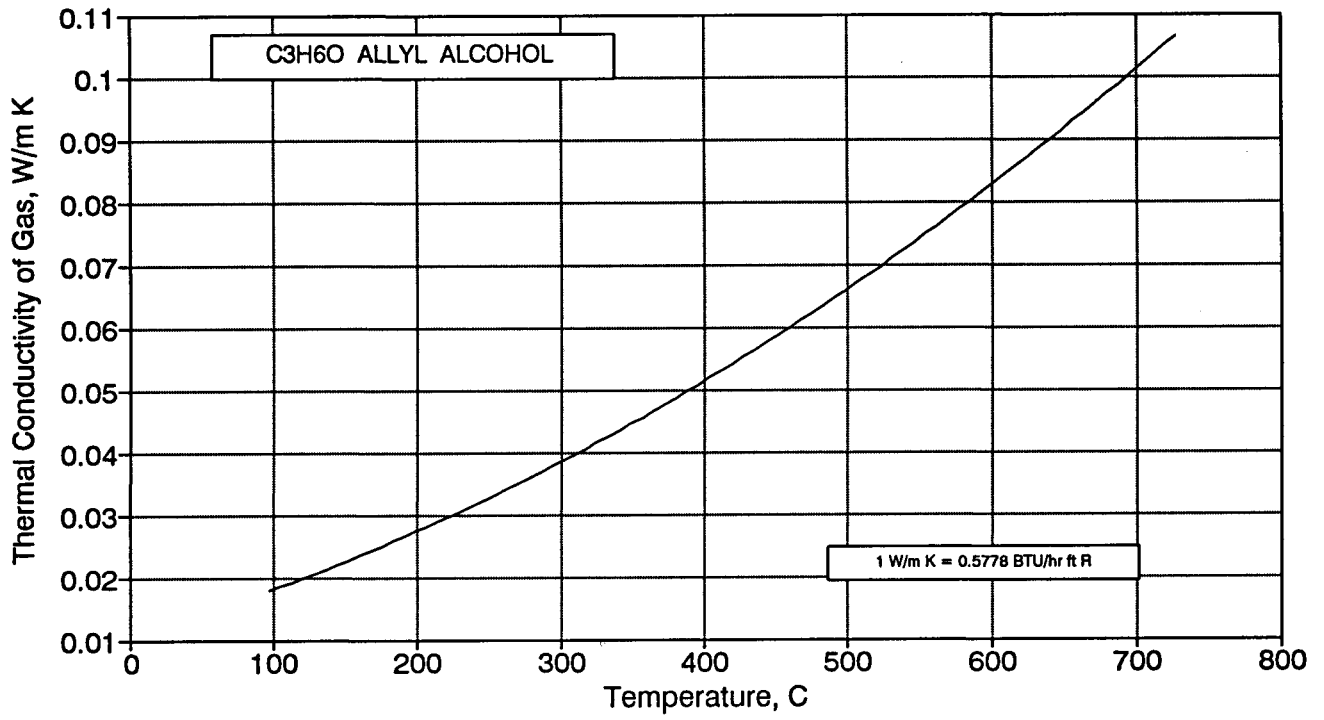




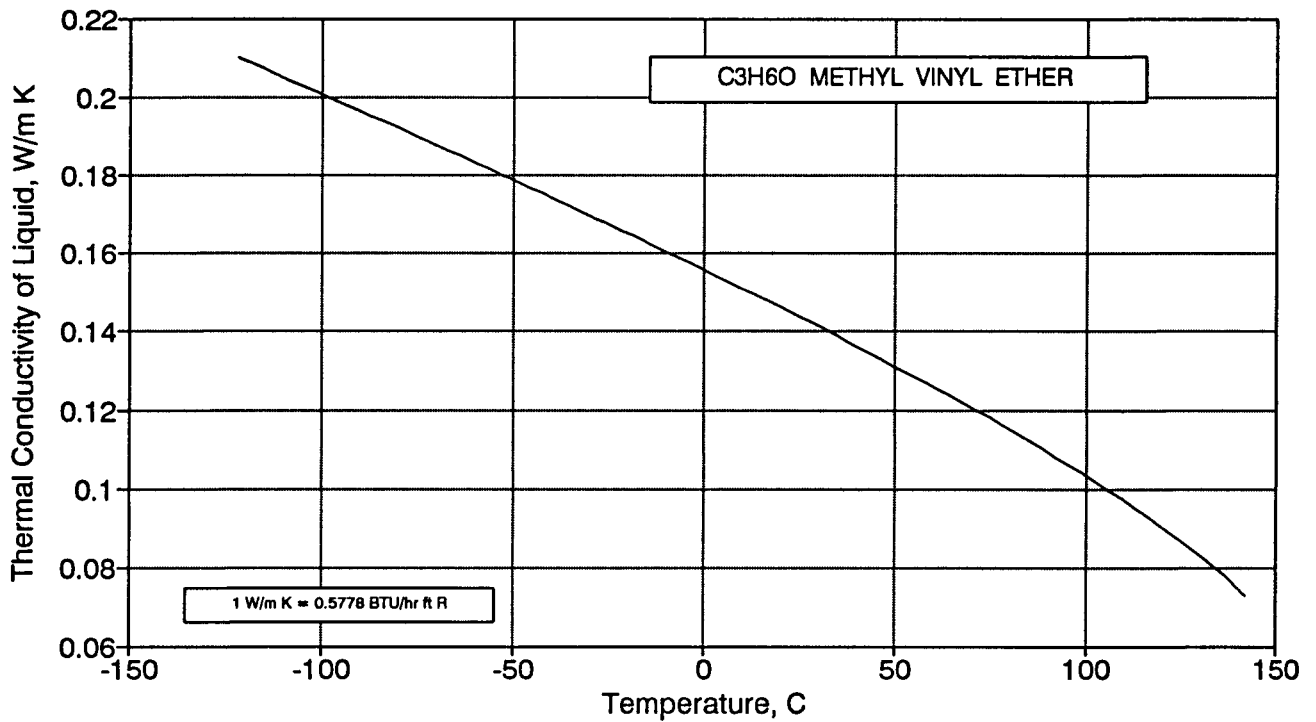
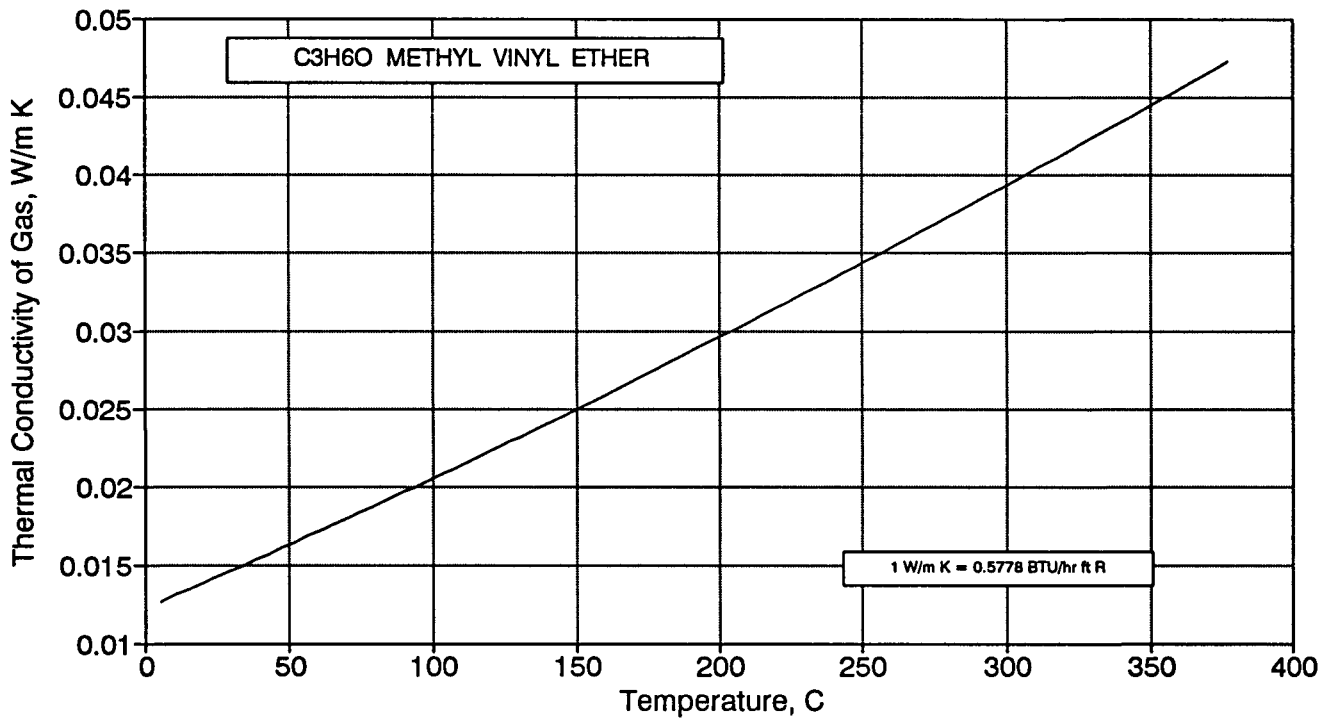


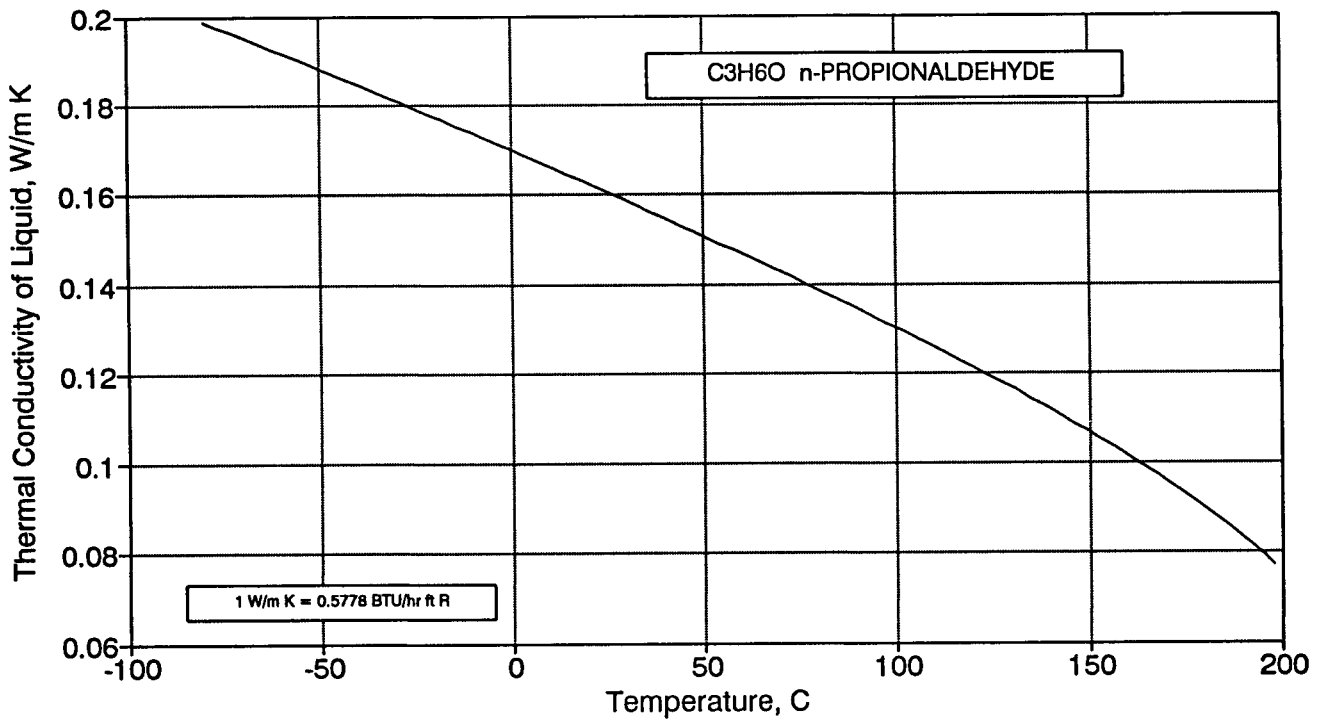
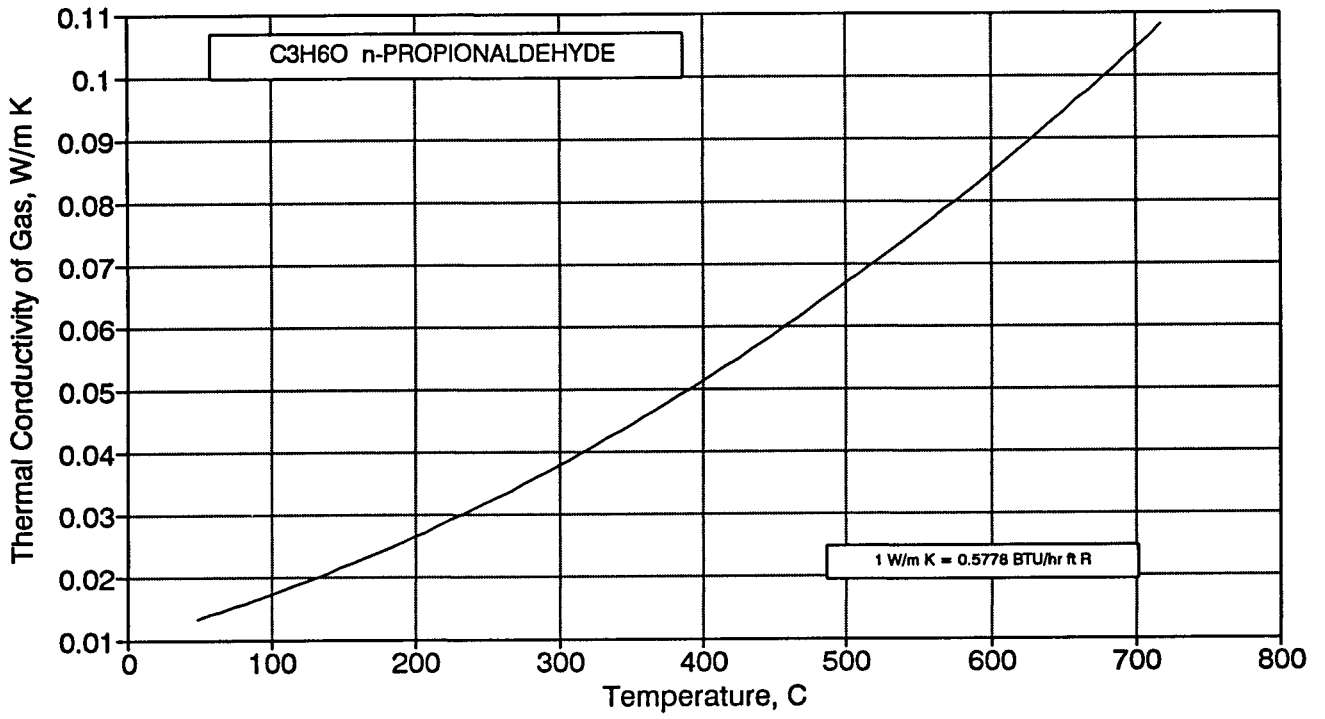


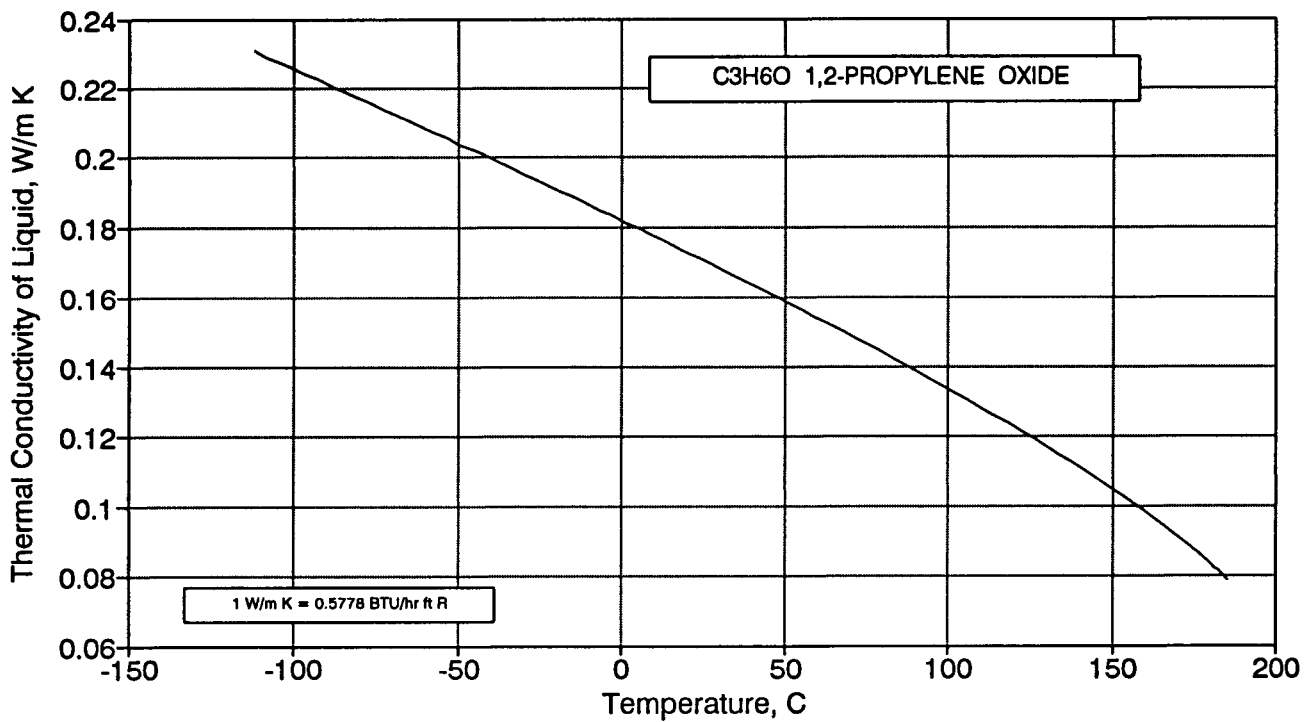
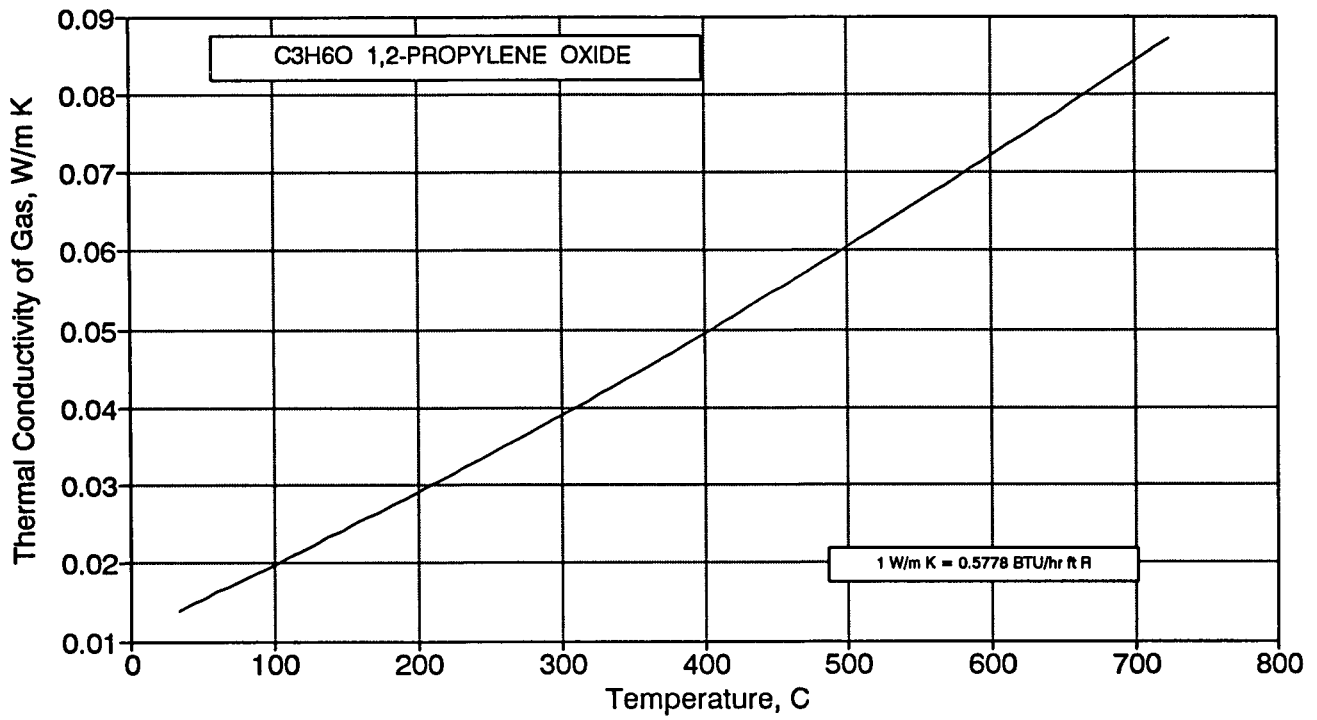


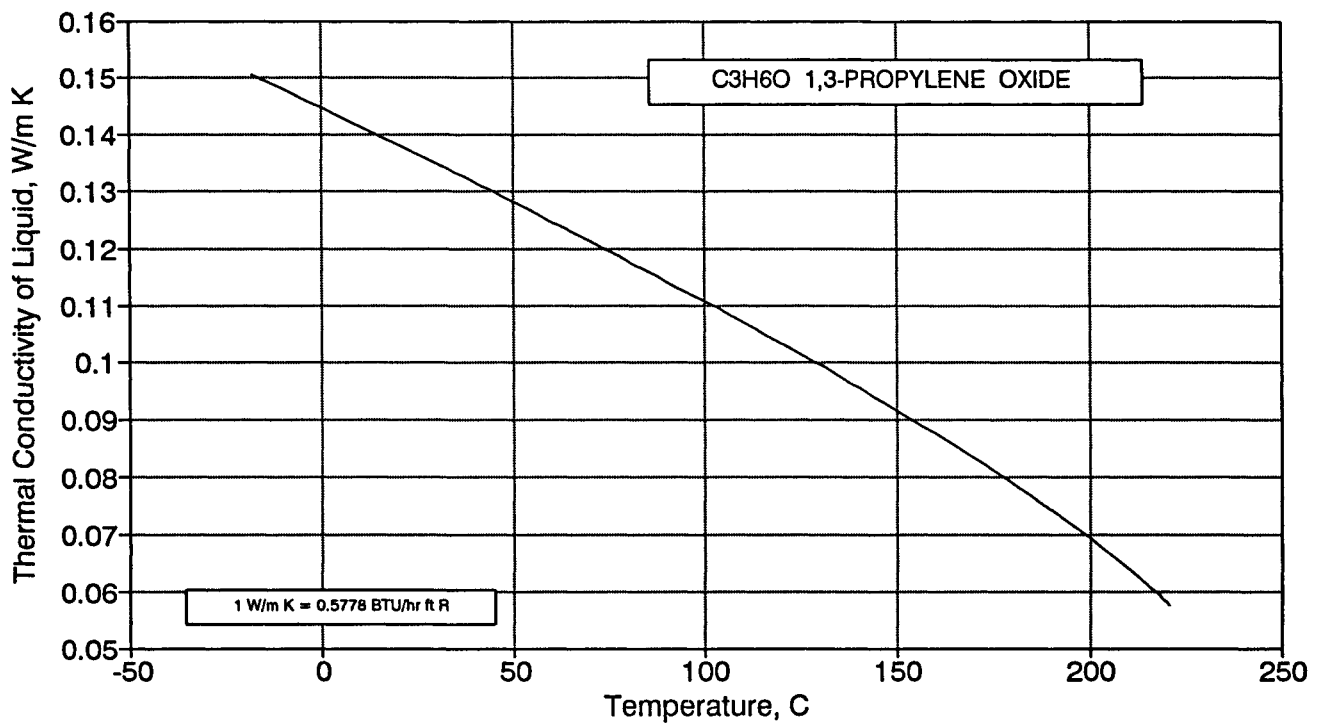
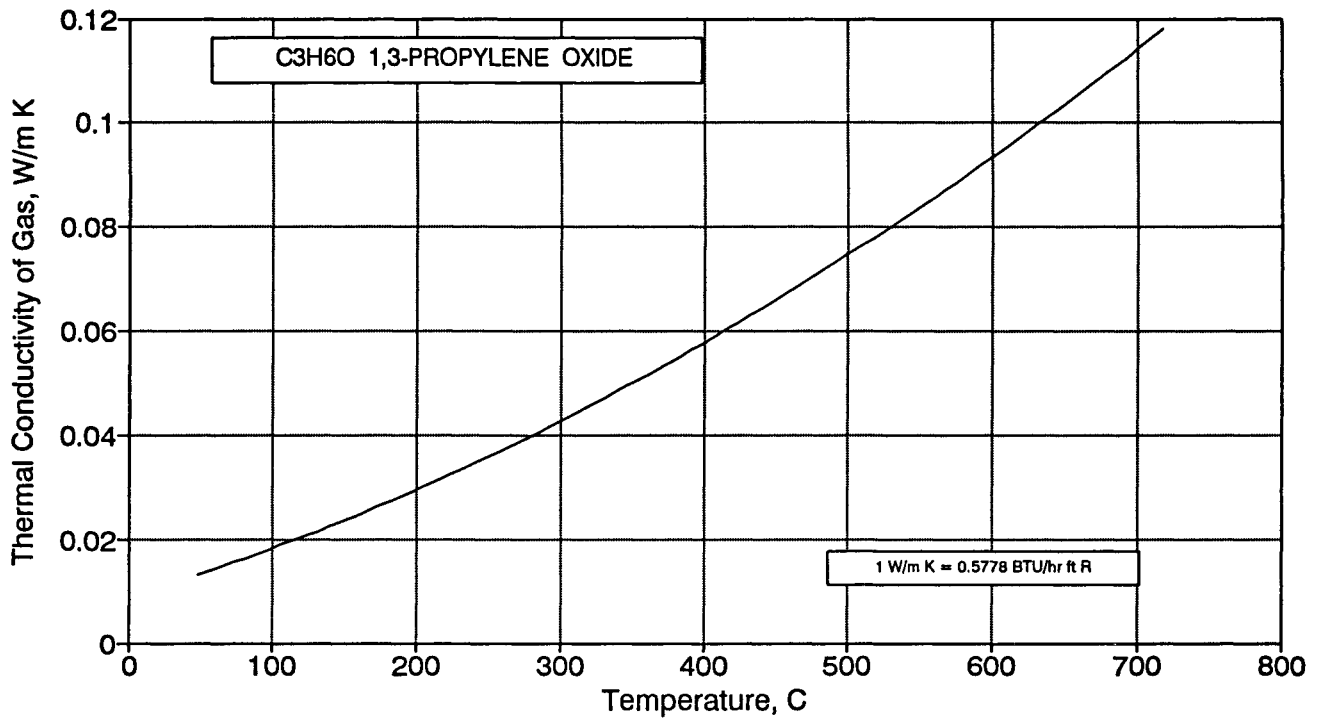


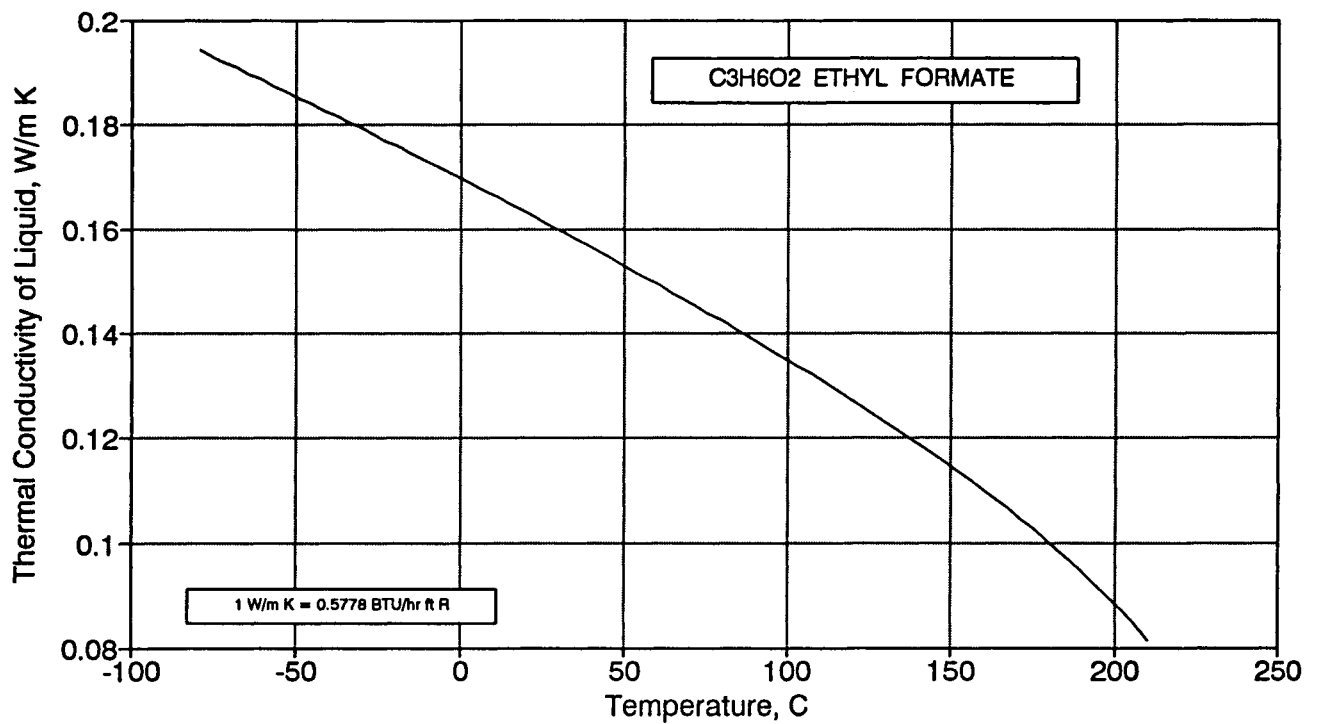
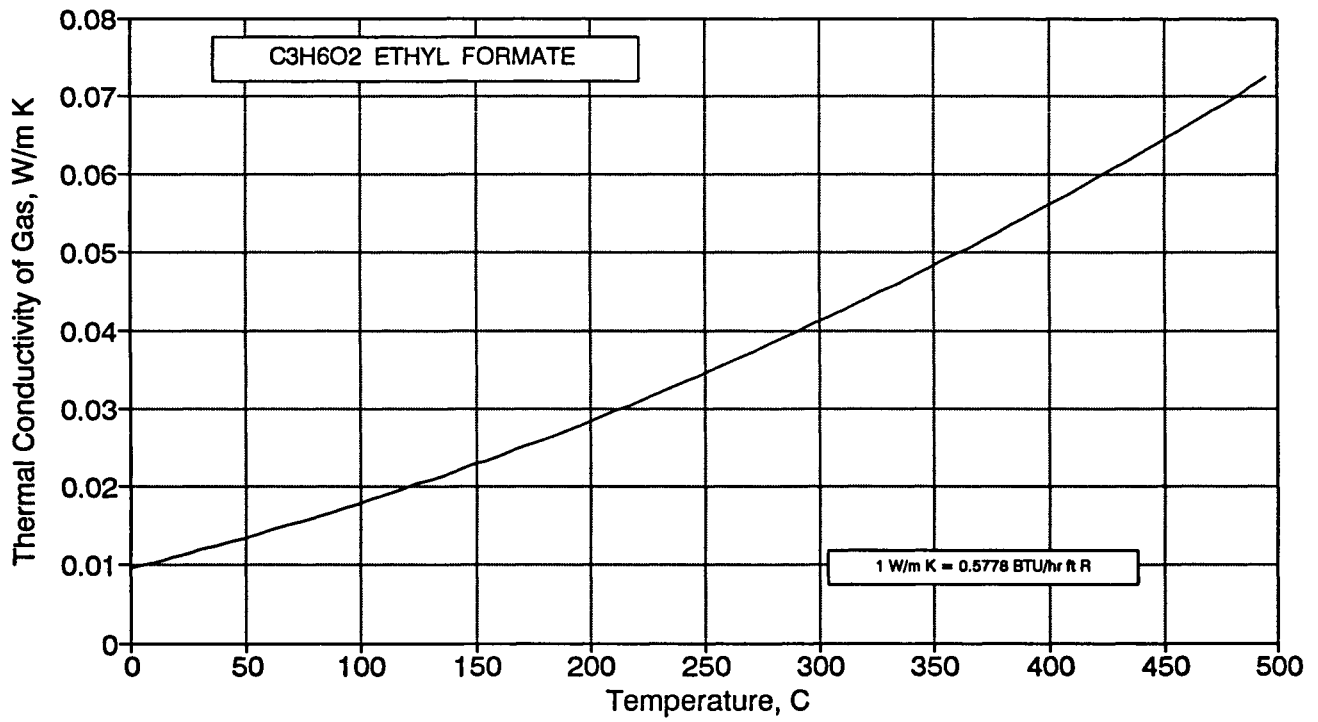


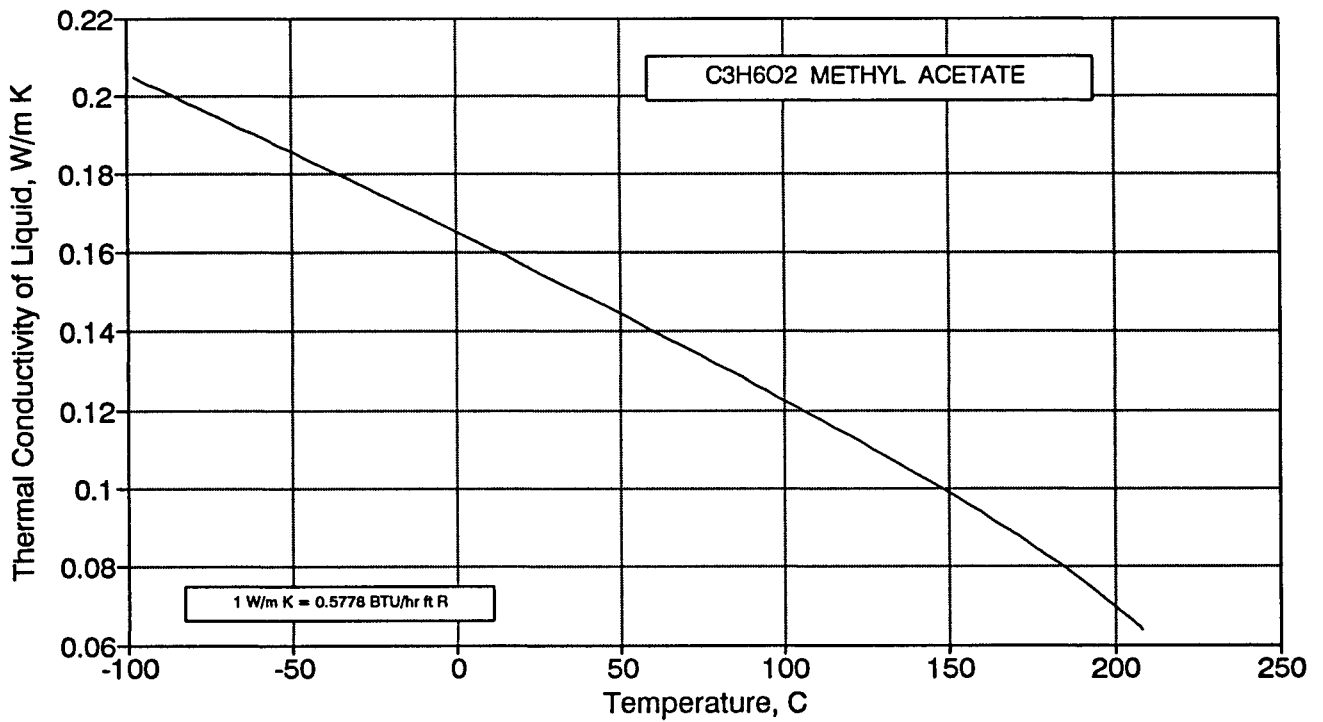
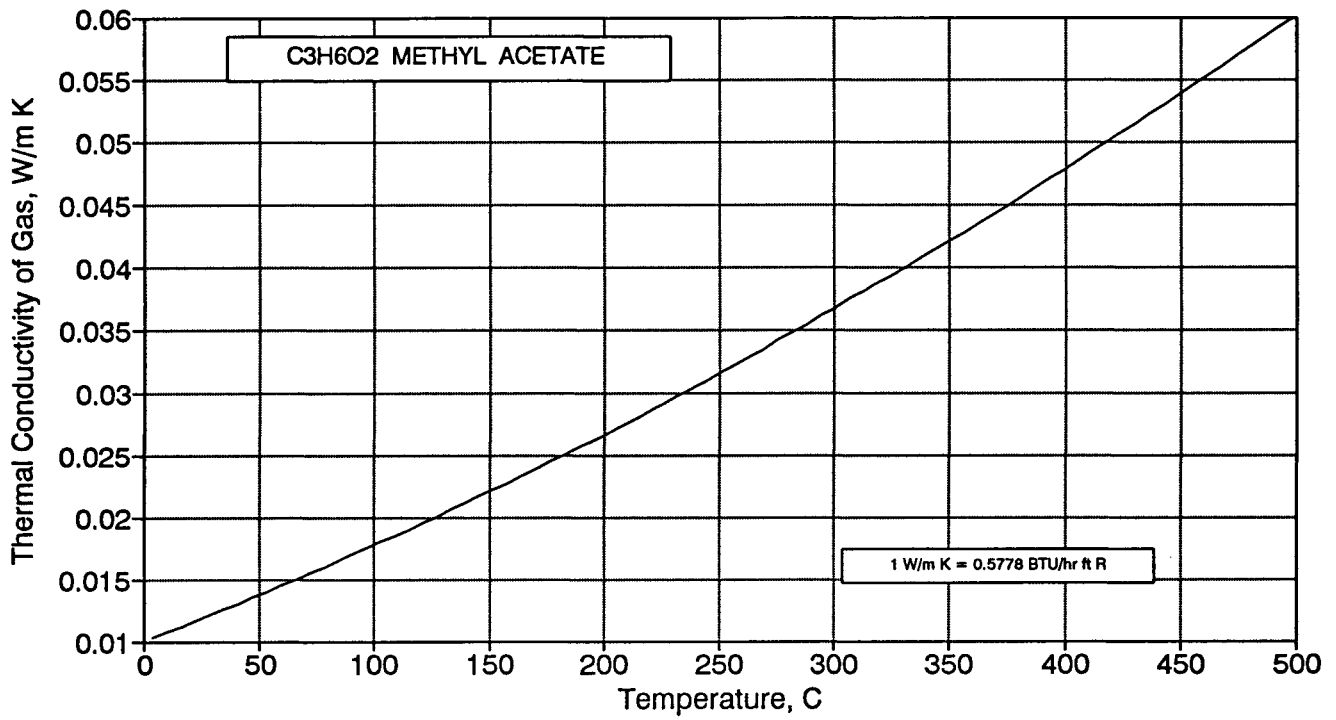


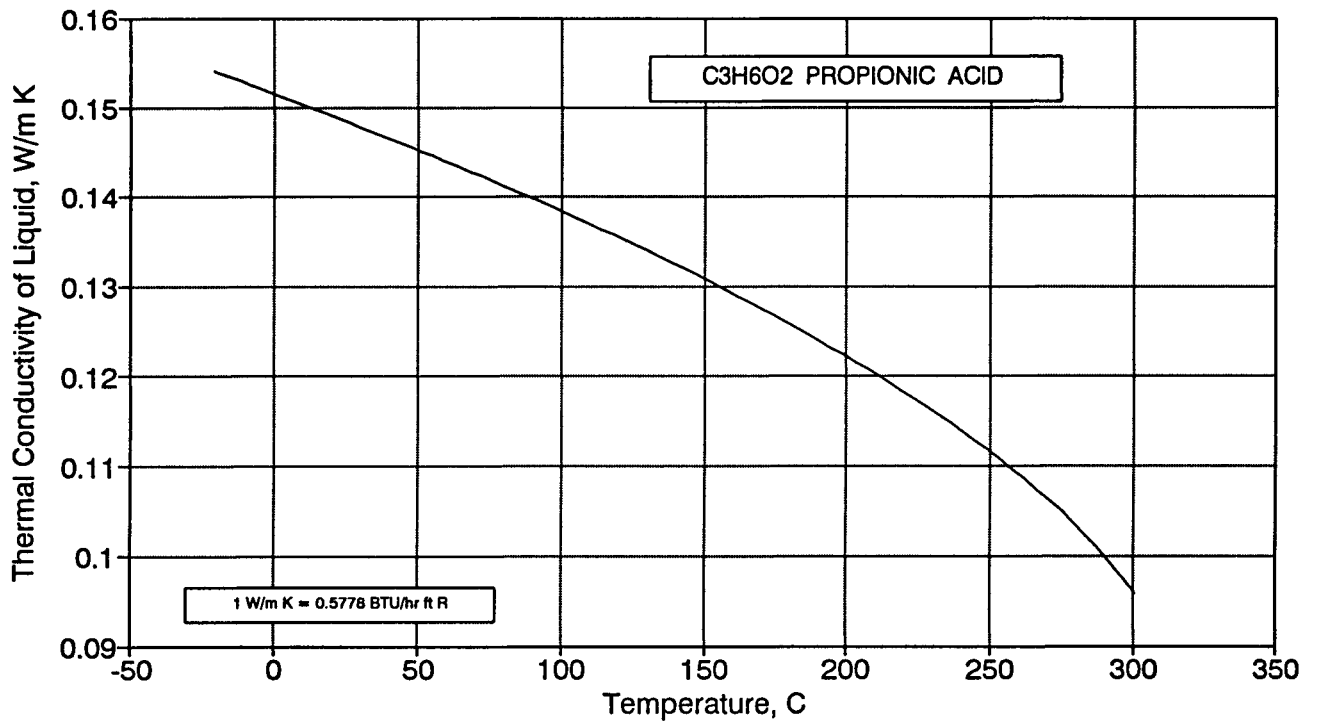
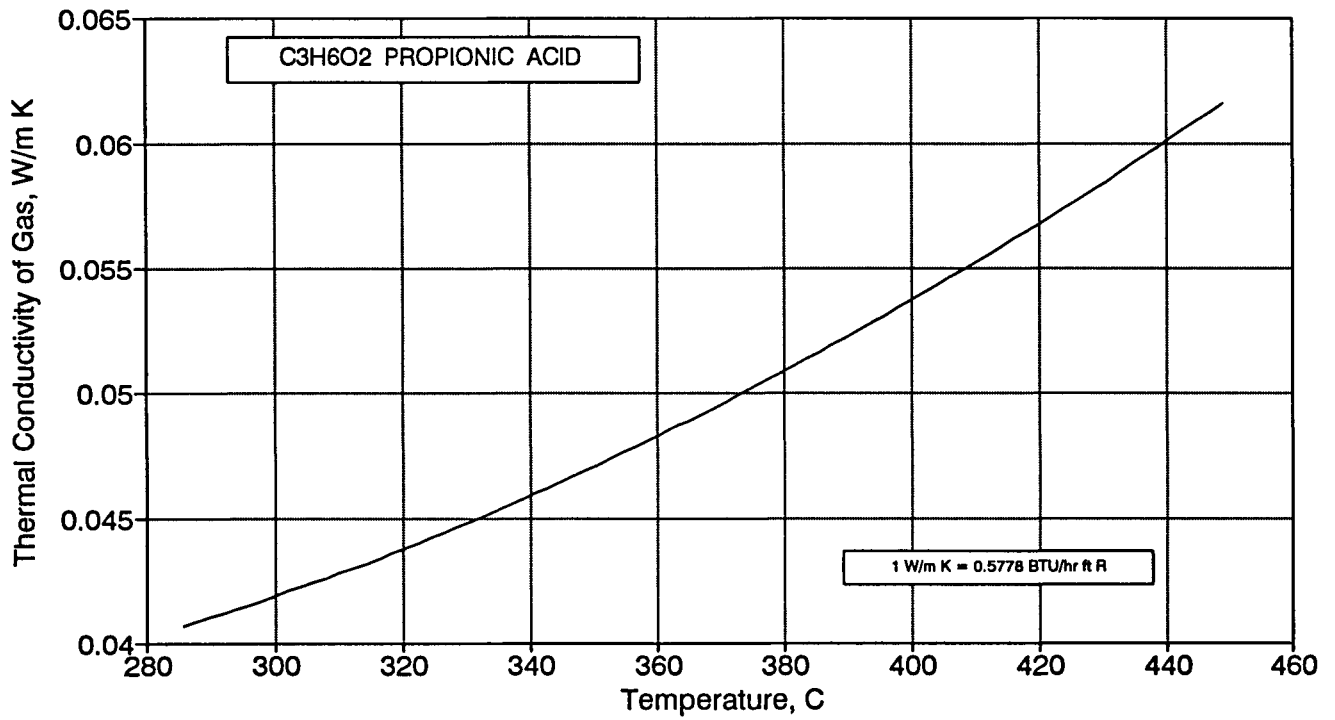


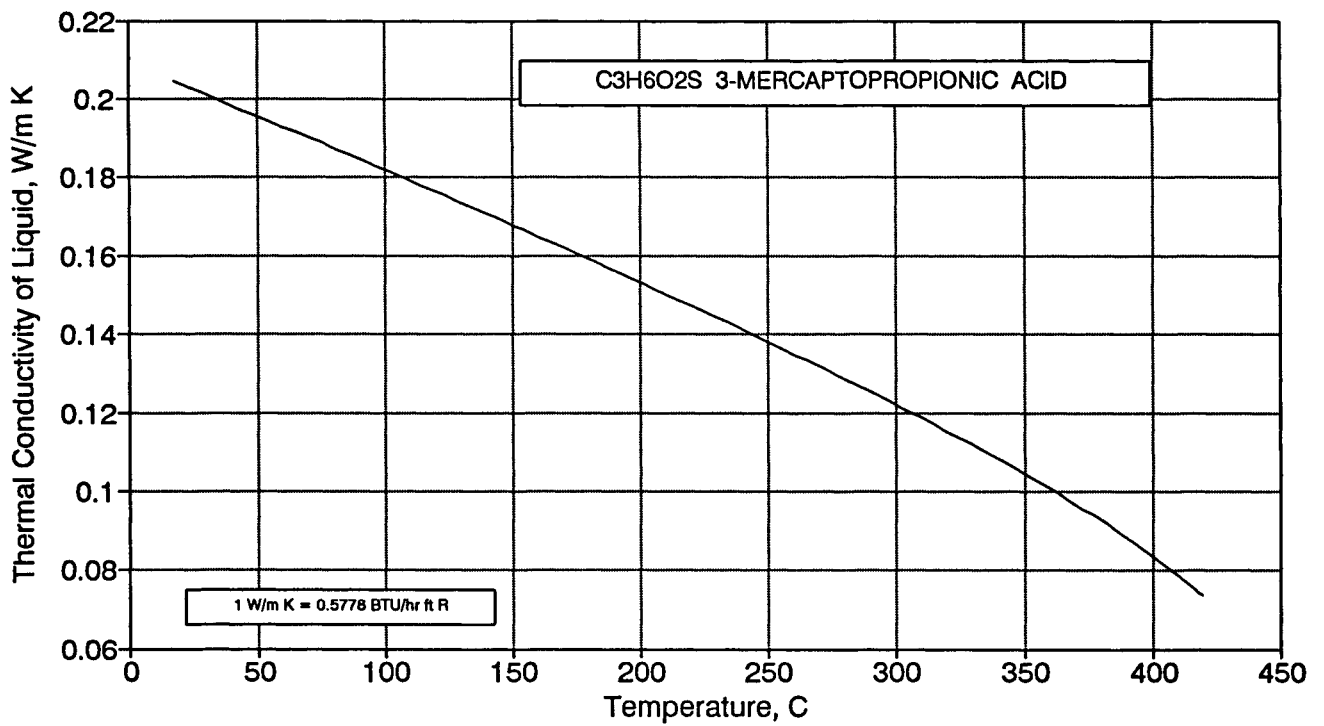
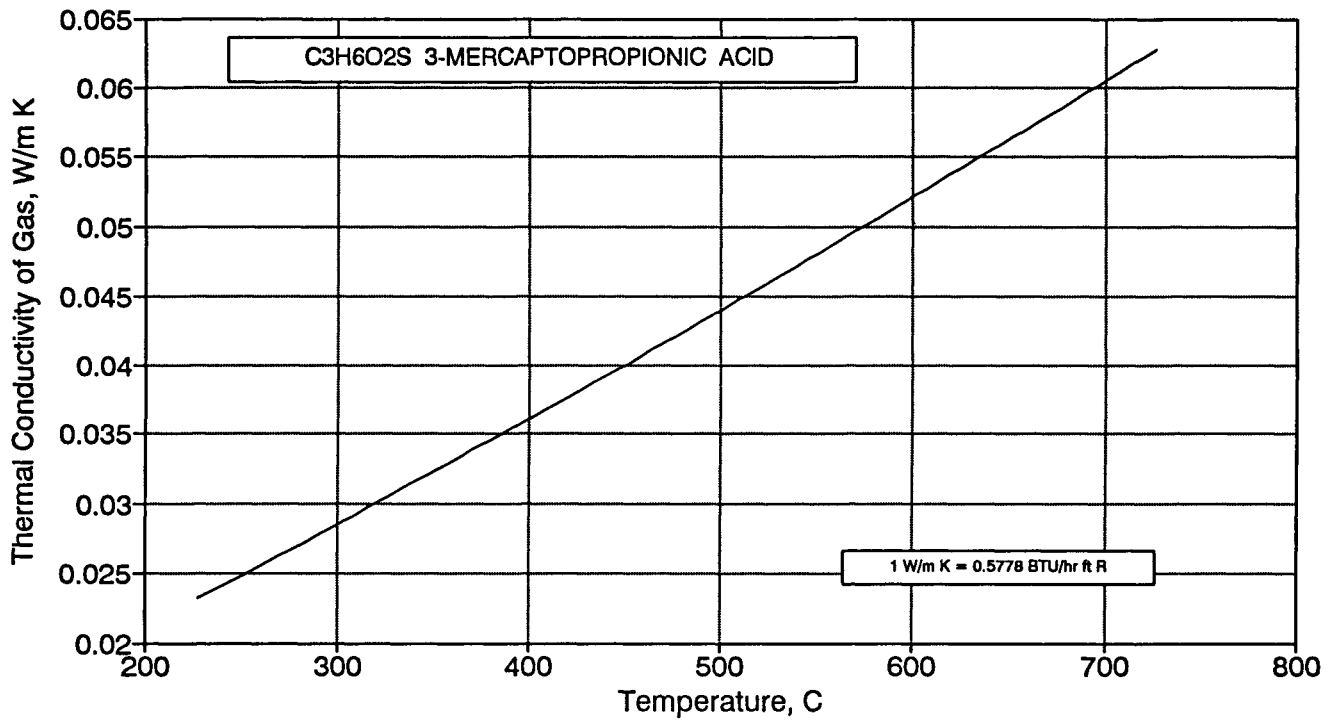




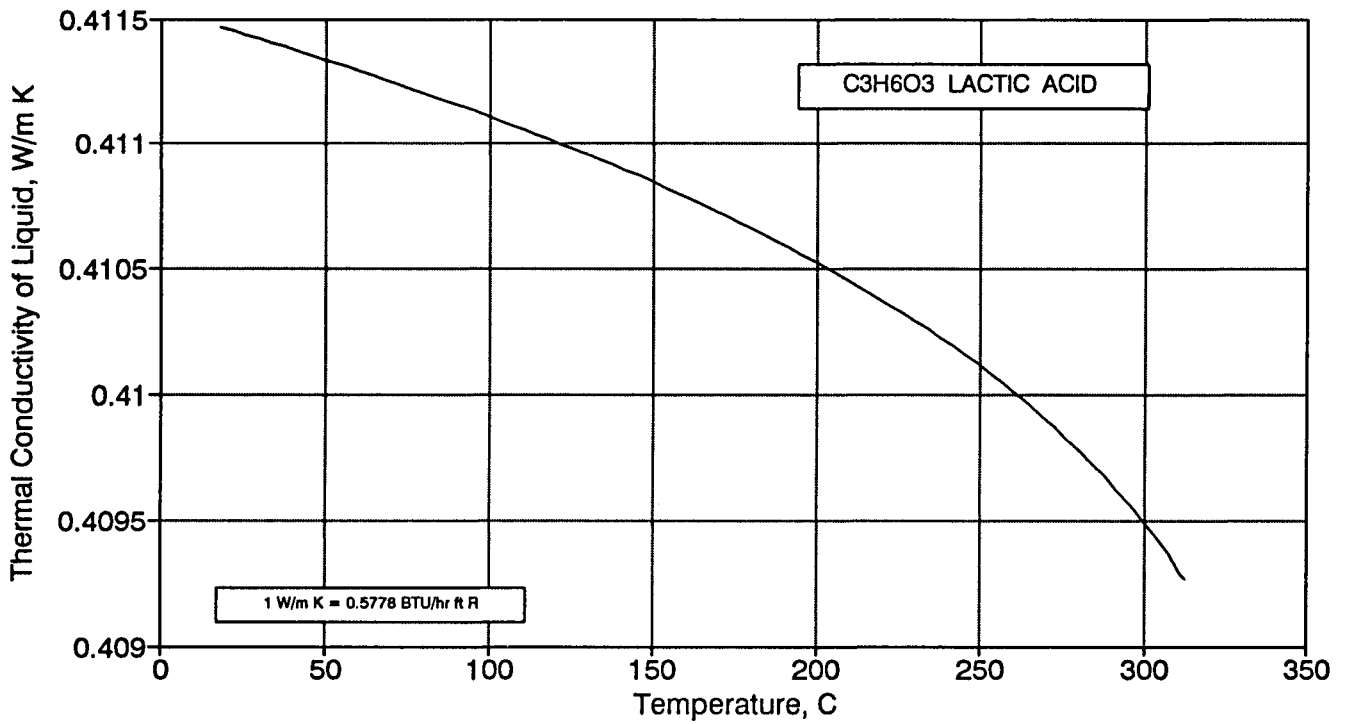
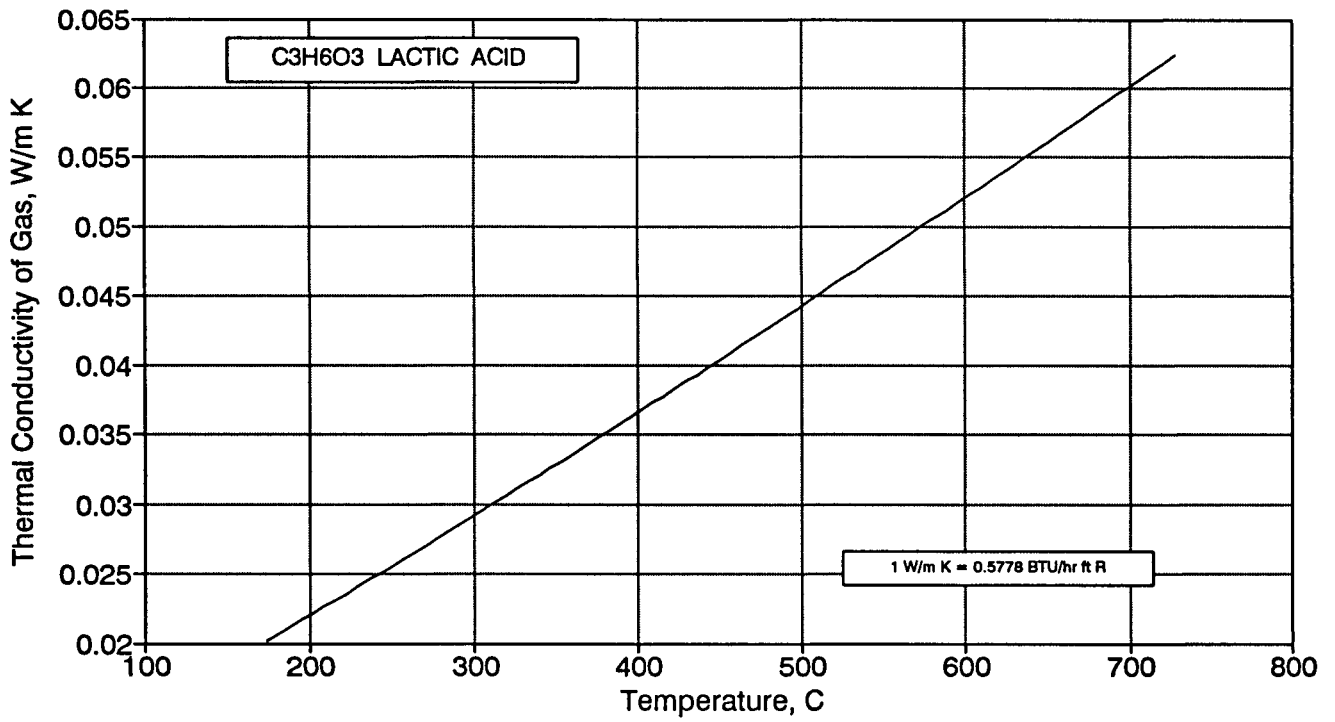


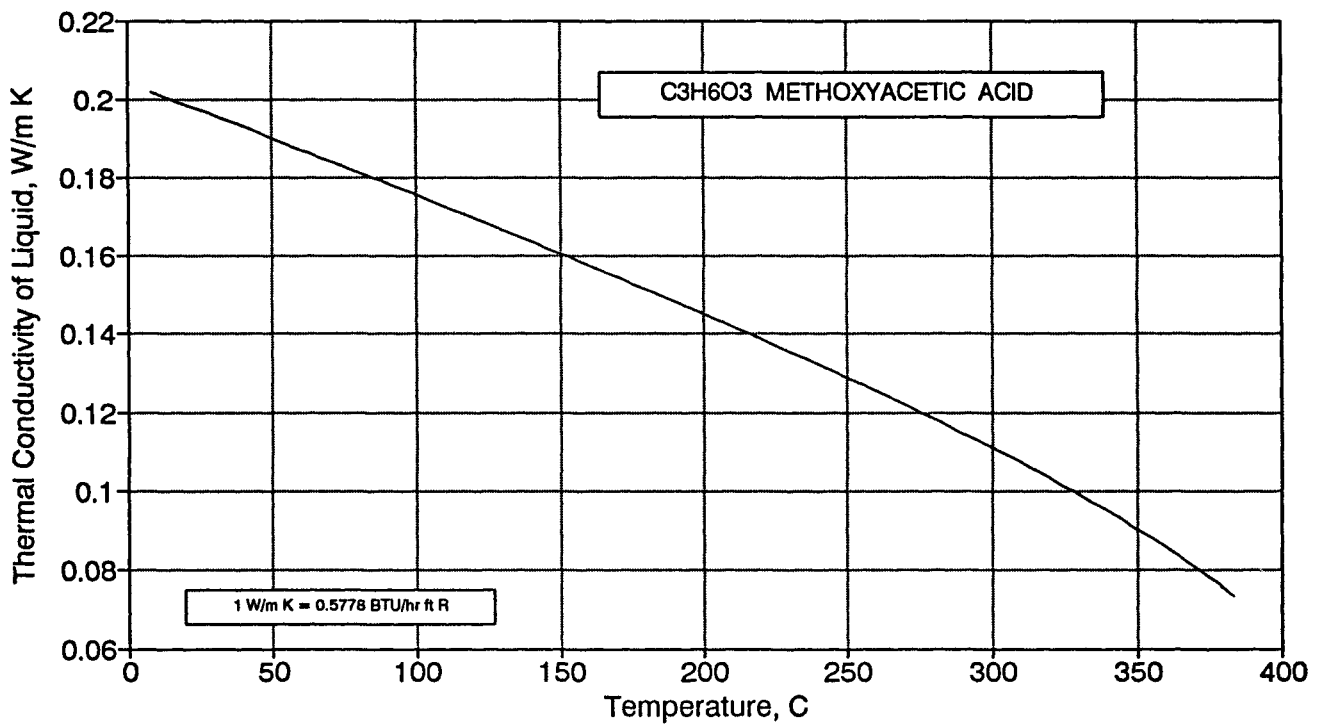
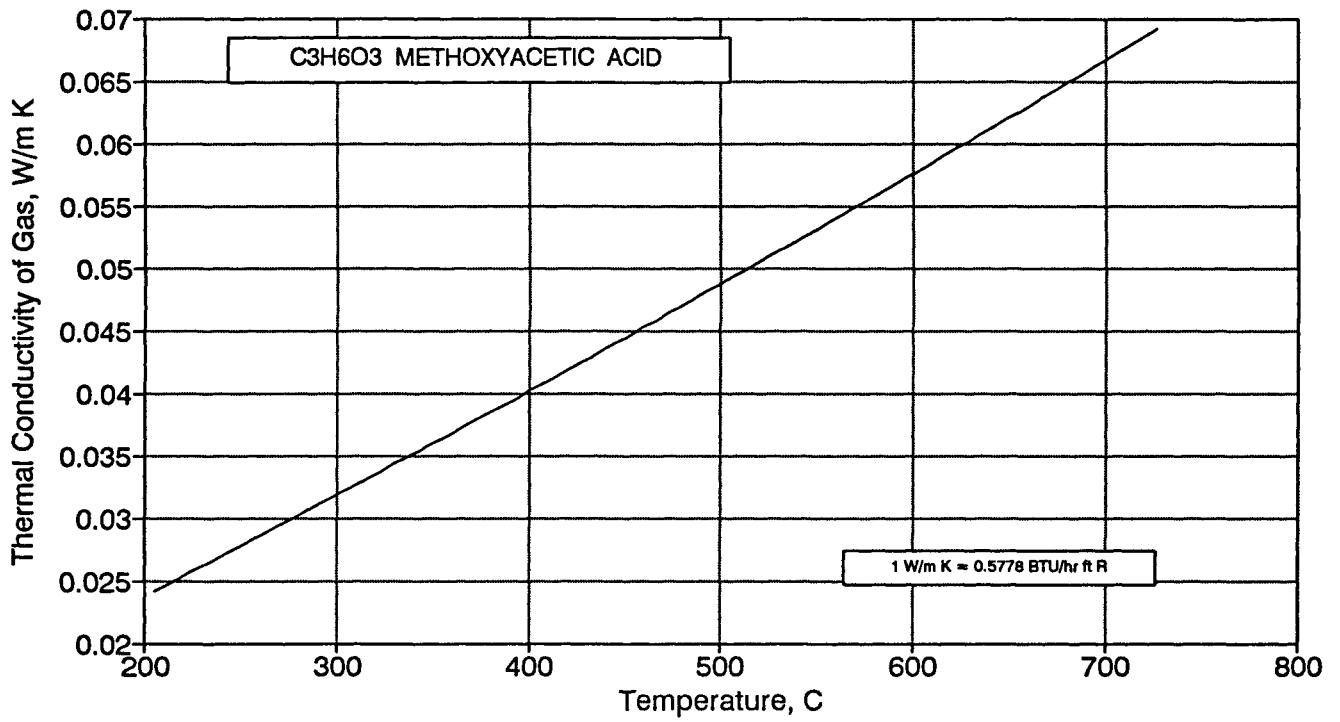


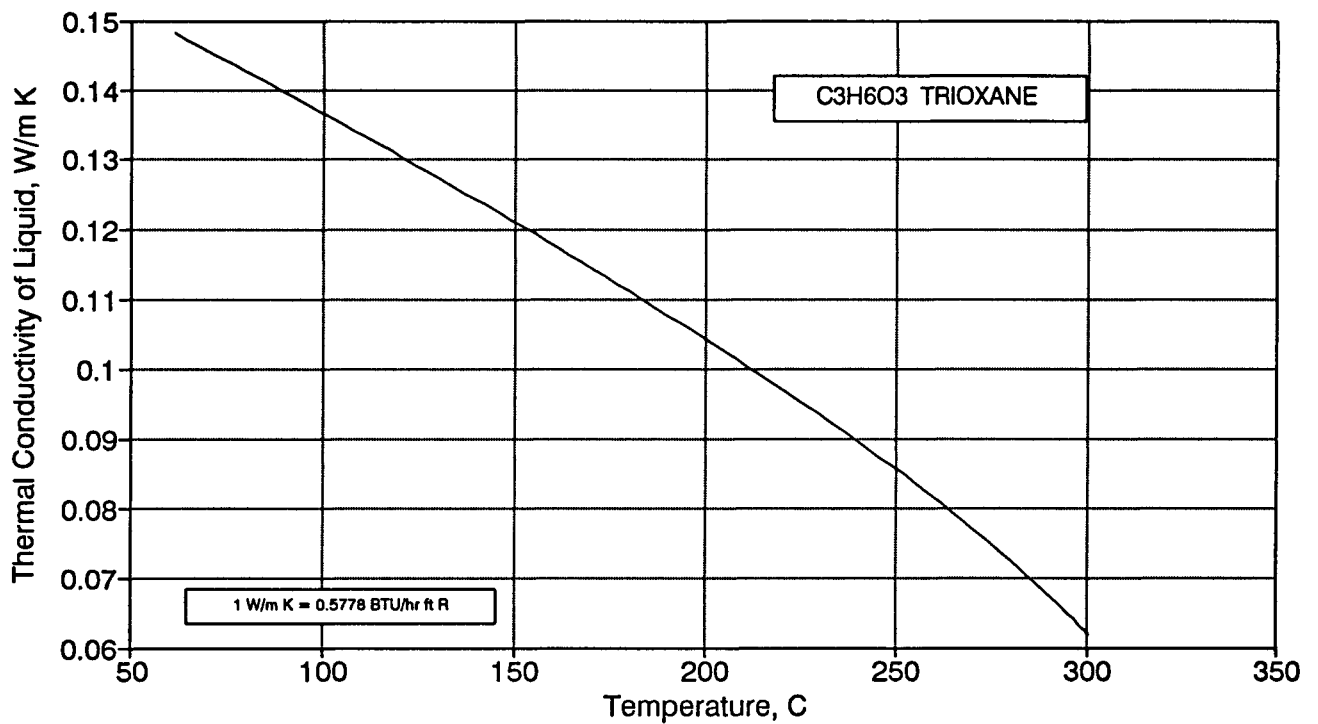
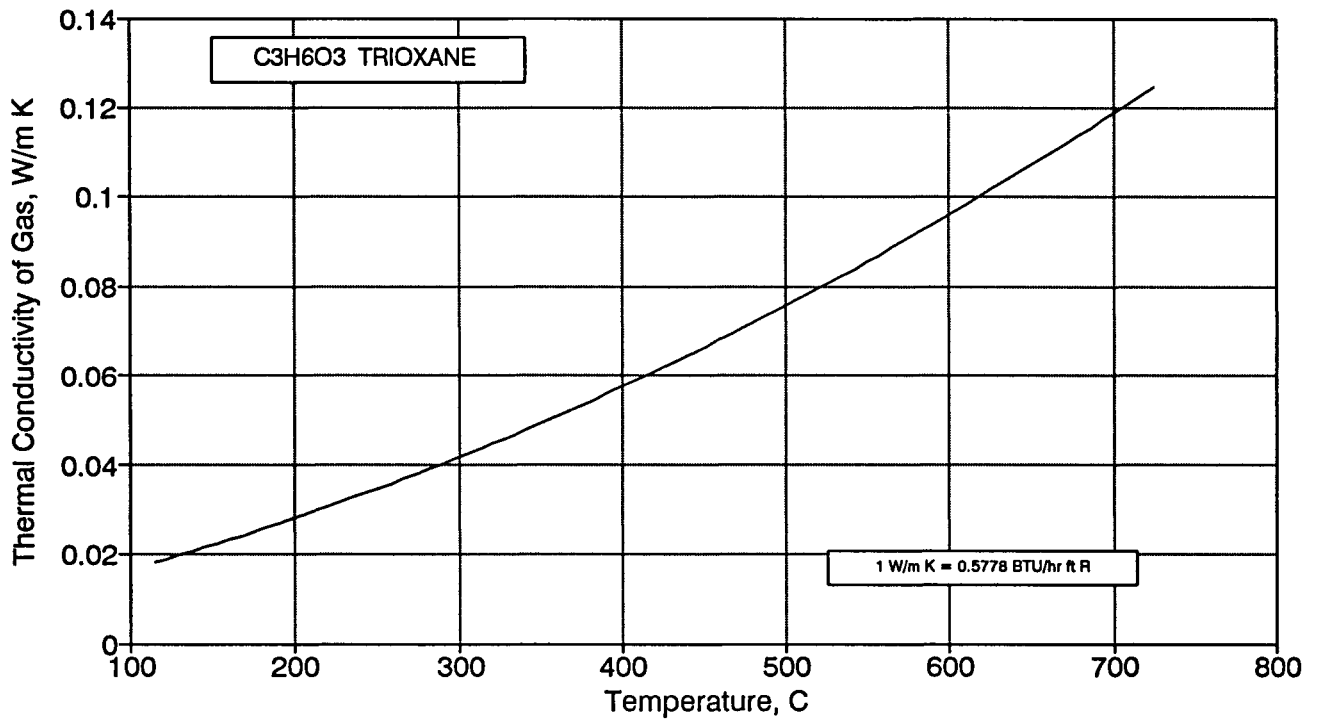


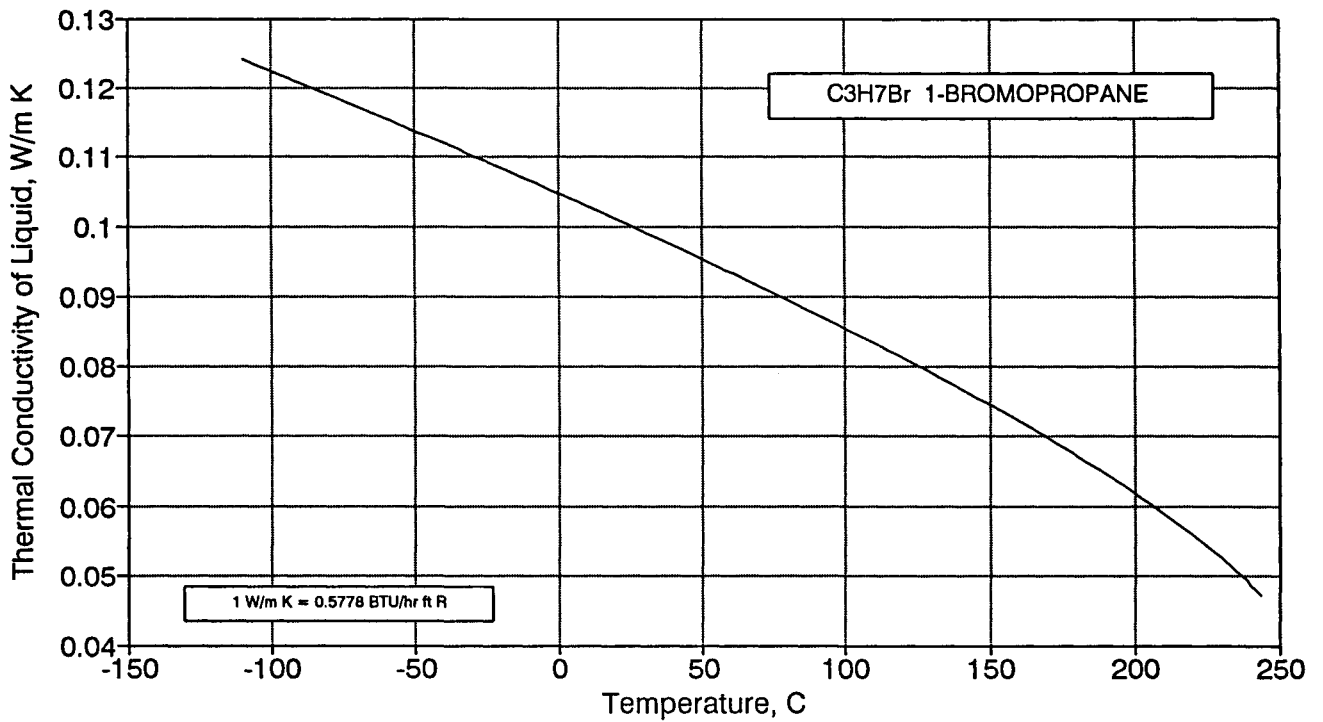
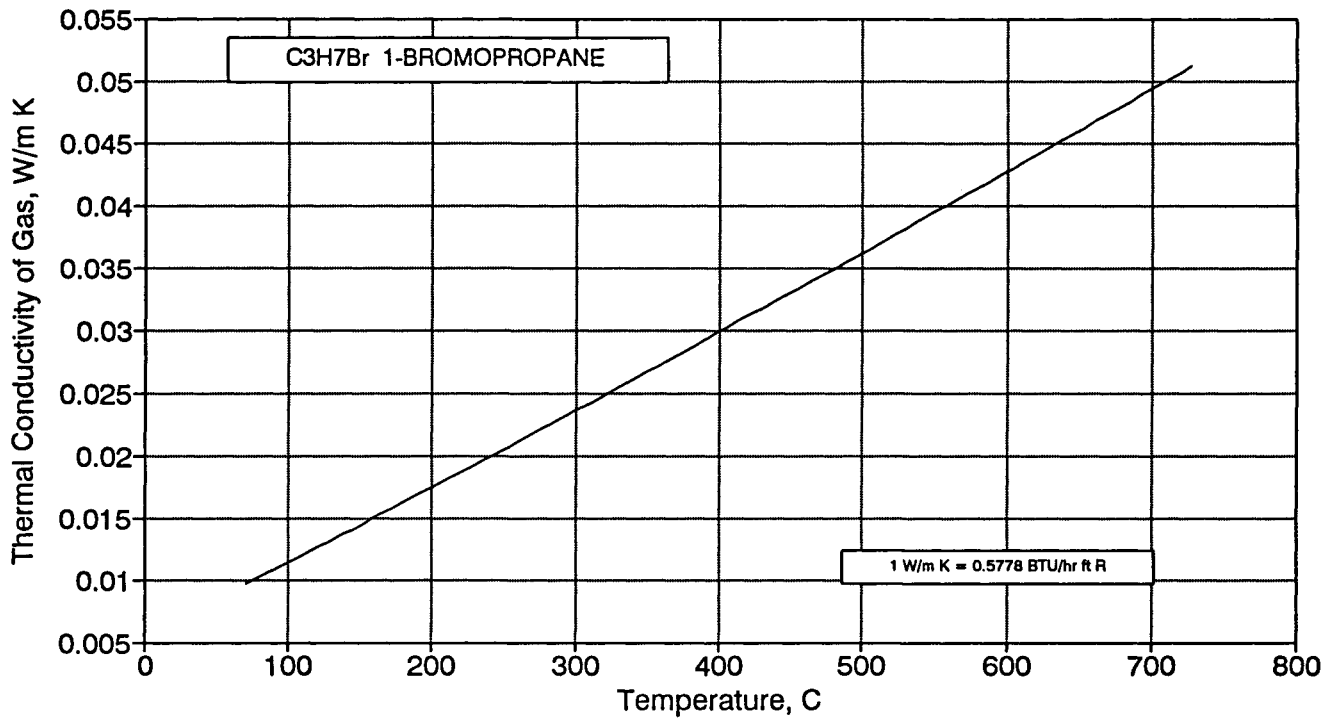


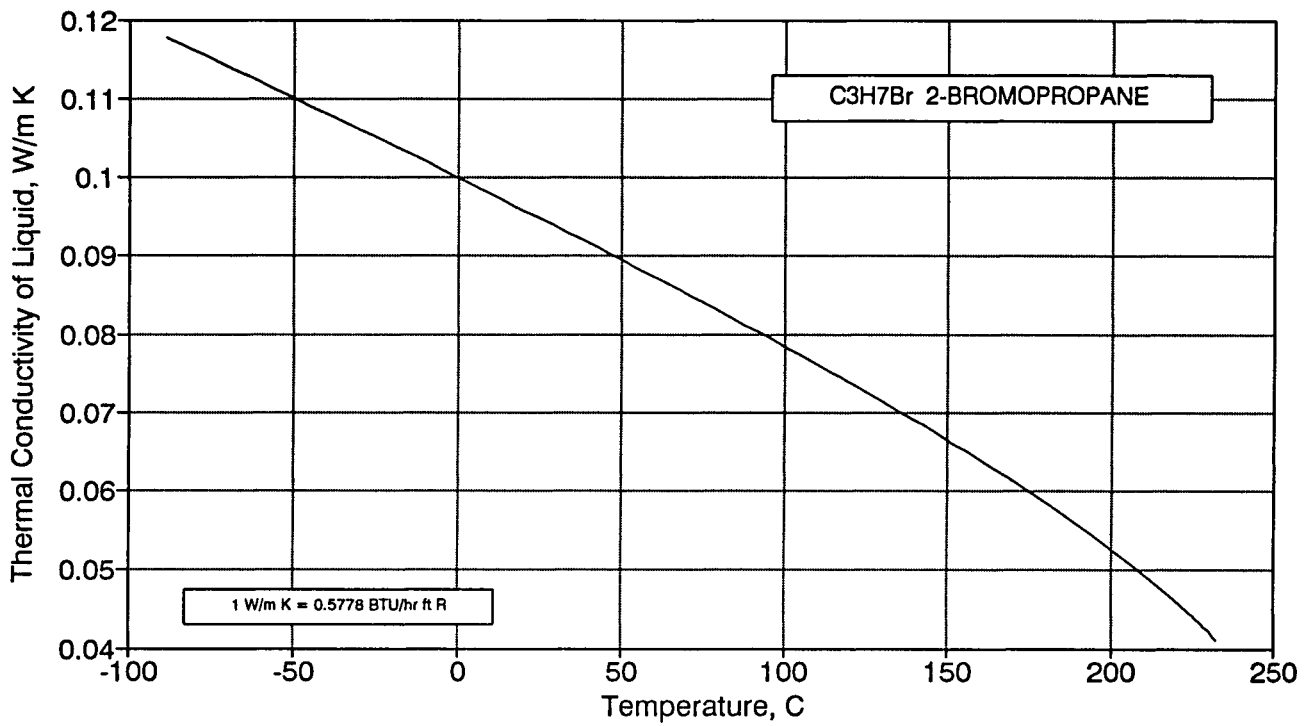
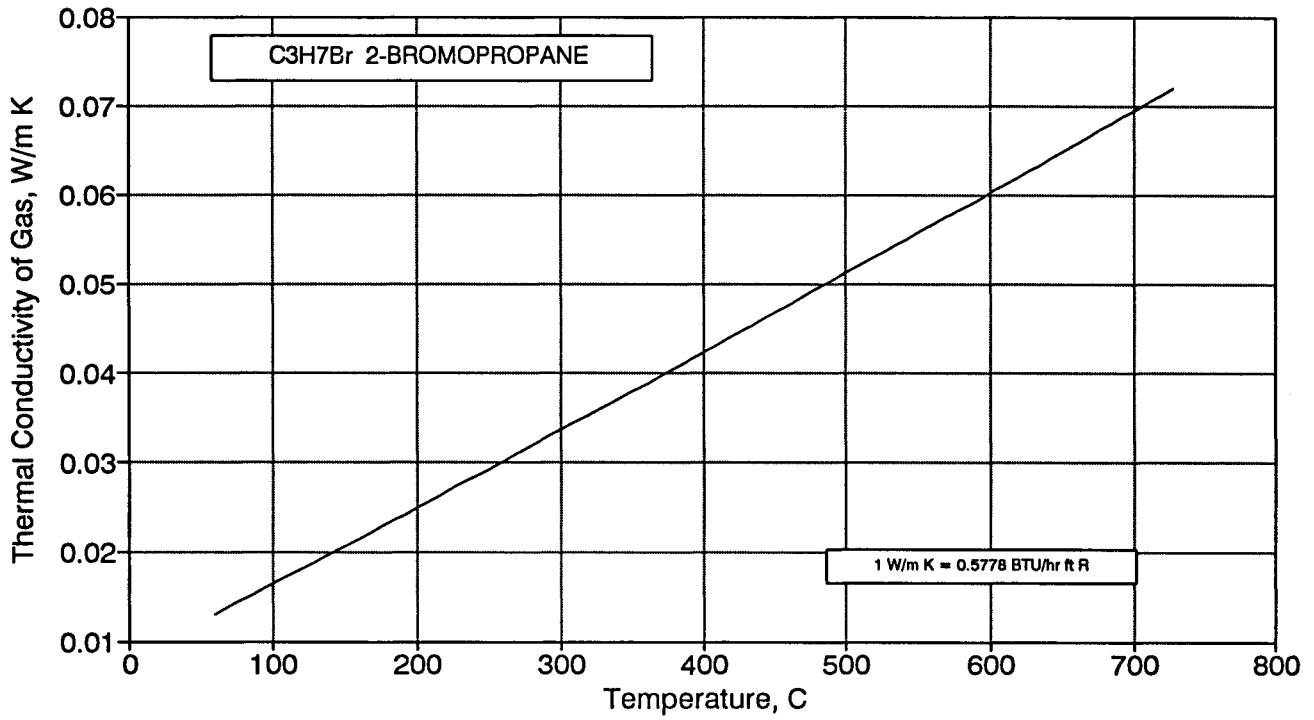


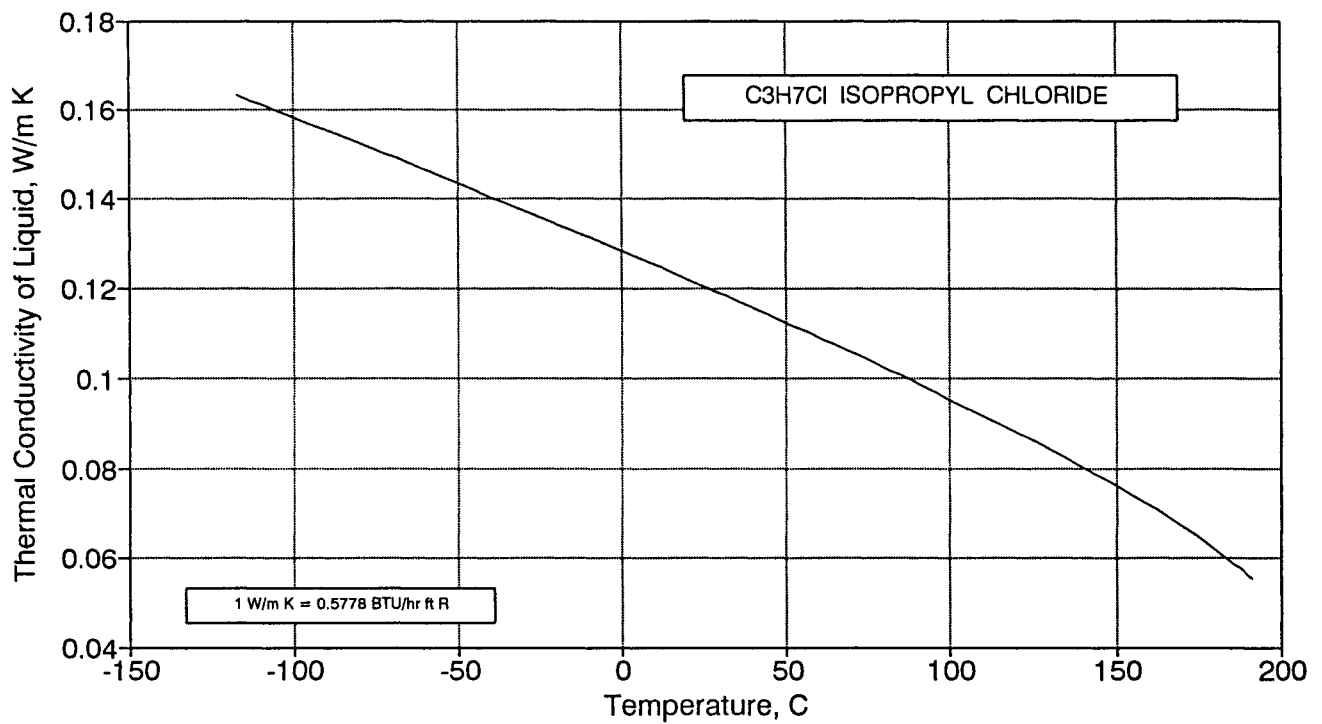
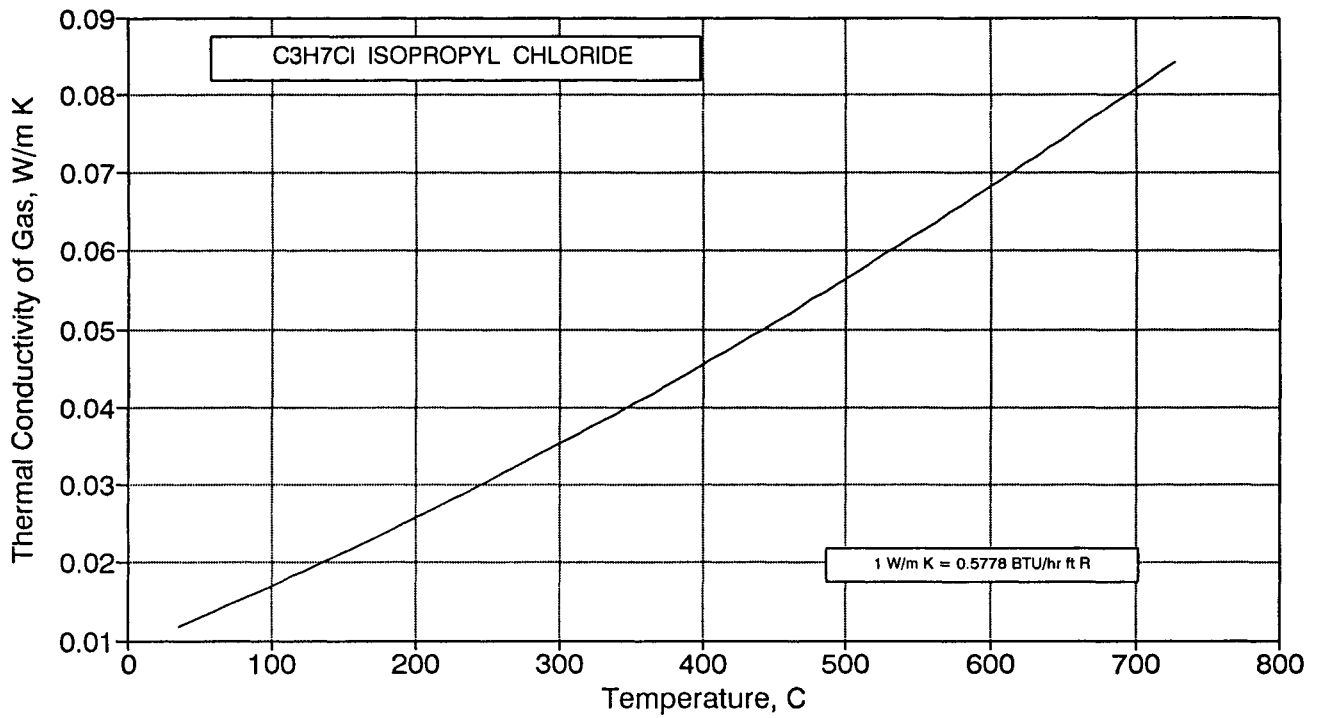


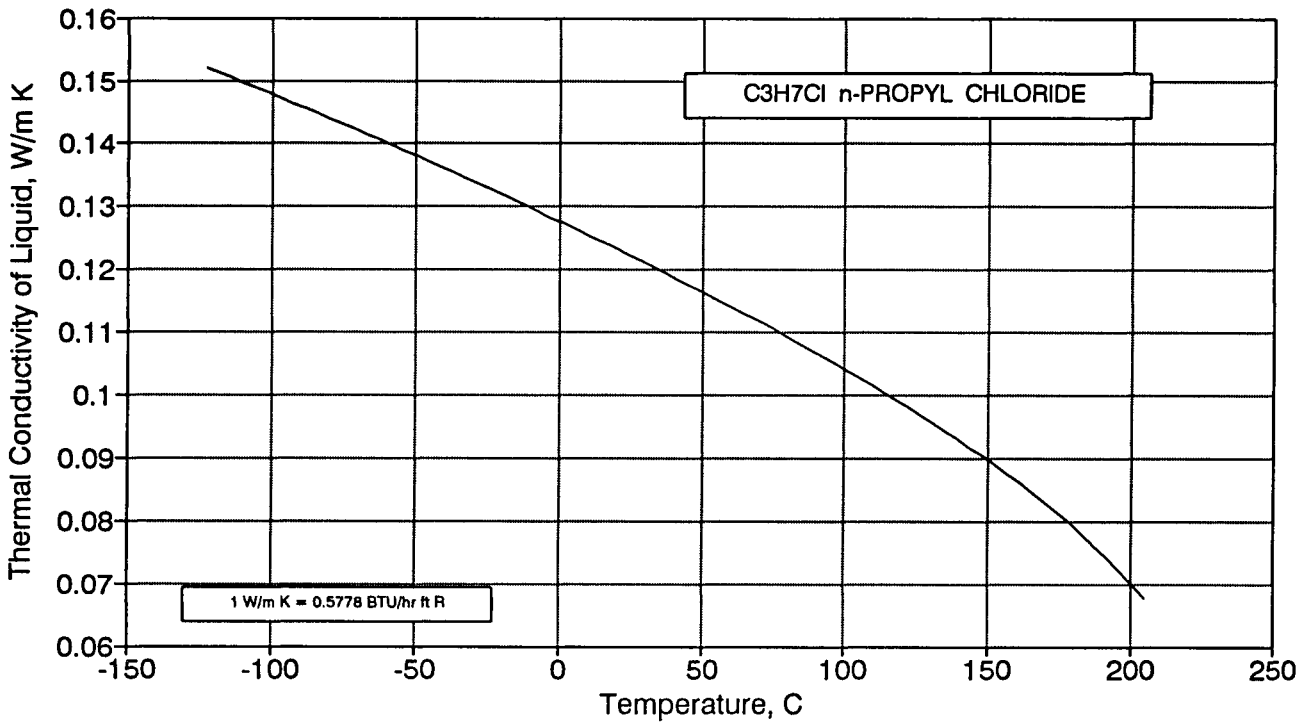
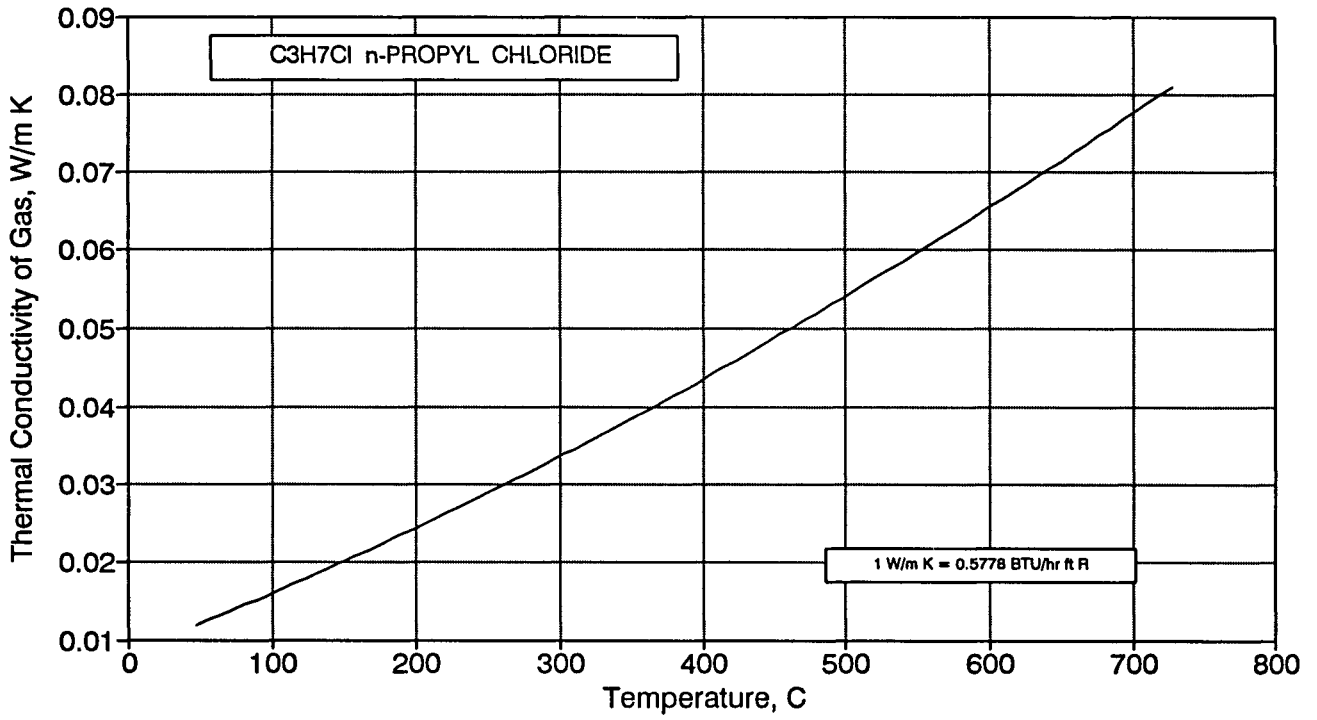


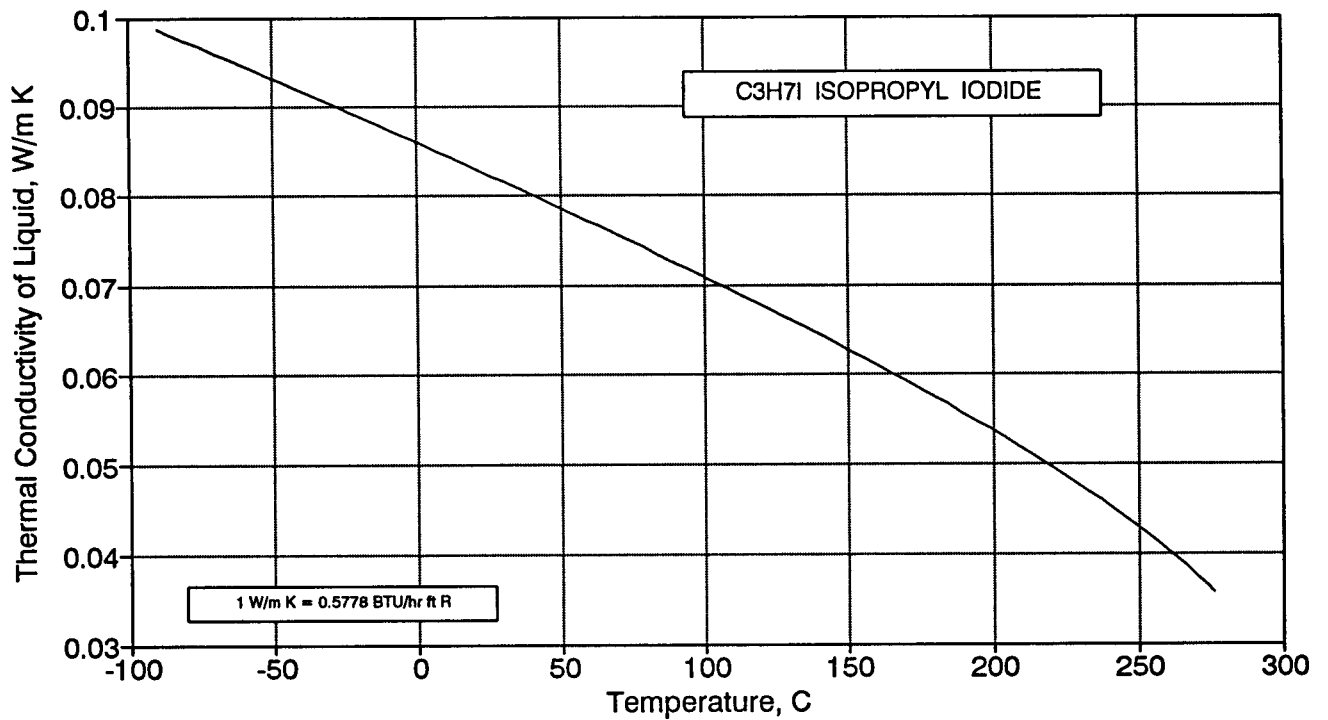
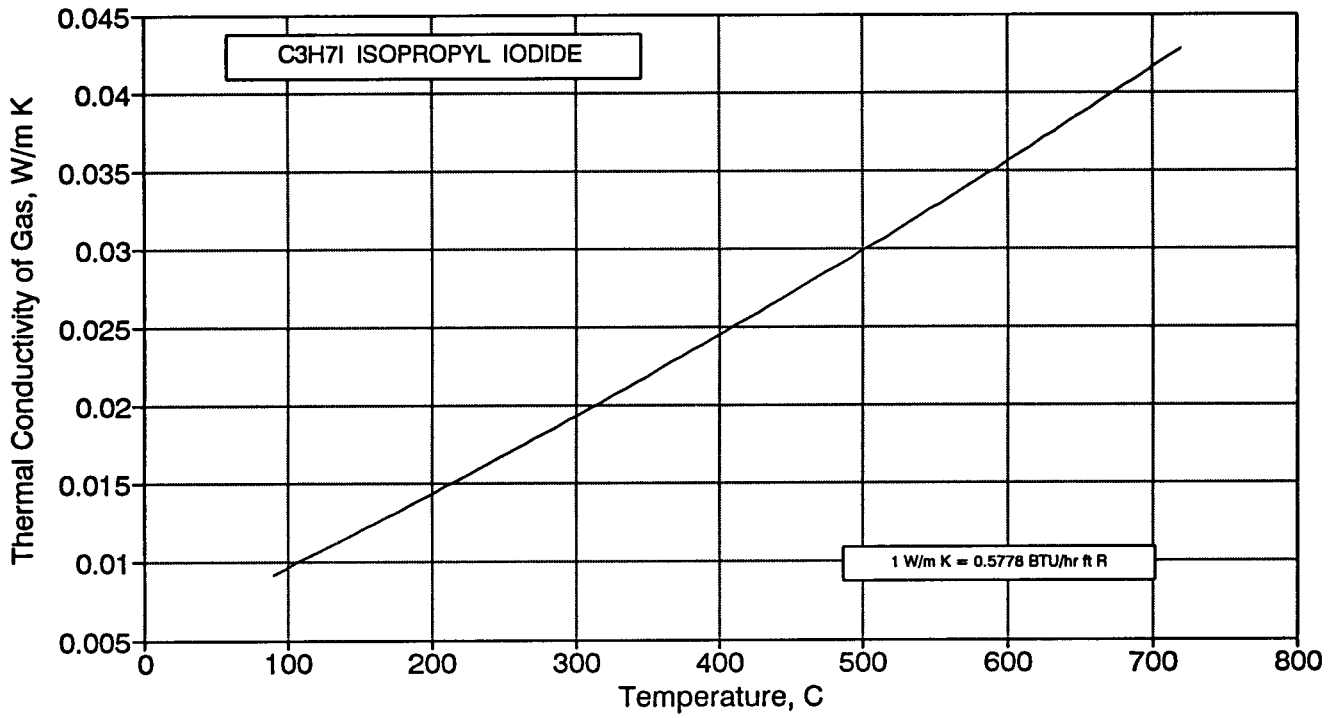




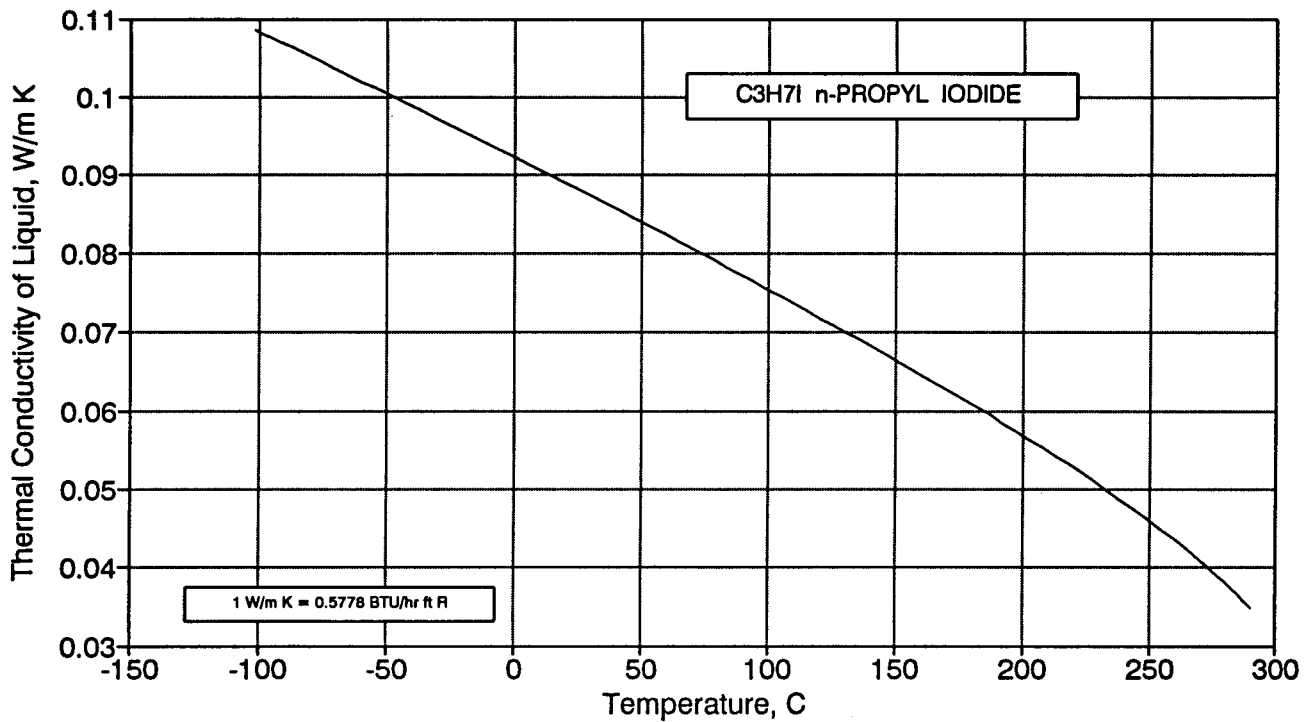
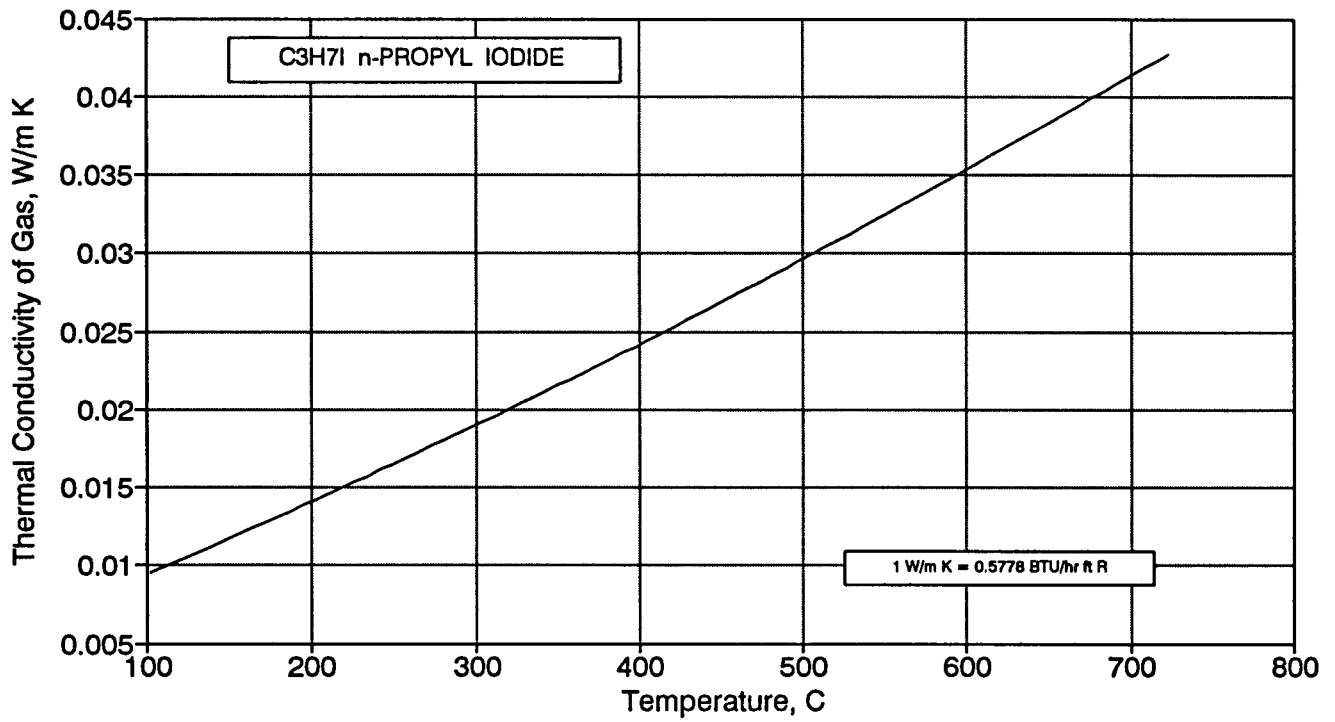


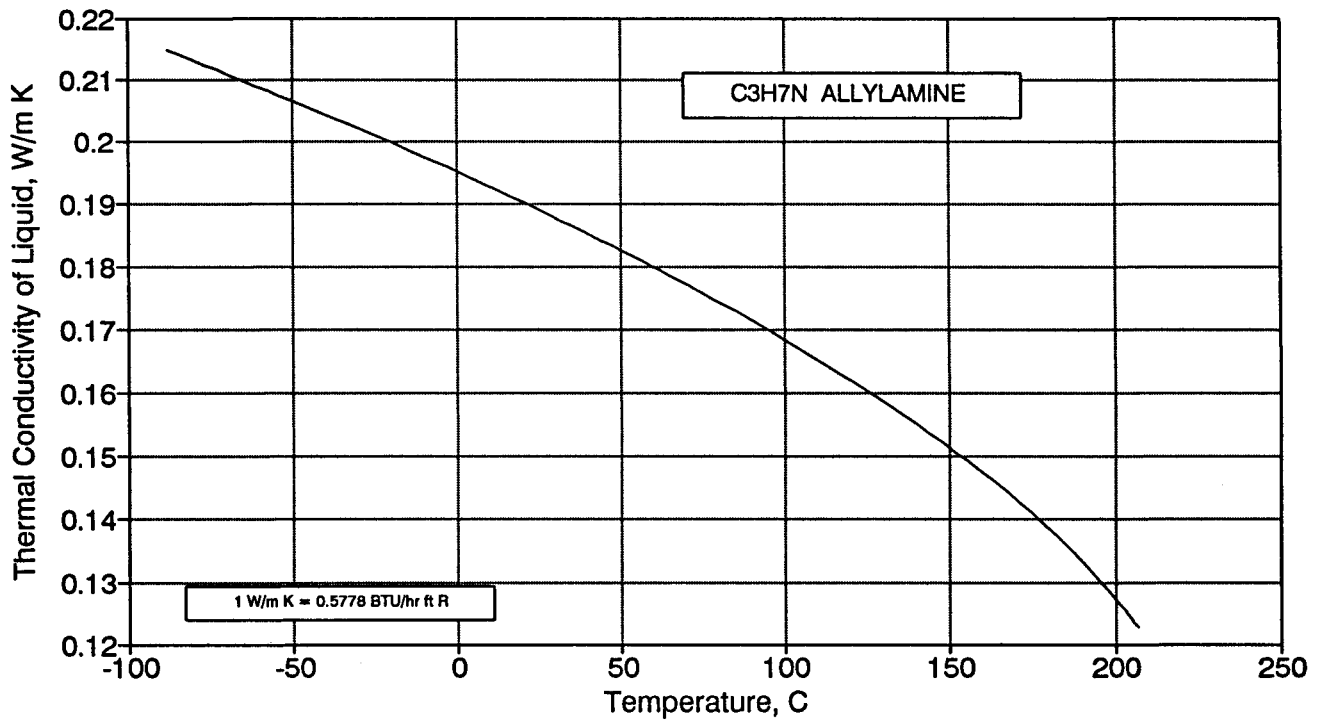
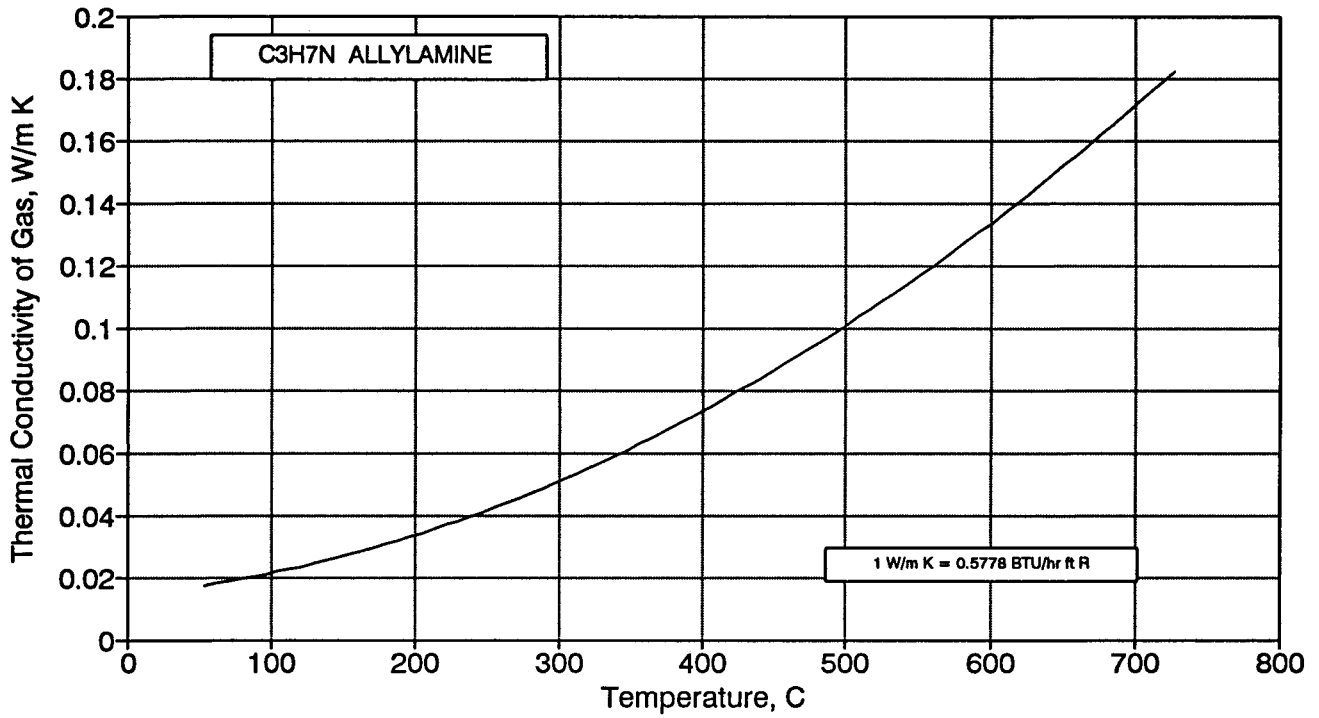


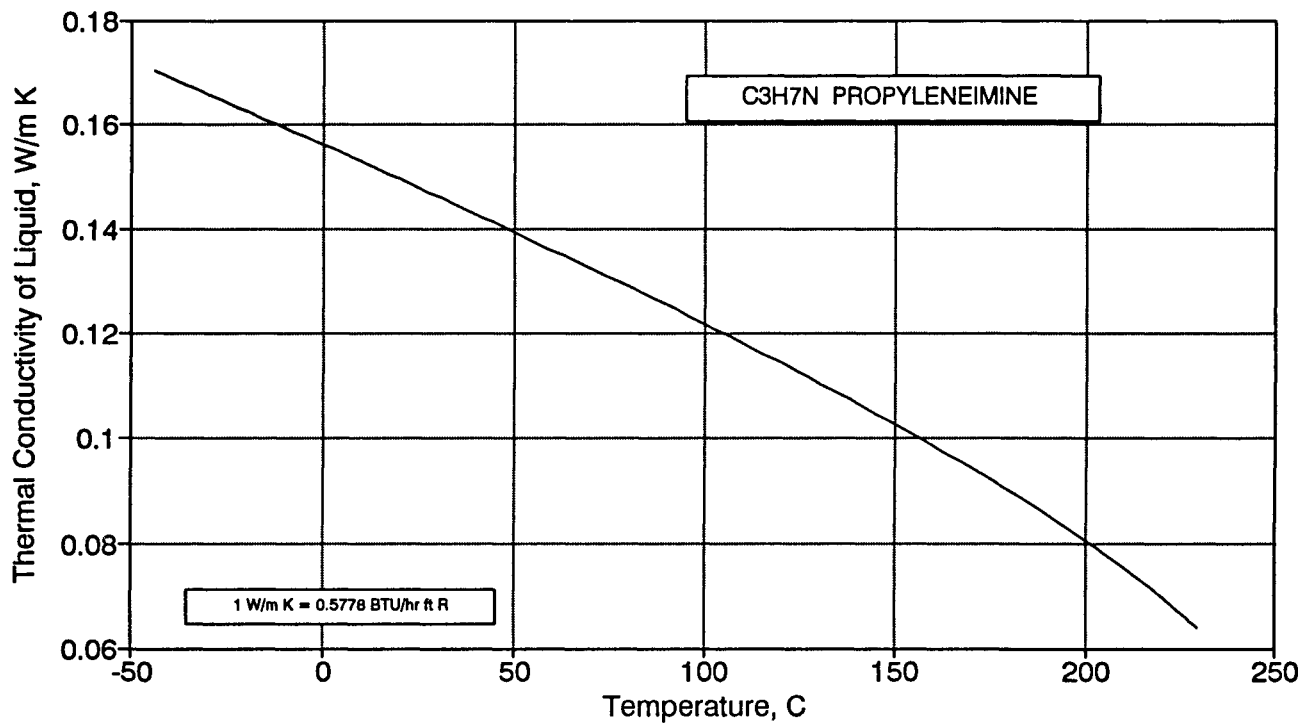
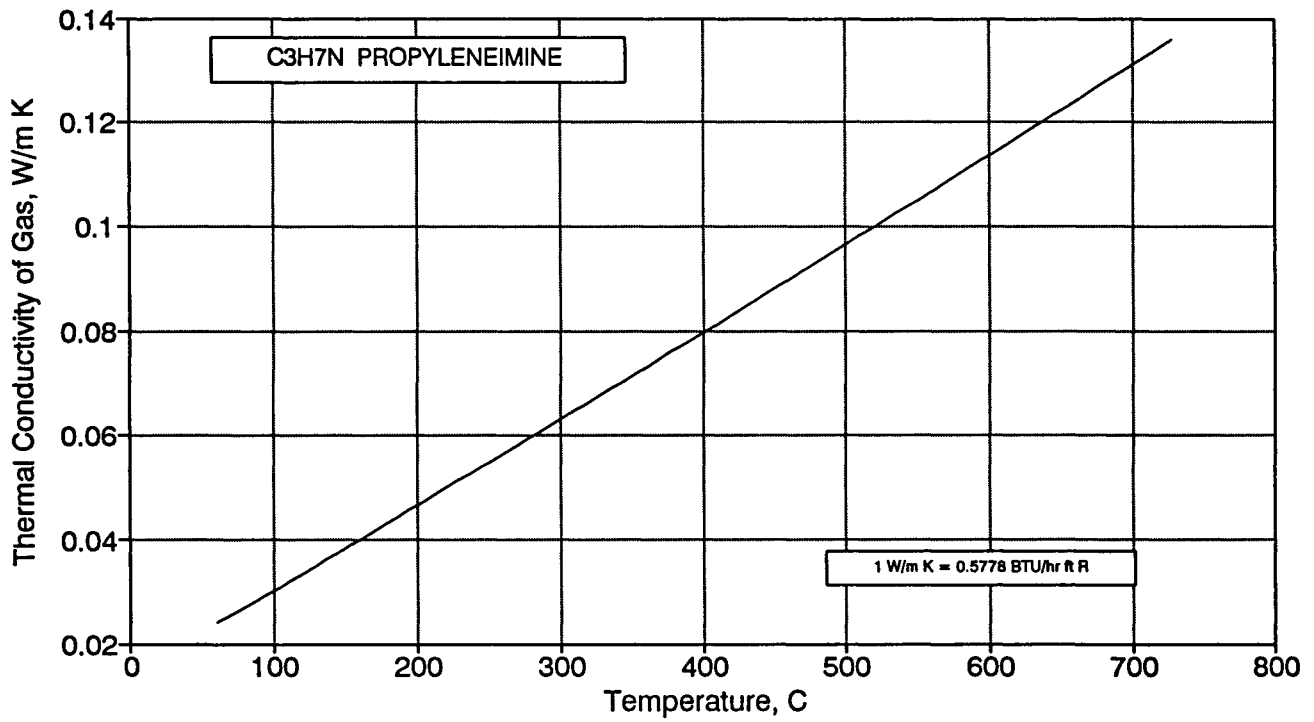


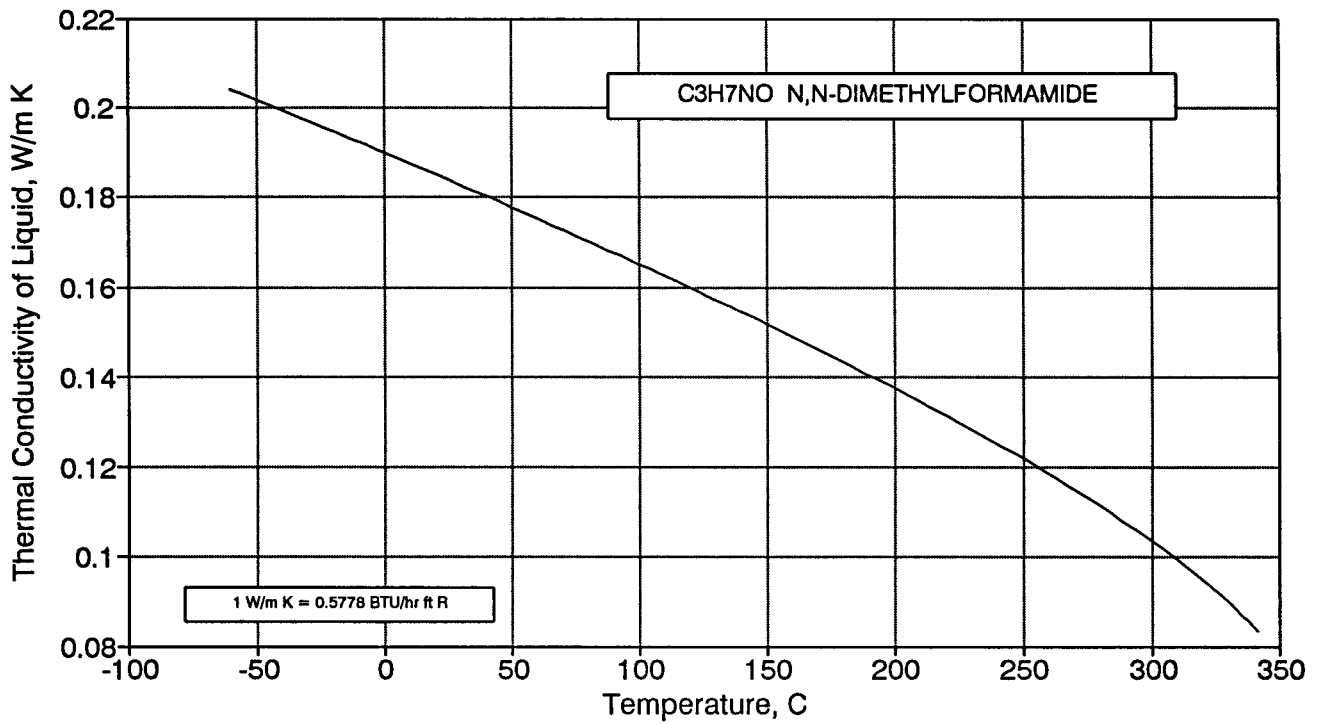
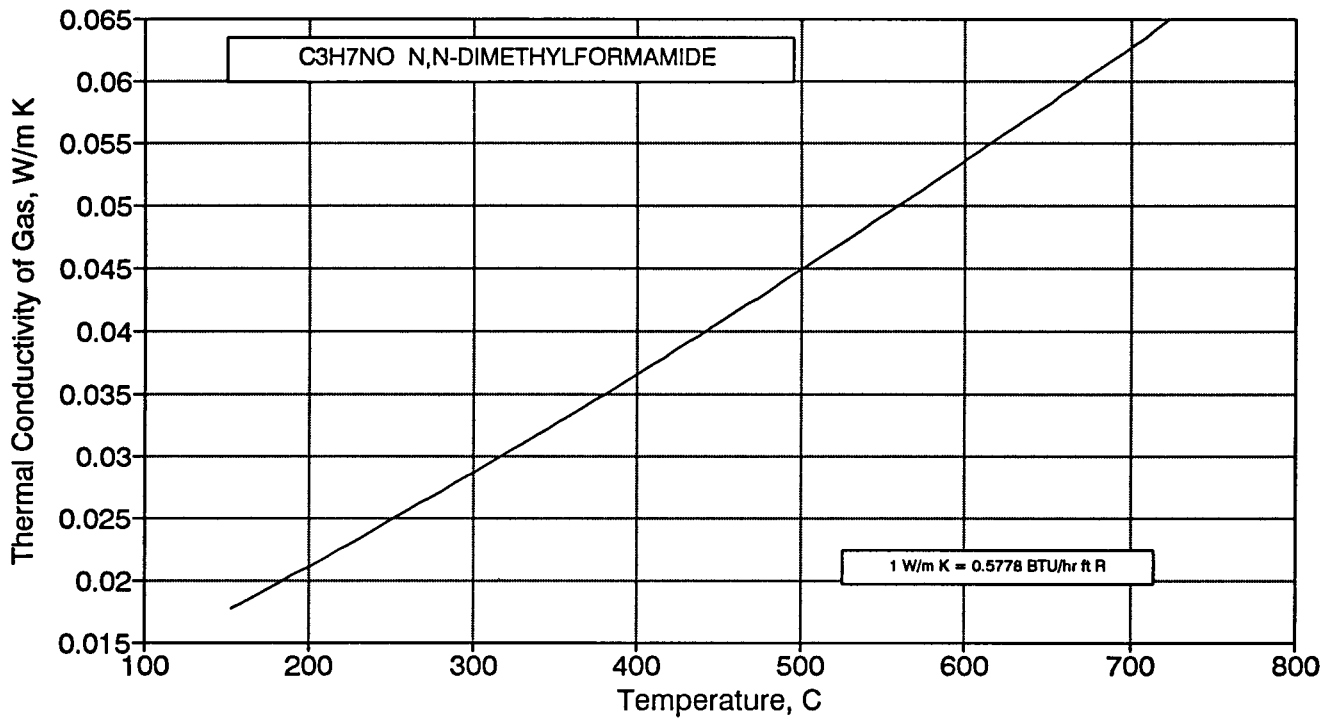


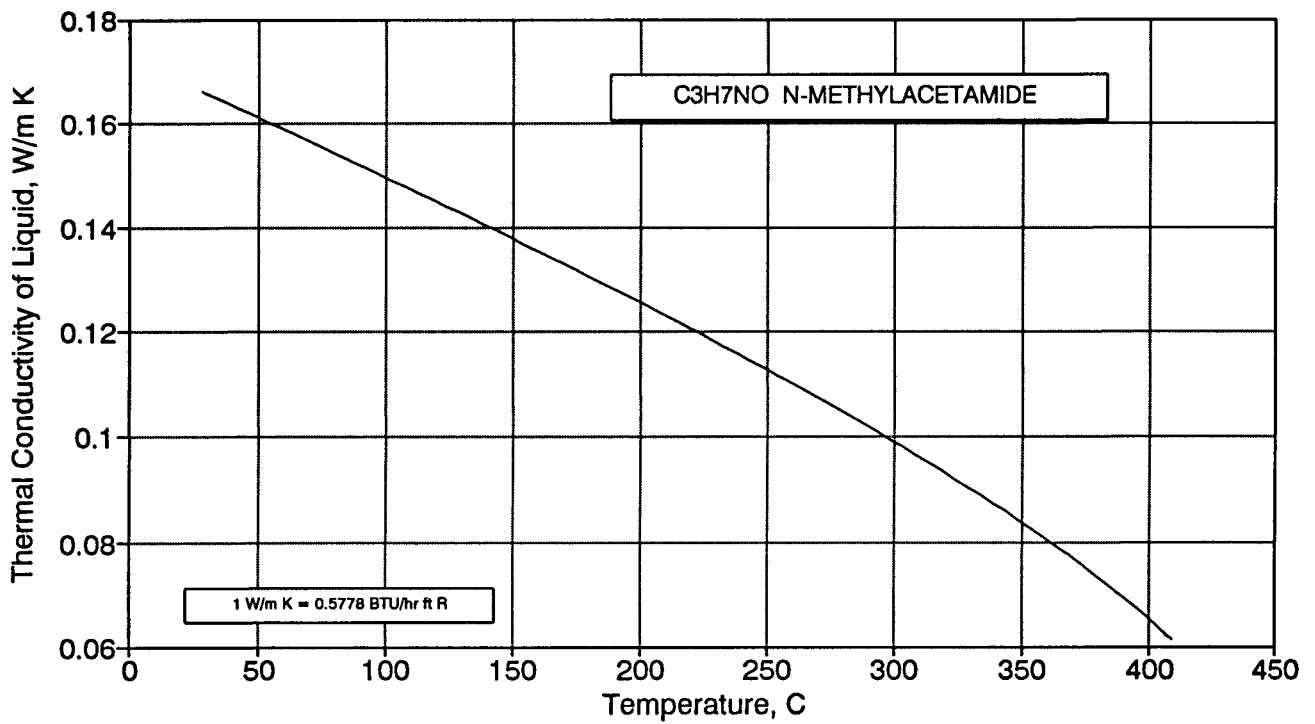
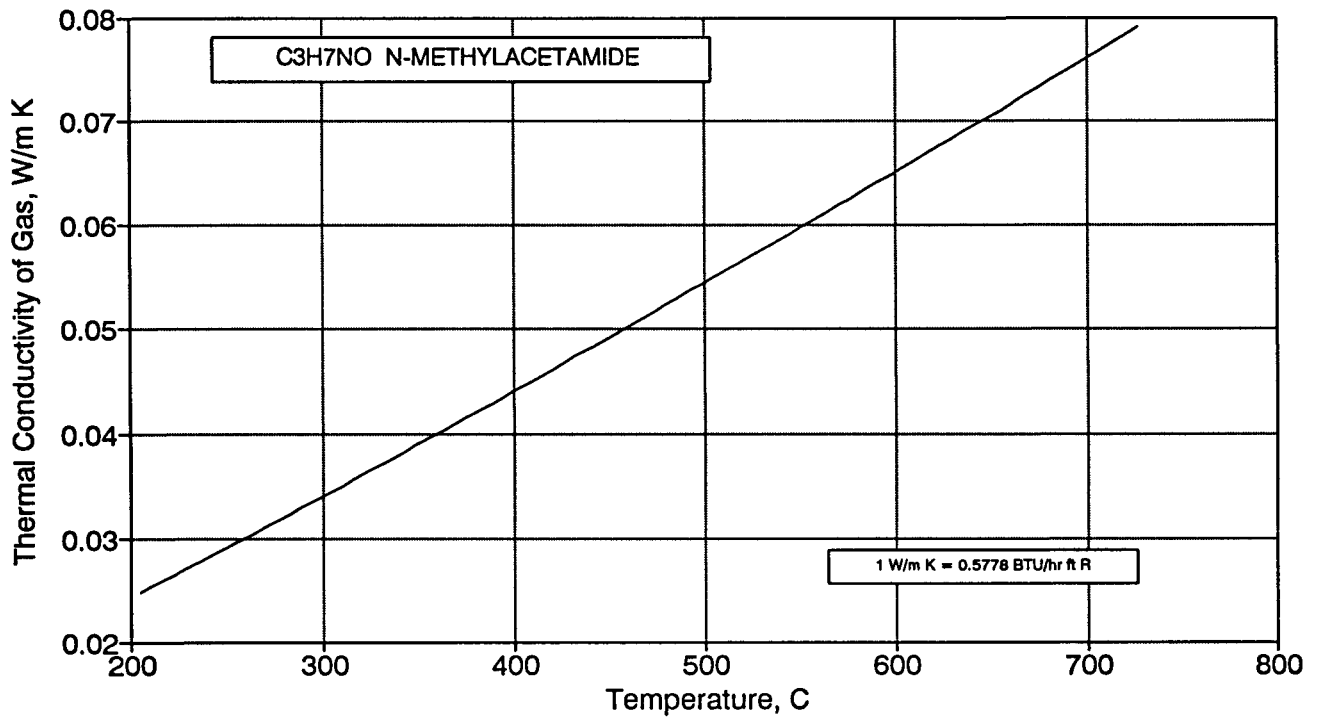


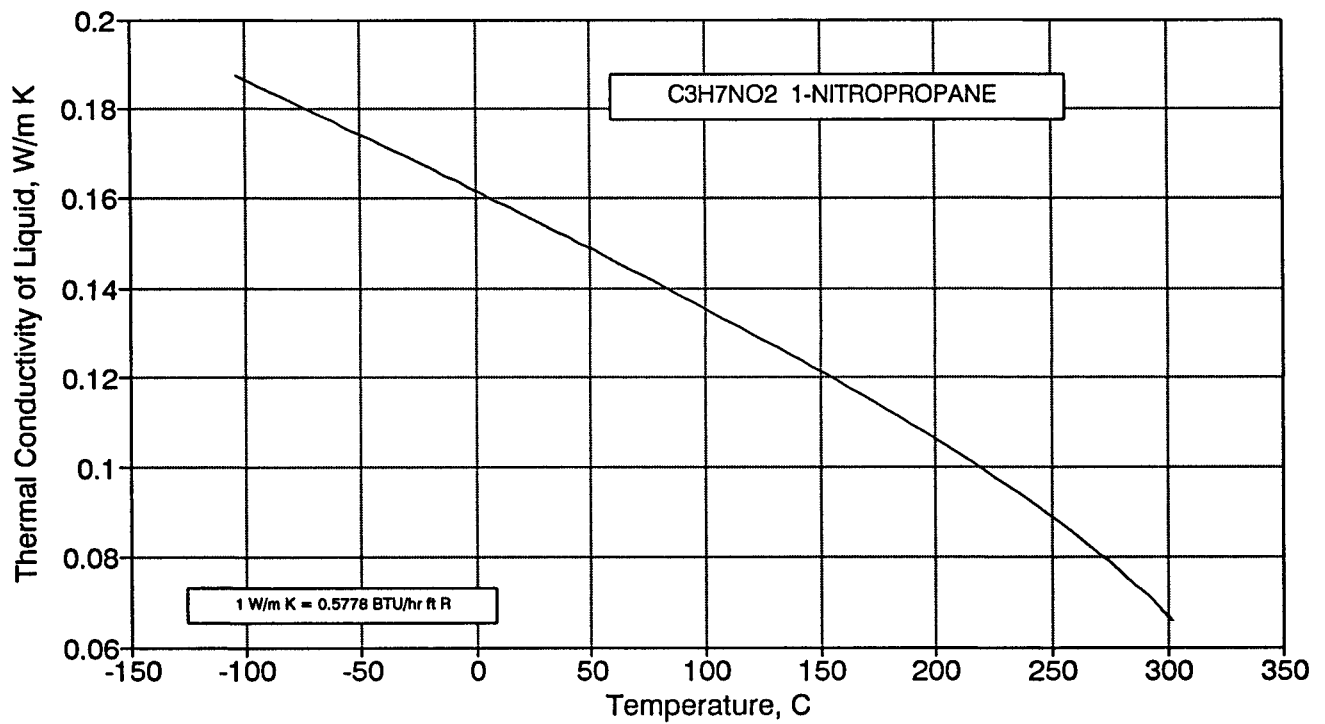
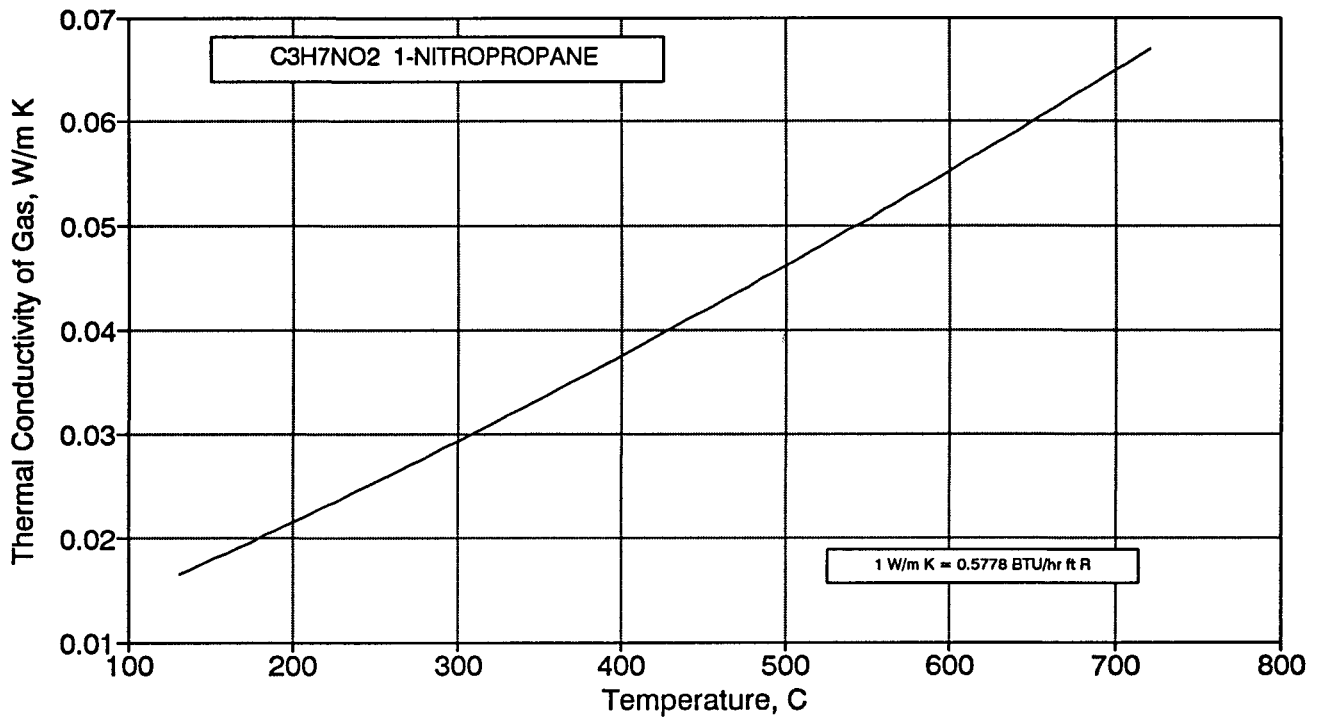


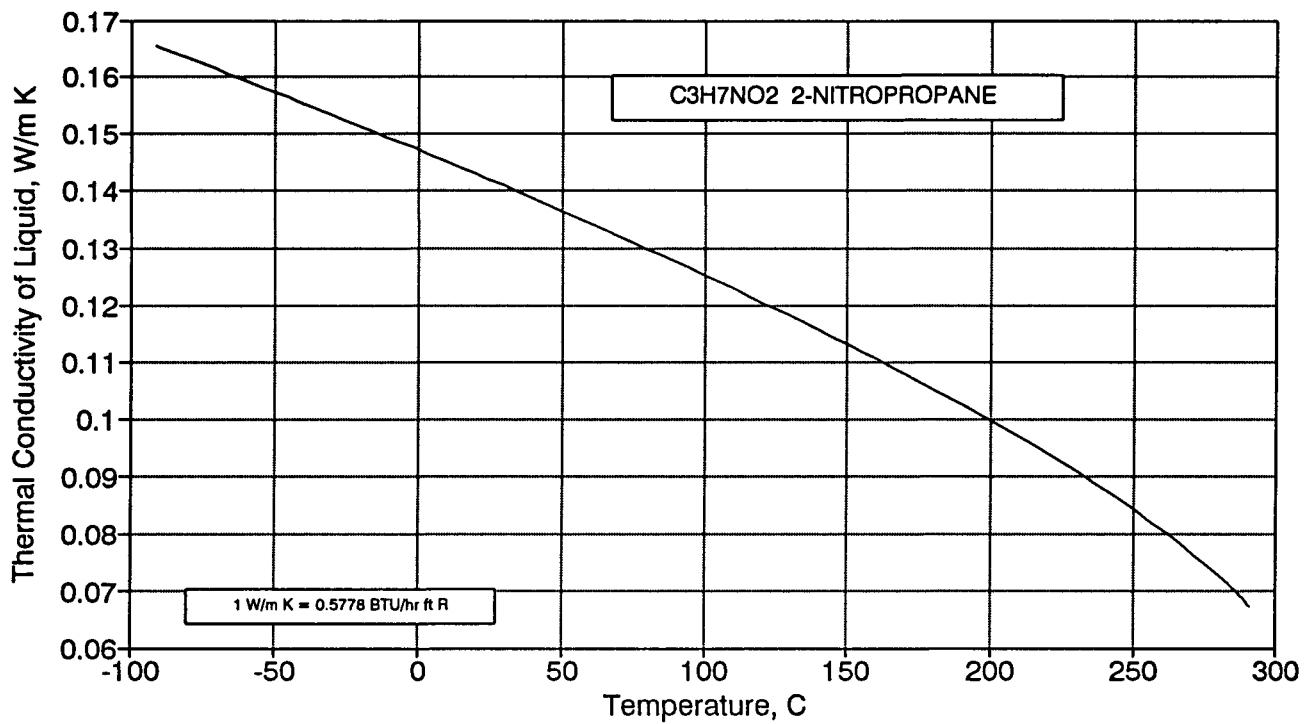
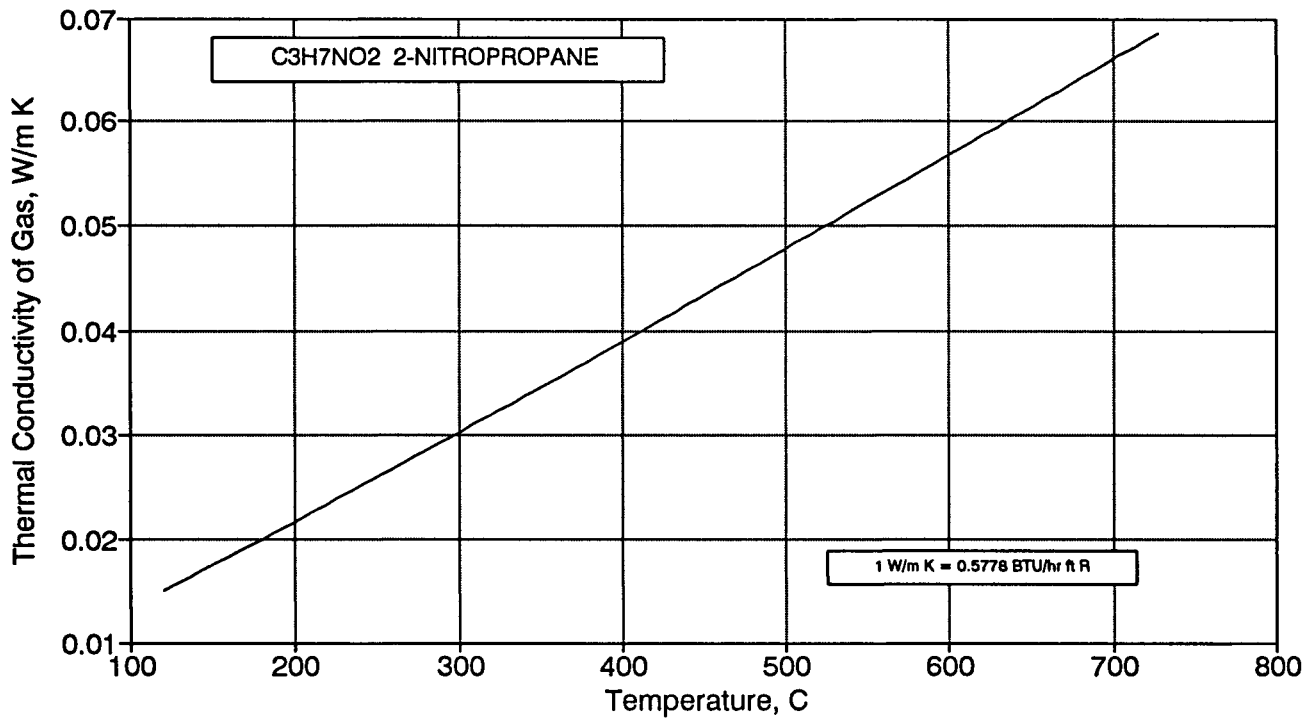


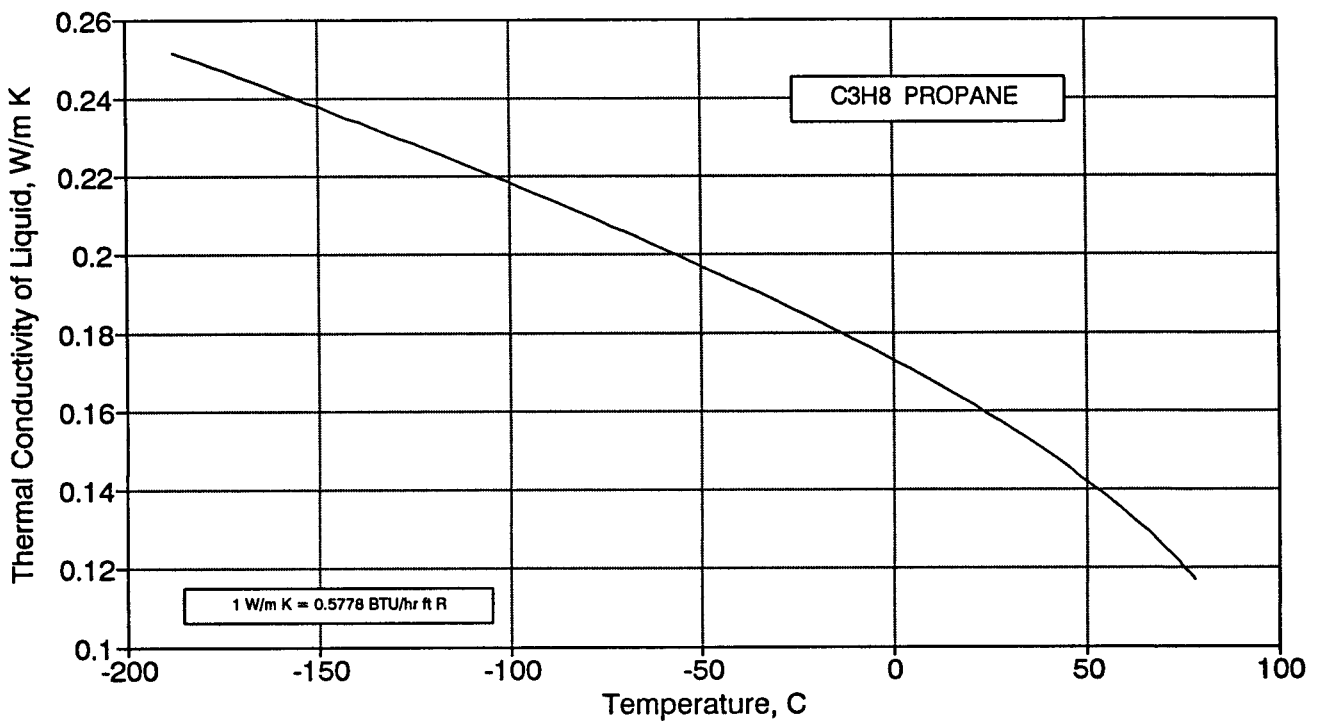
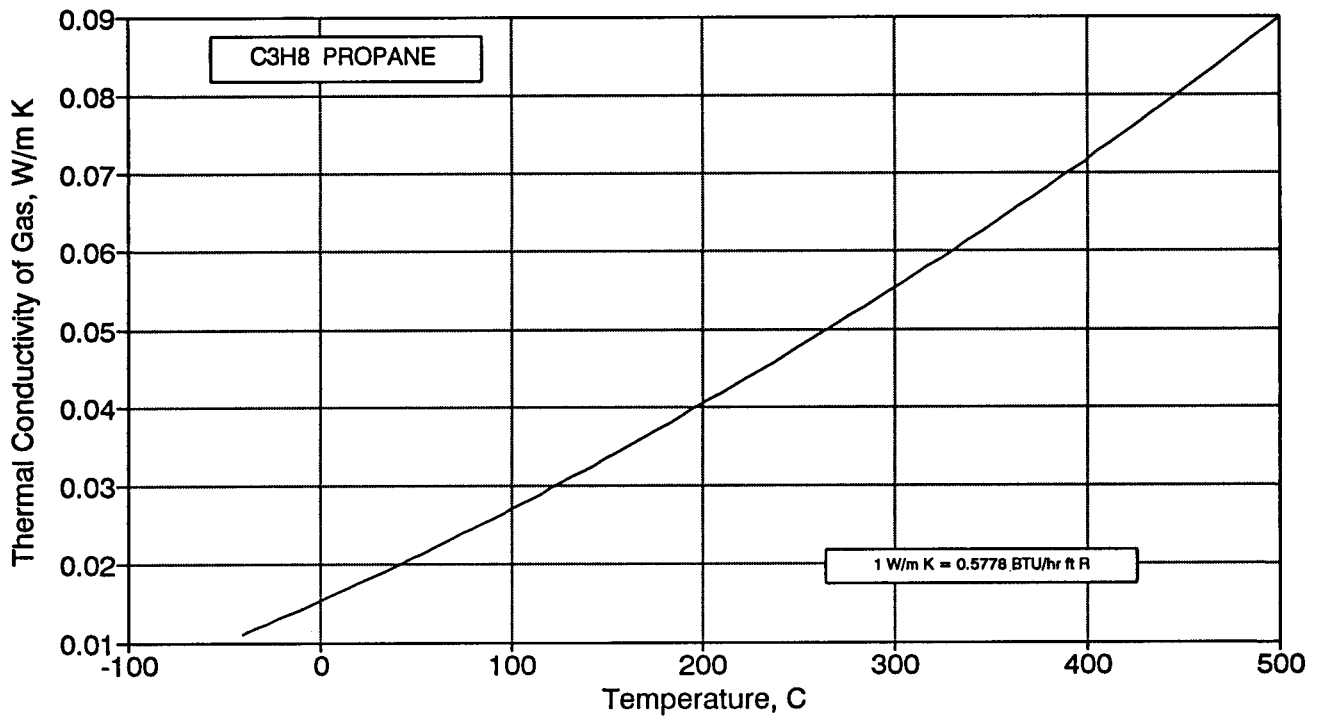




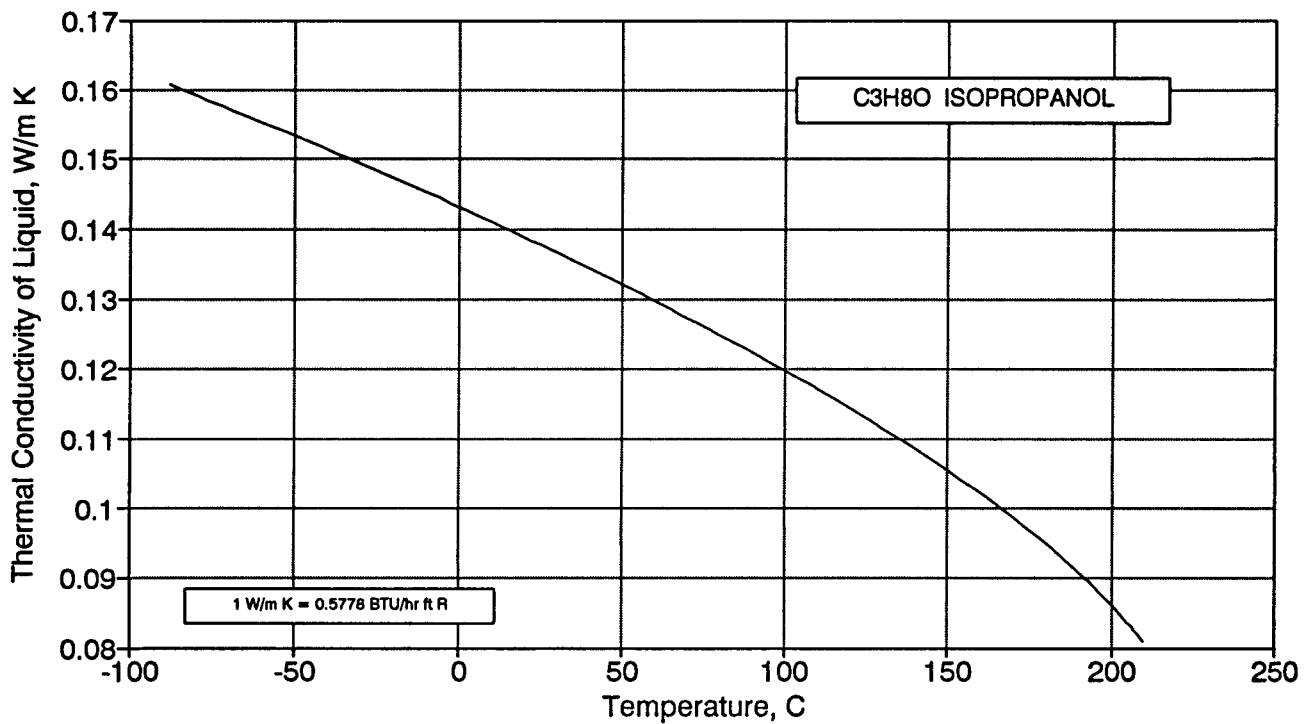
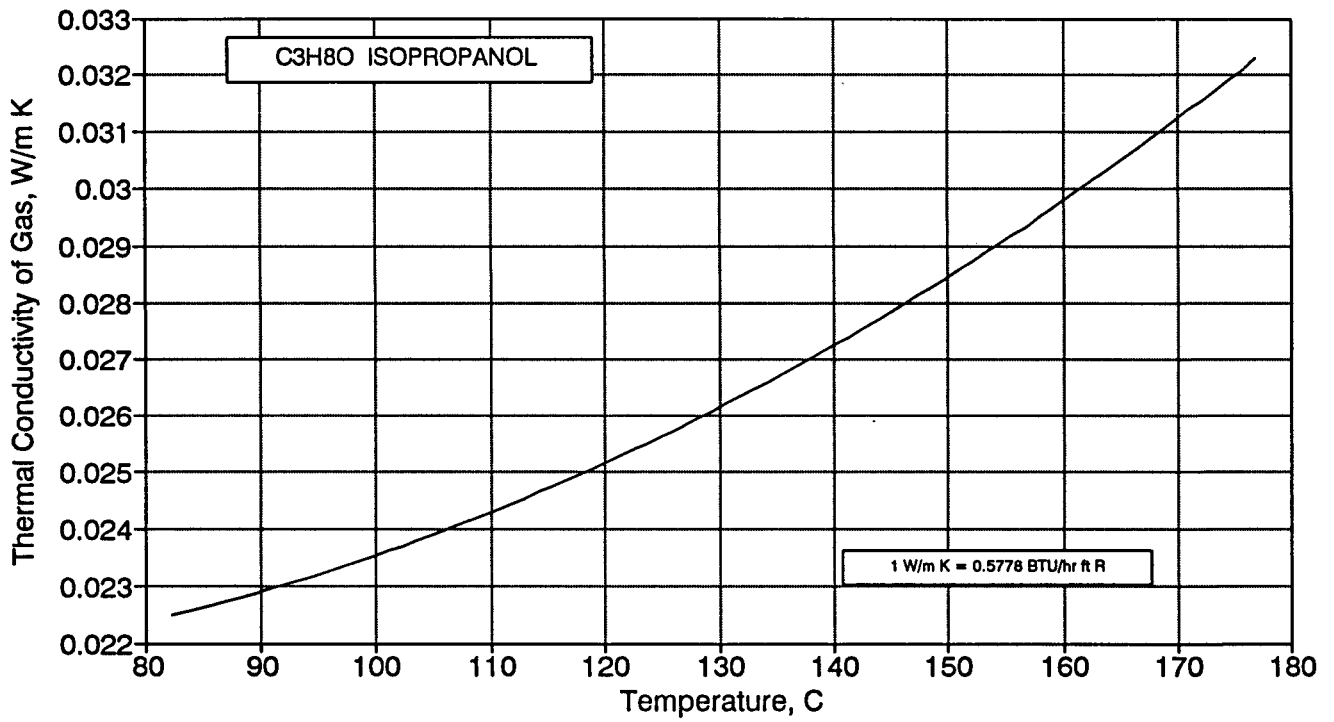


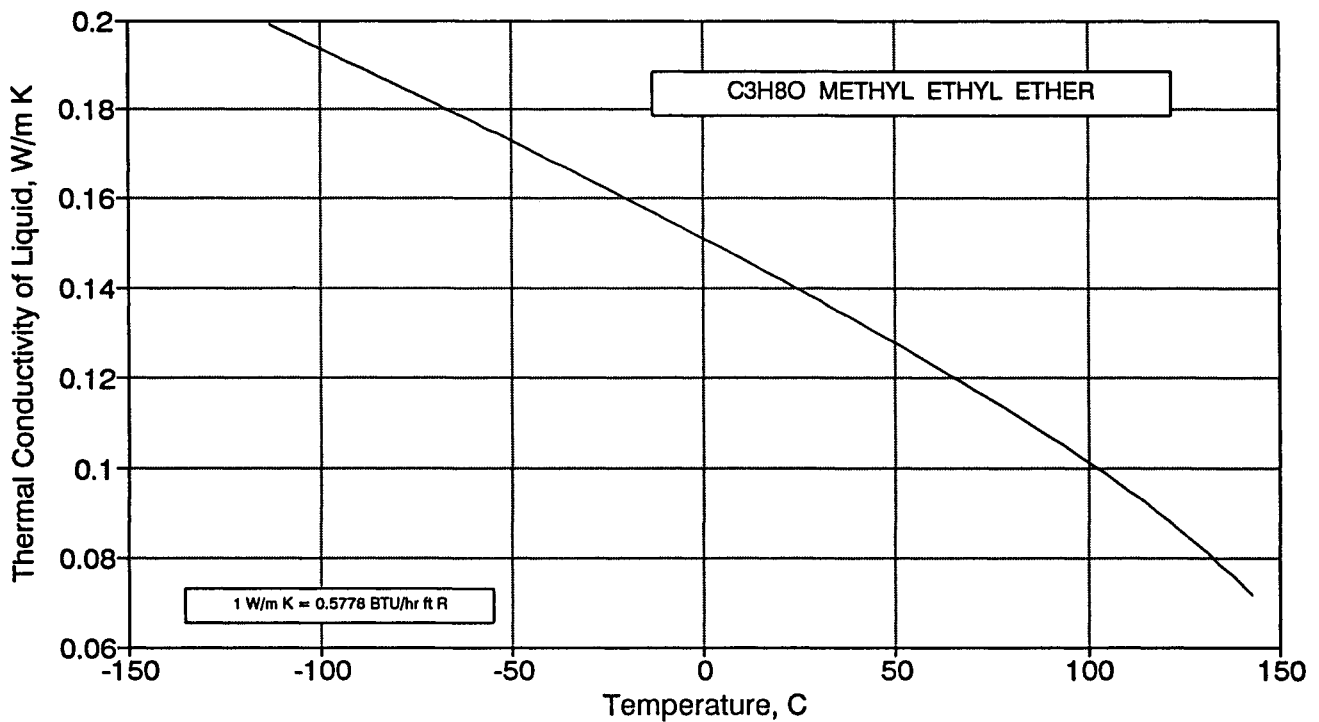
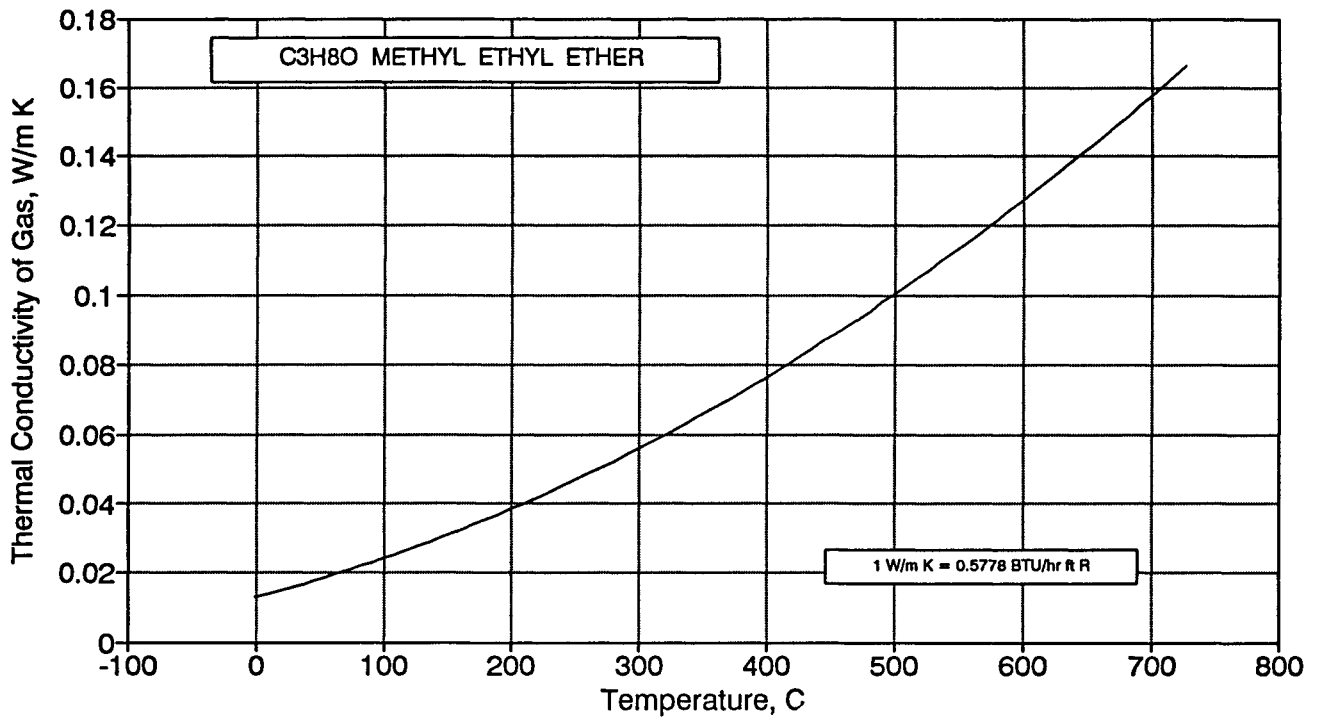


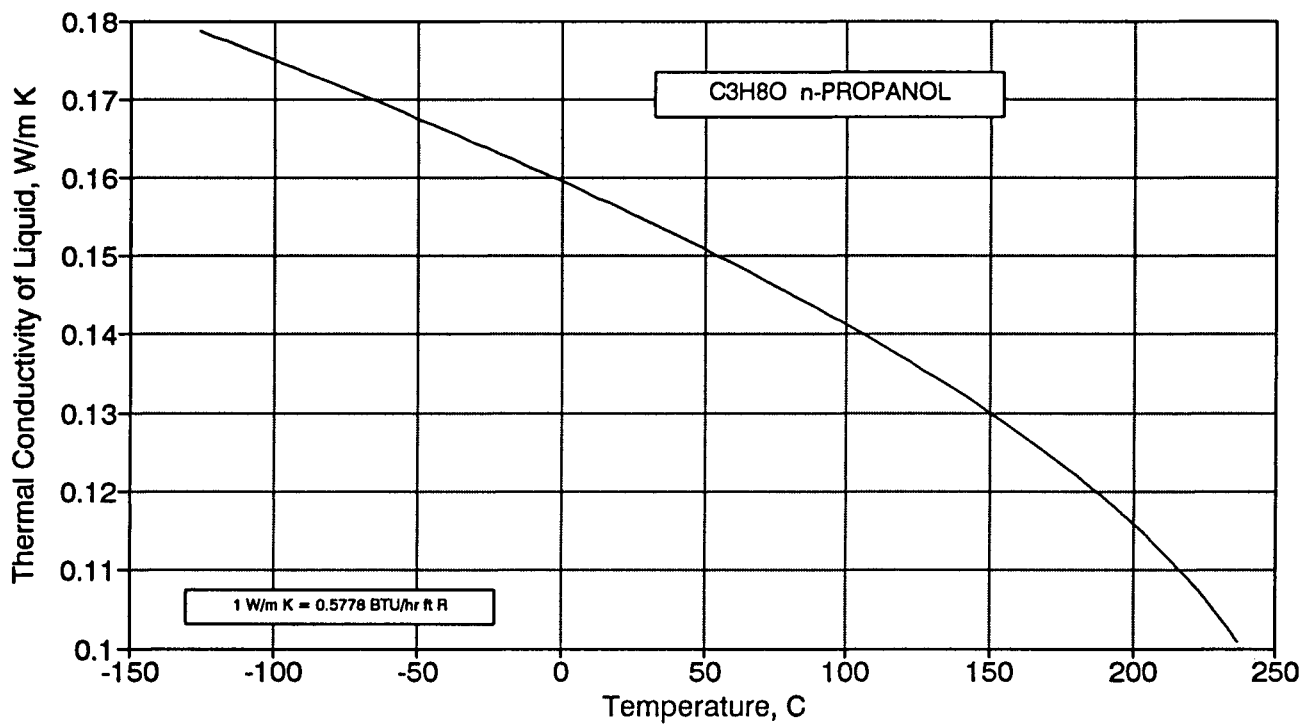
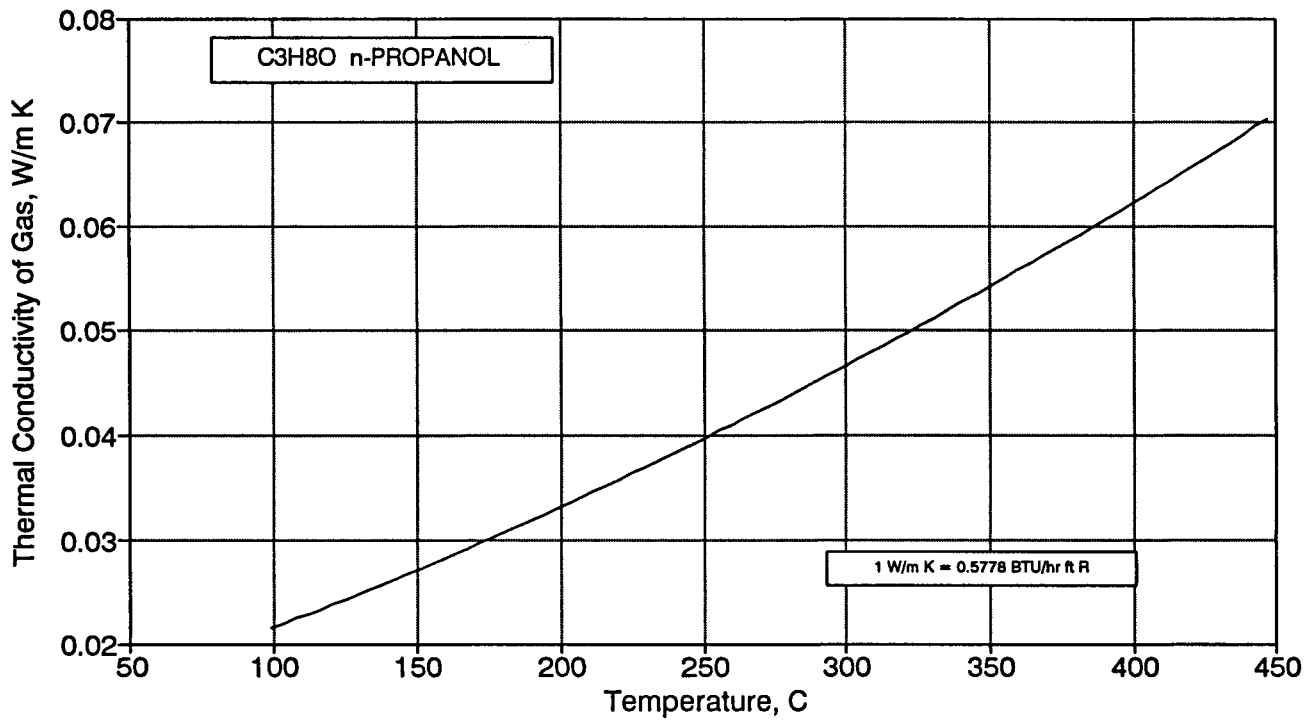


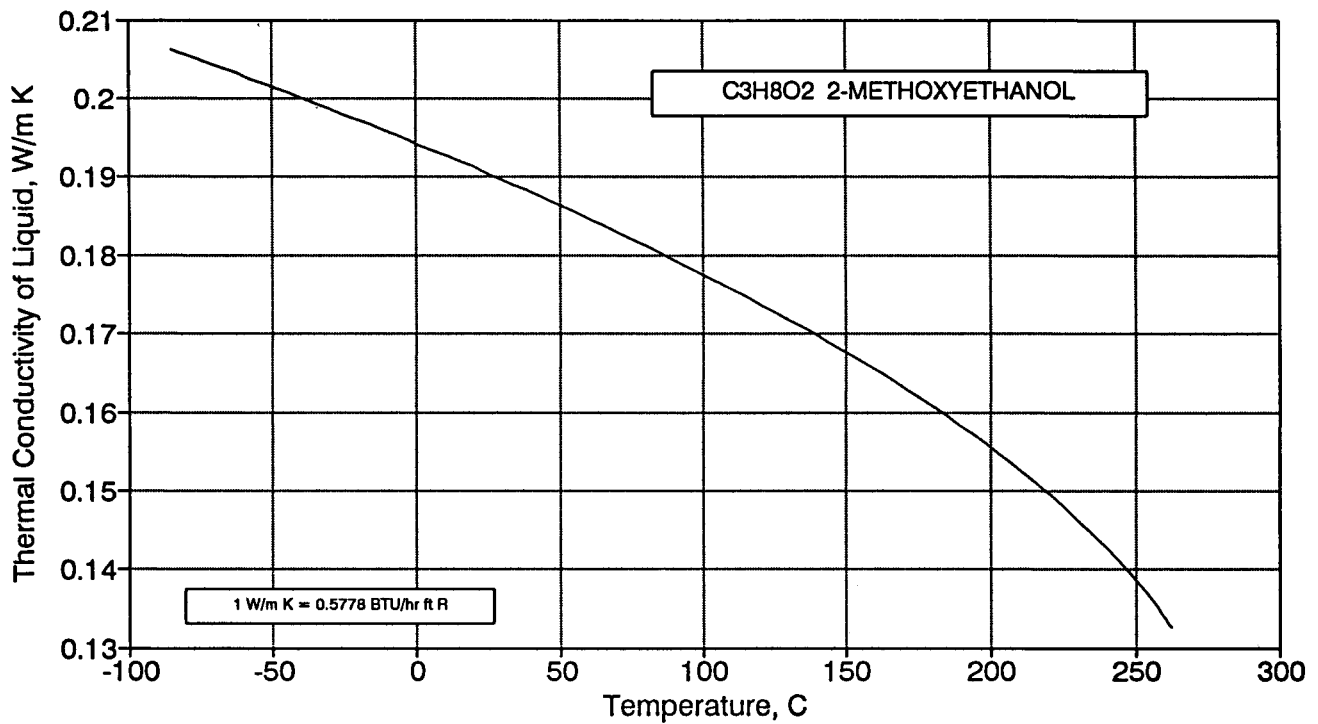
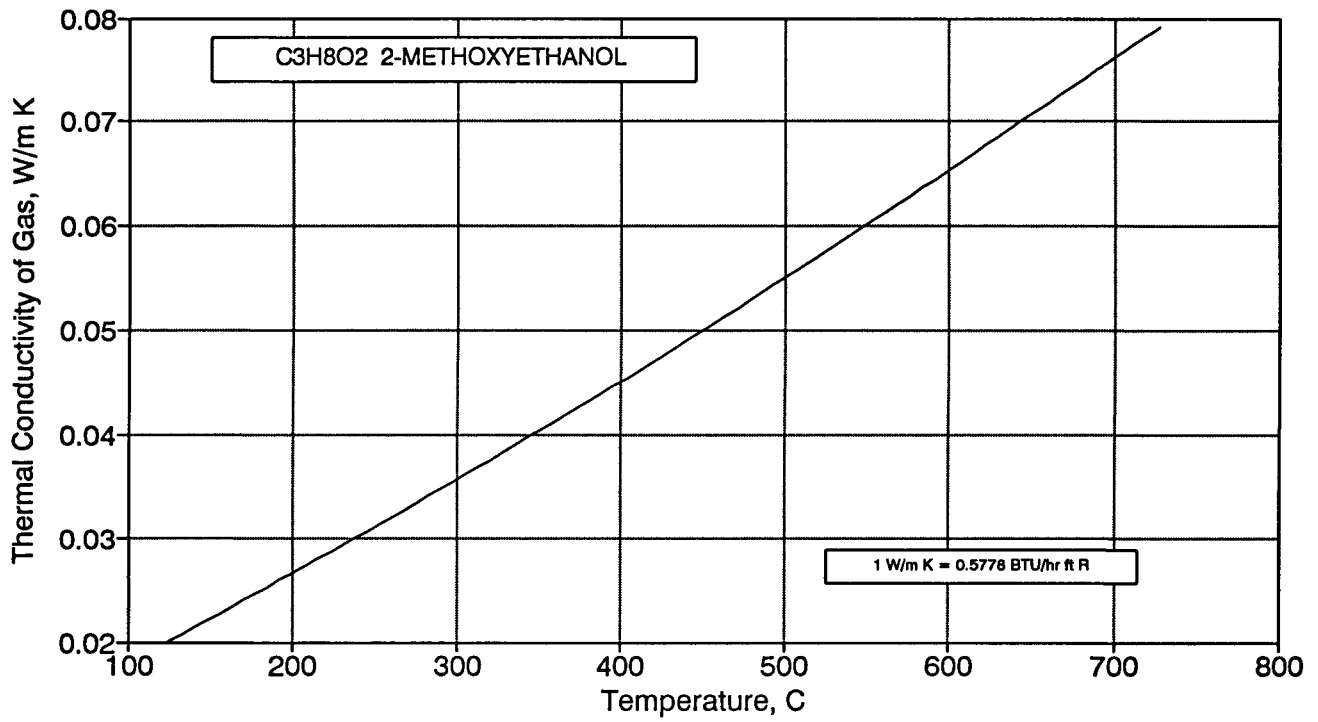


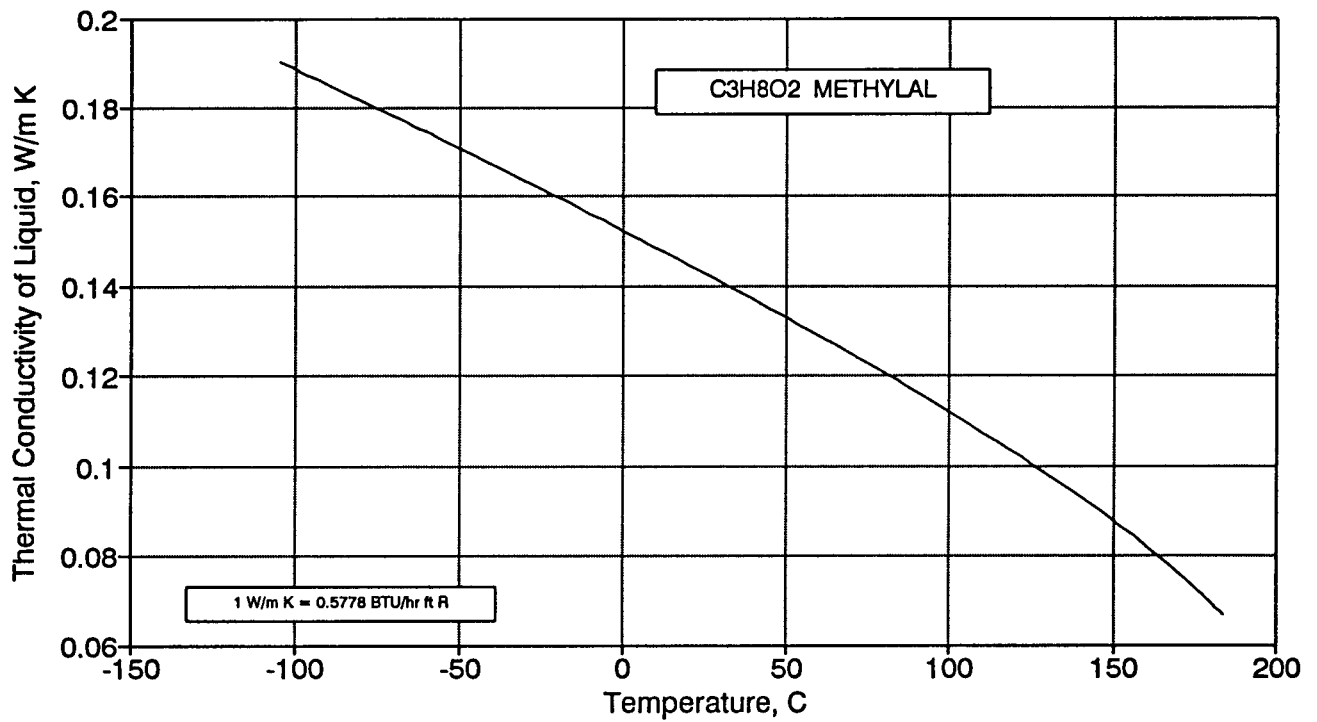
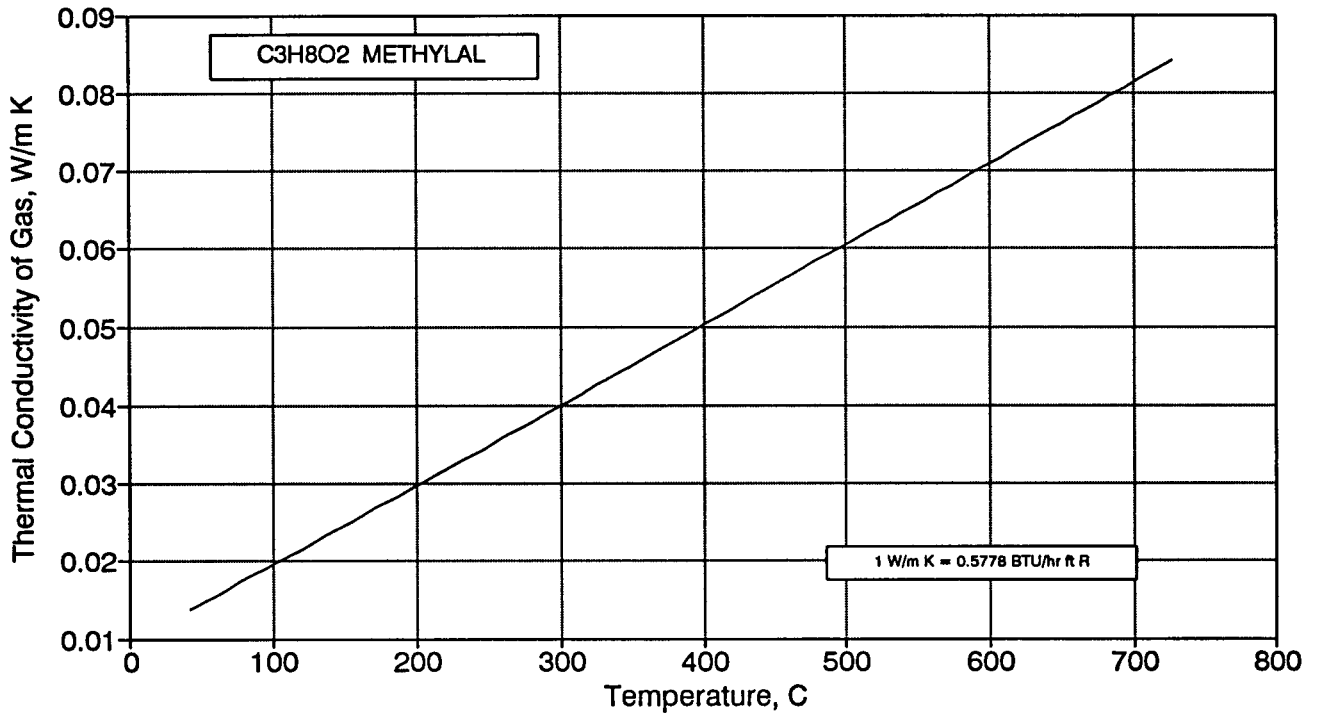


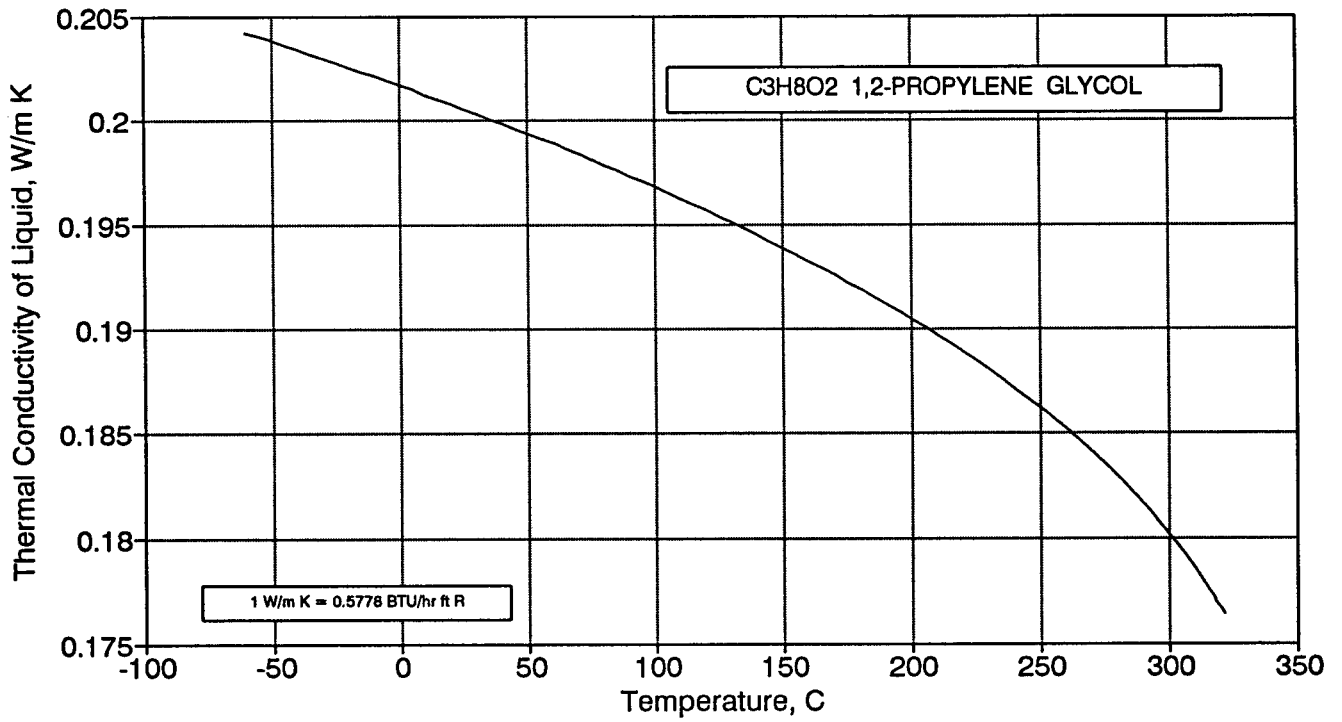
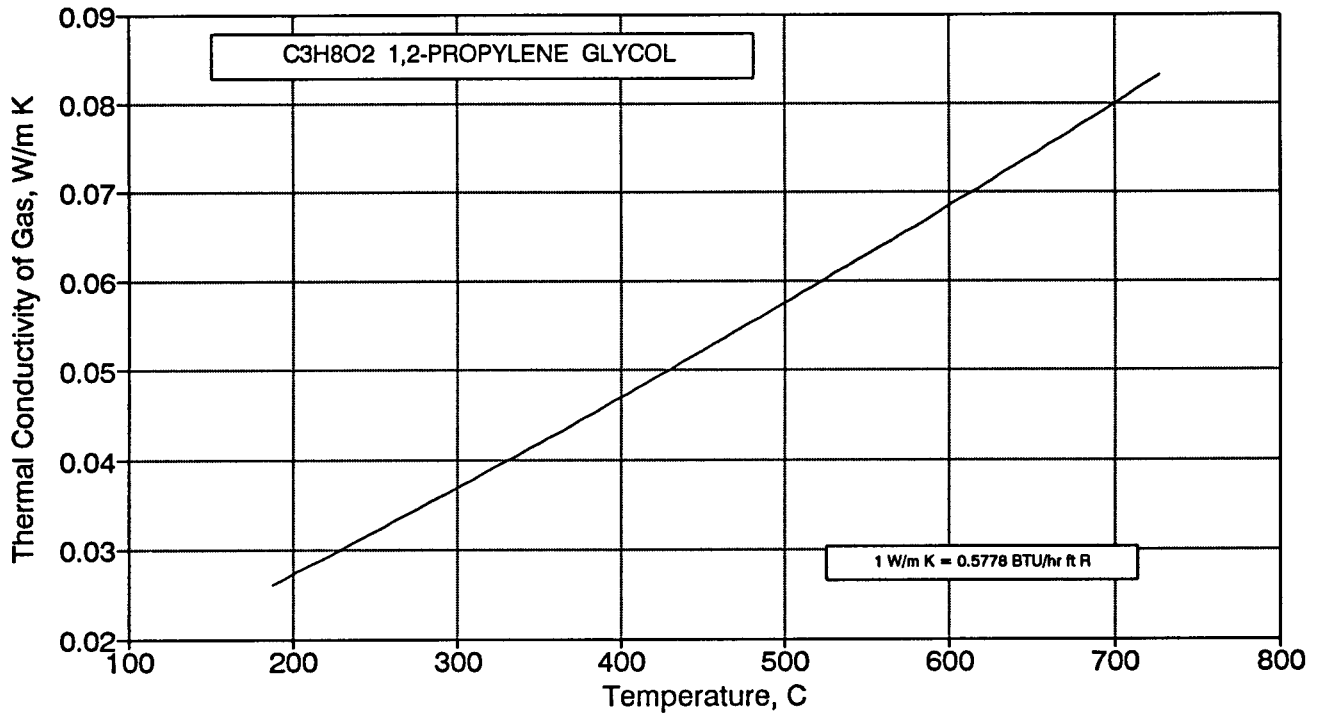


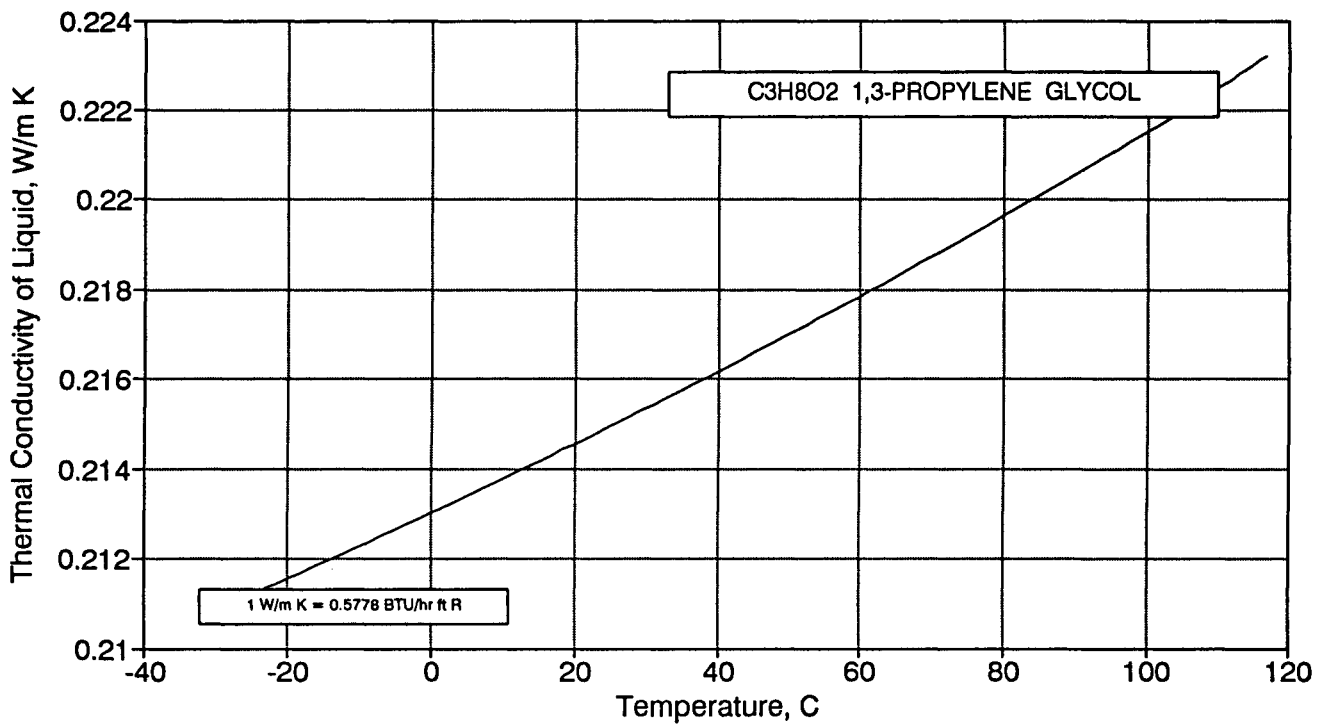
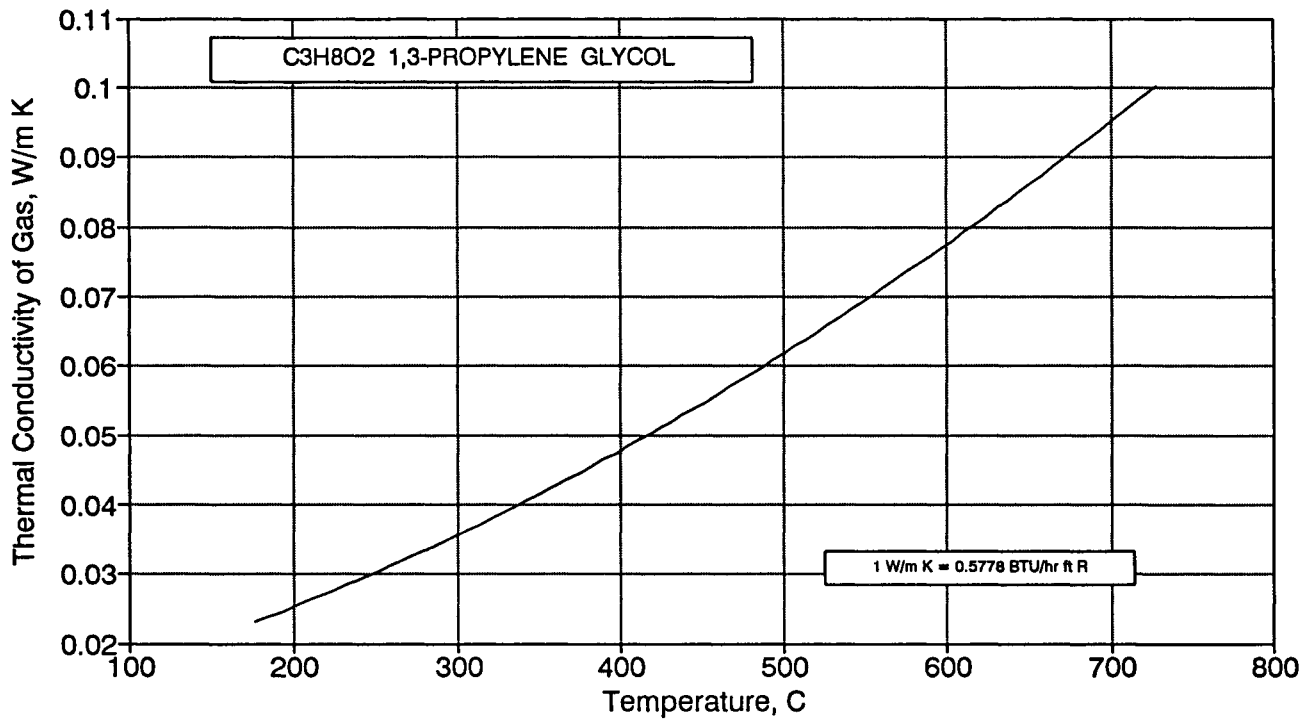


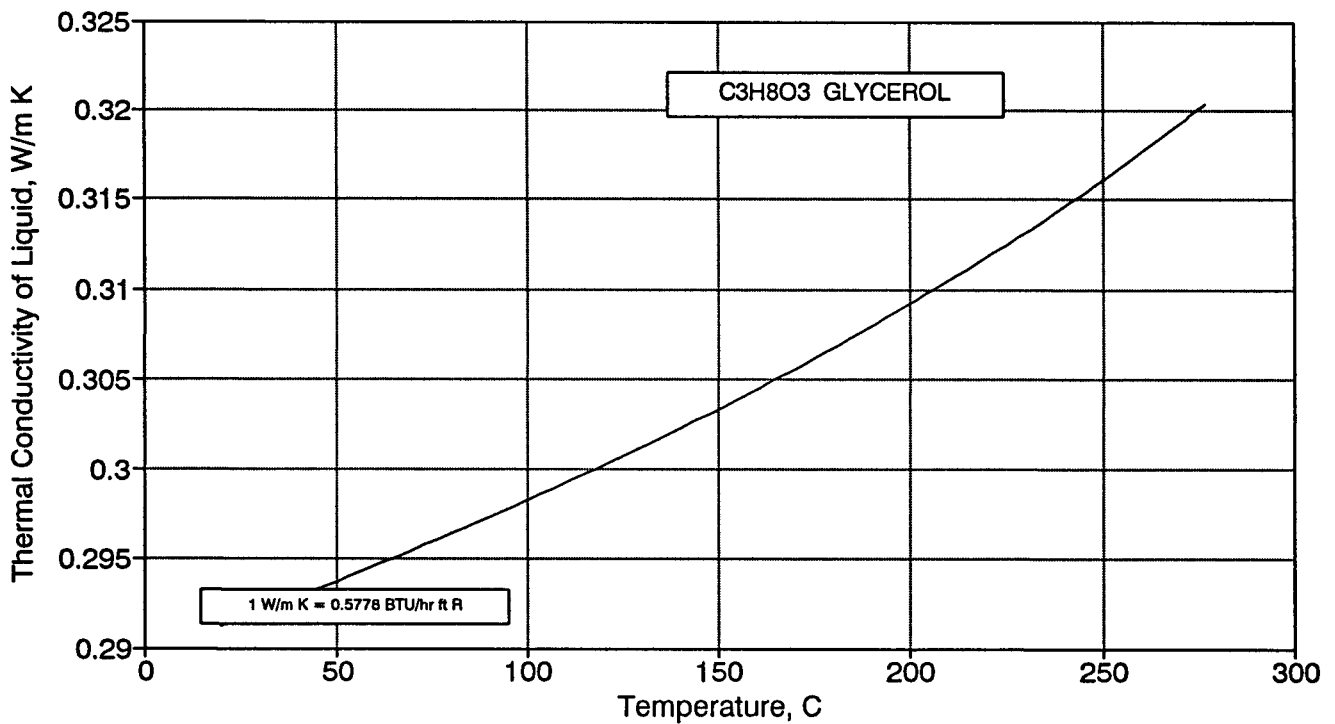
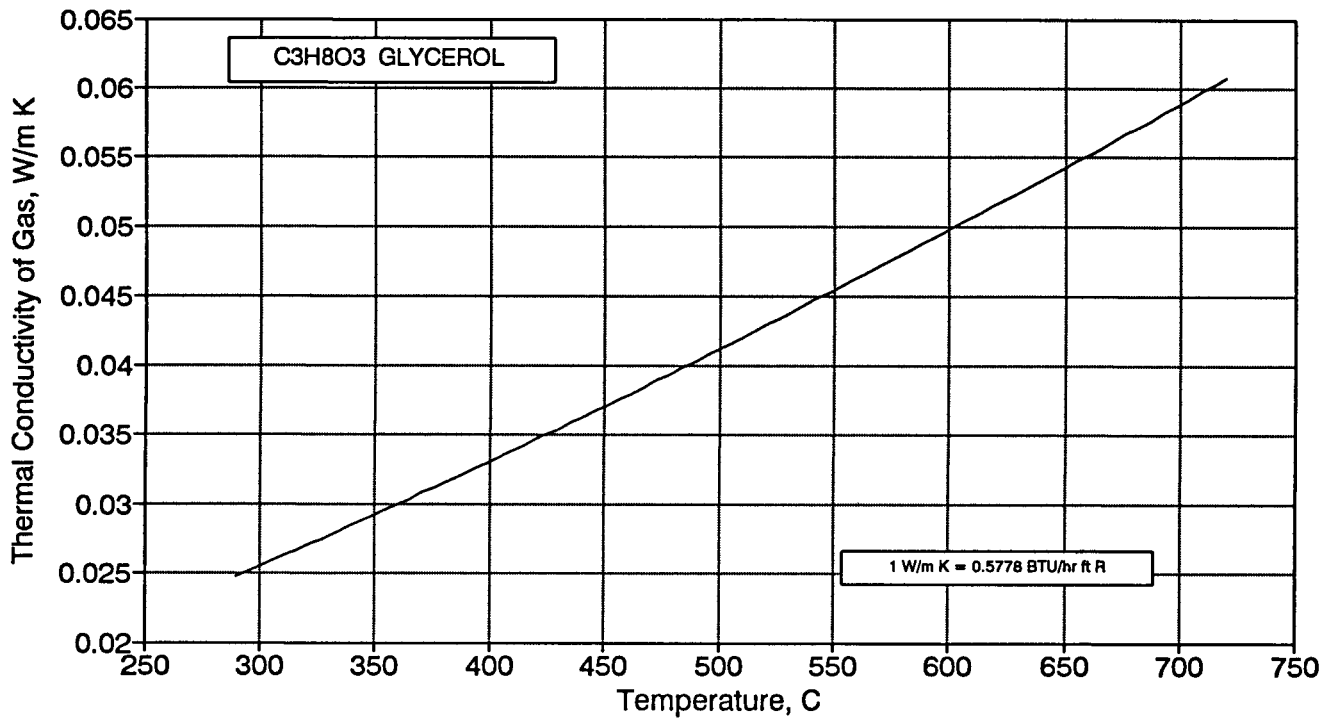




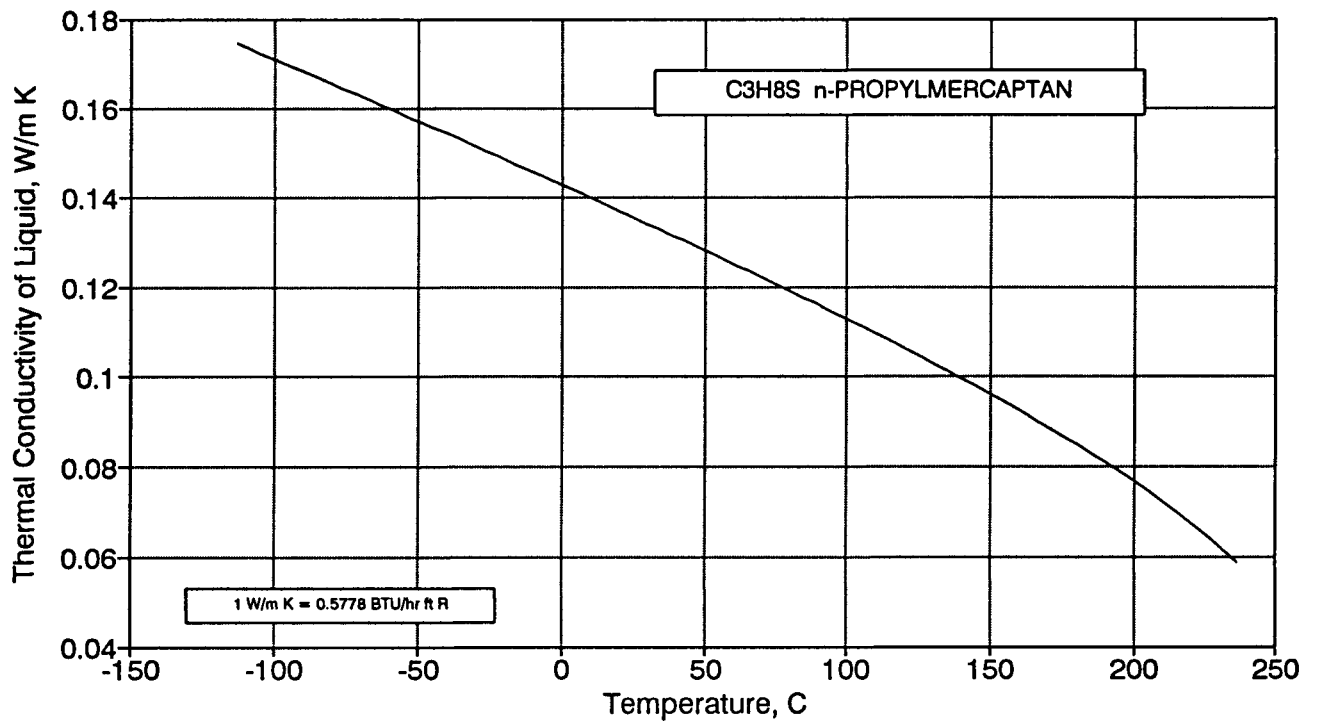
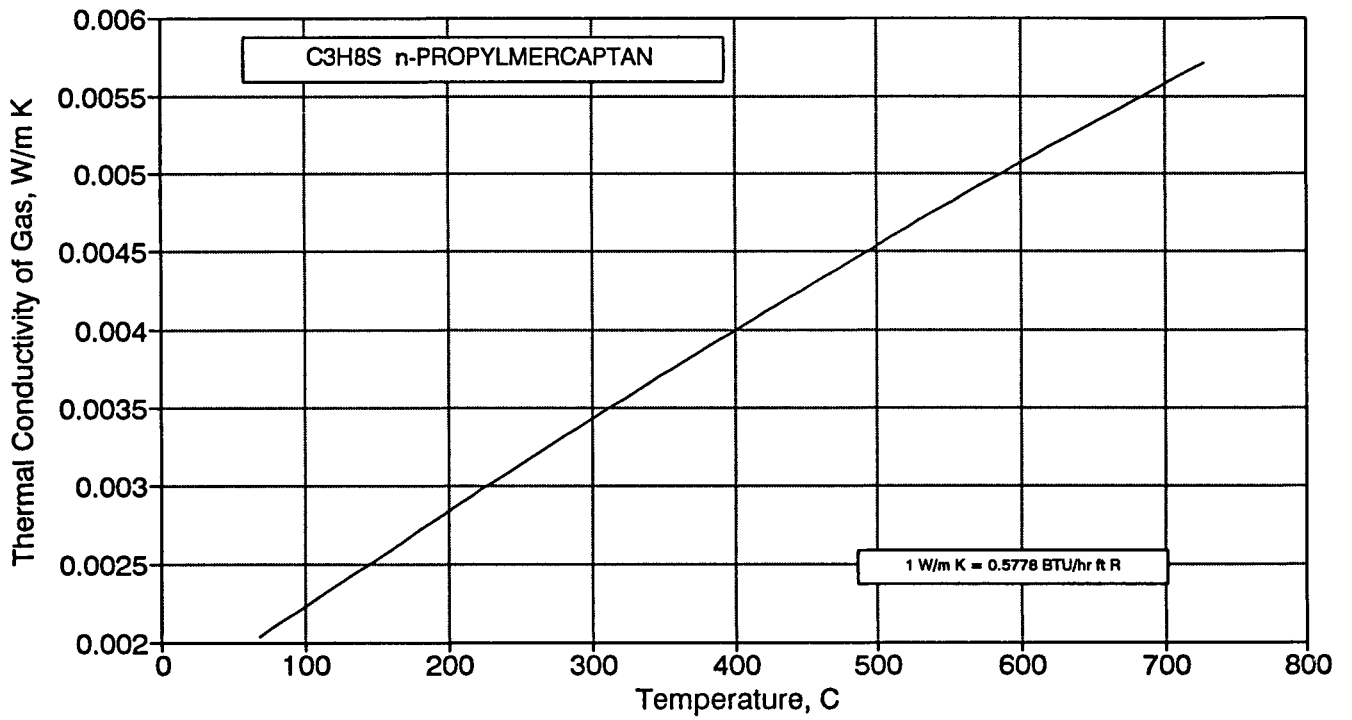


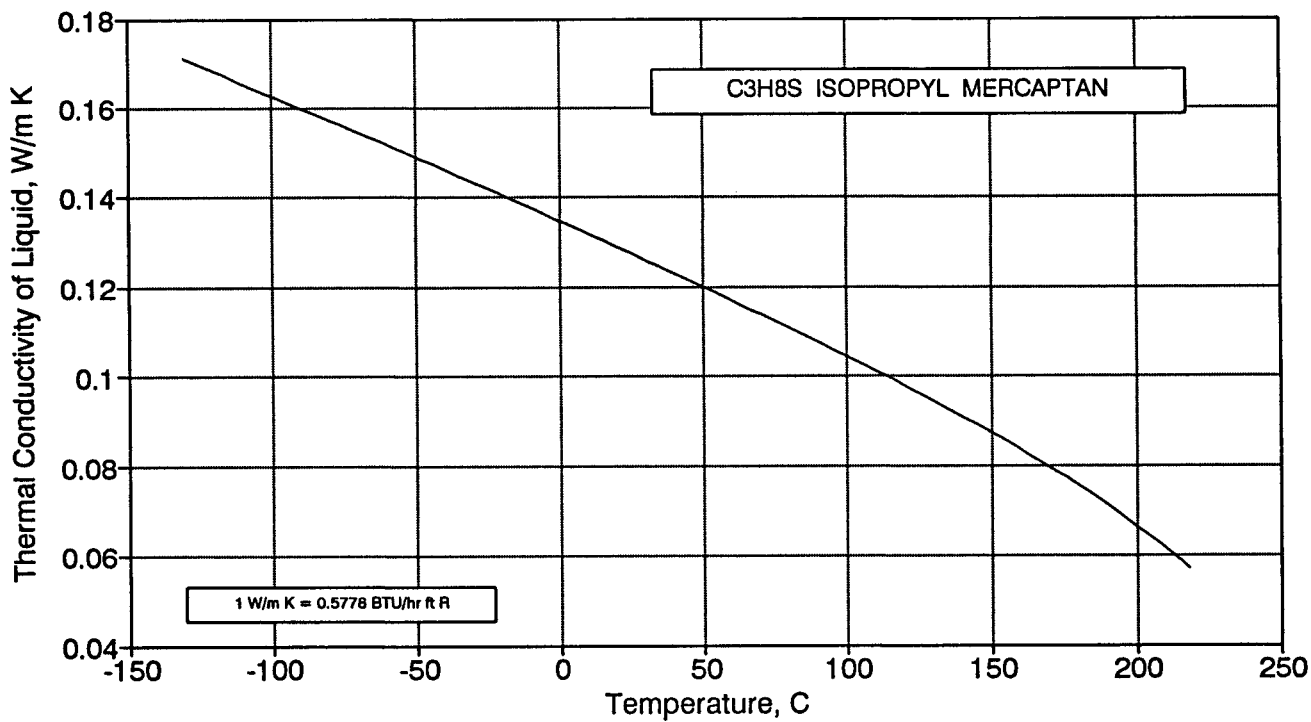
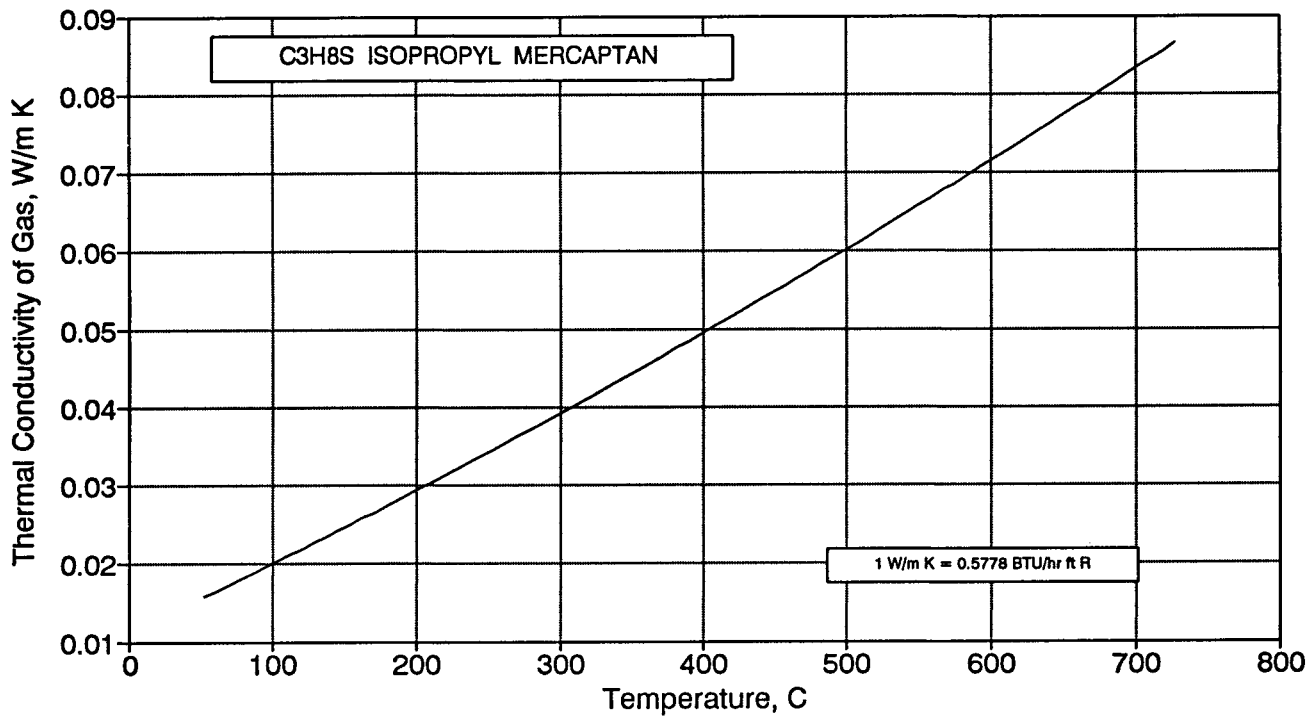


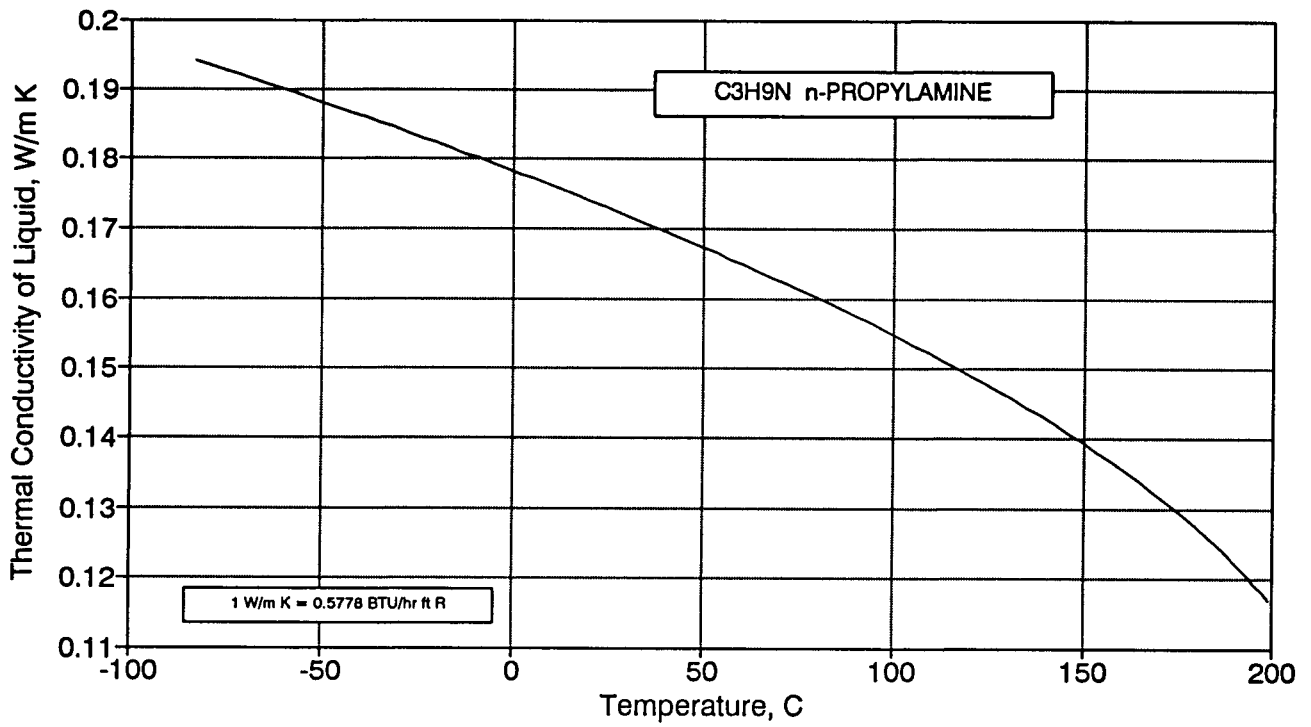
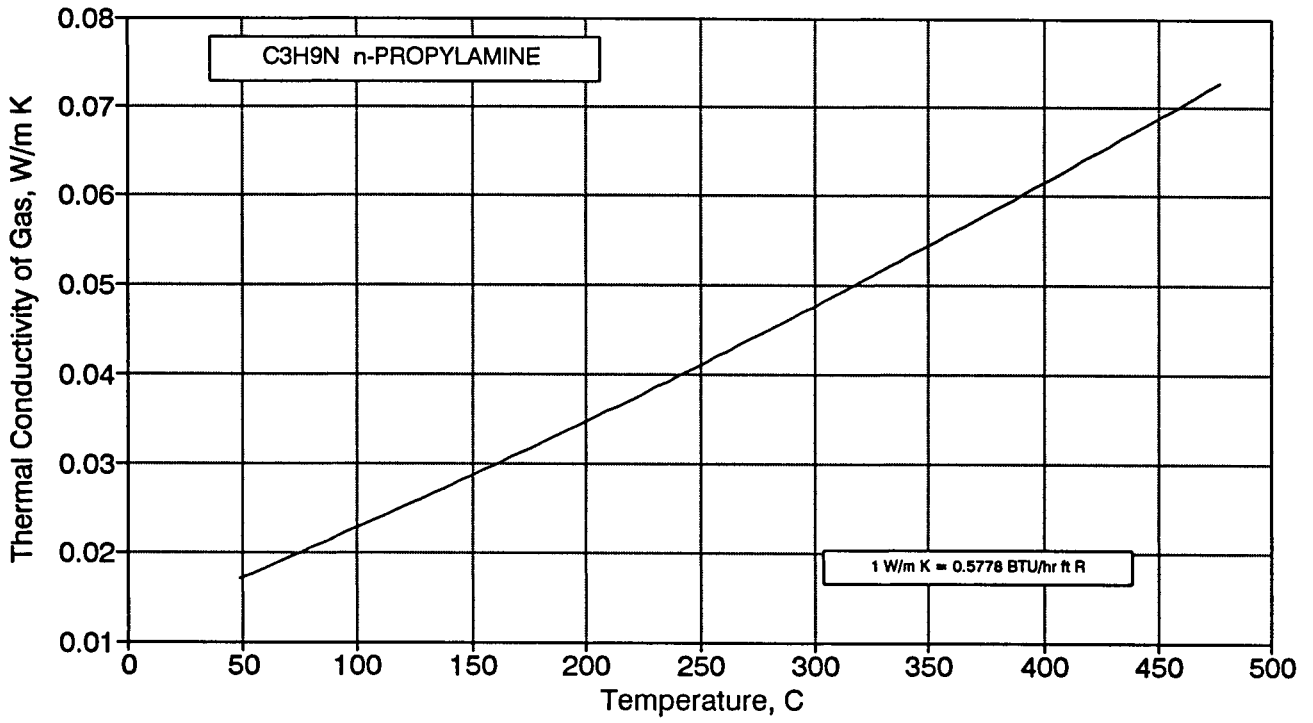


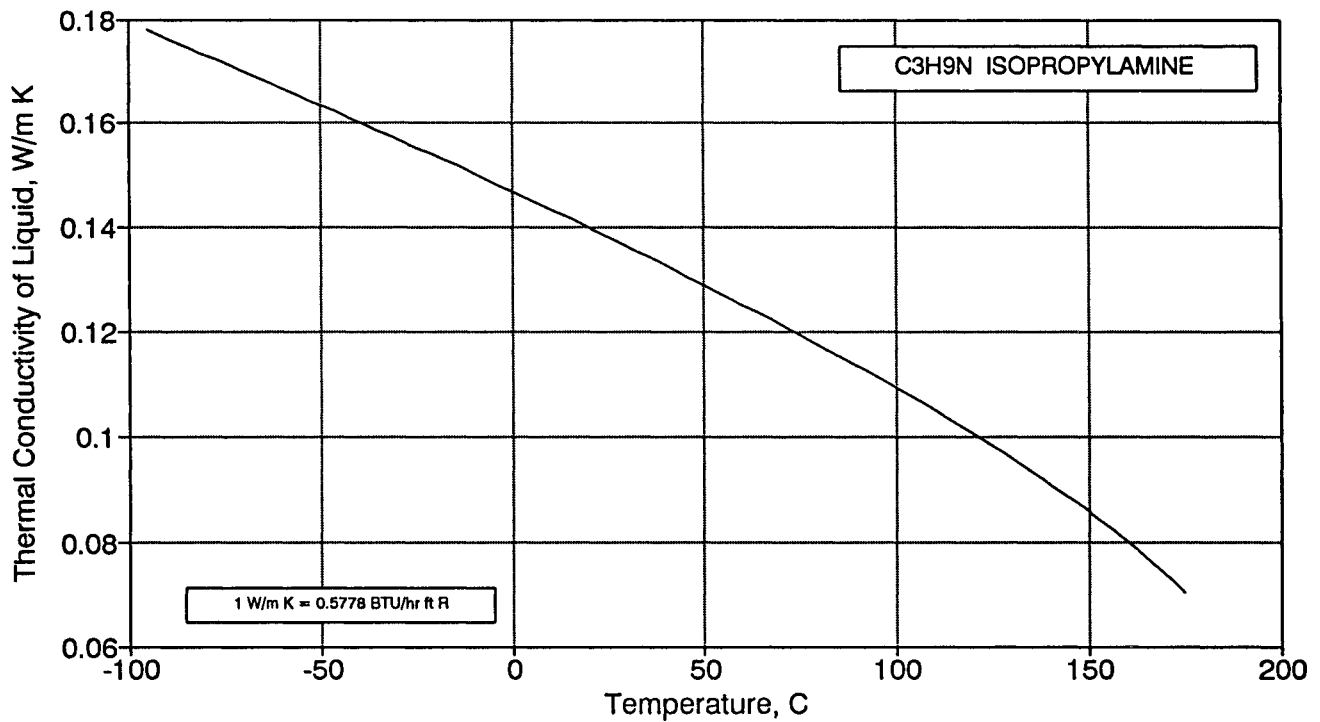
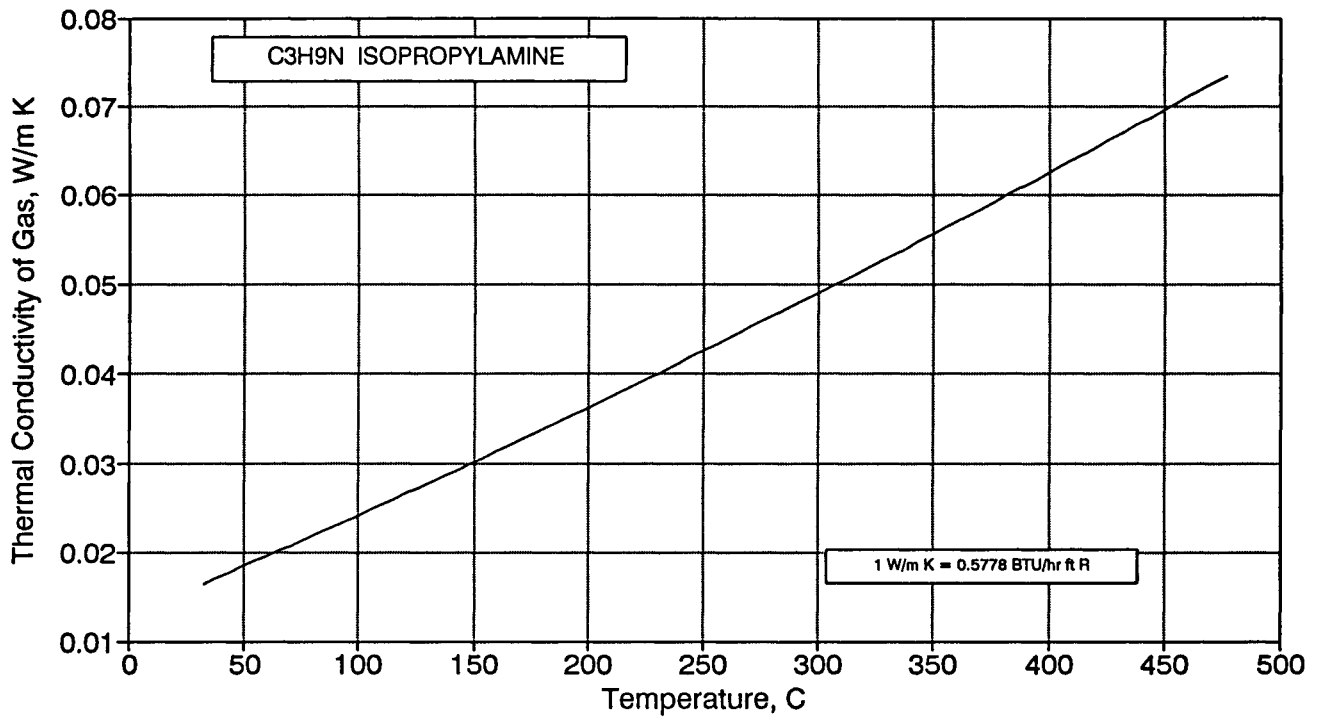


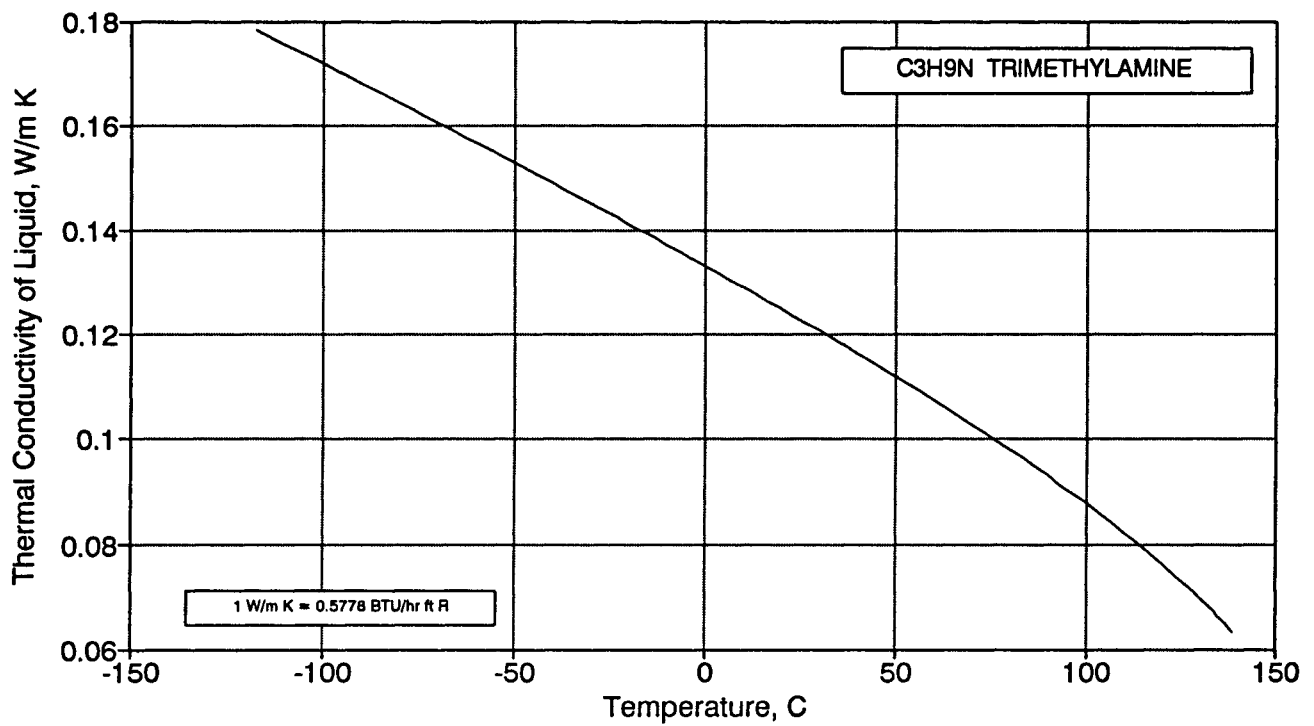
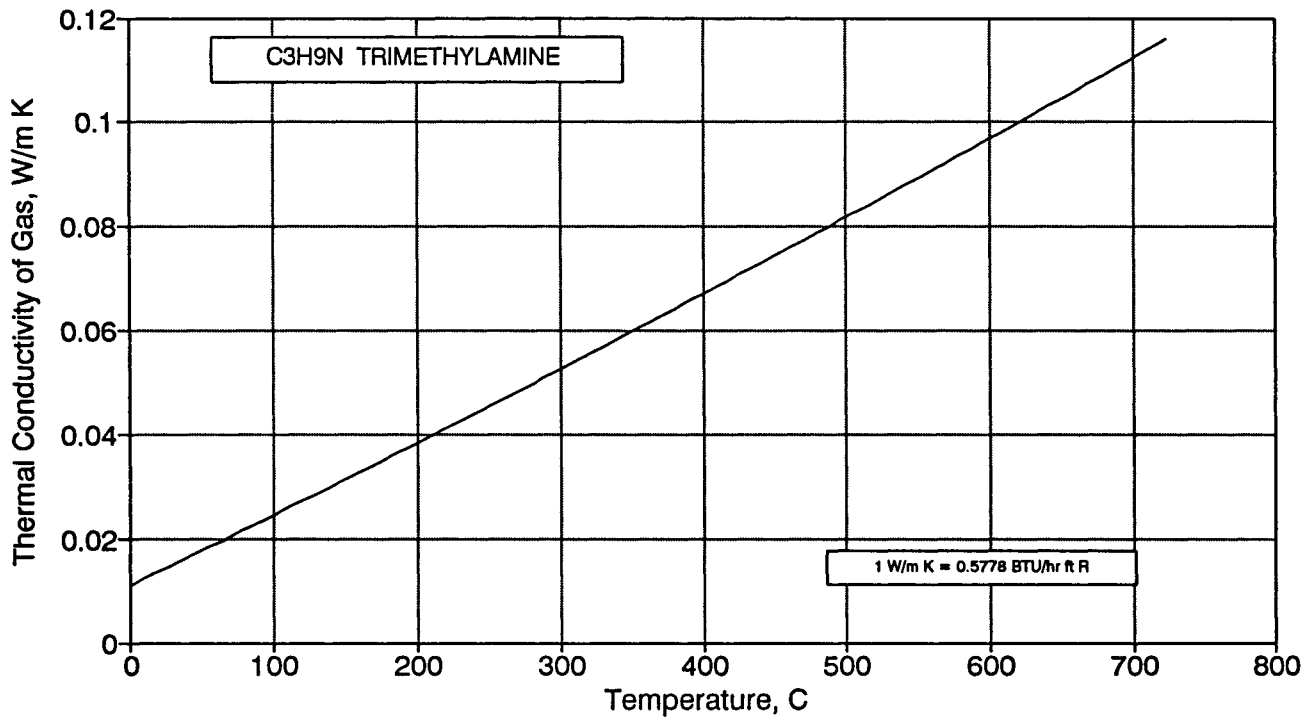


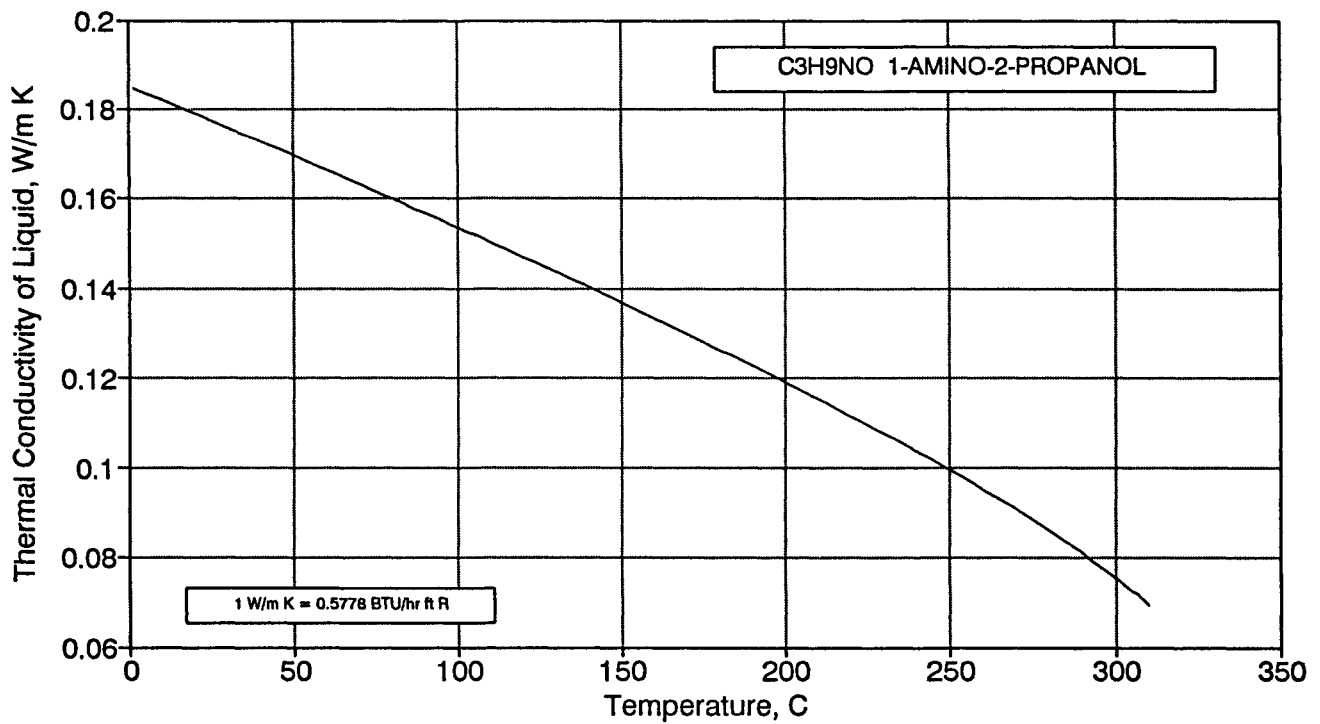
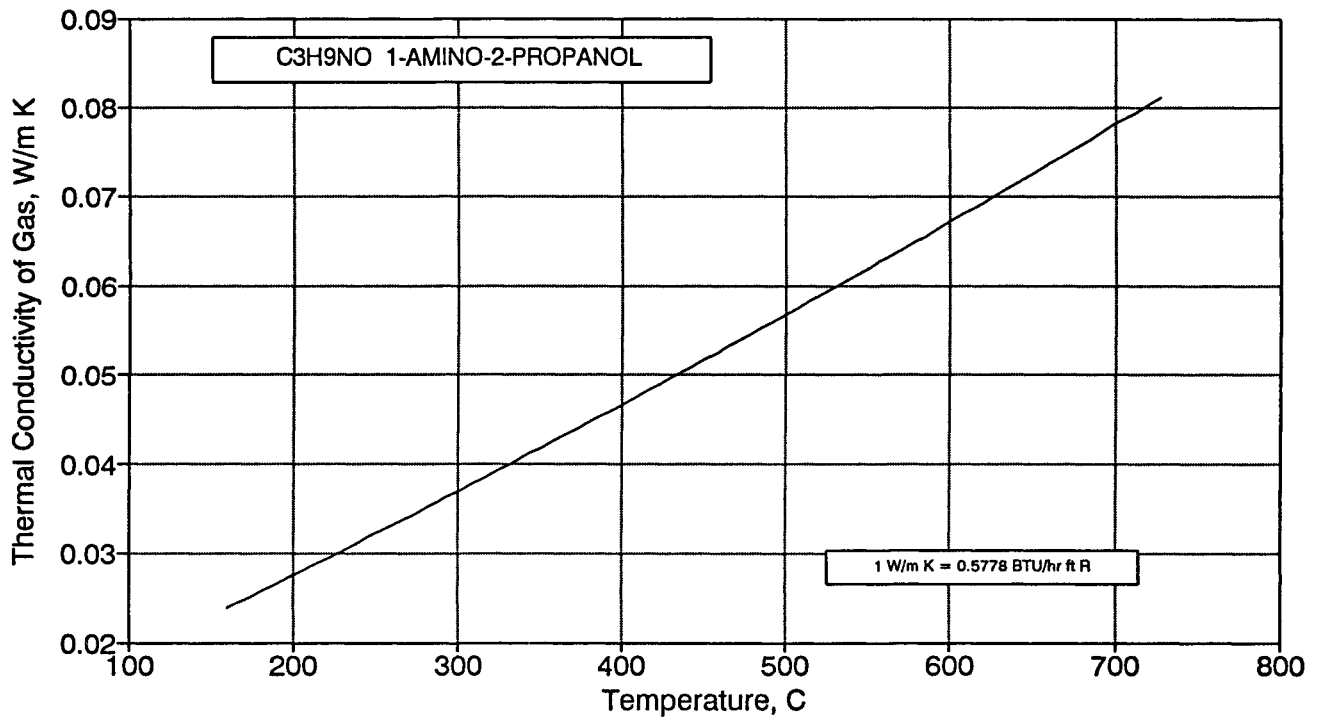


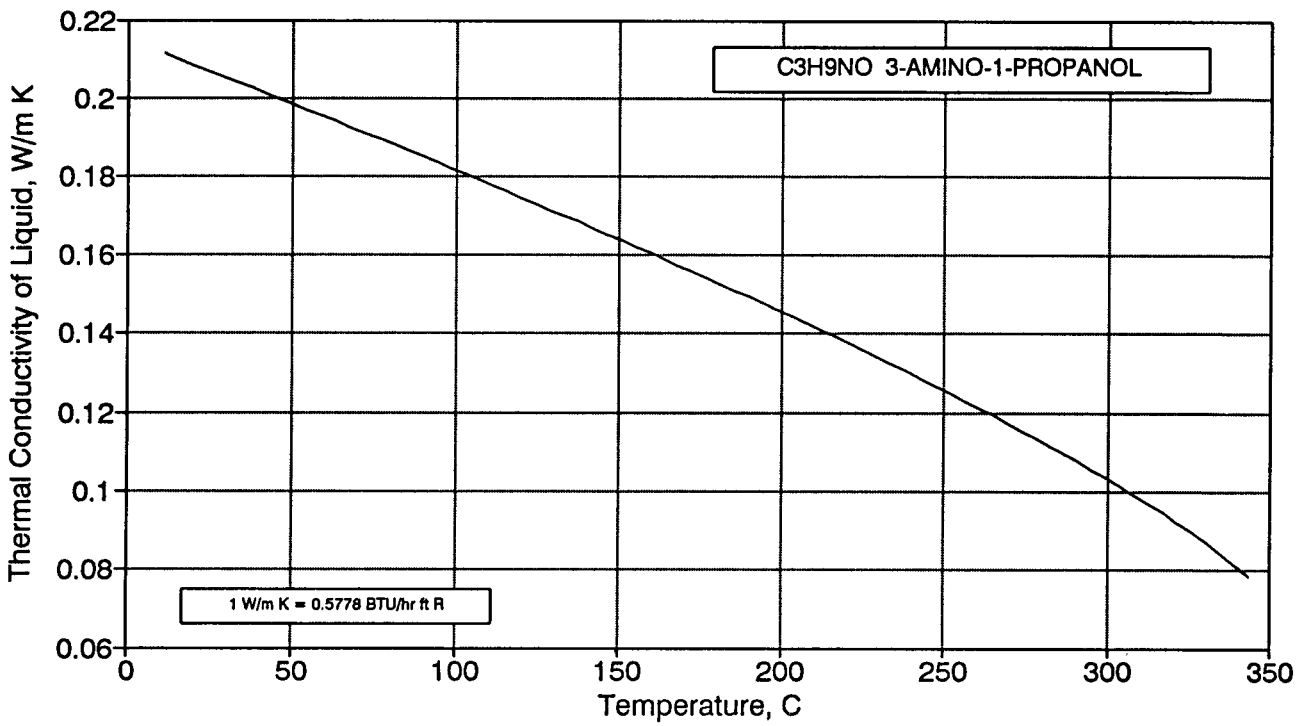
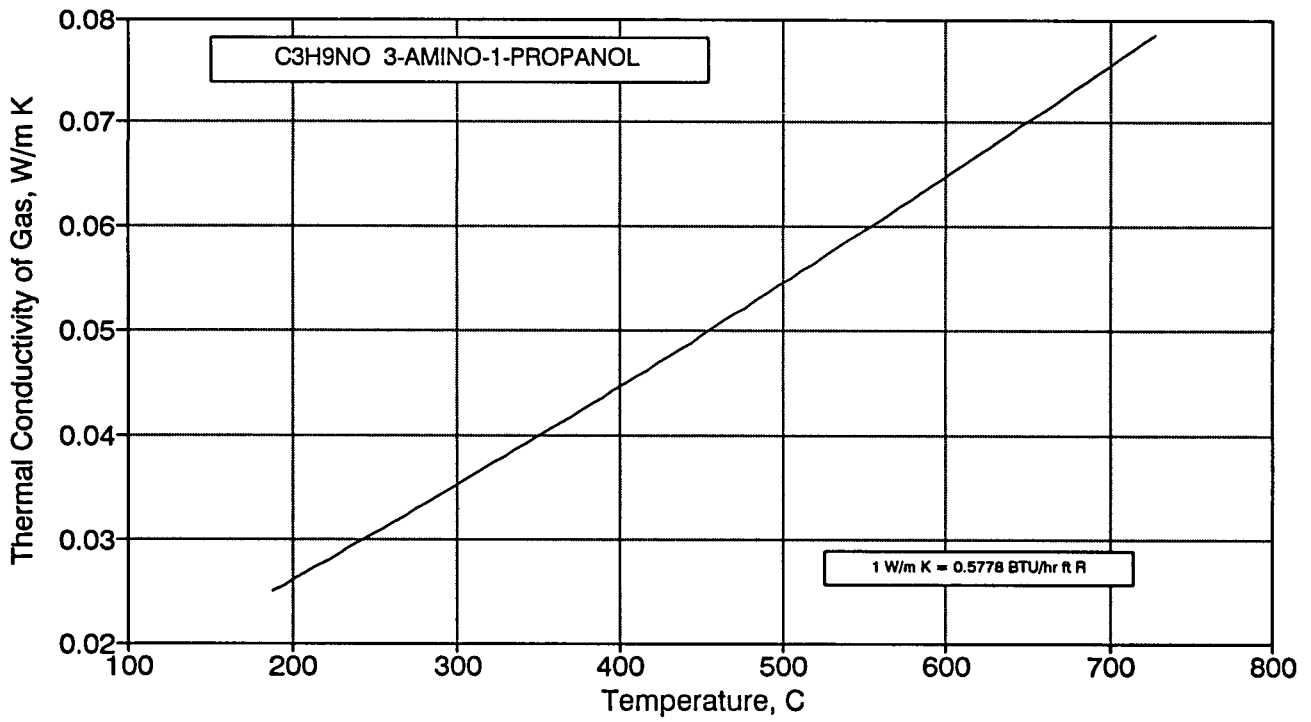


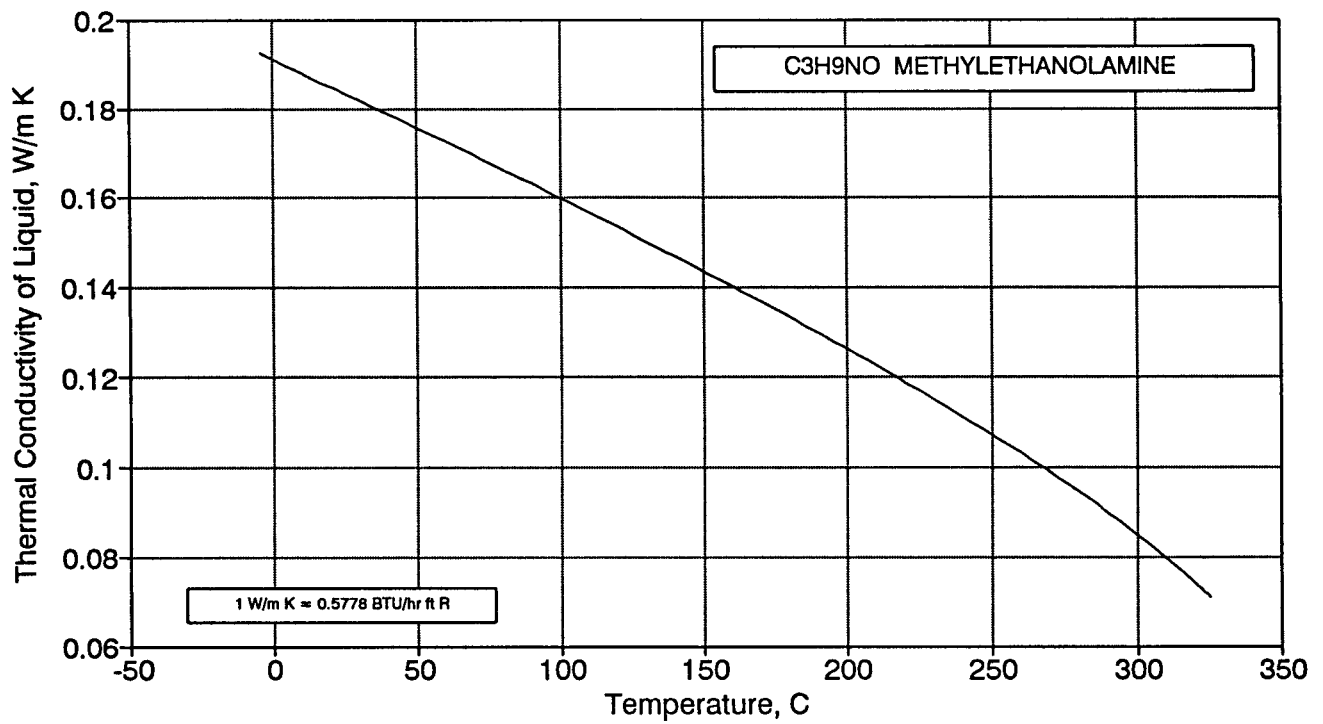
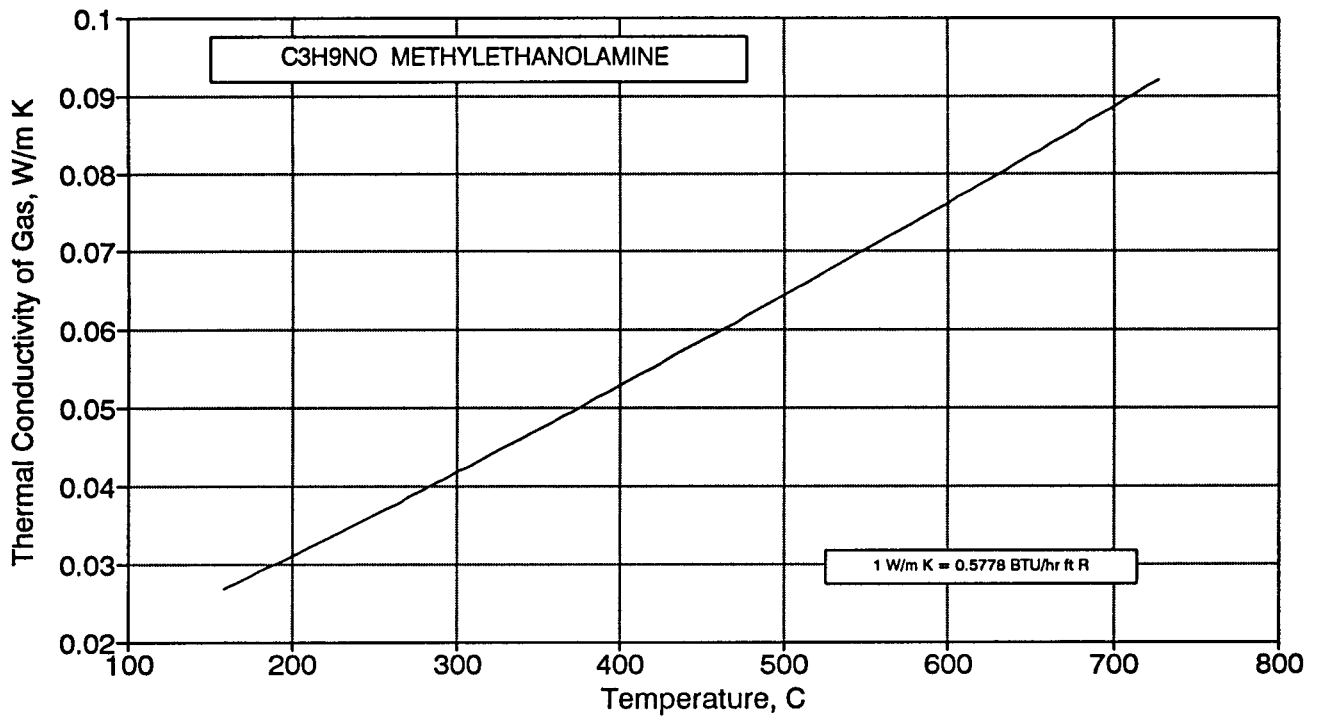














C3H9O4P TRIMETHYL PHOSPHATE

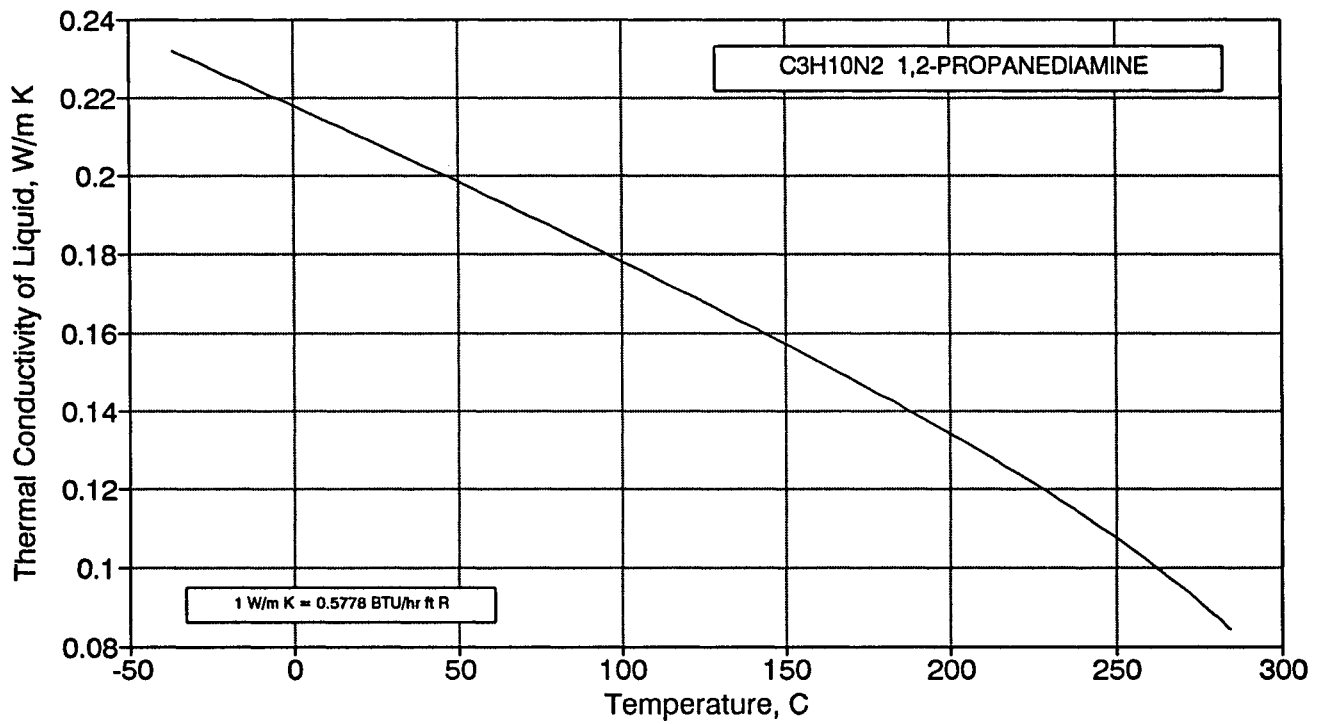
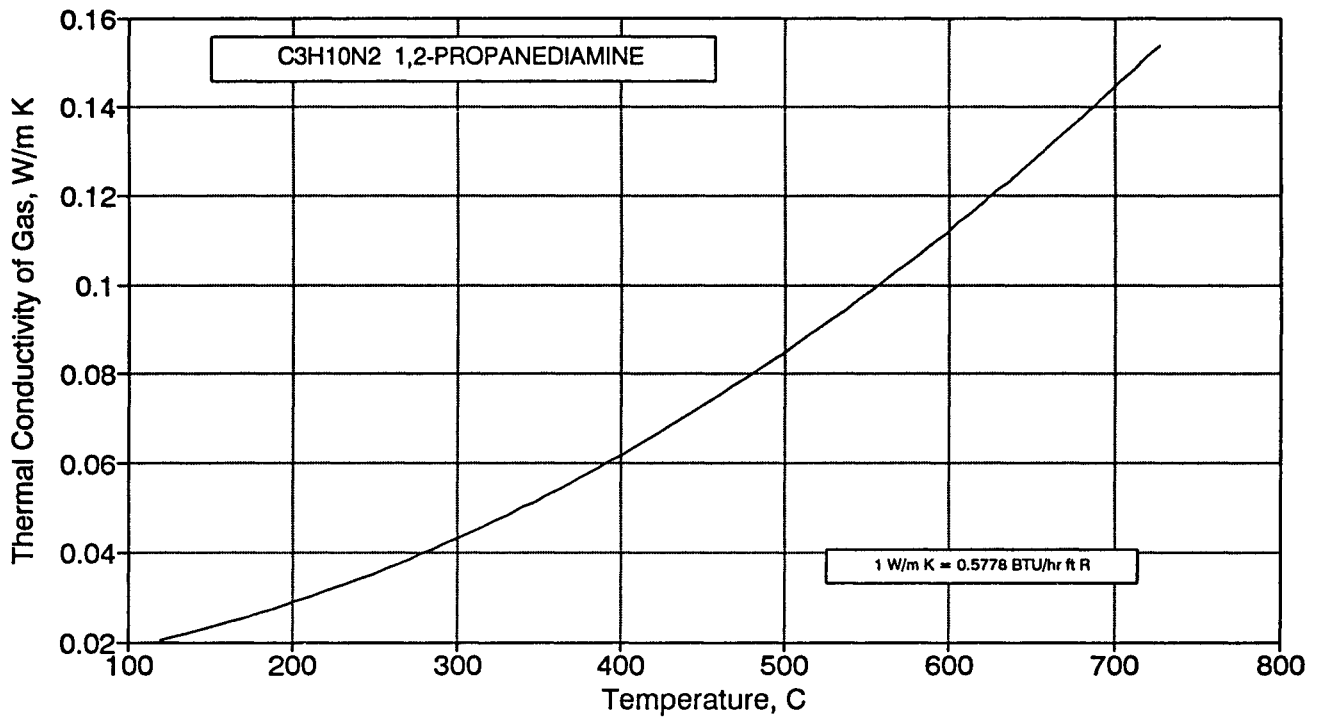
Gas thermal conductivity data are not available .

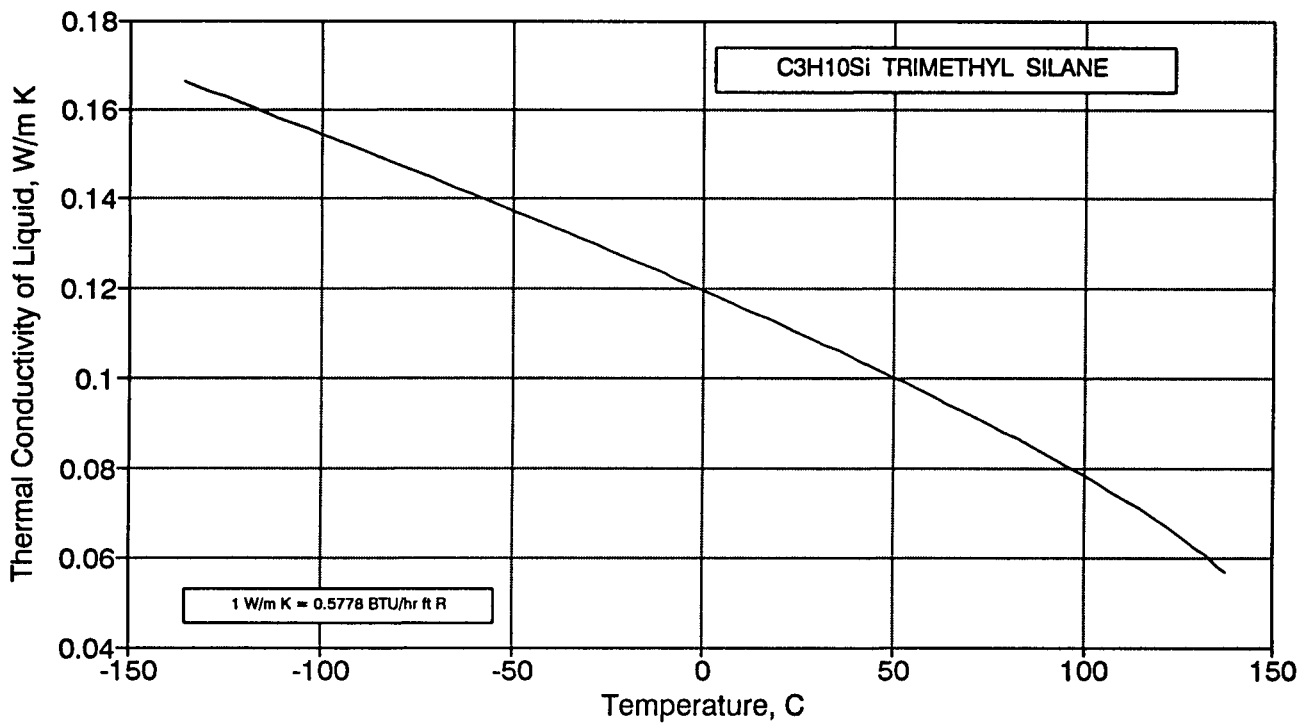
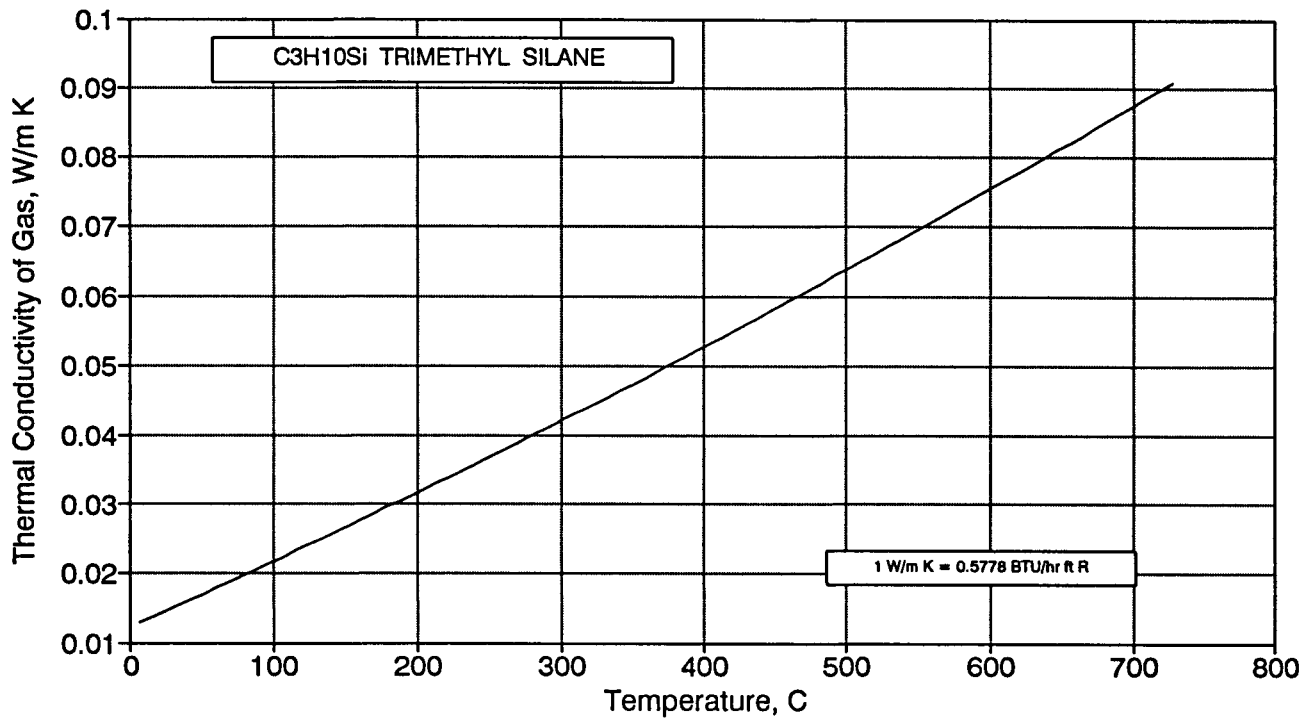
TF , K = 227.00

TB , K = 465.85

C3H9O4P TRIMETHYL PHOSPHATE

Liquid thermal conductivity data are not available .





C4Cl4S TETRACHLOROTHIOPHENE

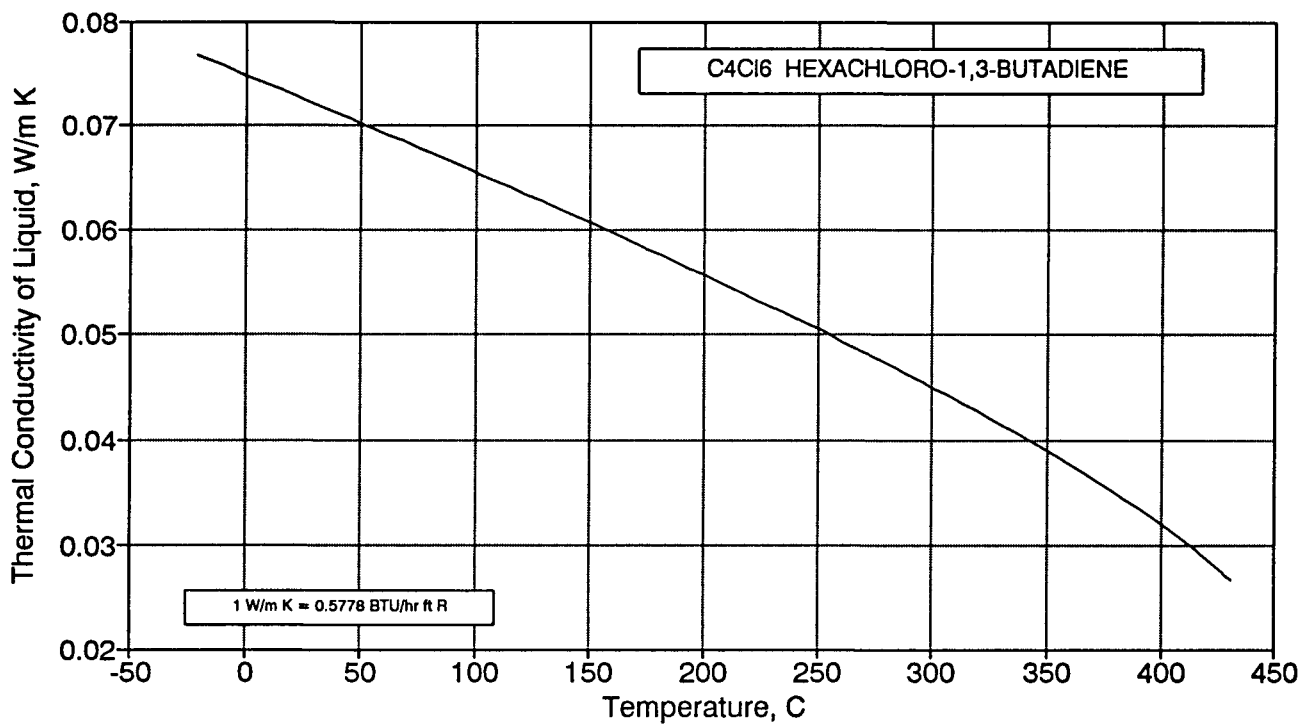
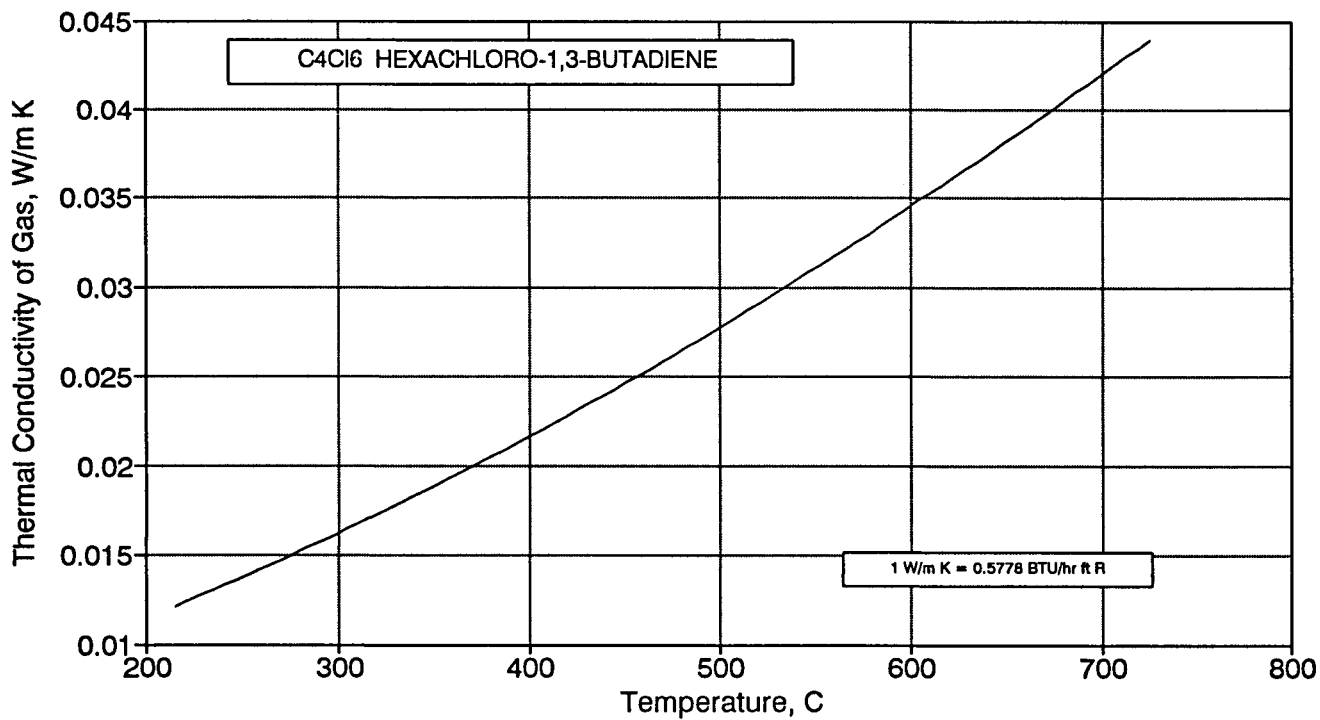
Gas thermal conductivity data are not available .

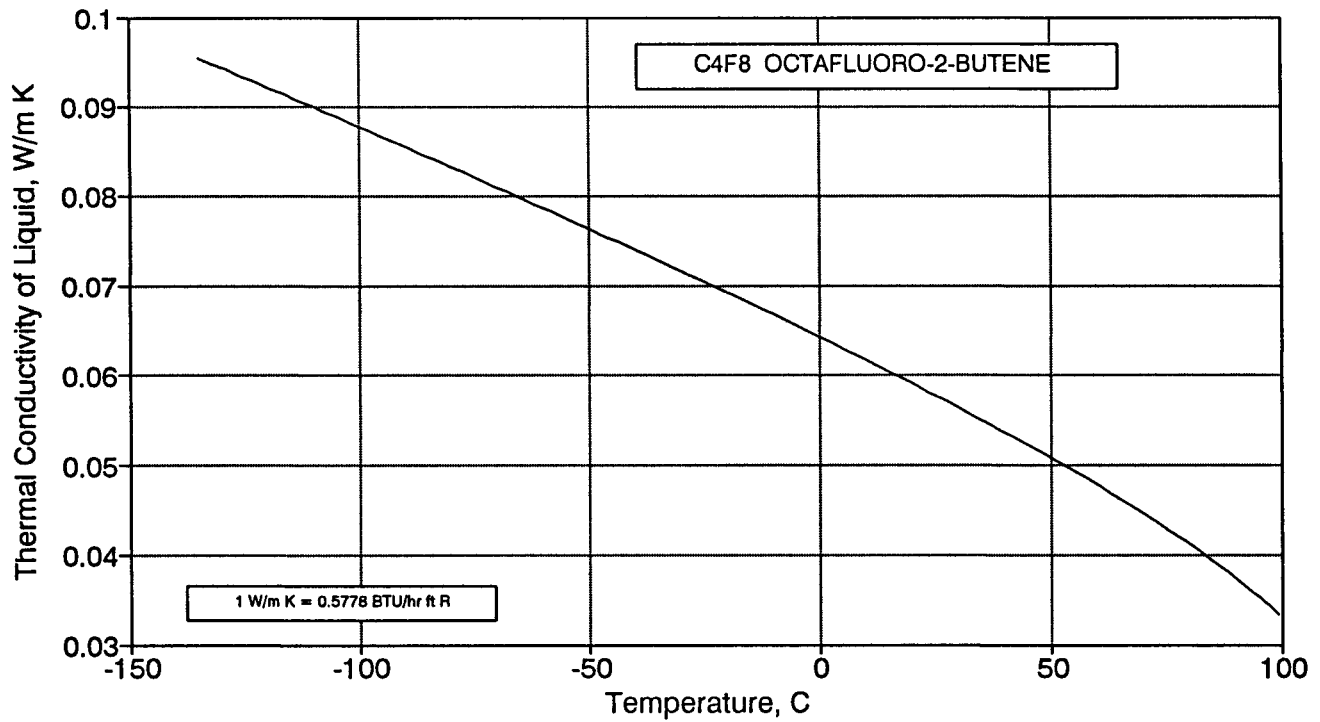
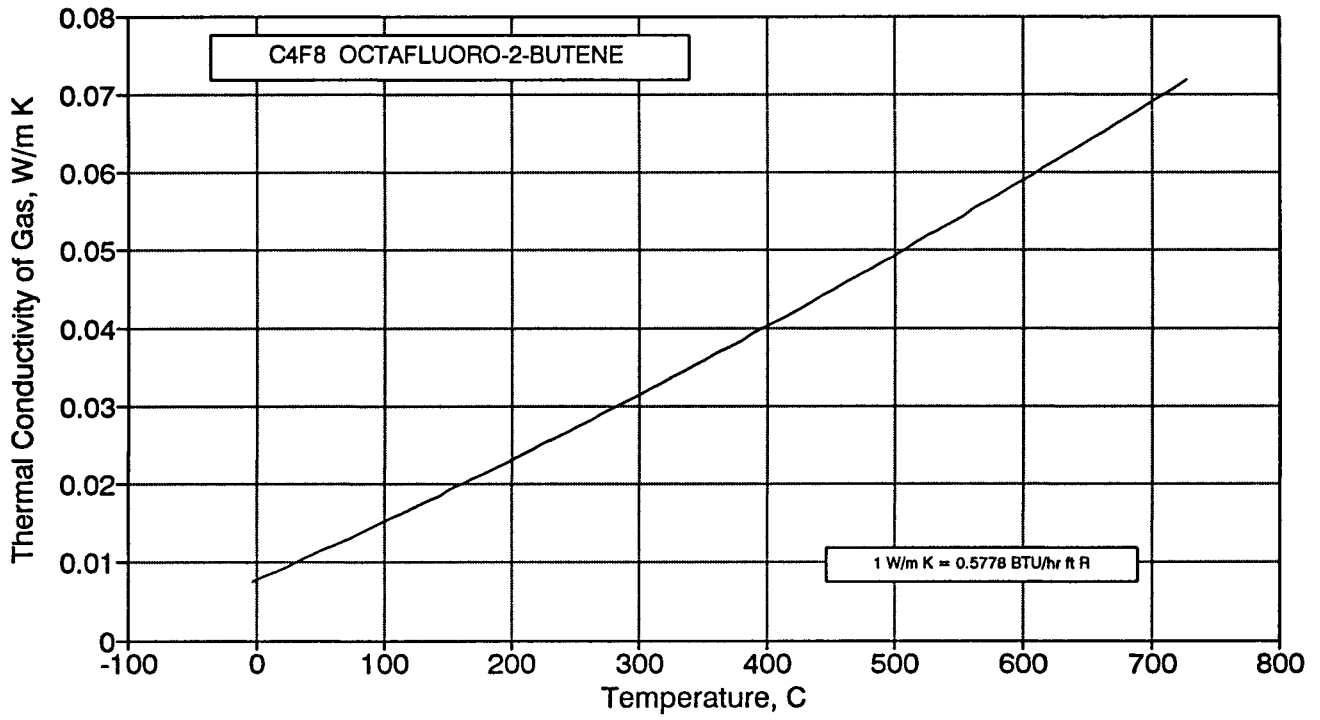
TF , K = 301.97

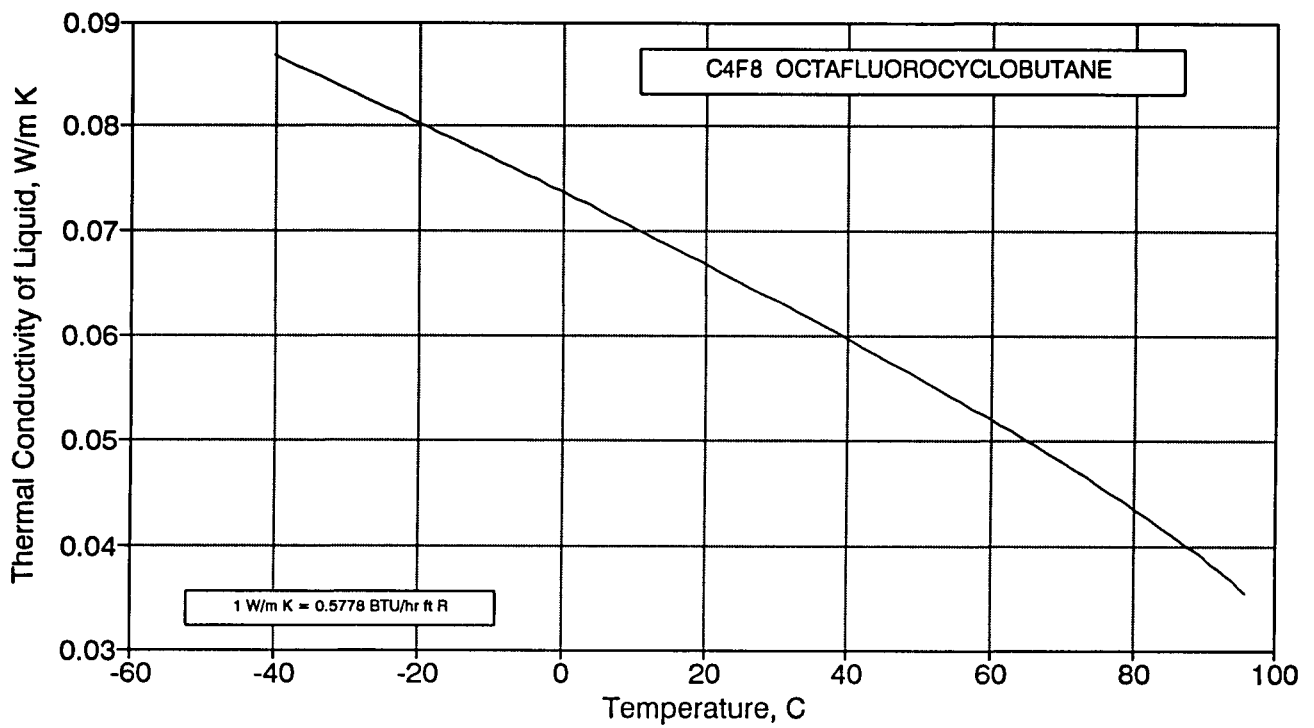
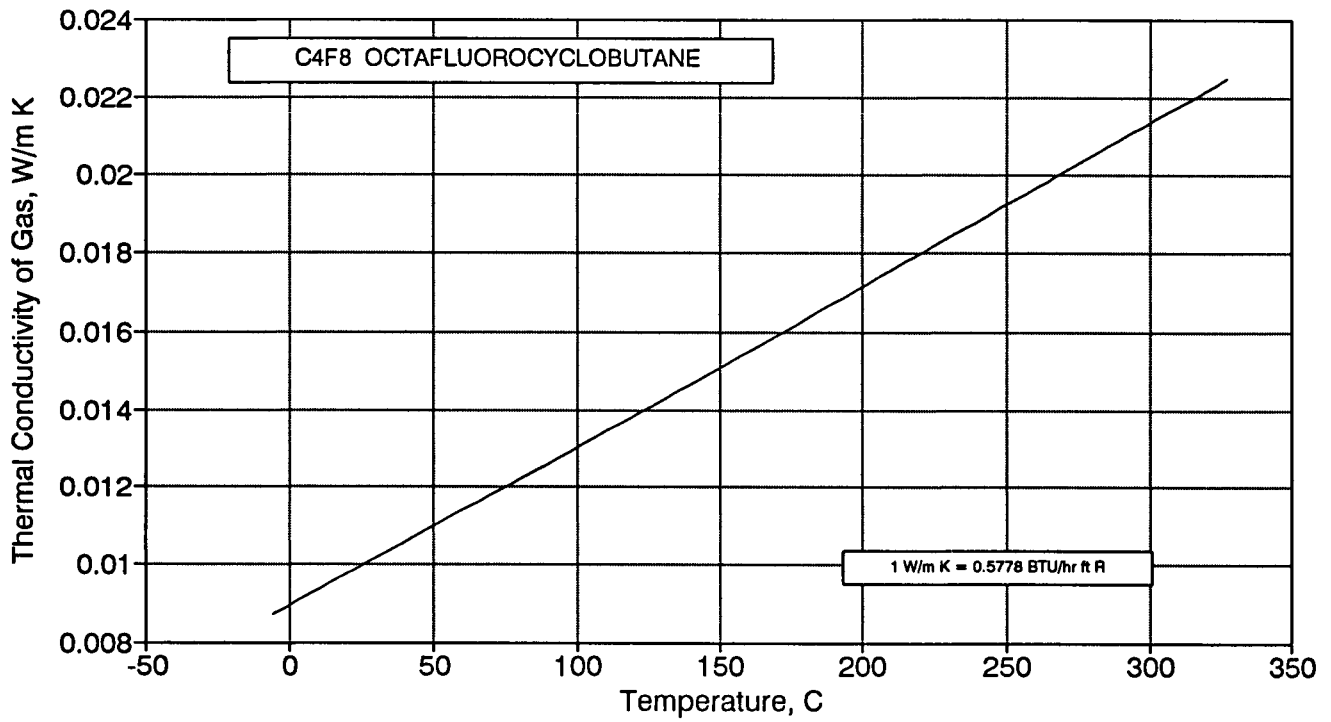
TB , K = 506.54

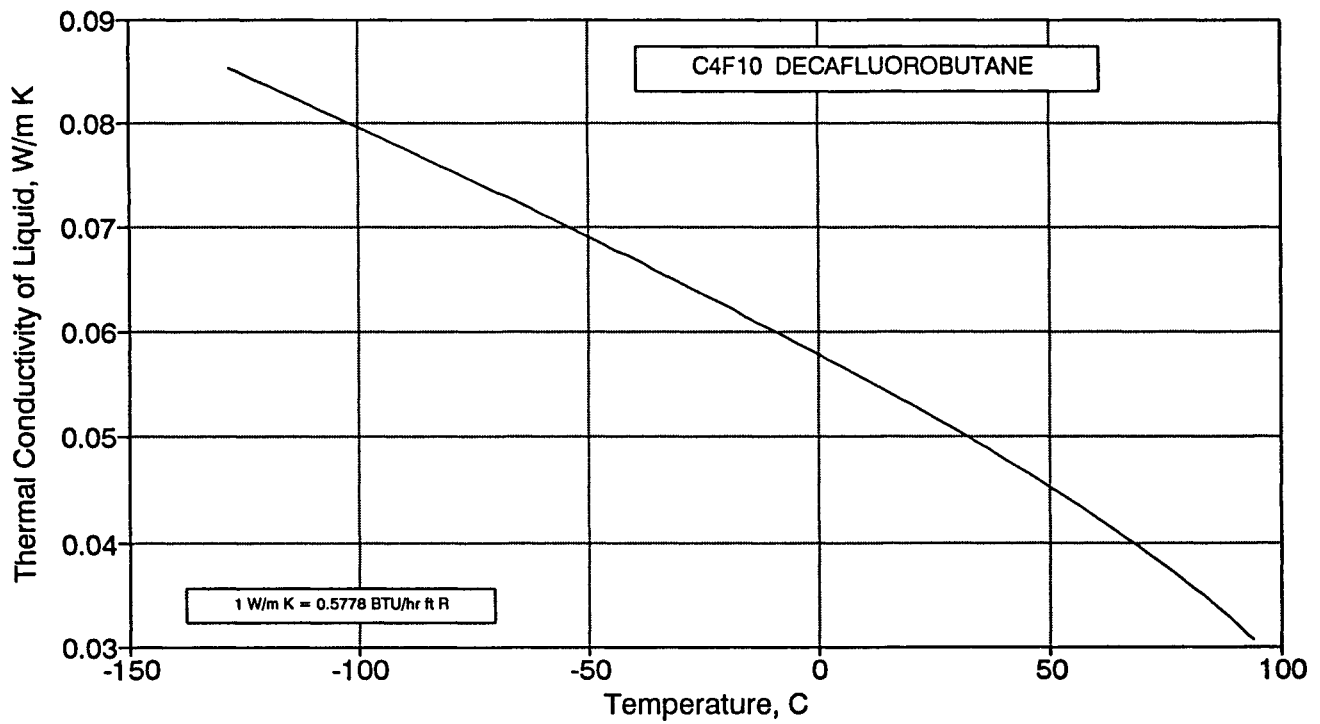
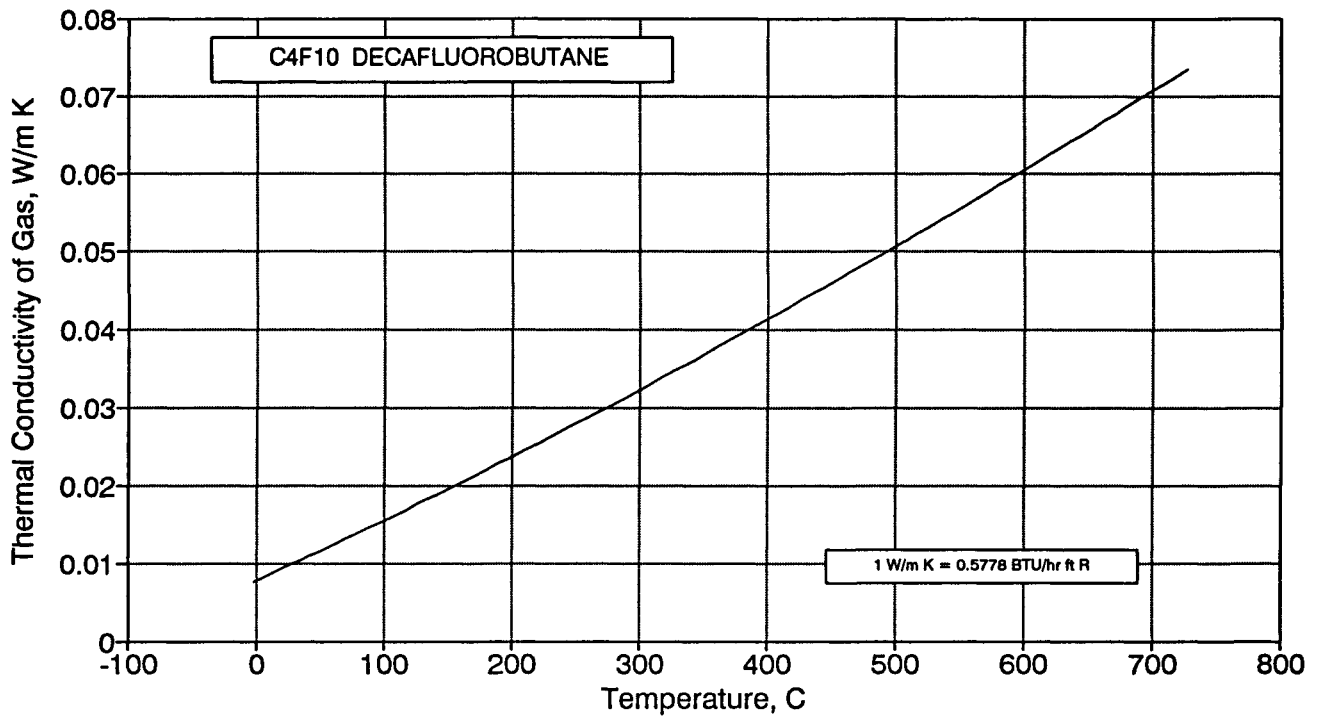
C4Cl4S TETRACHLOROTHIOPHENE

Liquid thermal conductivity data are not available .

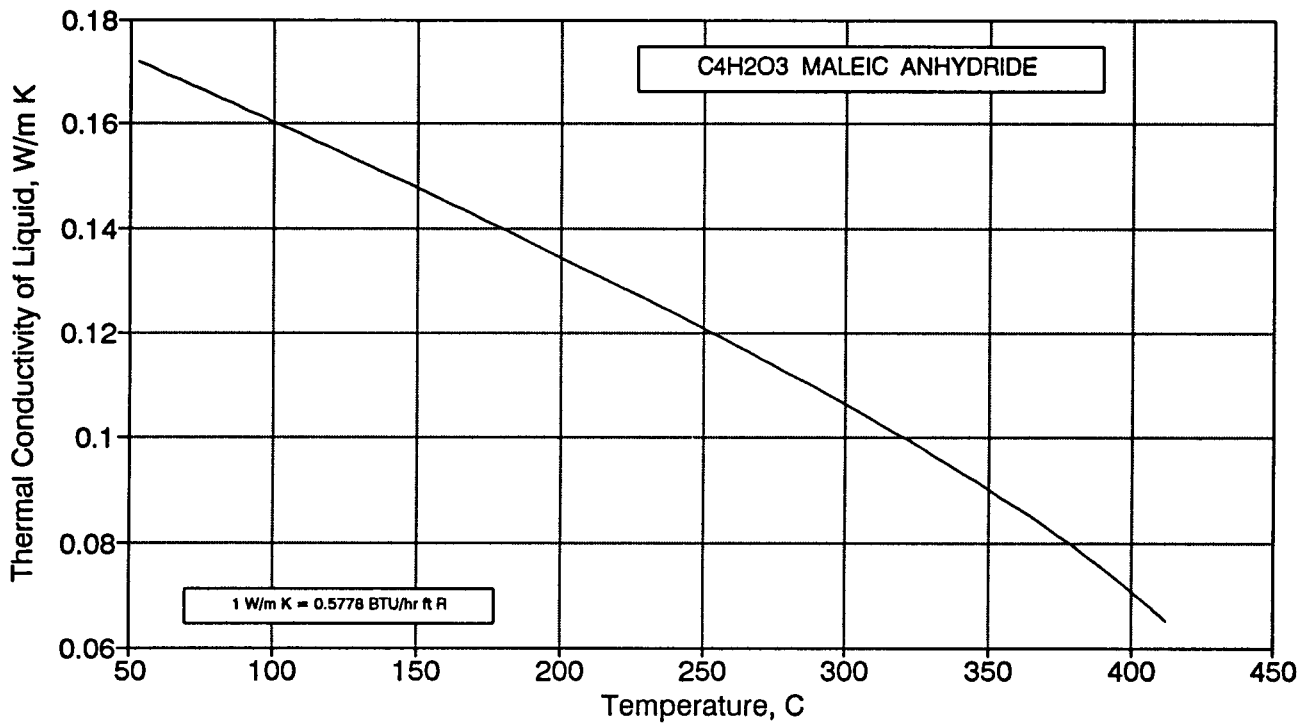
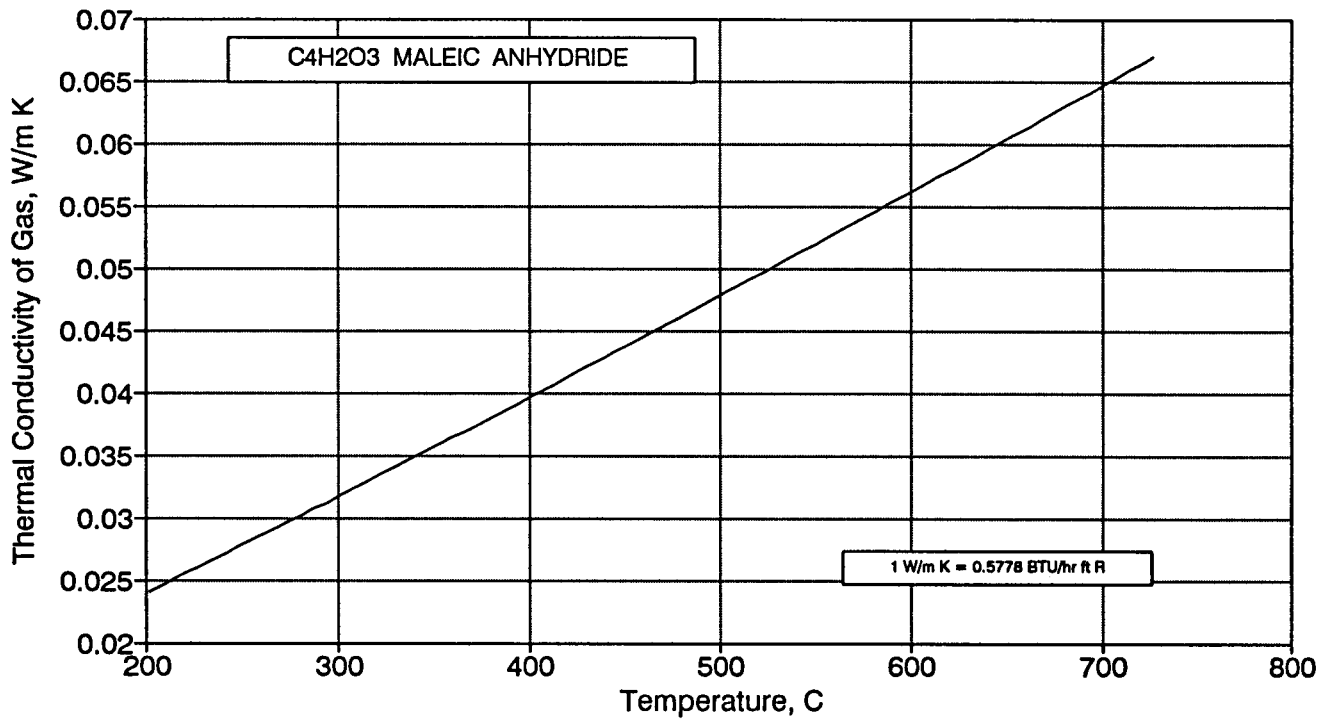












C4H4 VINYLACETYLENE

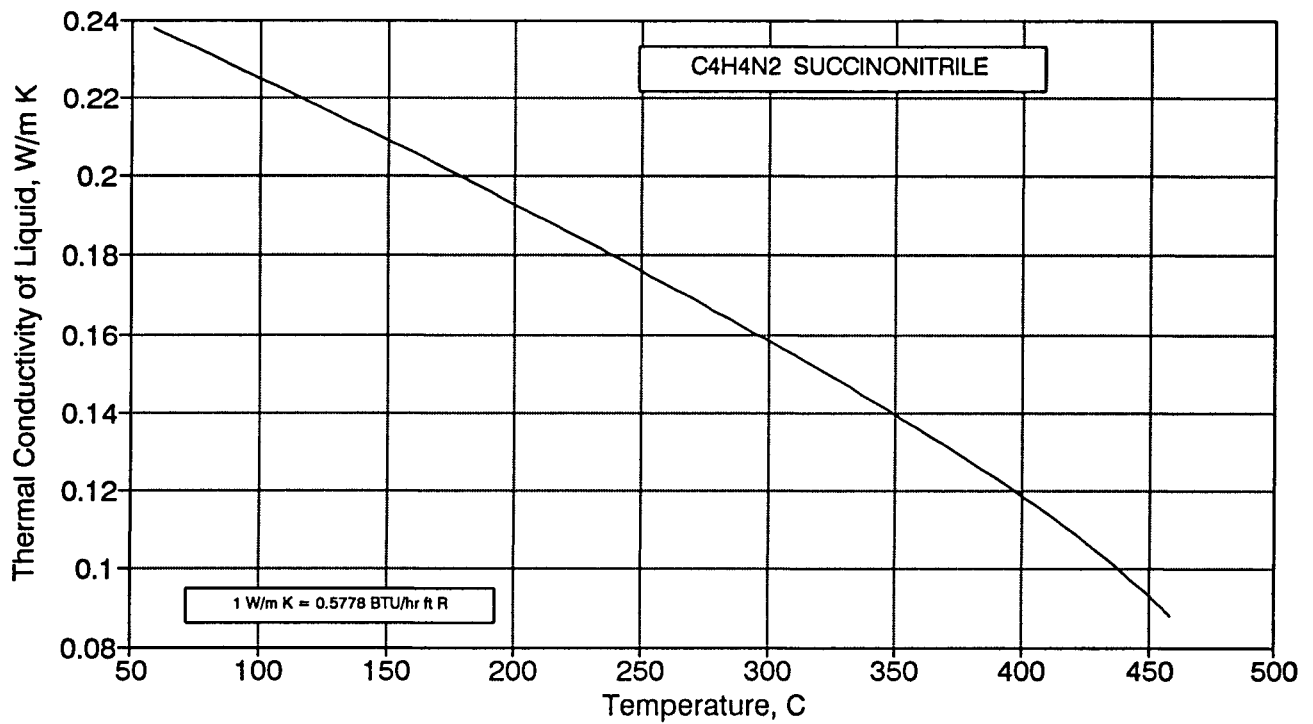
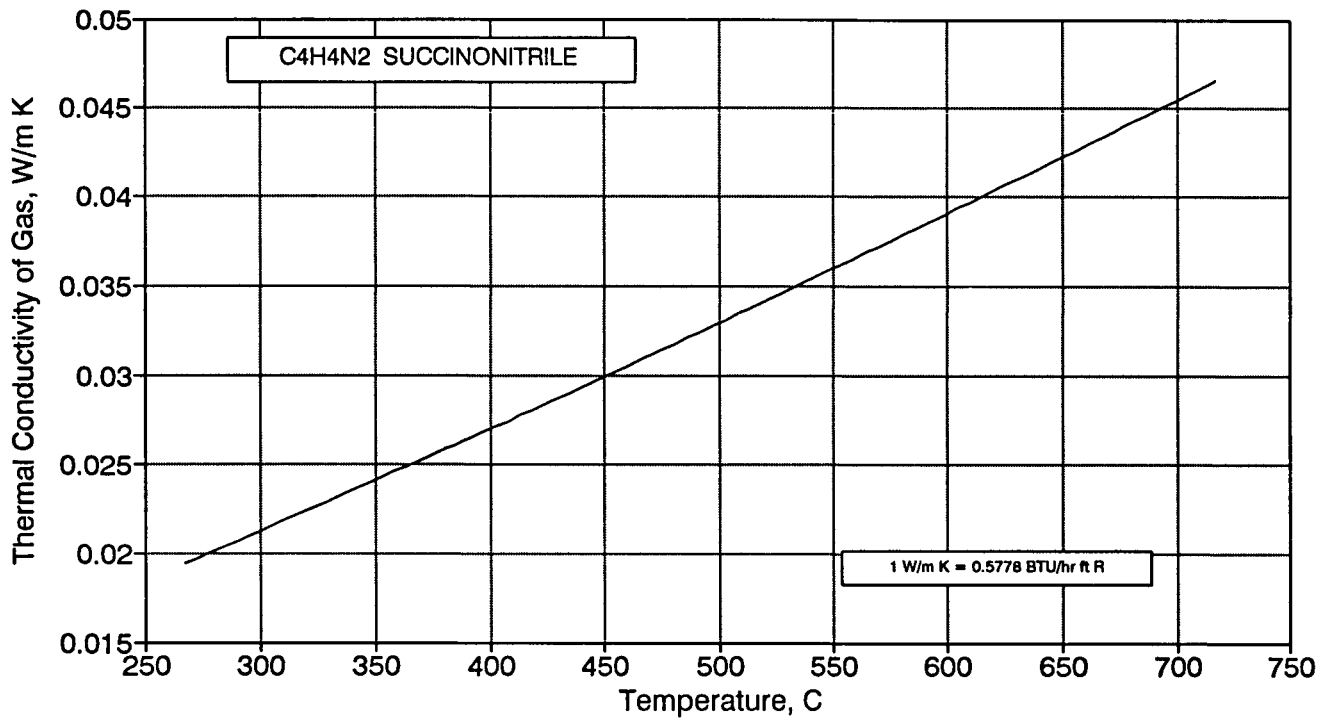
Gas thermal conductivity data are not available .

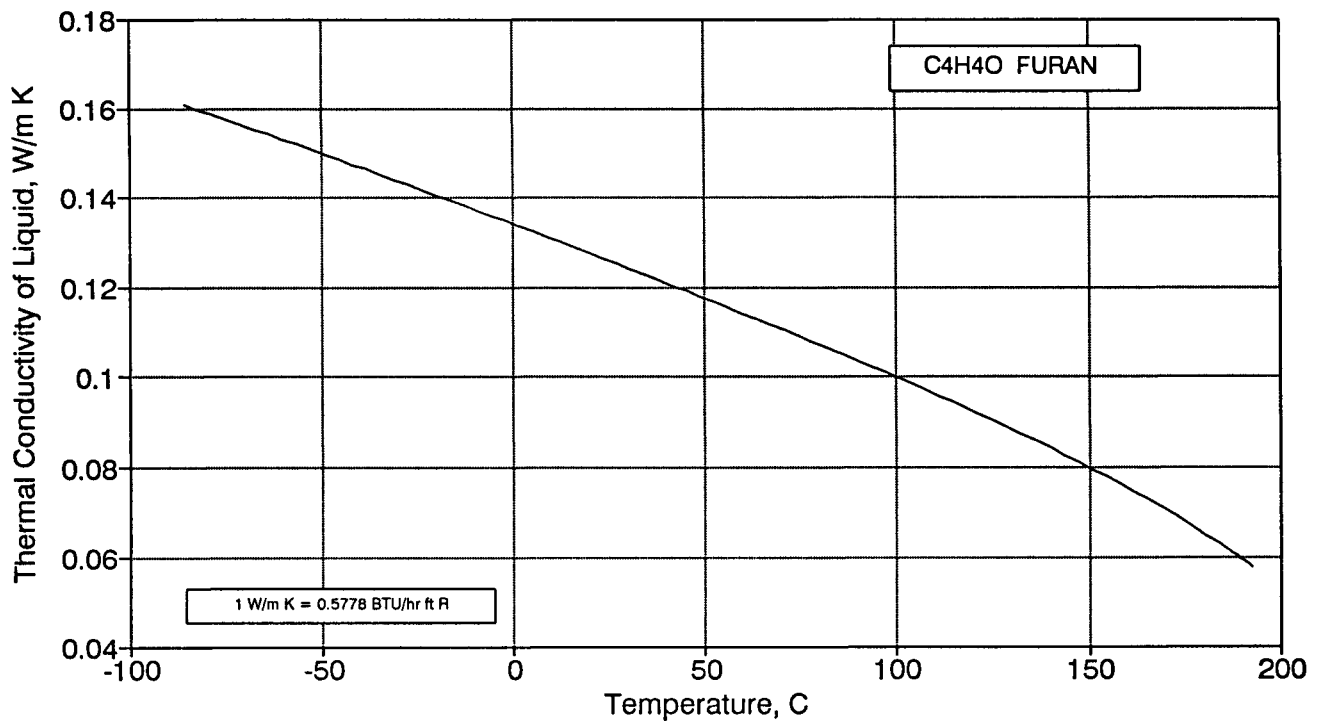
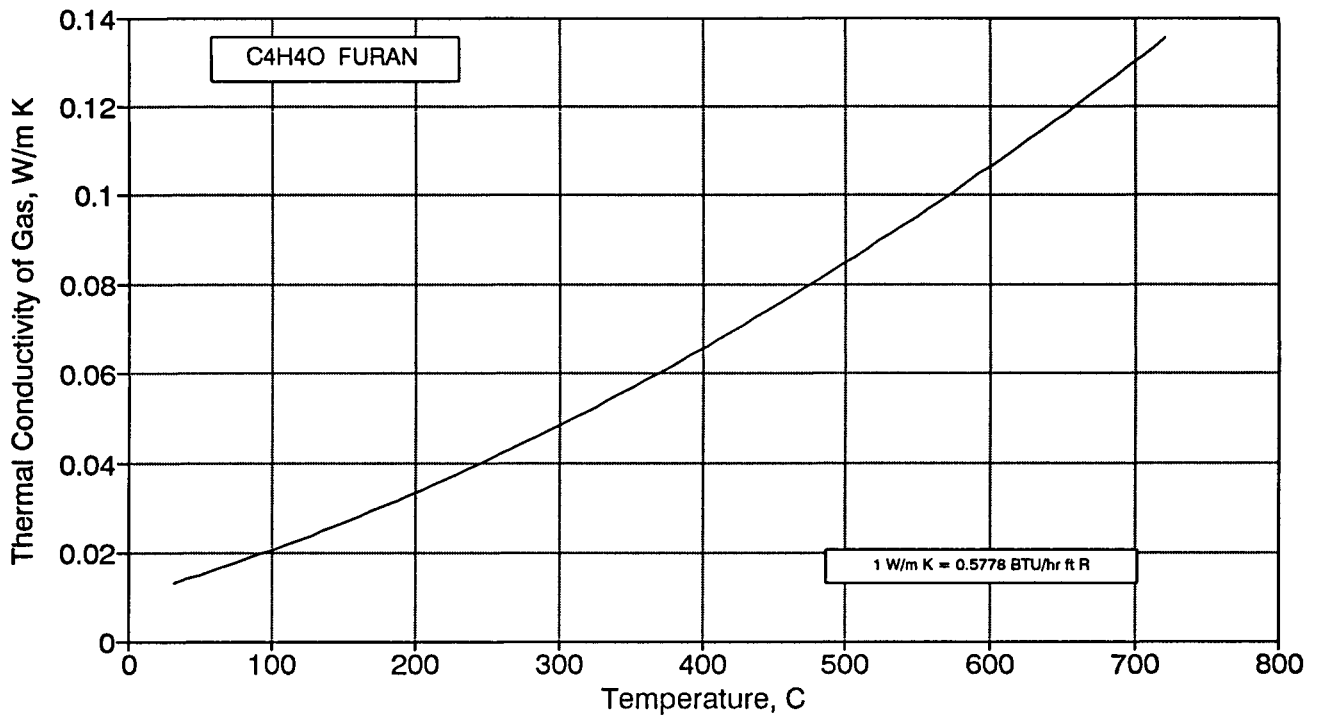
TF , K = not available

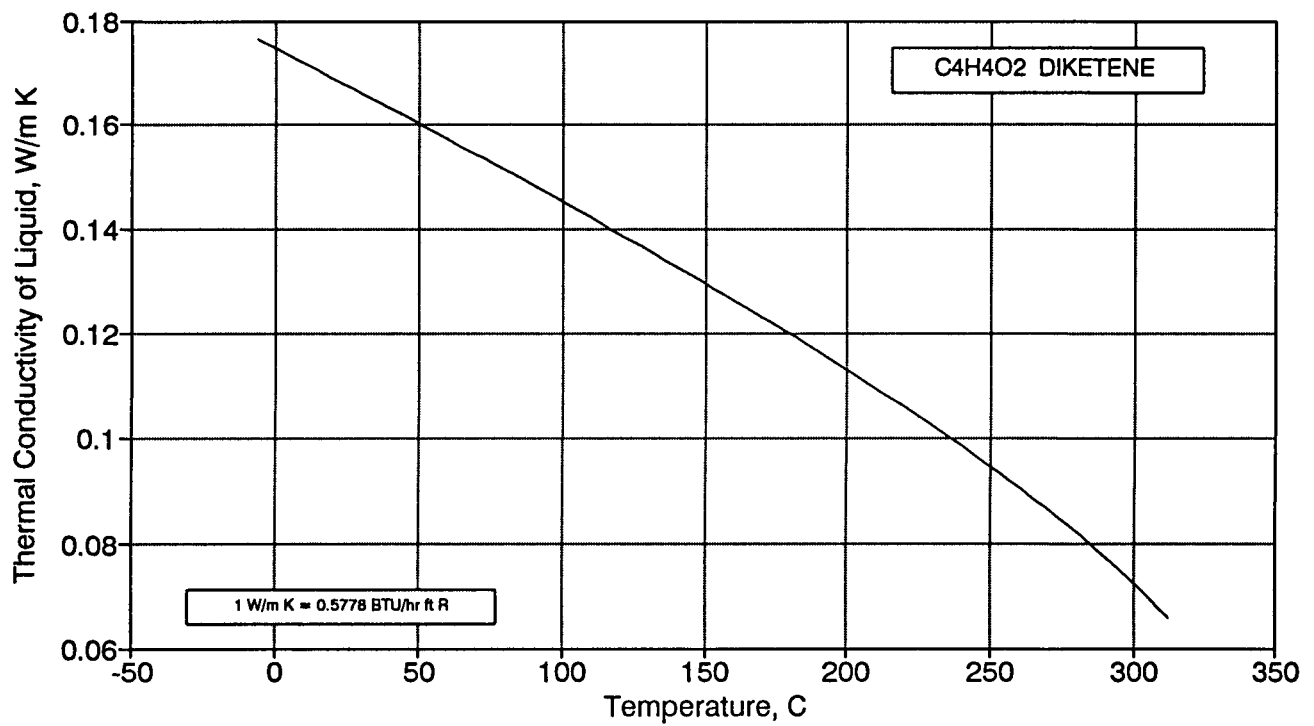
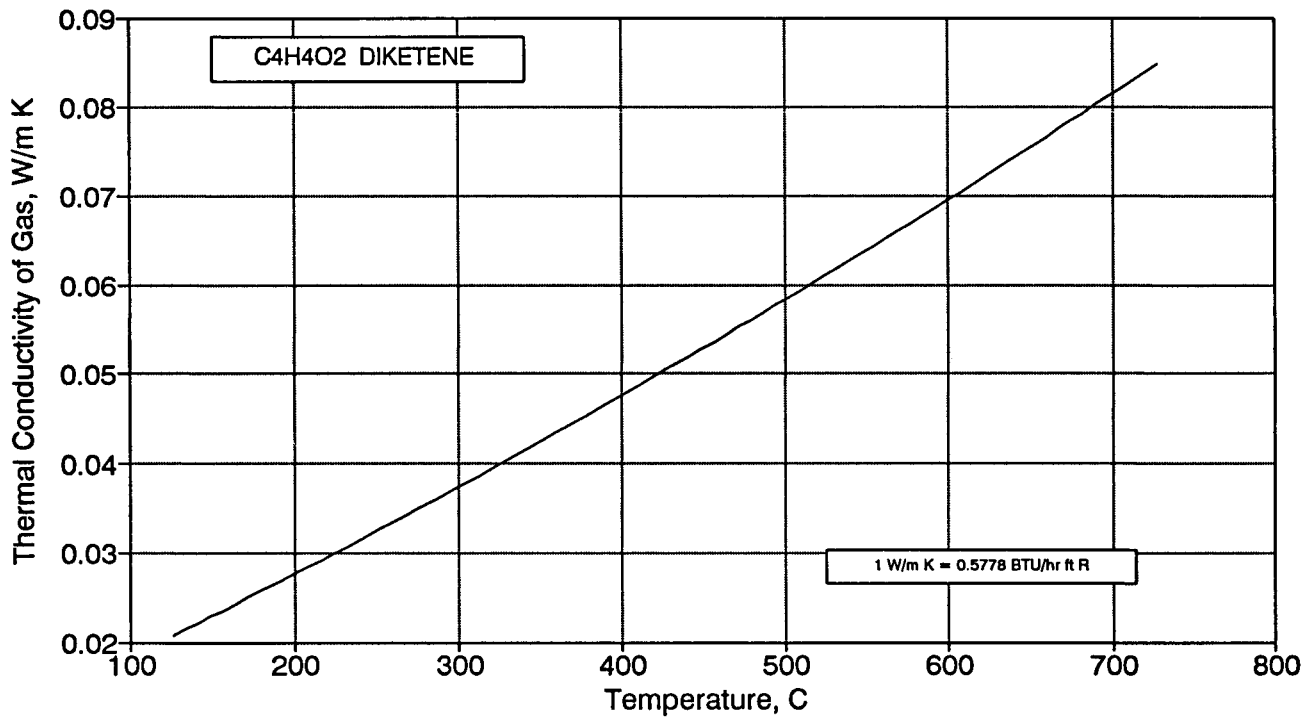
TB , K = 278.25

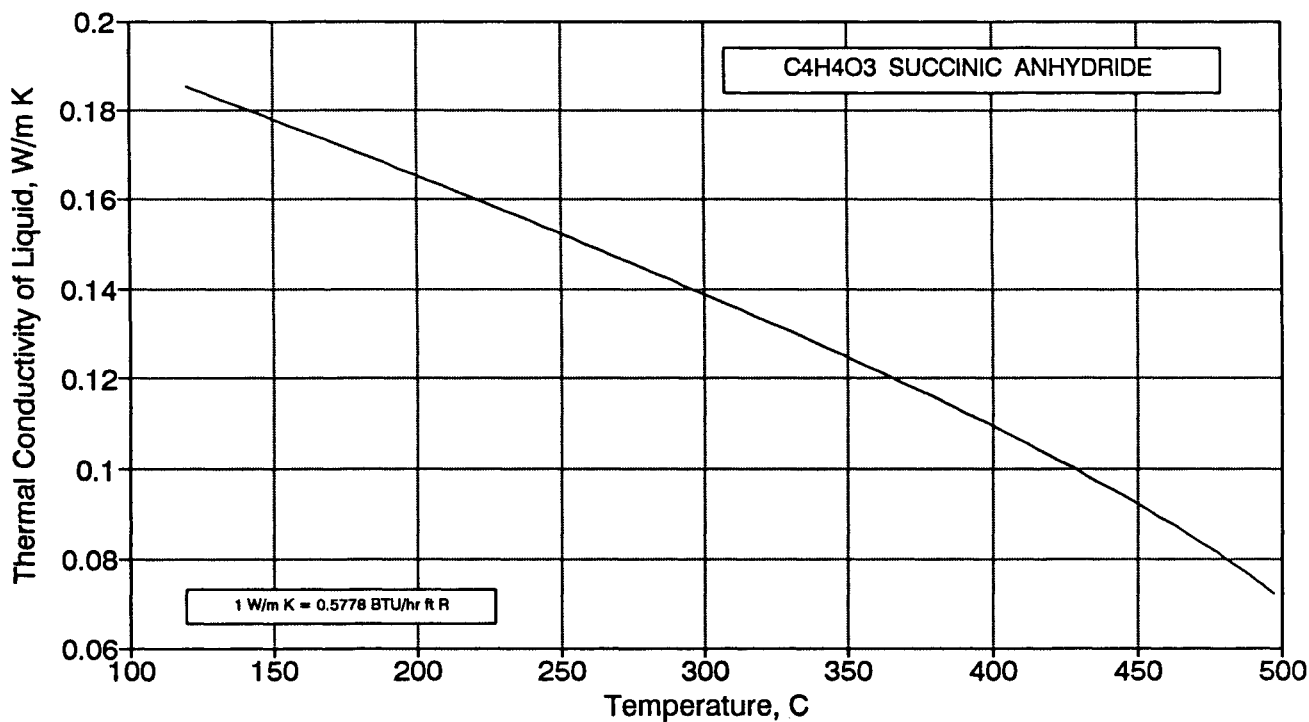
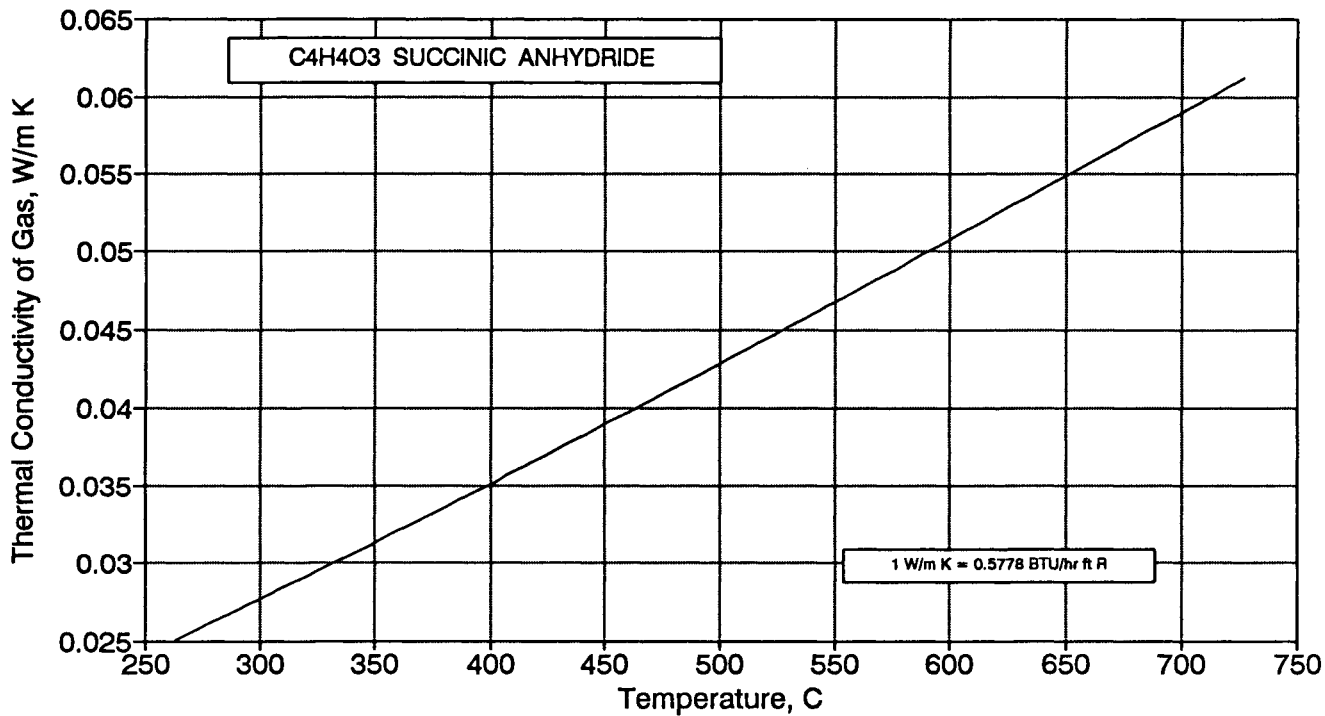
C4H4 VINYLACETYLENE

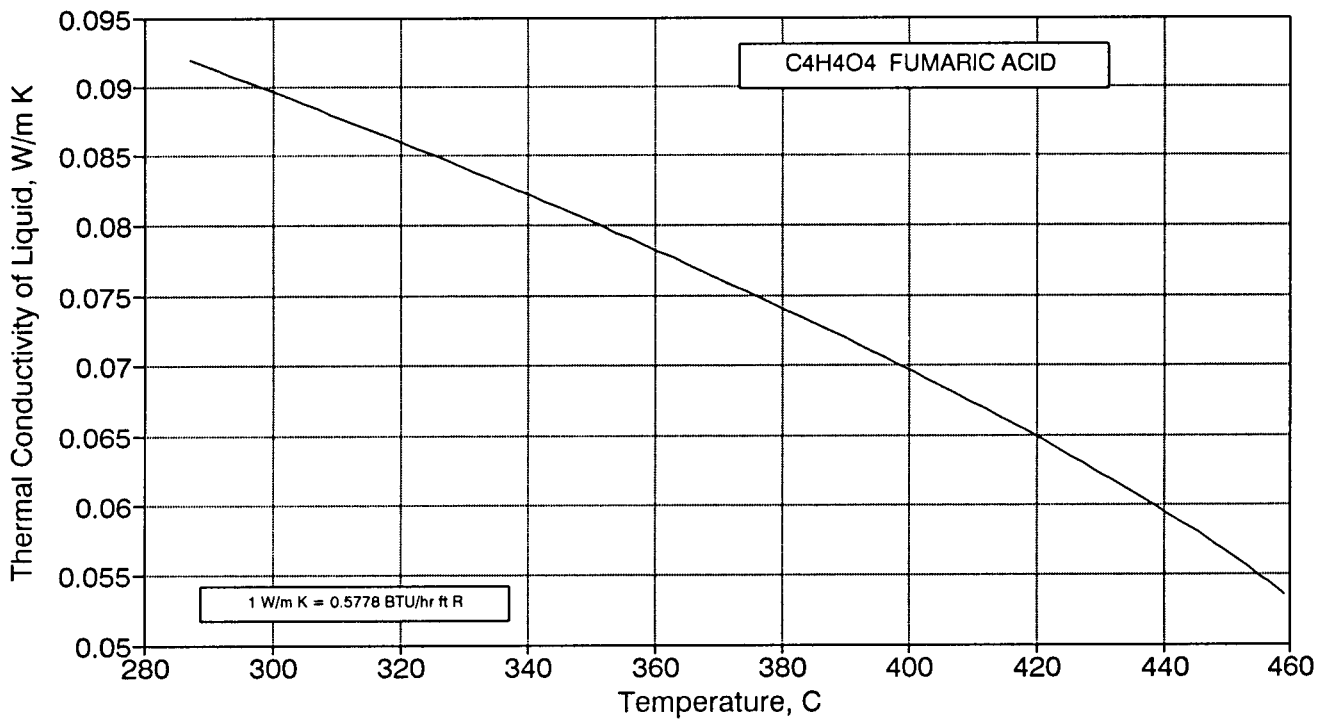
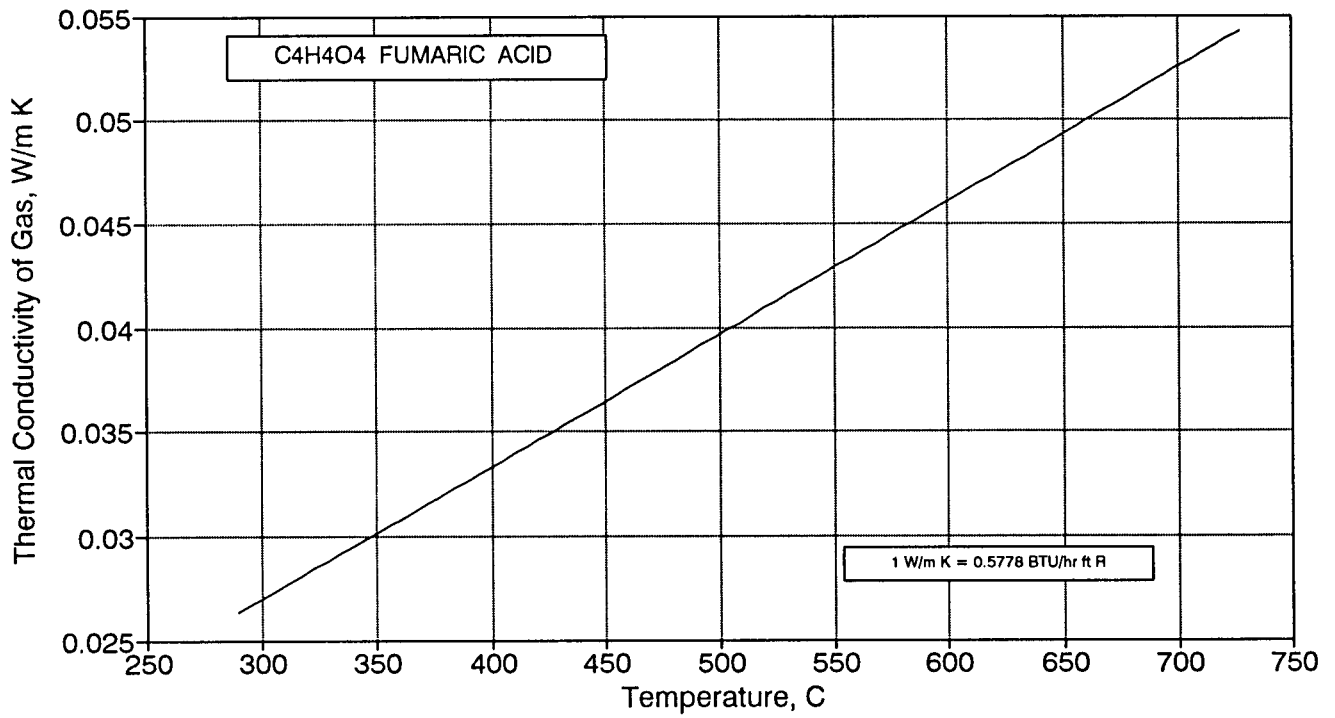
One liquid thermal conductivity value is available:  
0.1278 W/m K @ 278.25 K.

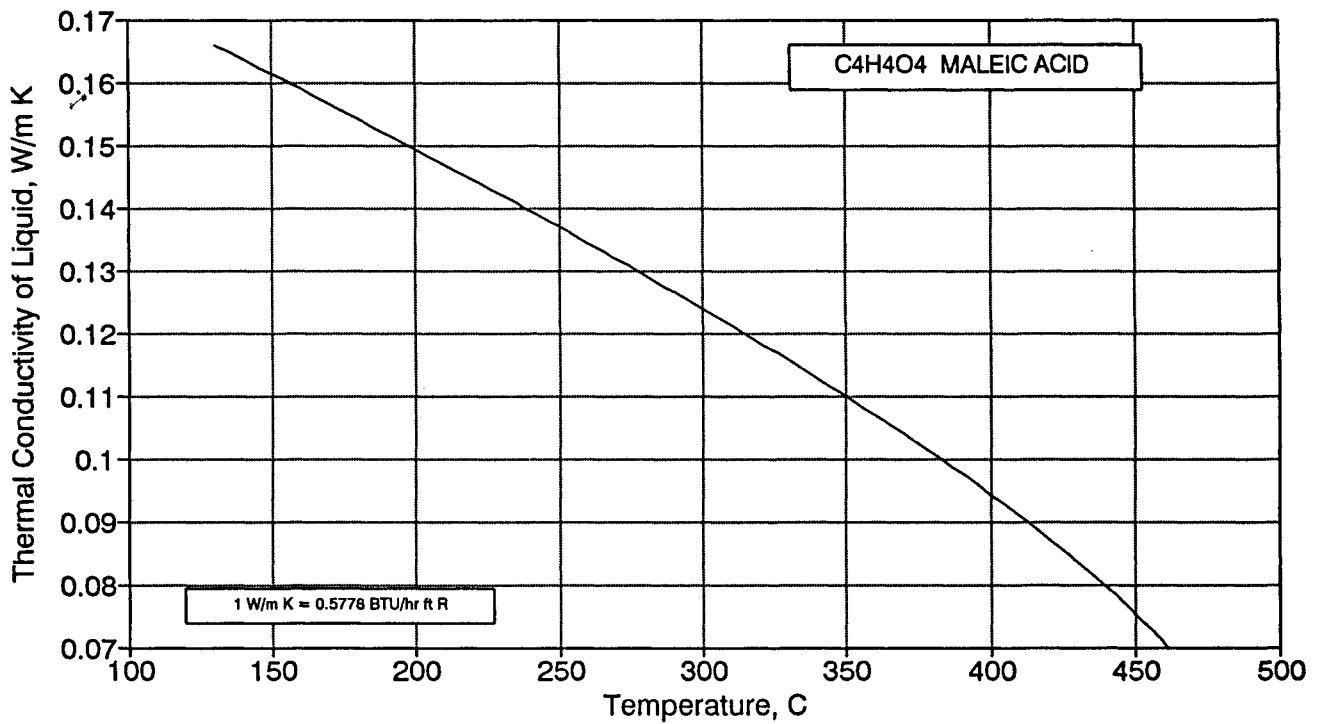
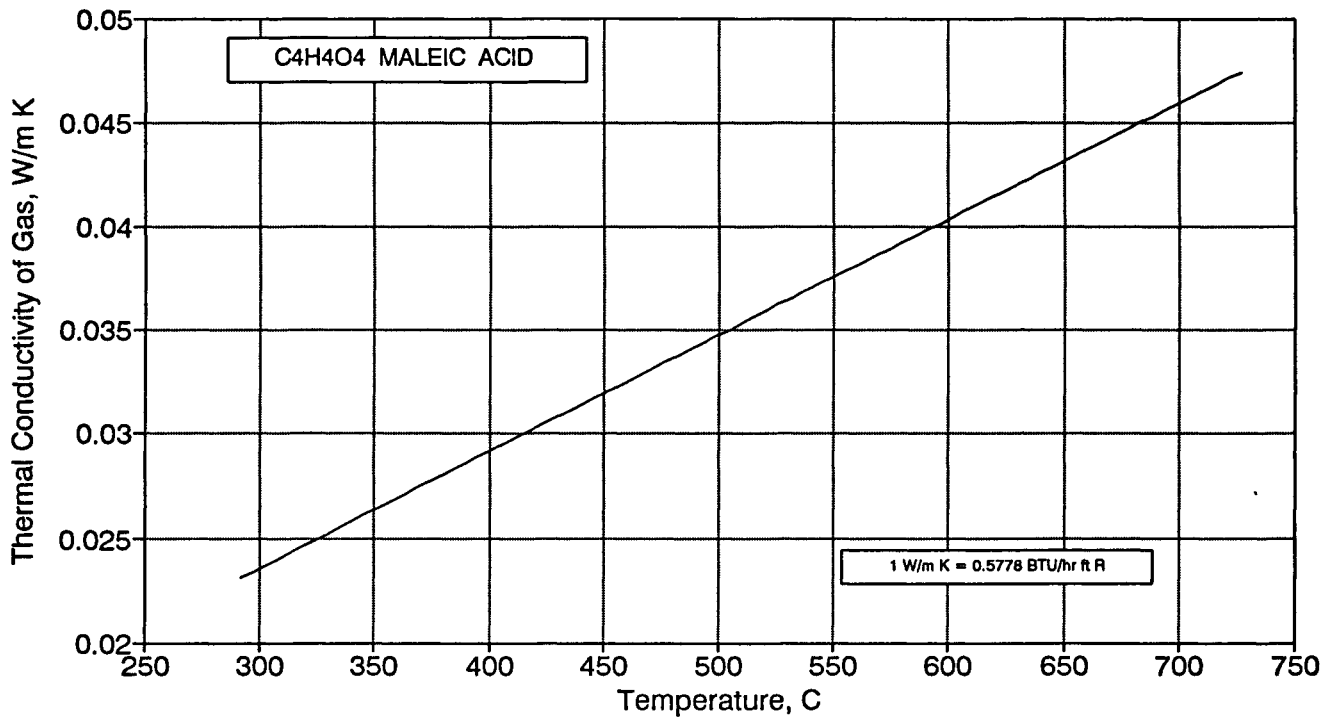




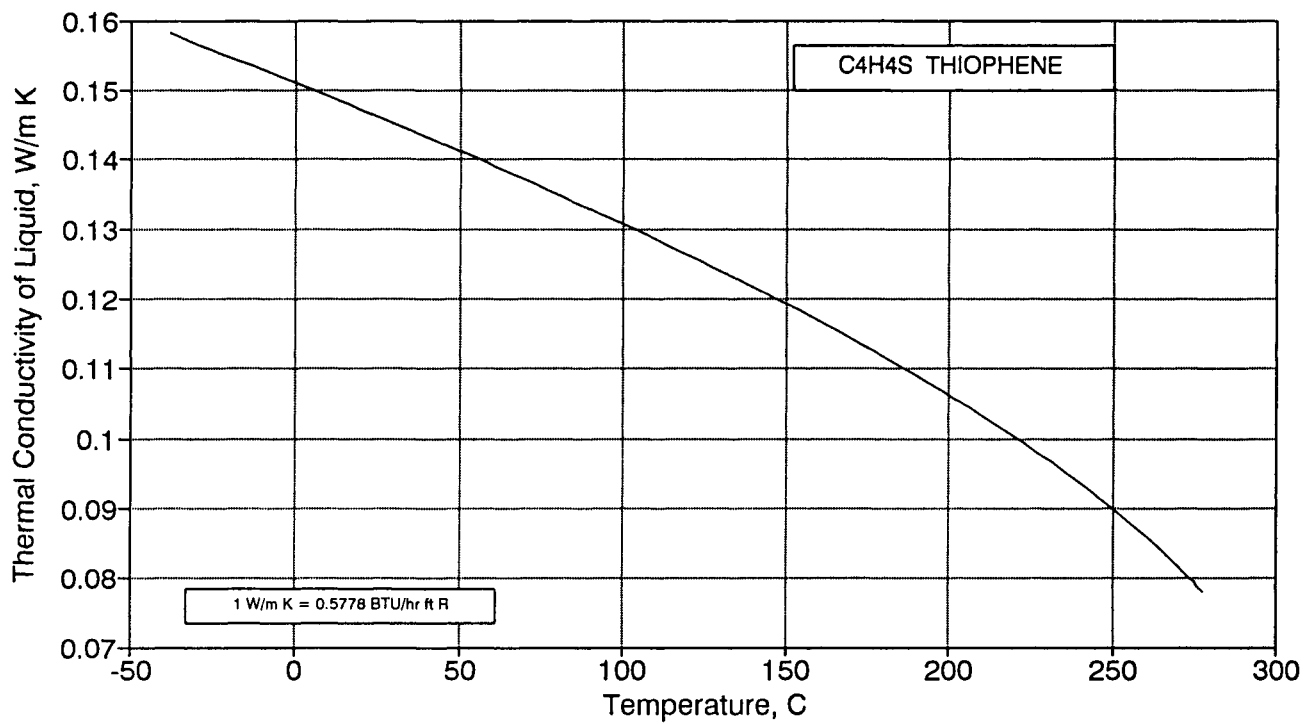
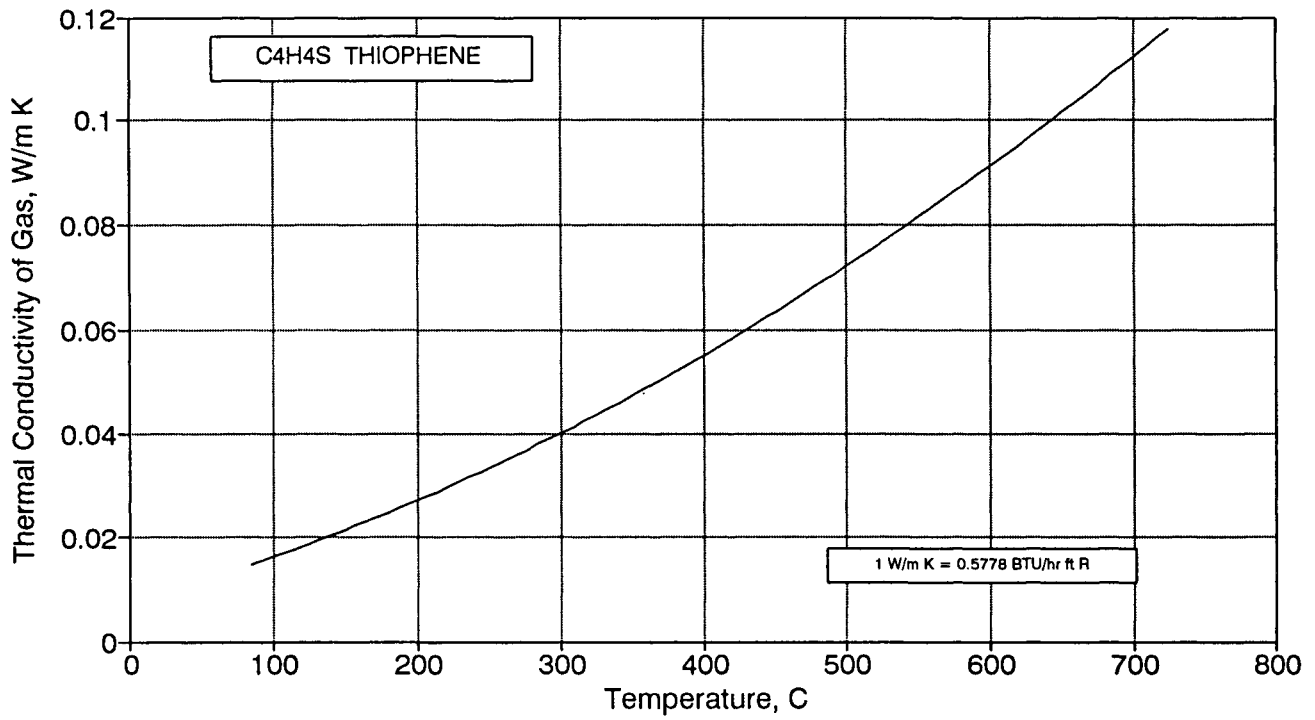


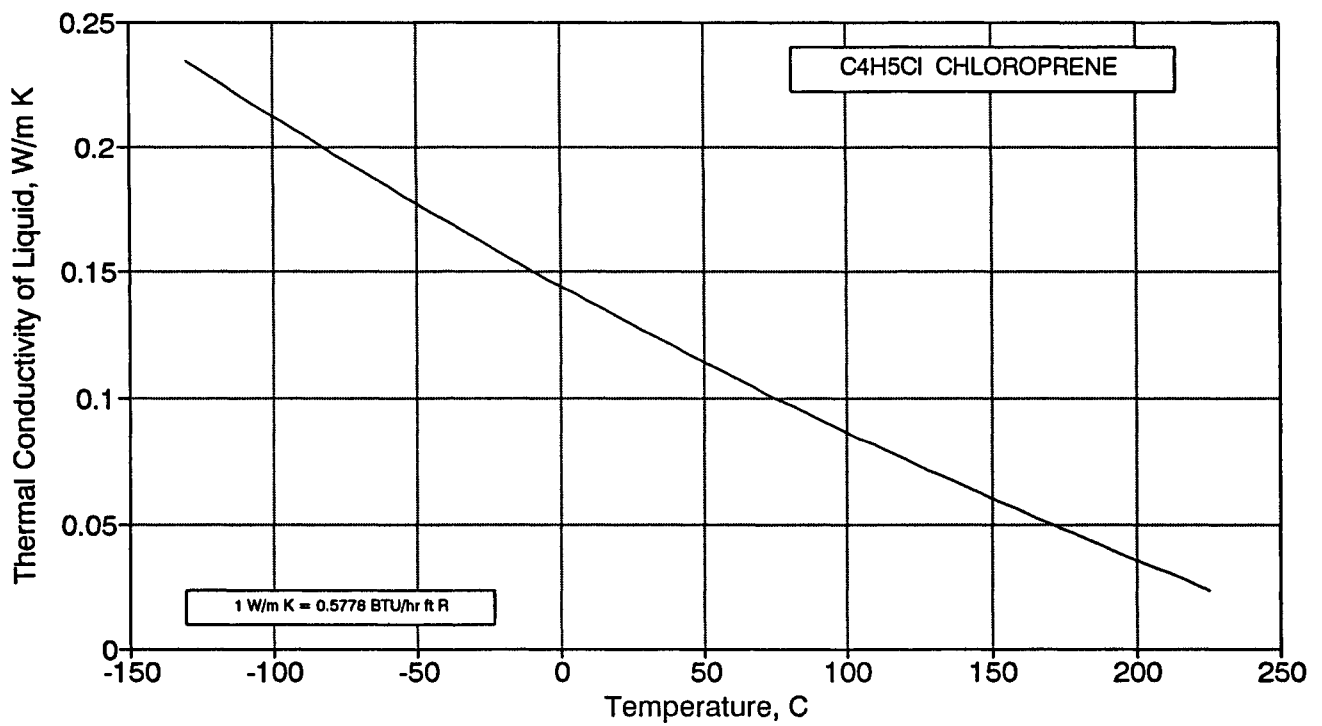
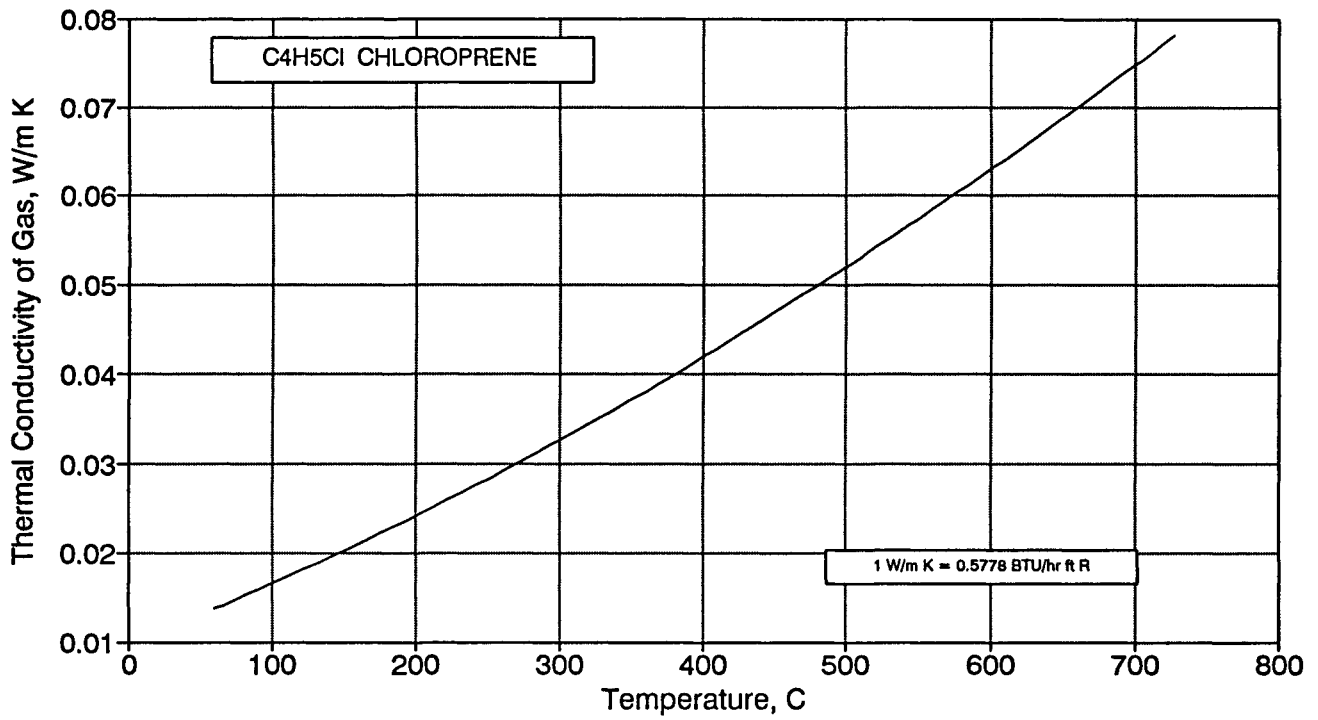


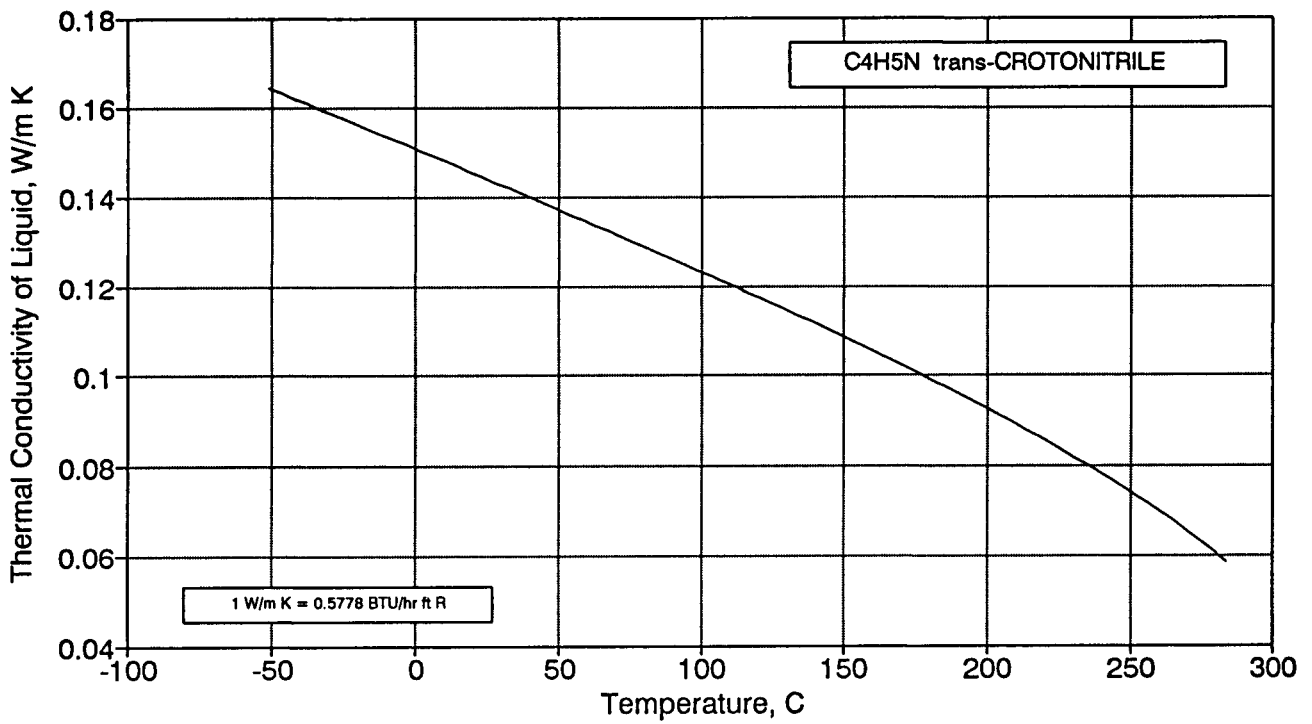
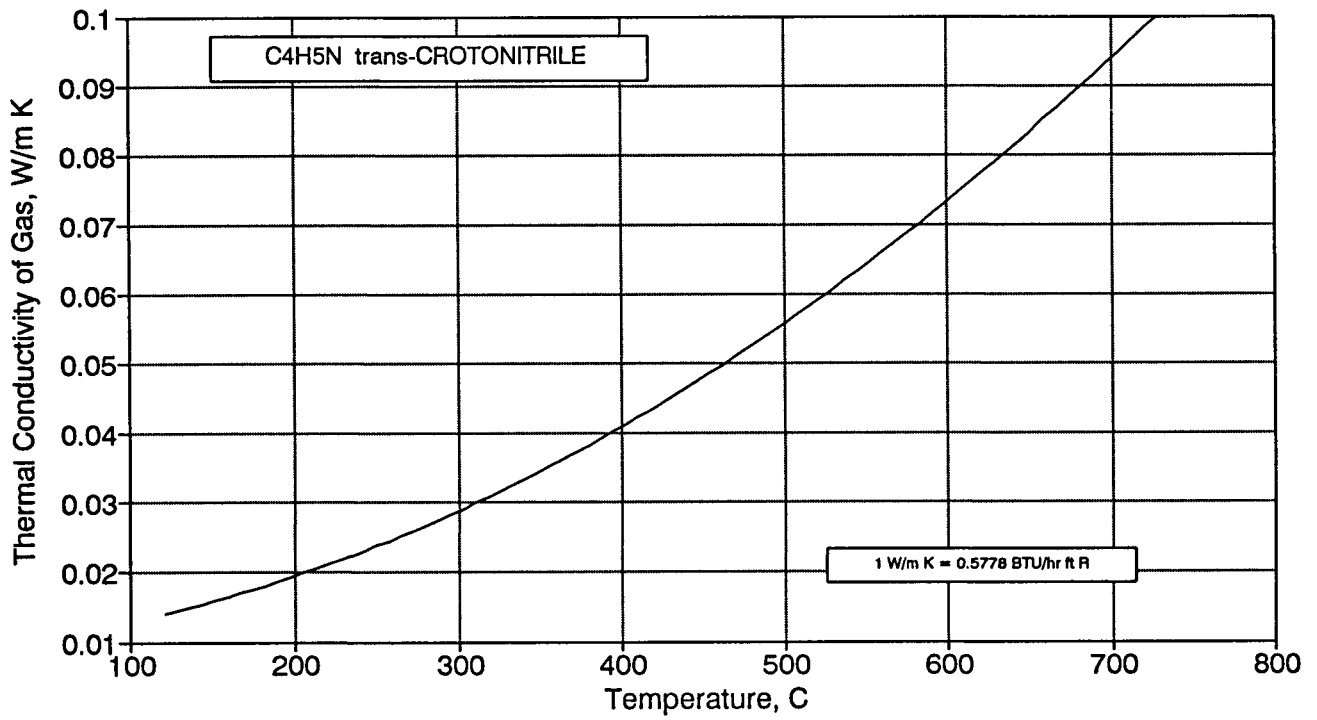


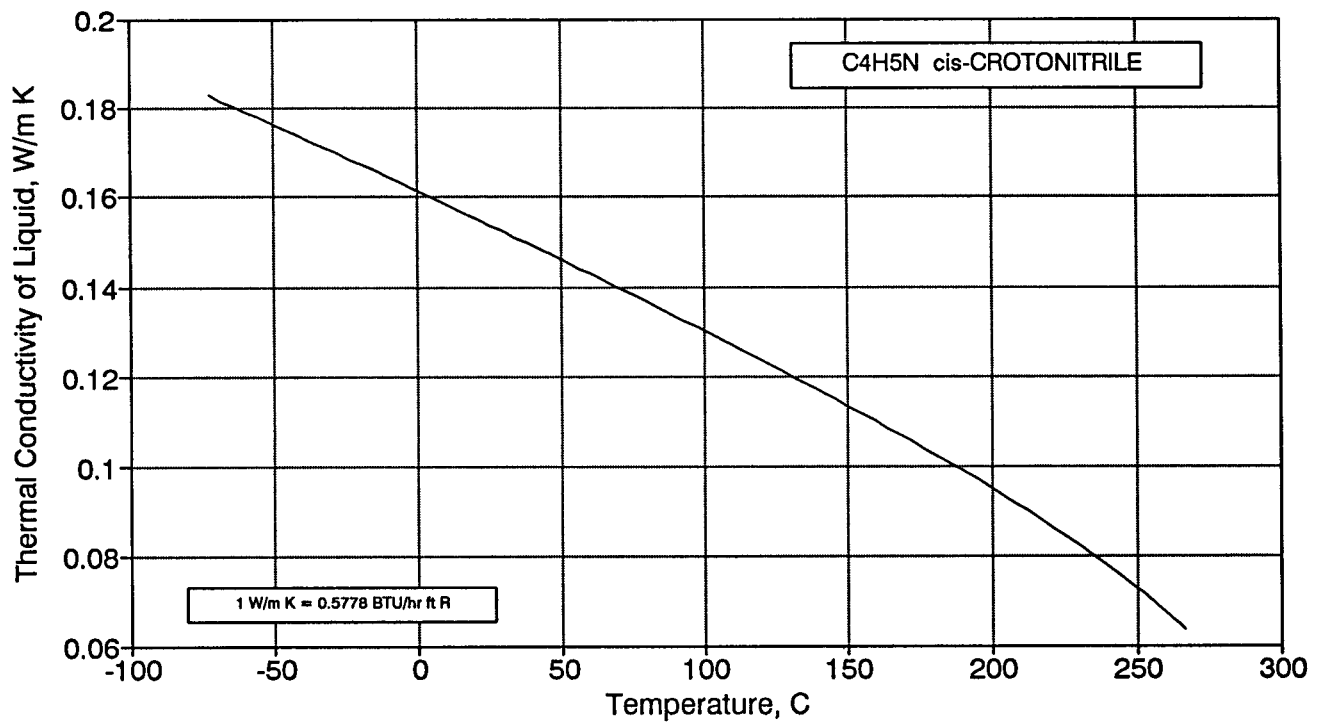
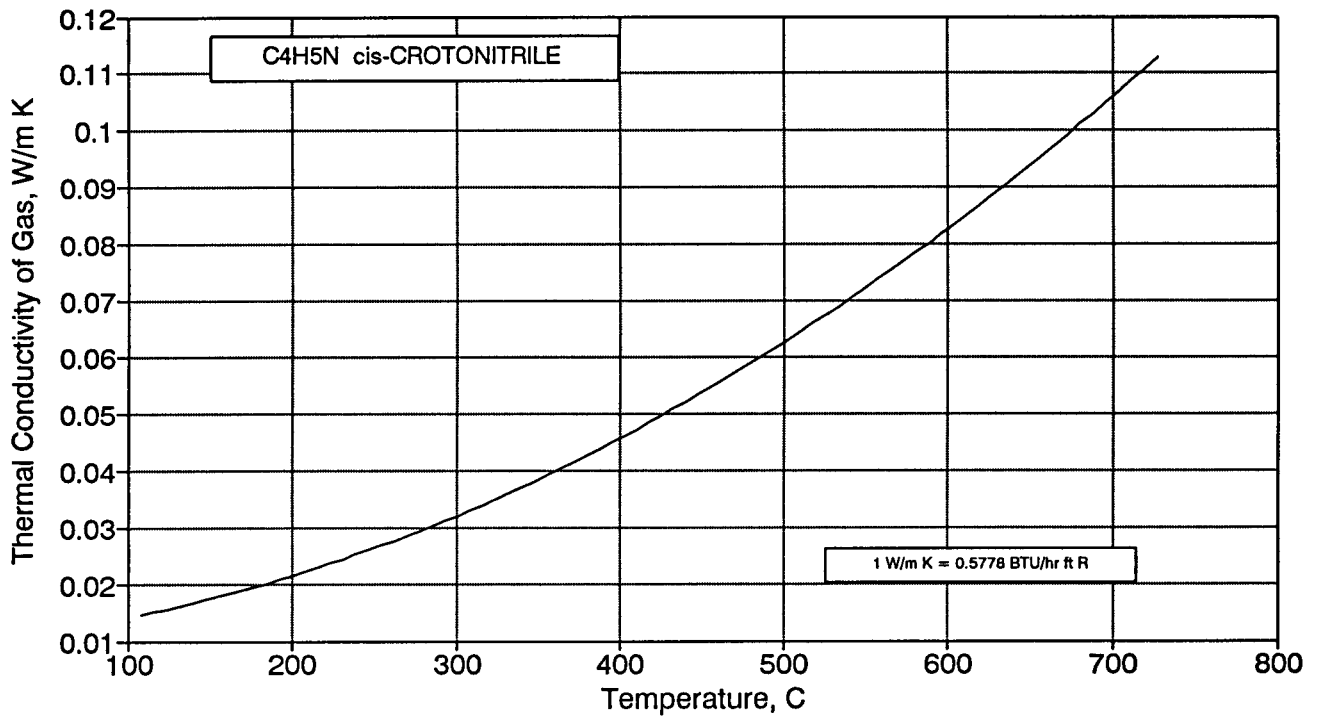


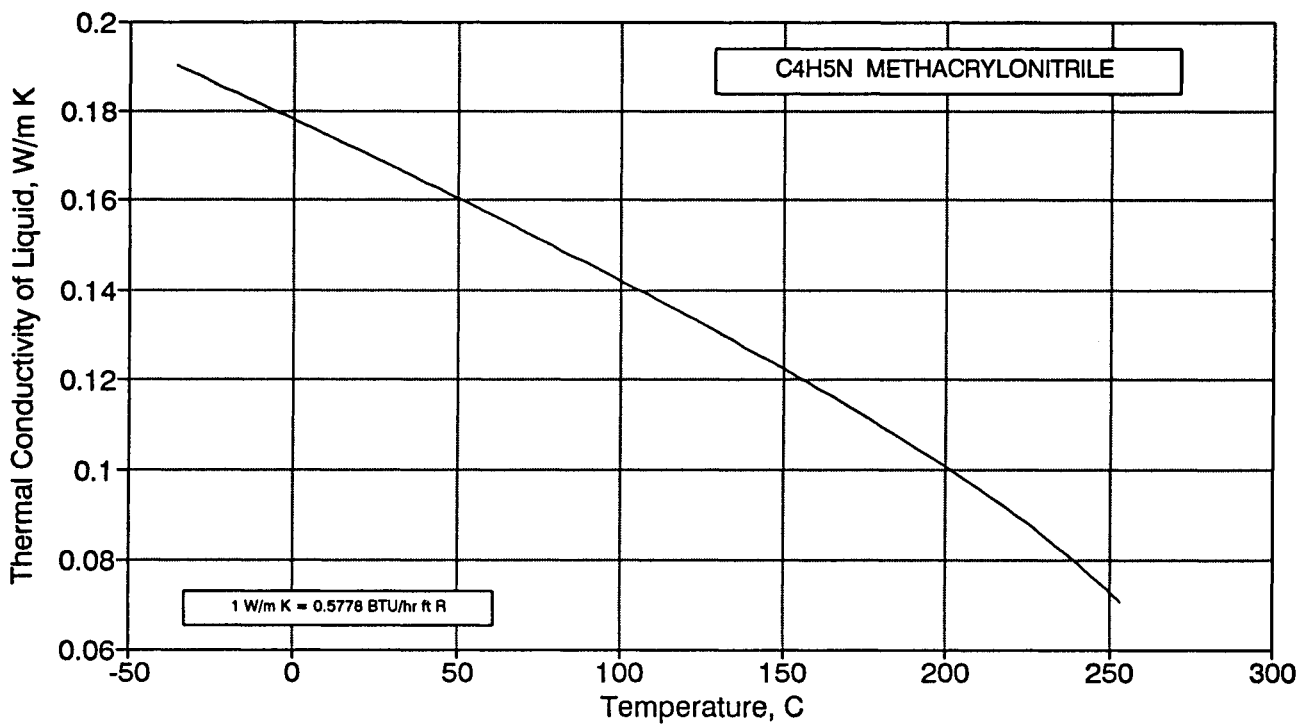
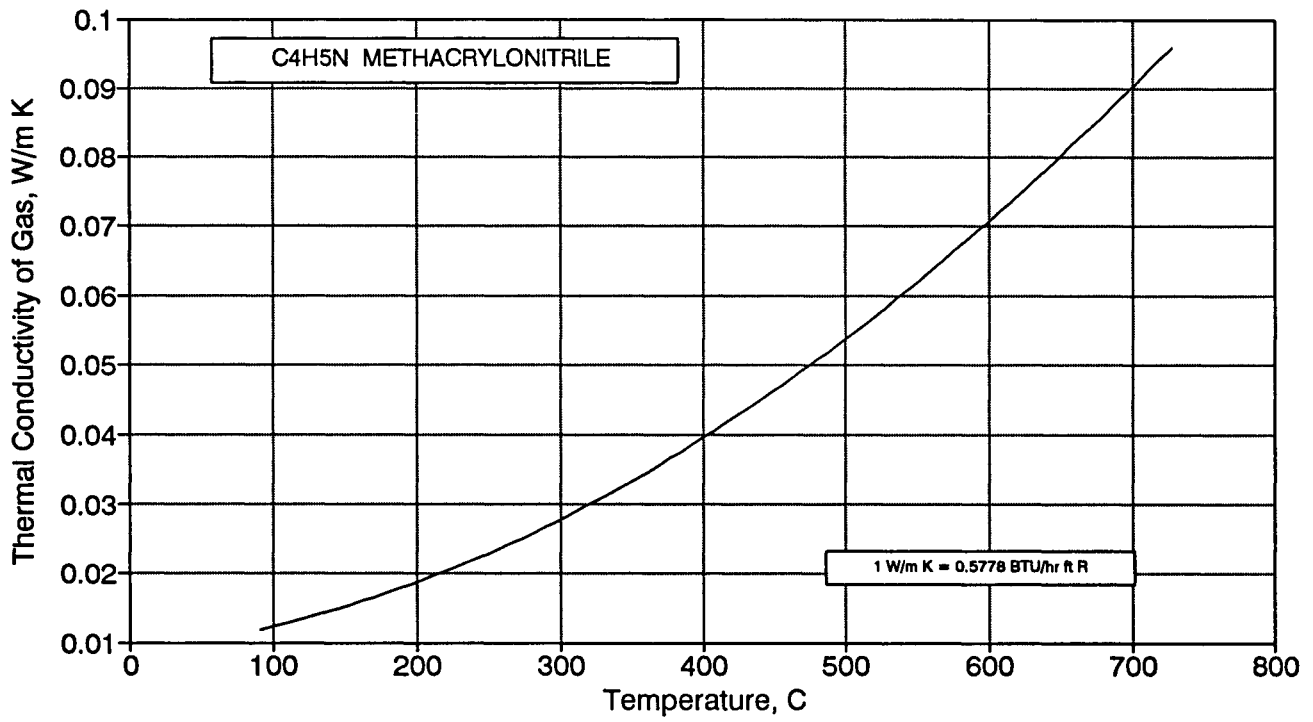


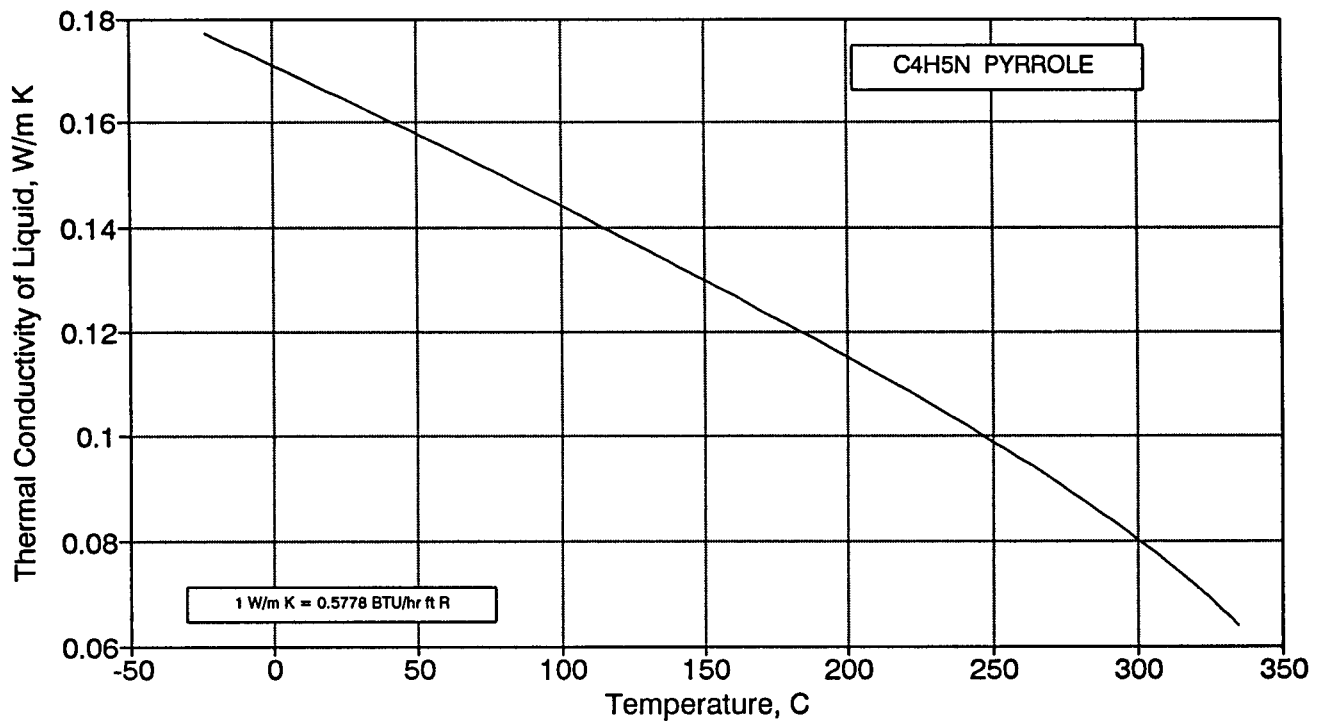
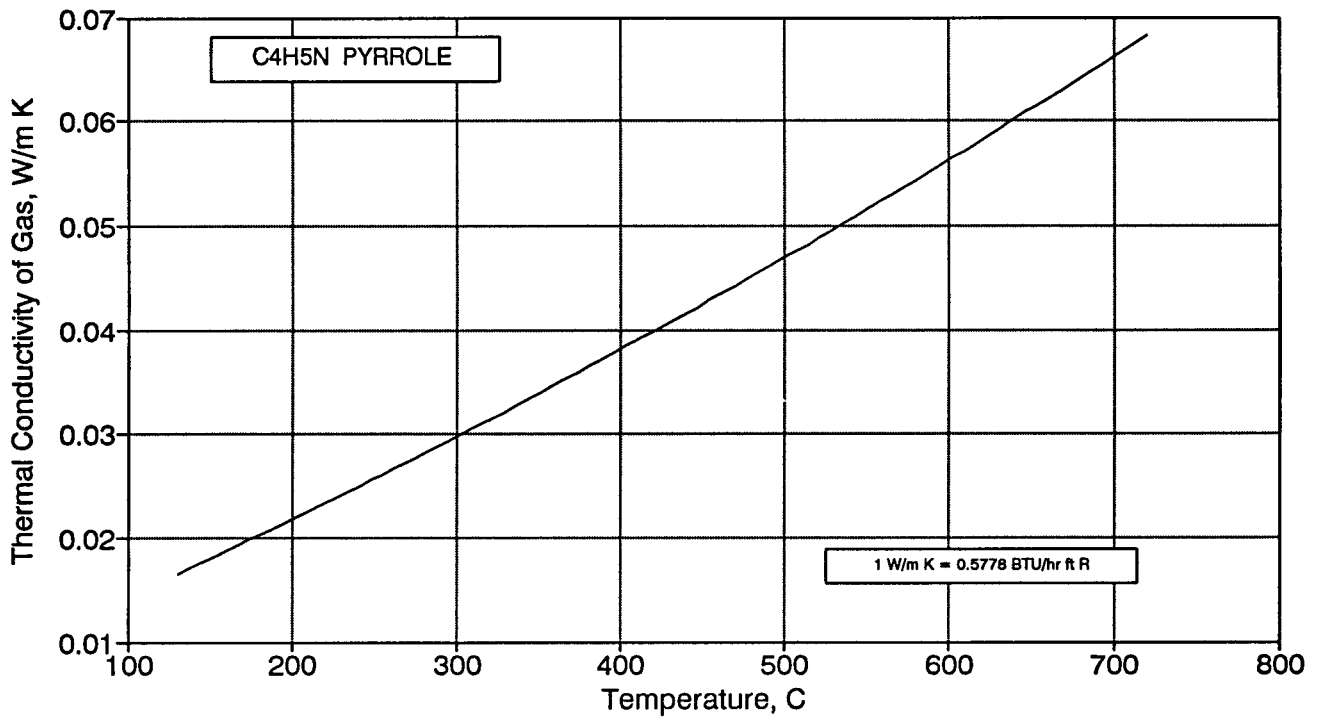


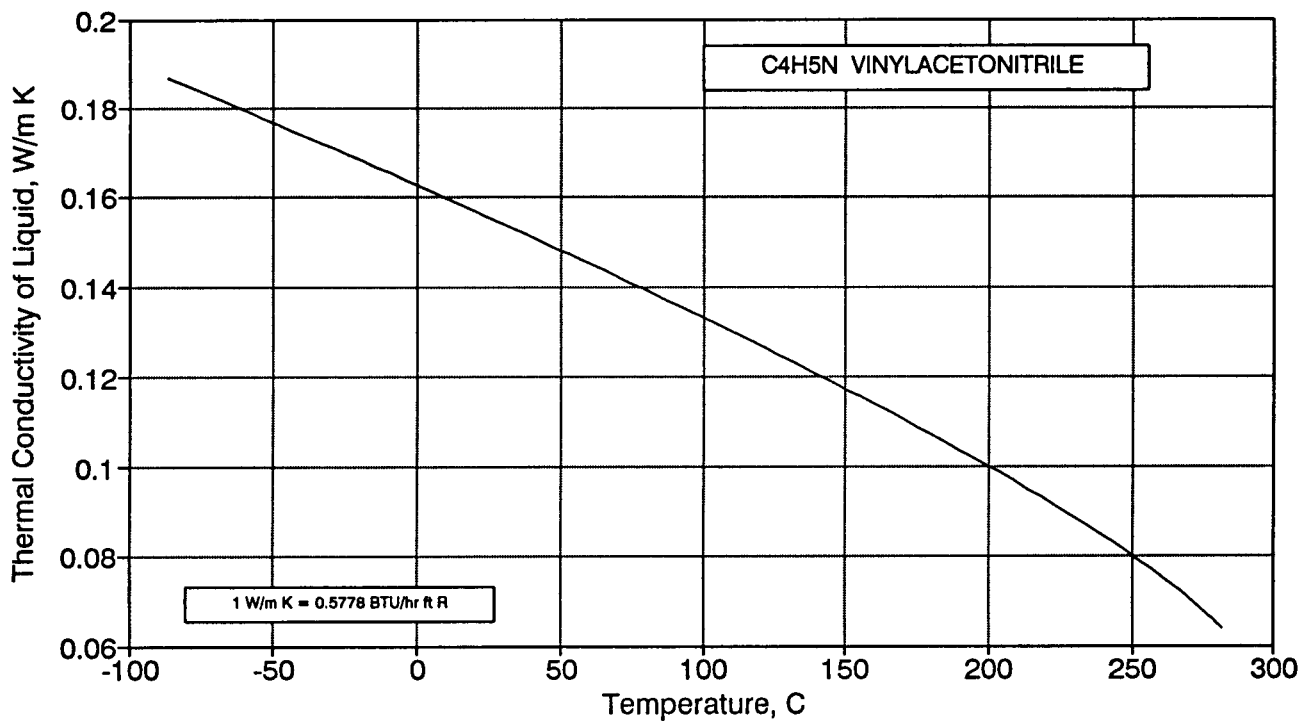
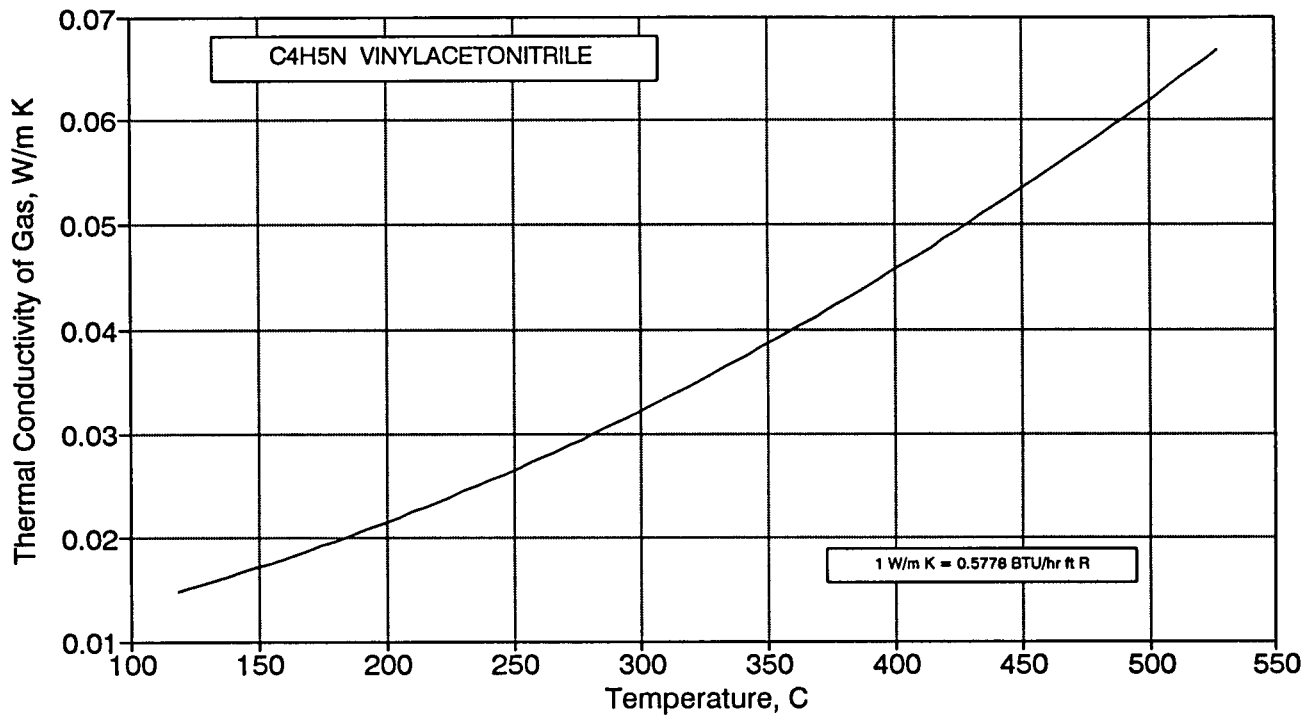


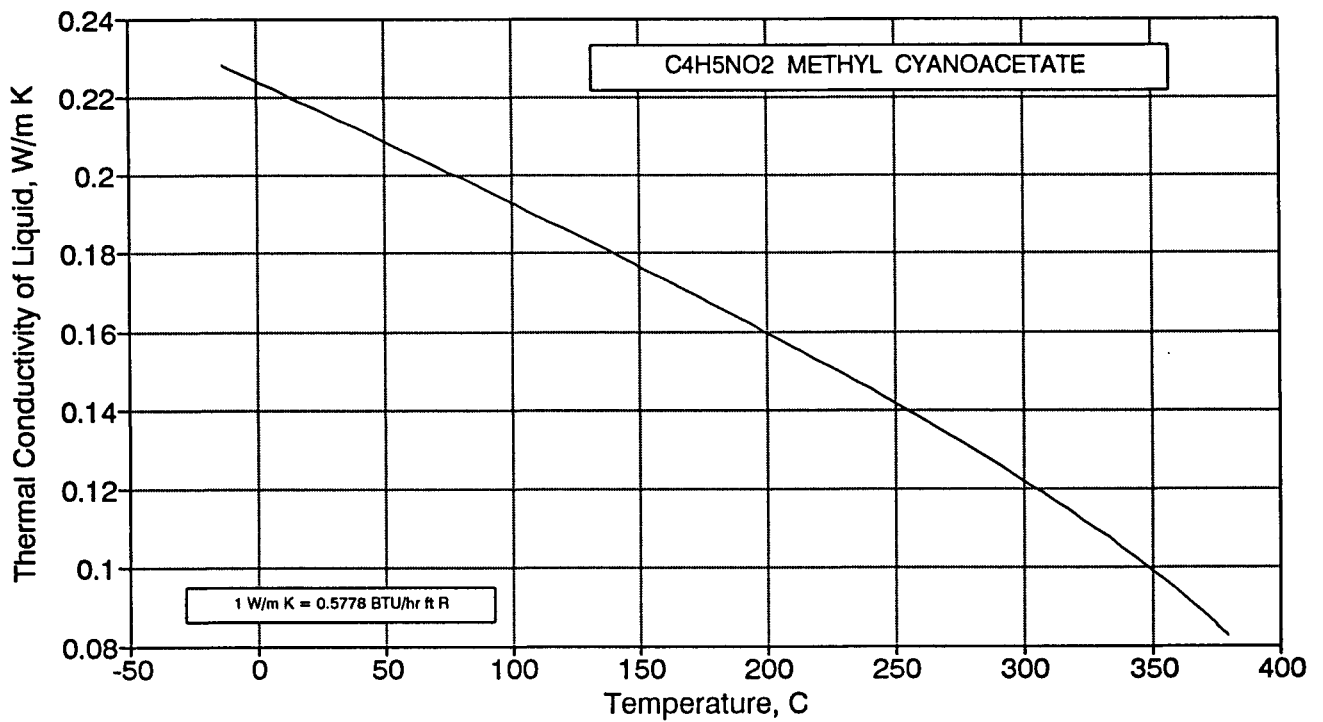
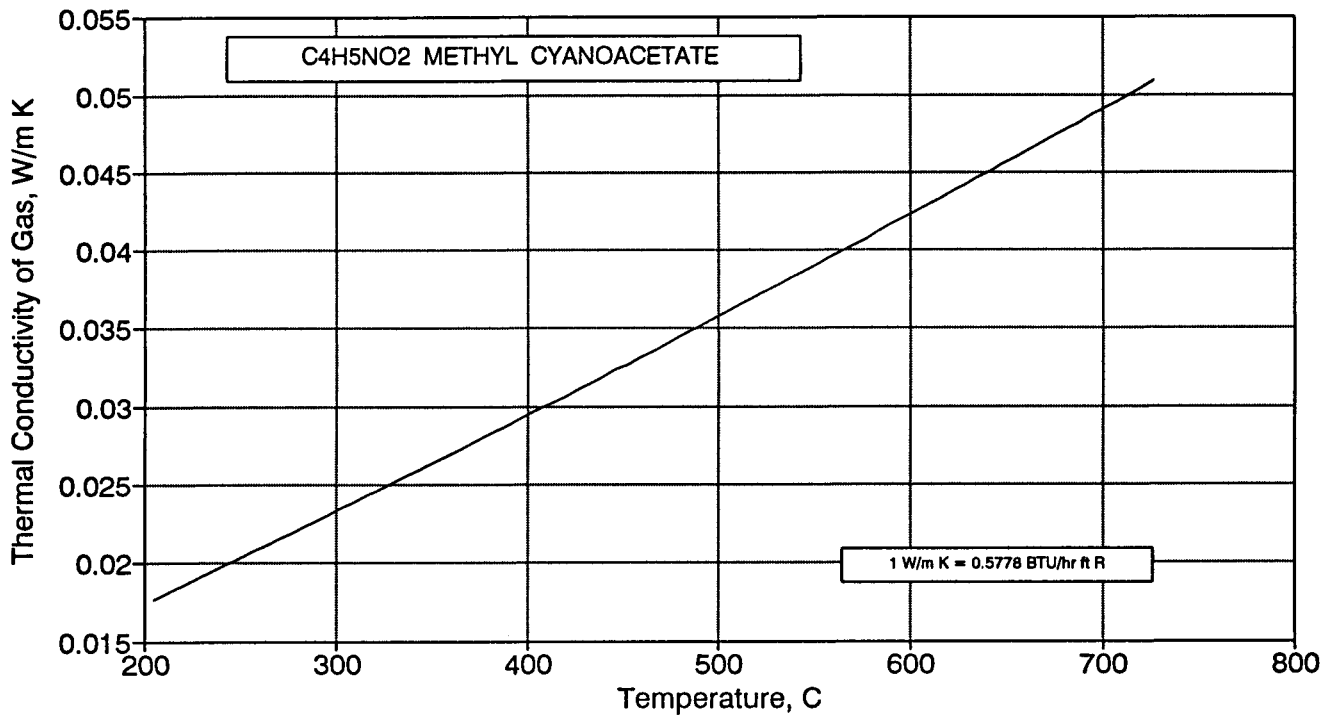




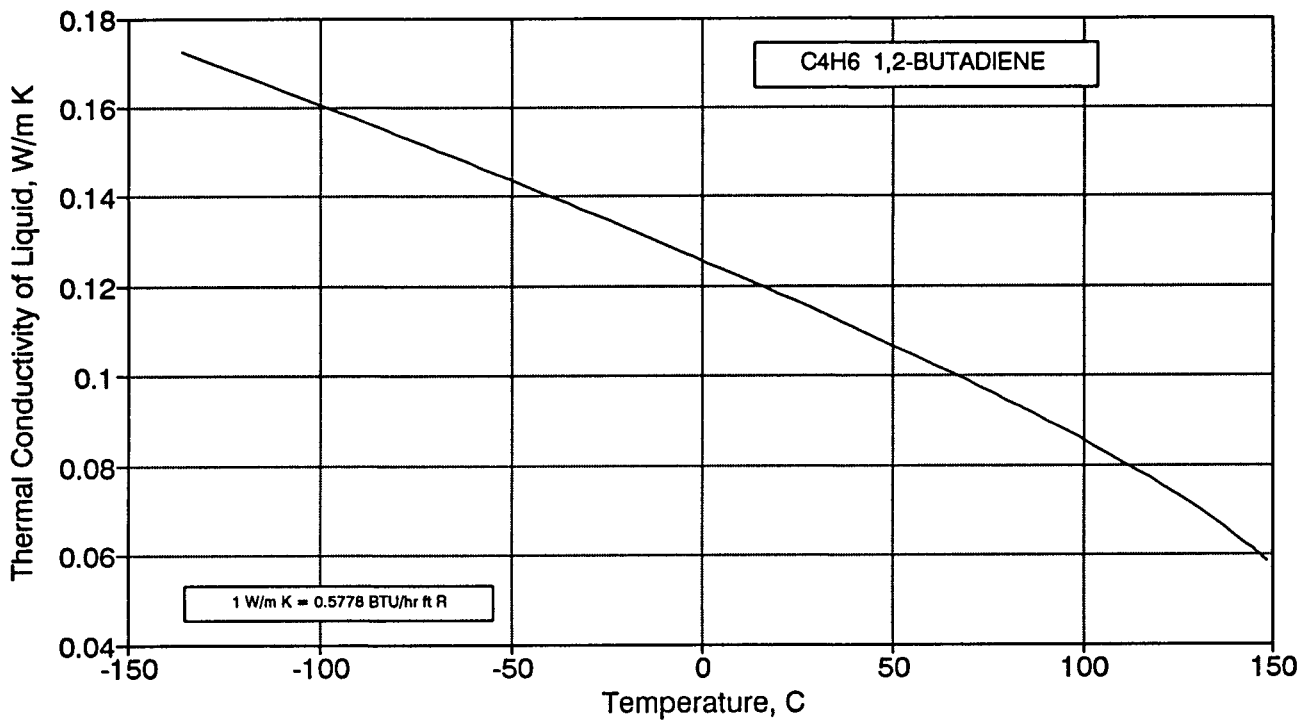
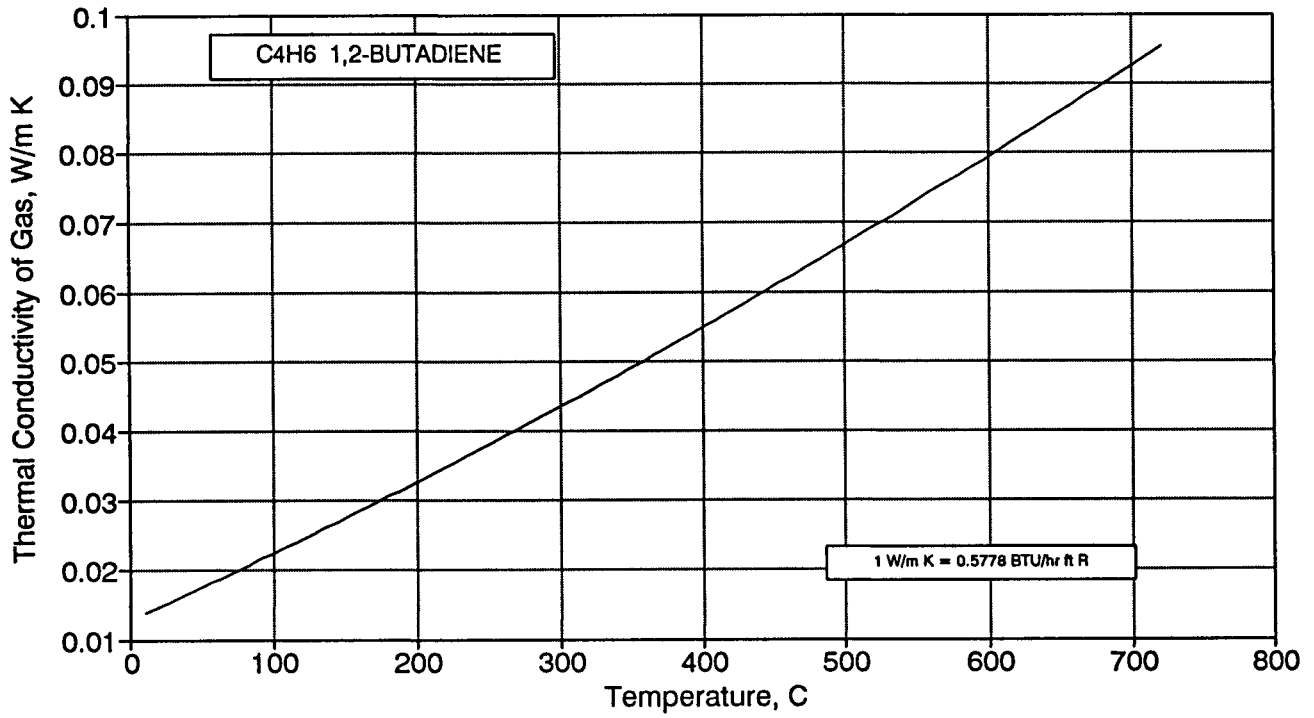


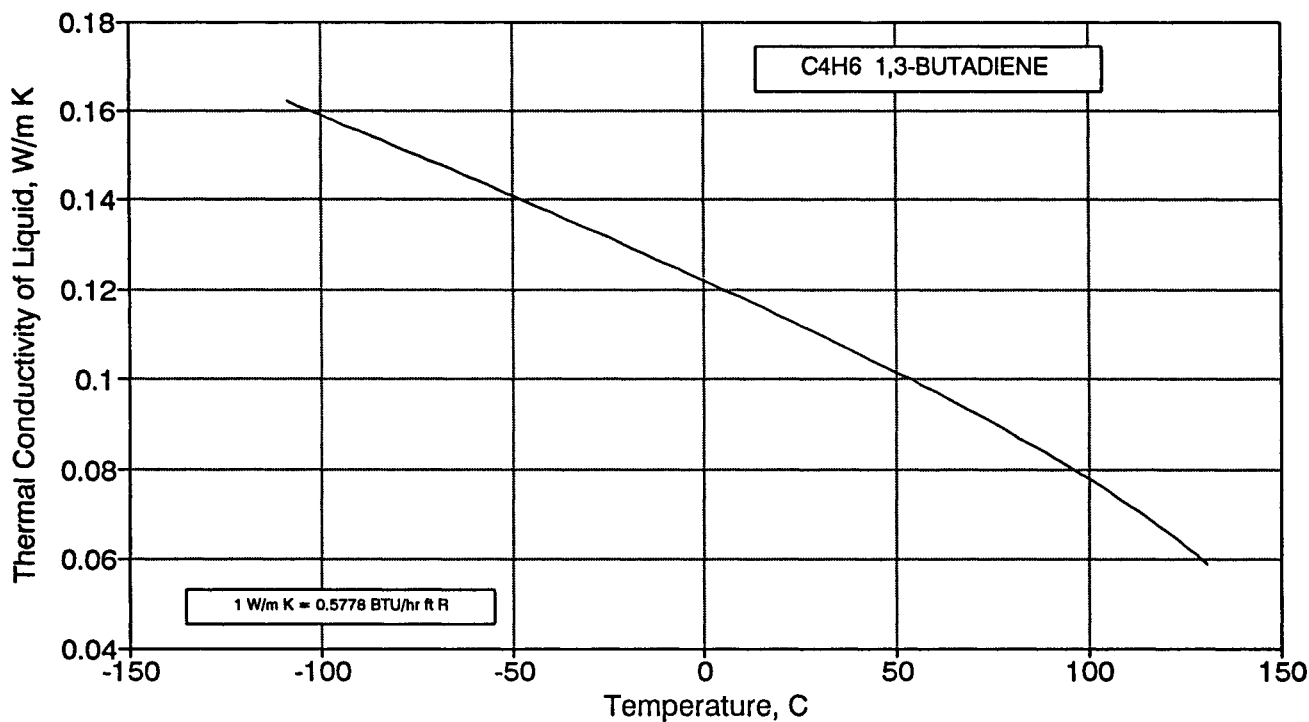
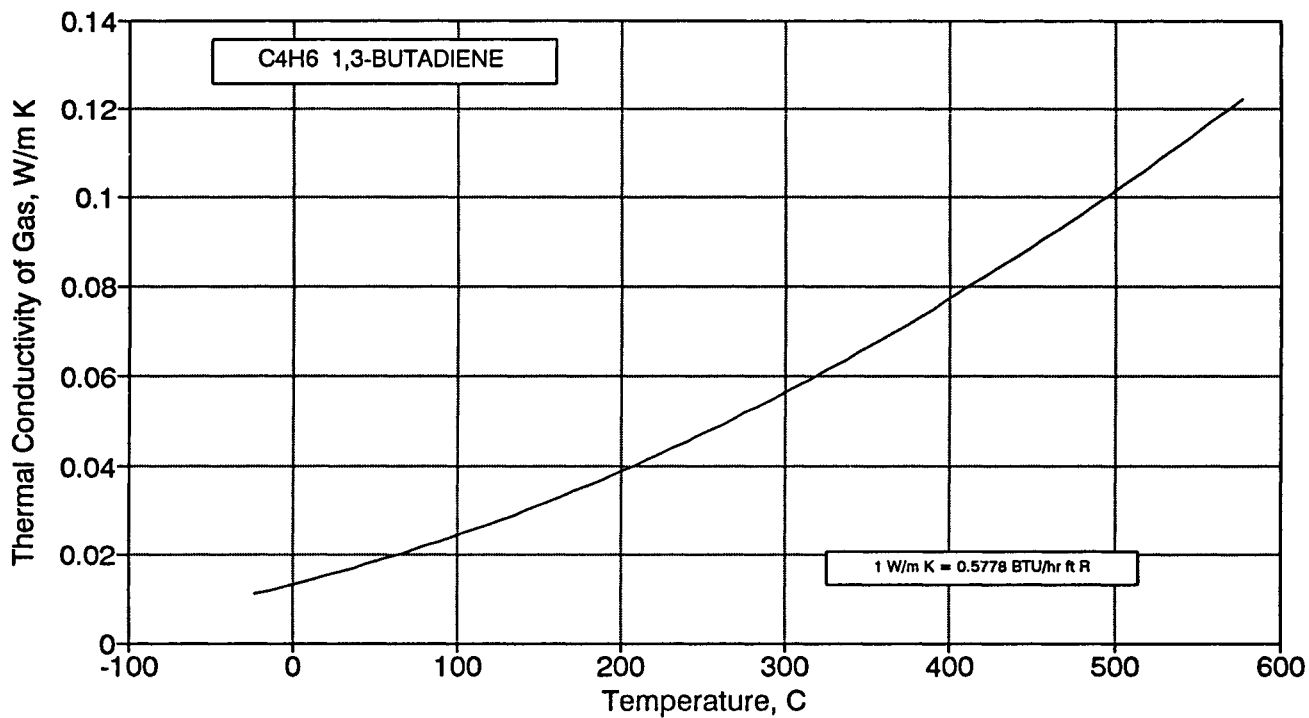


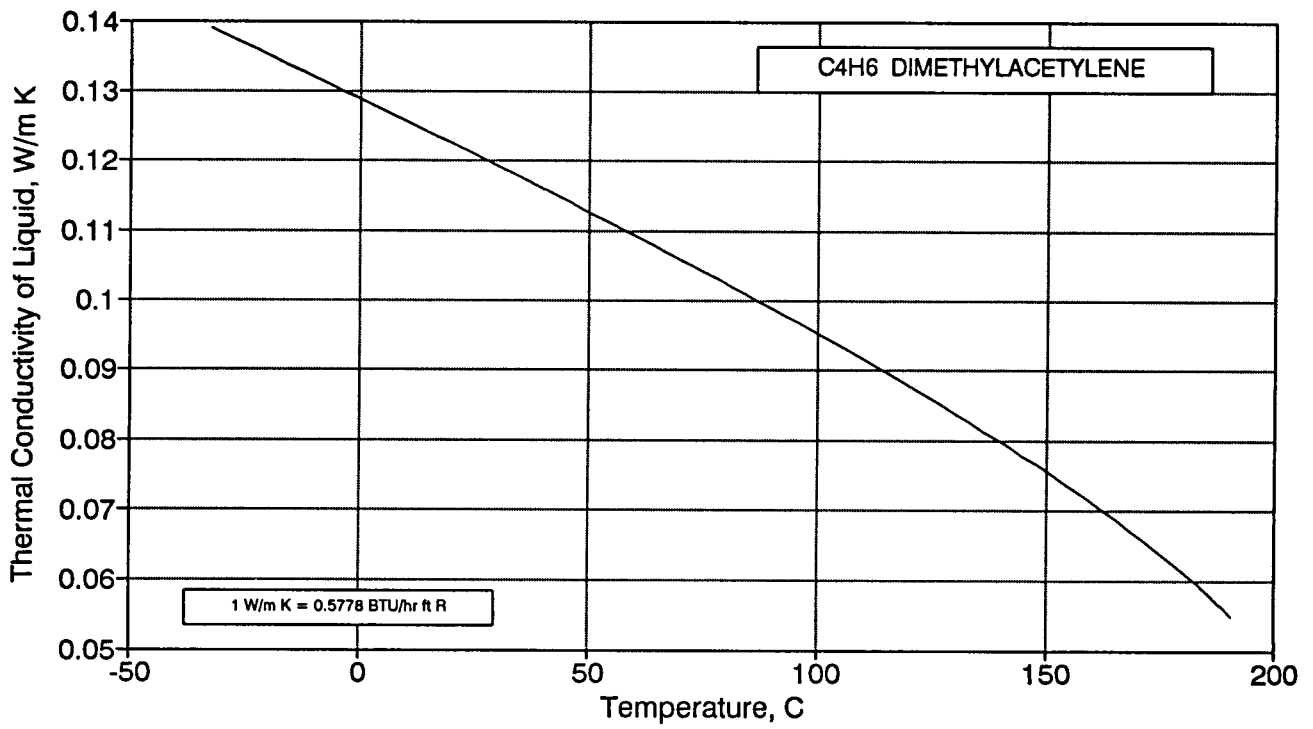
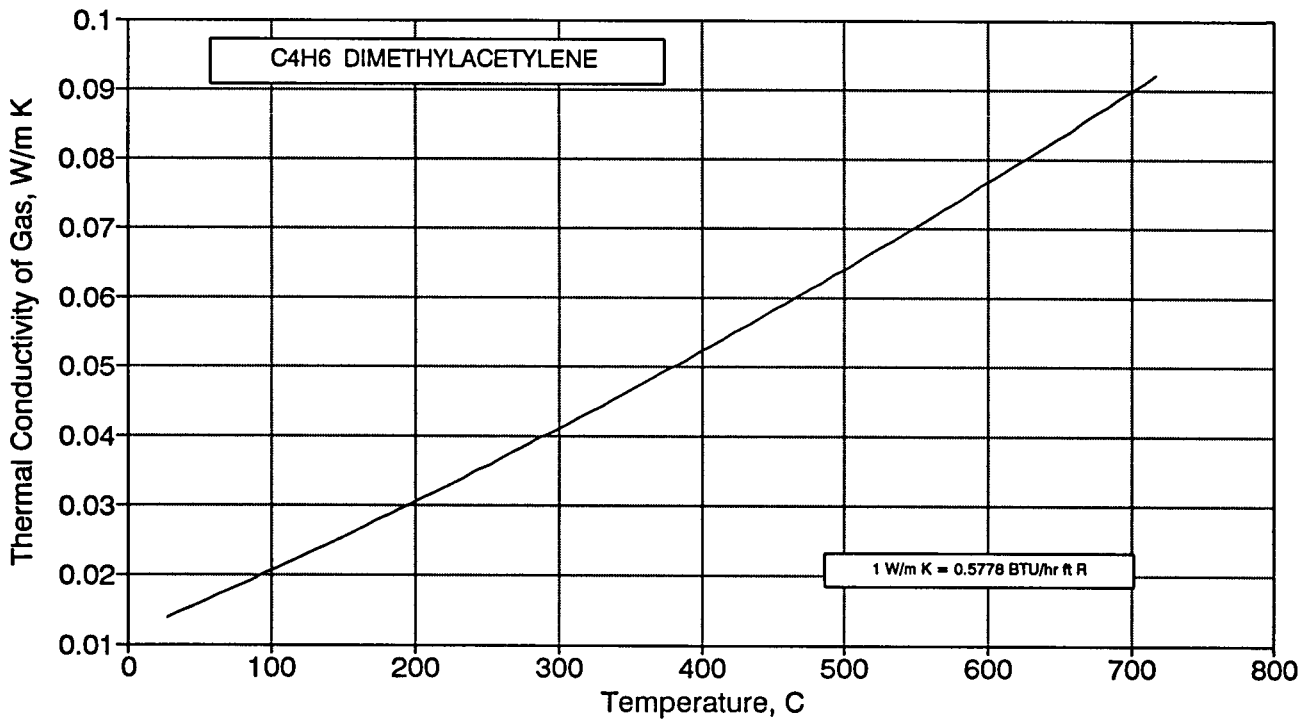


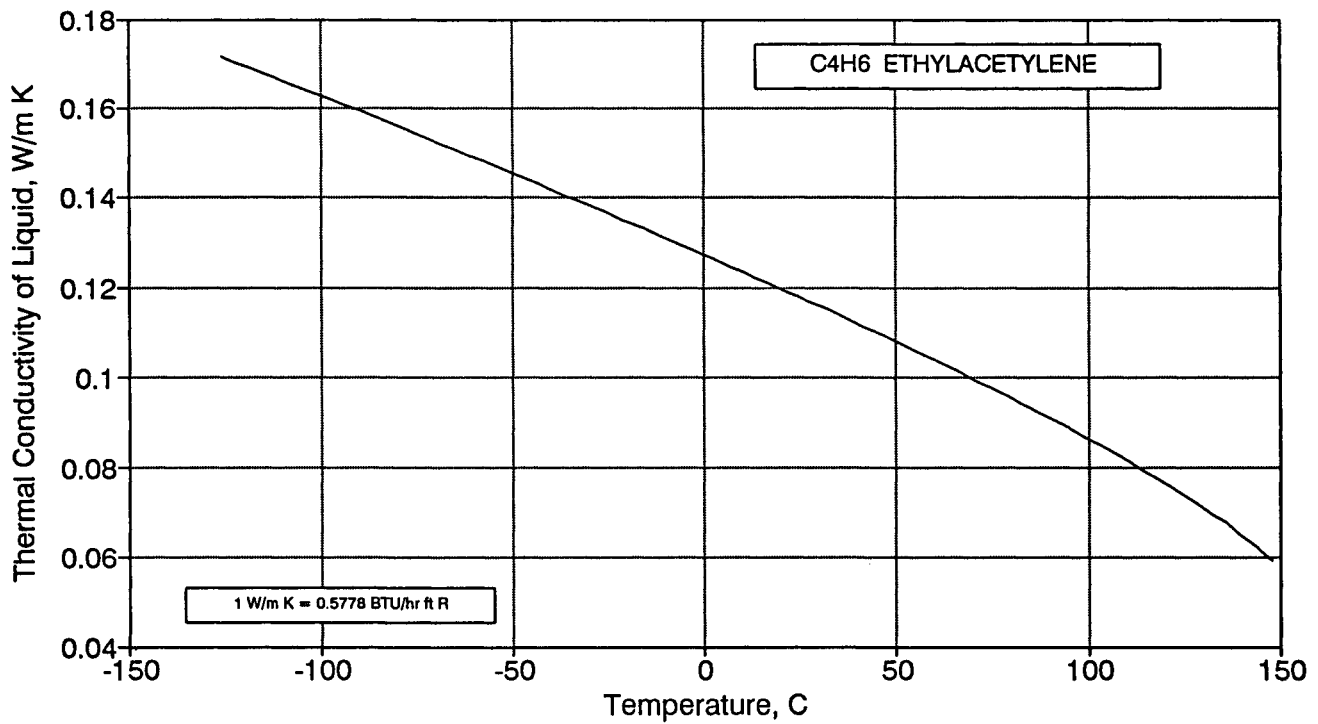
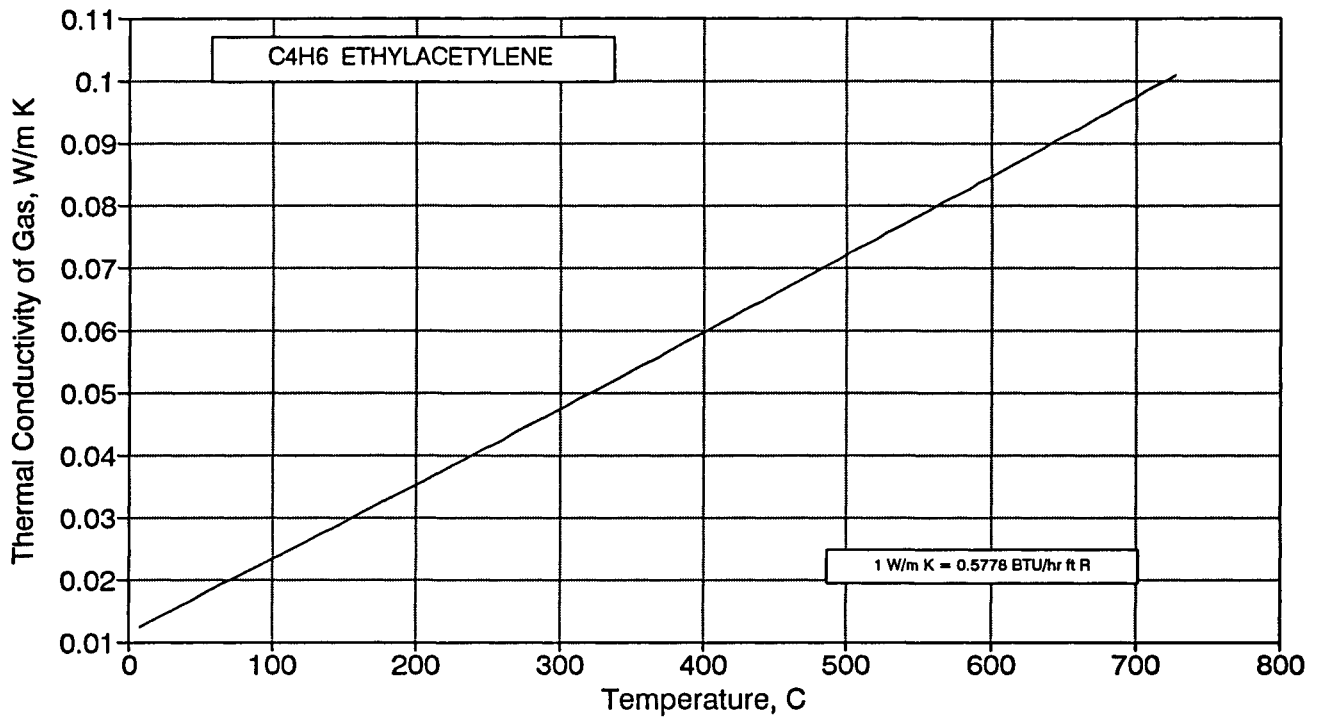


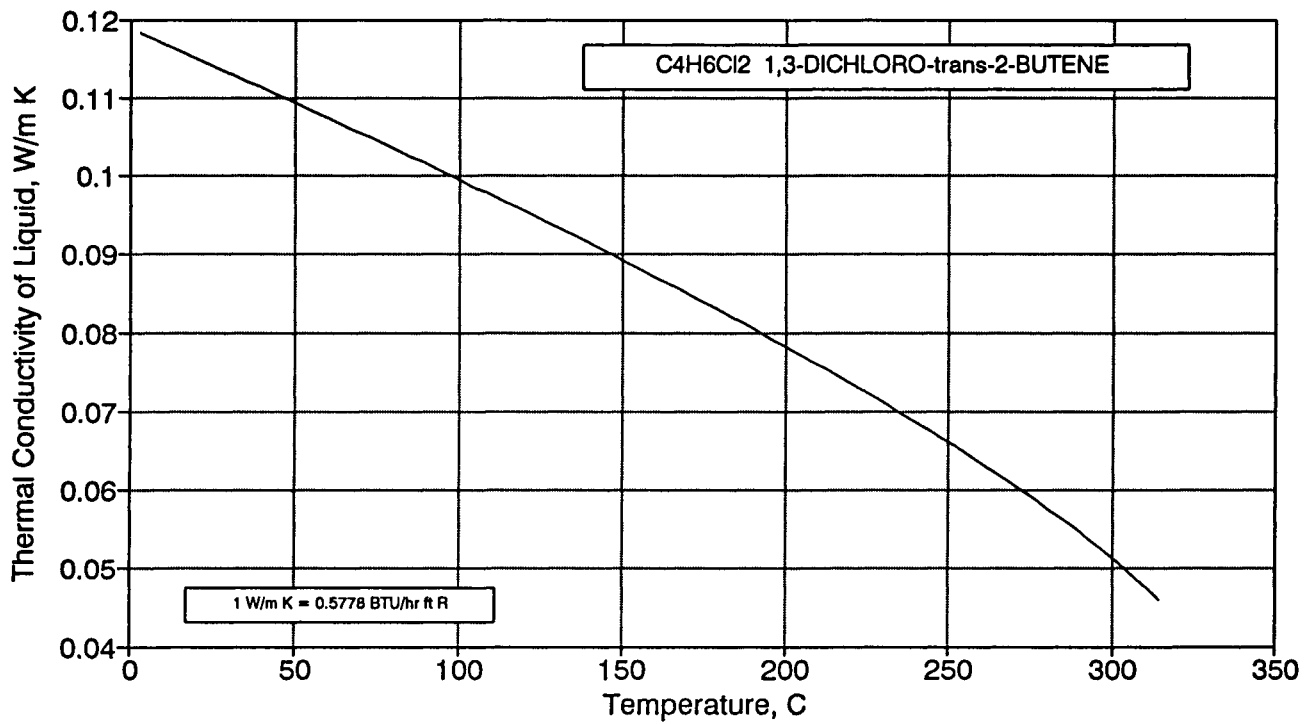
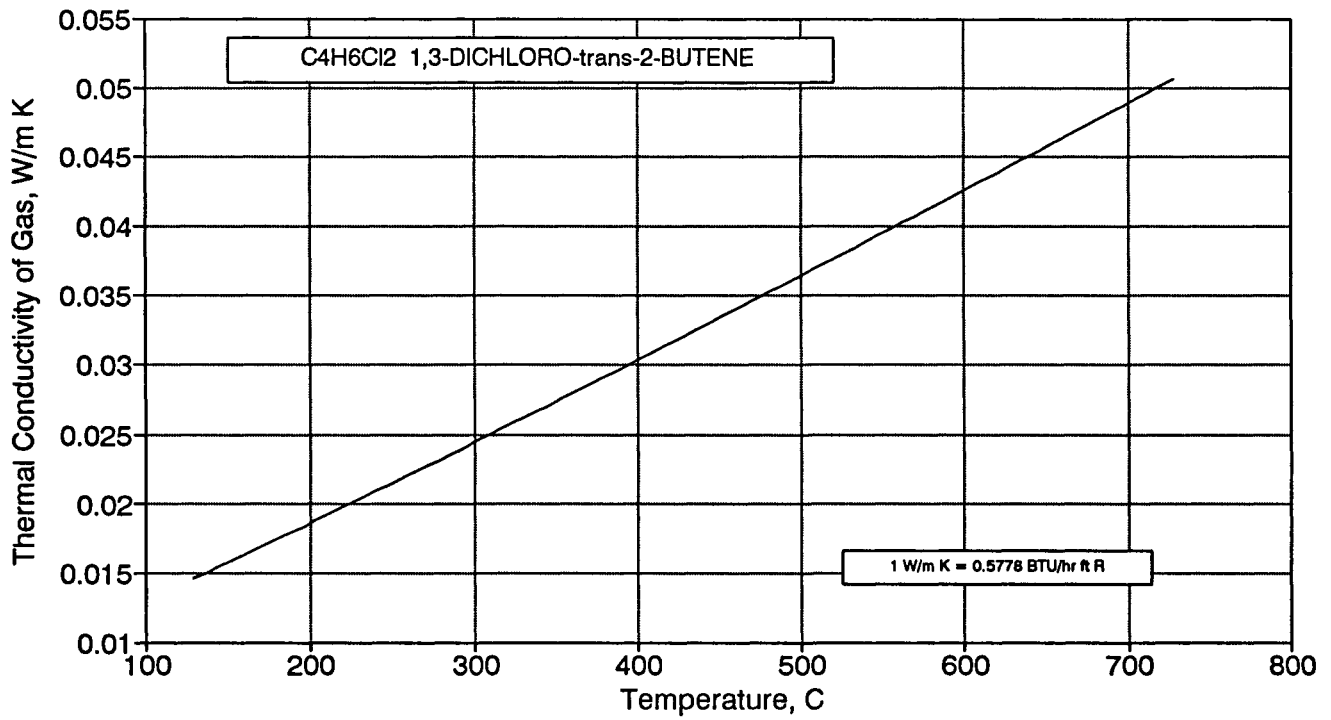


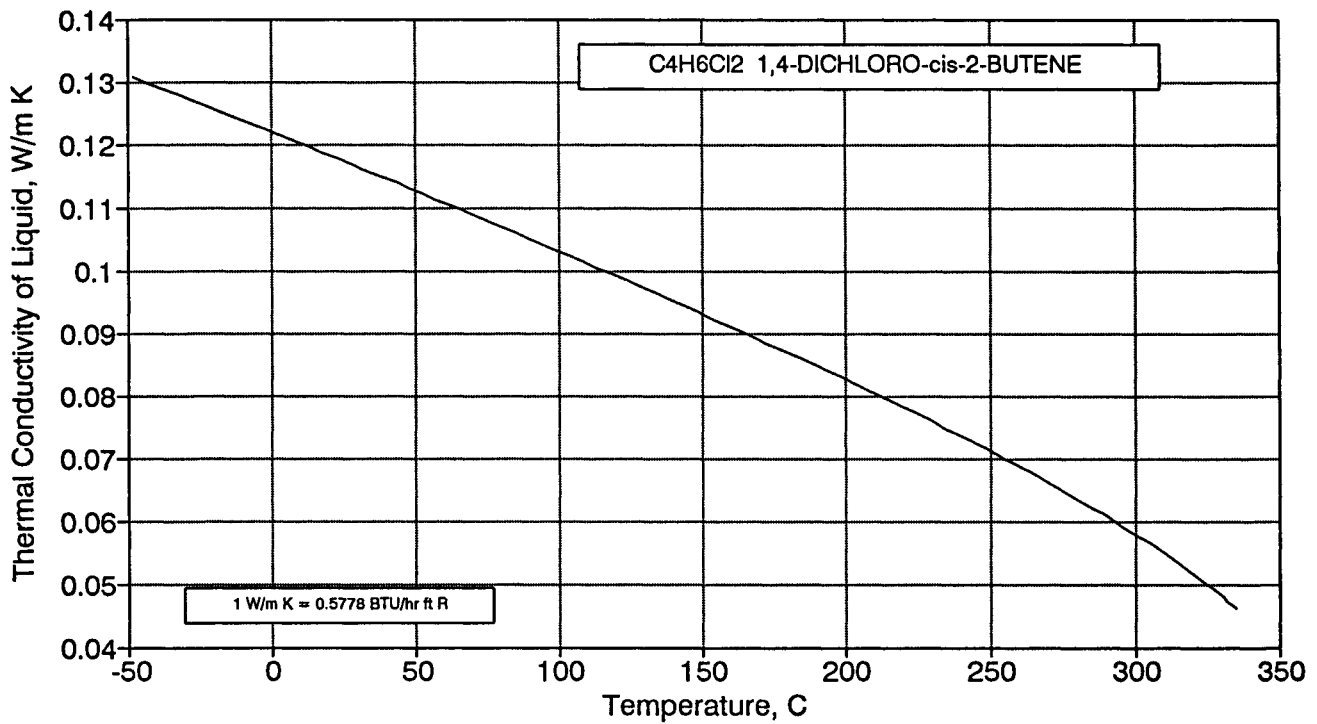
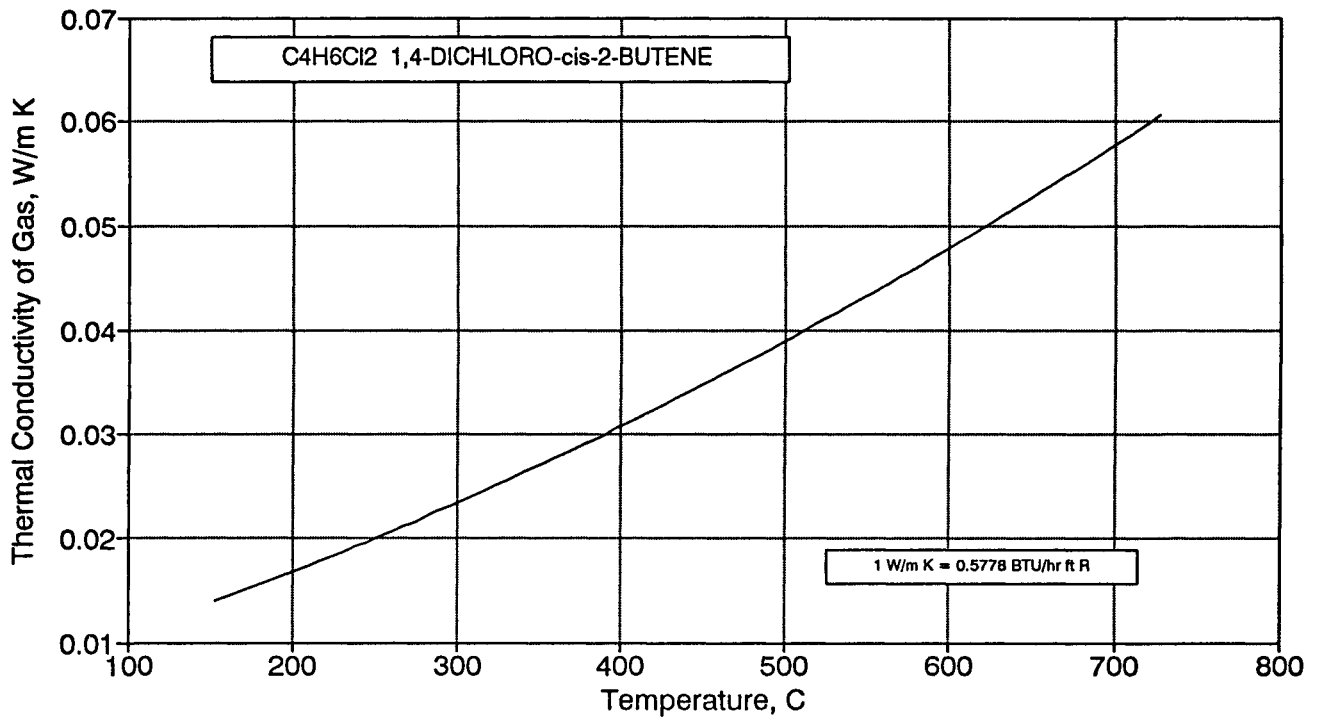


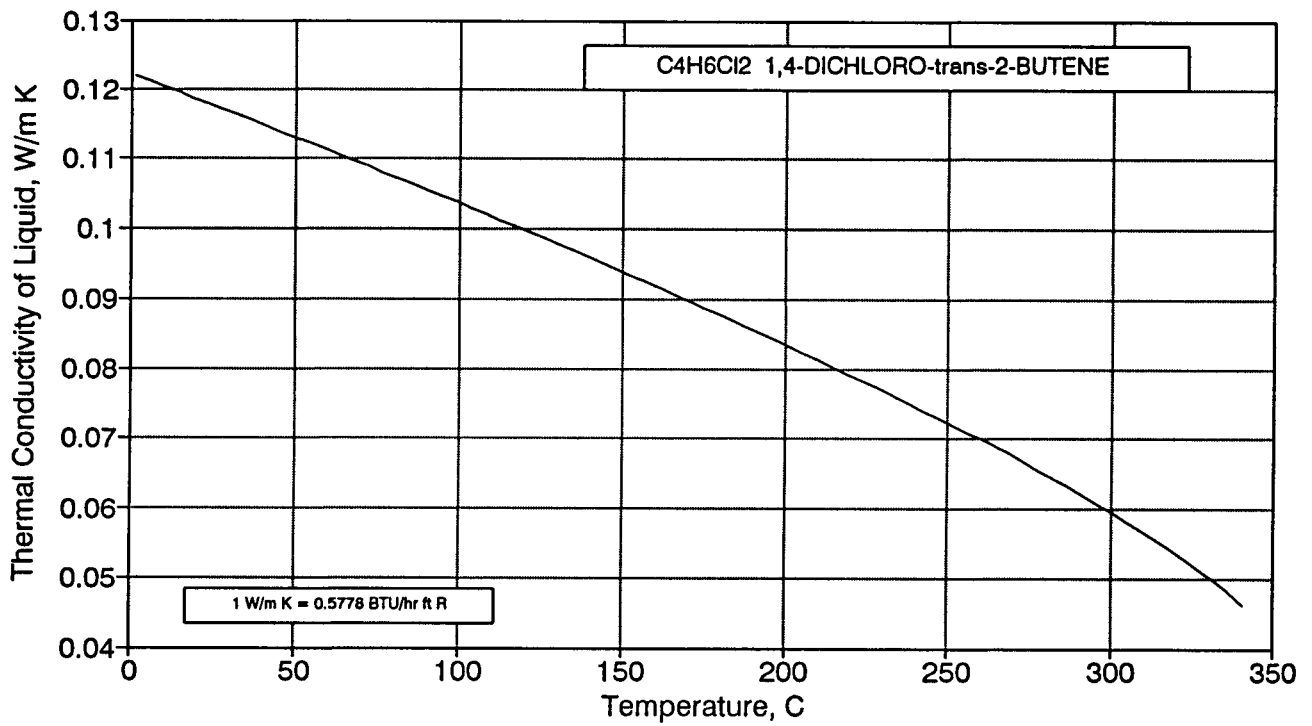
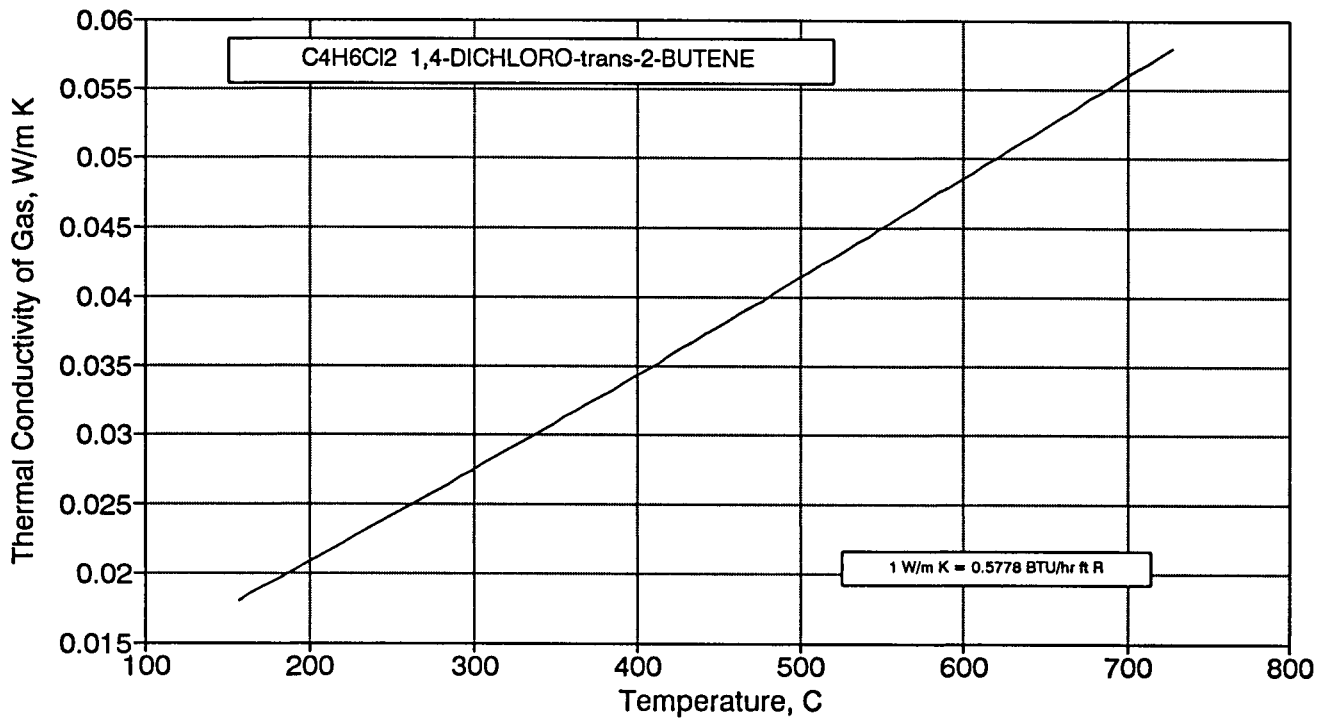


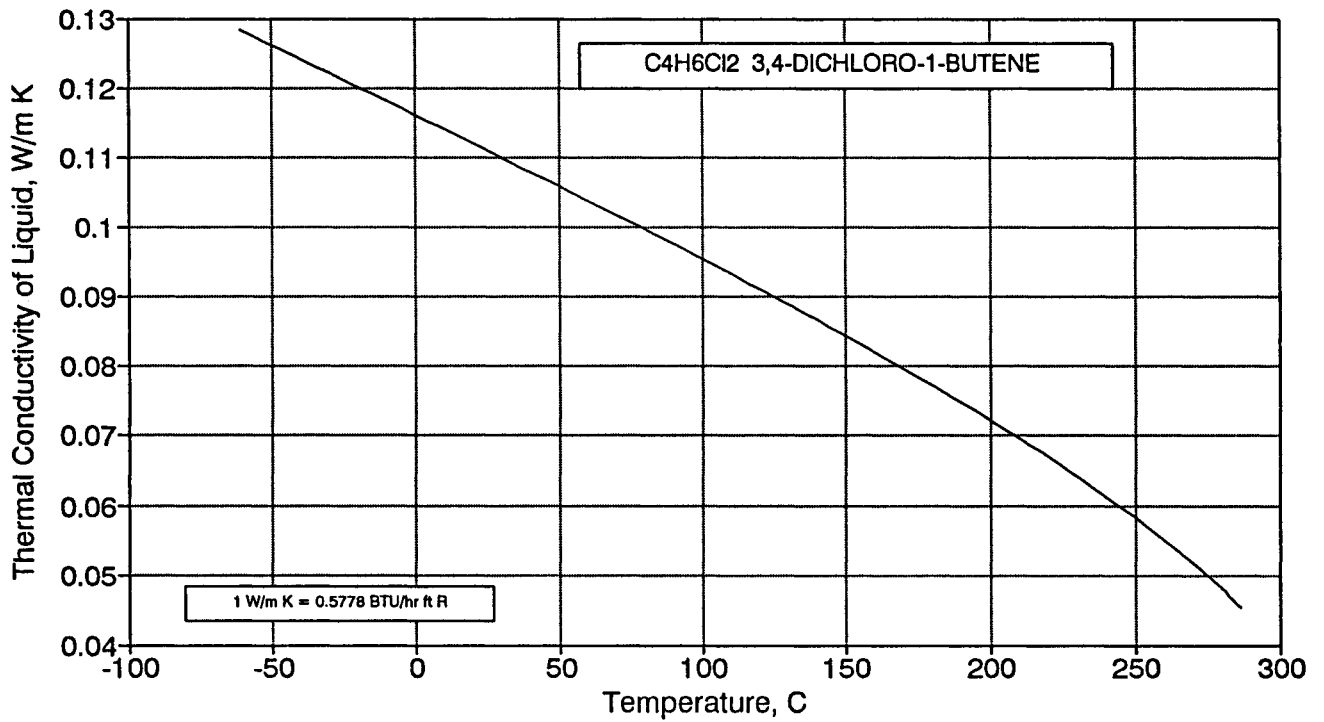
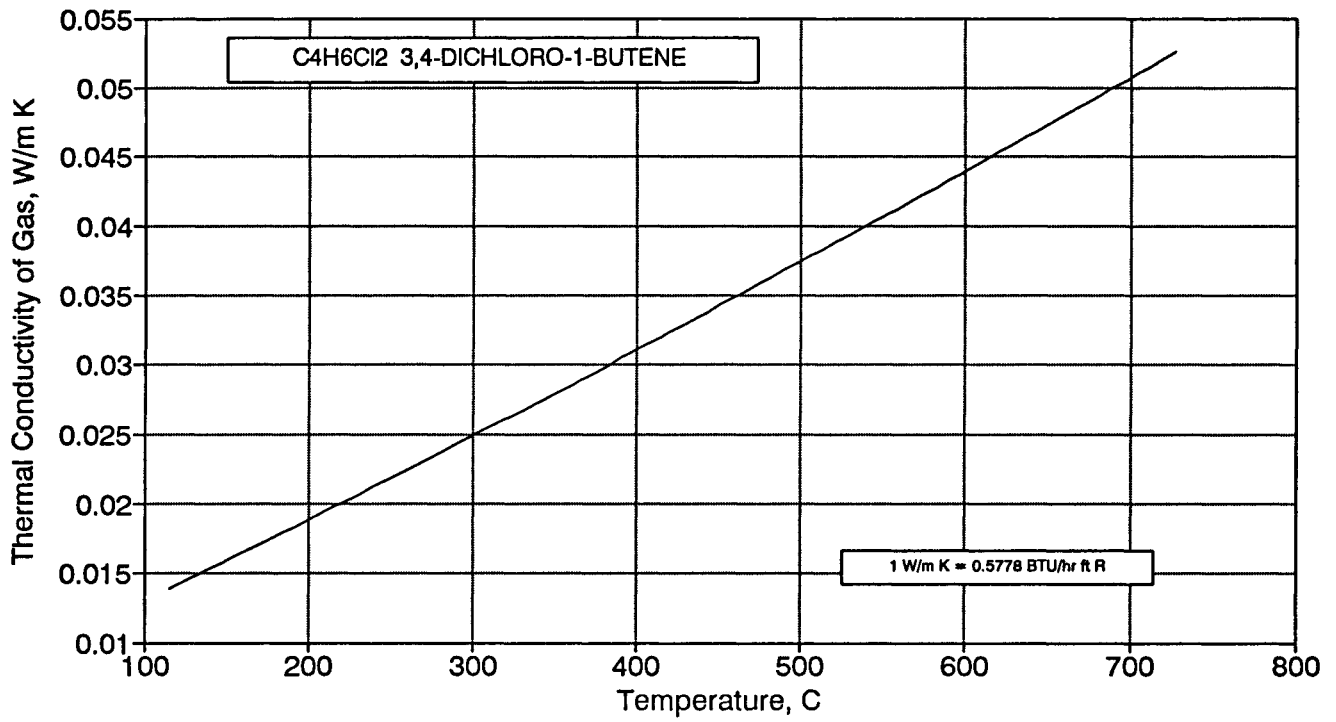




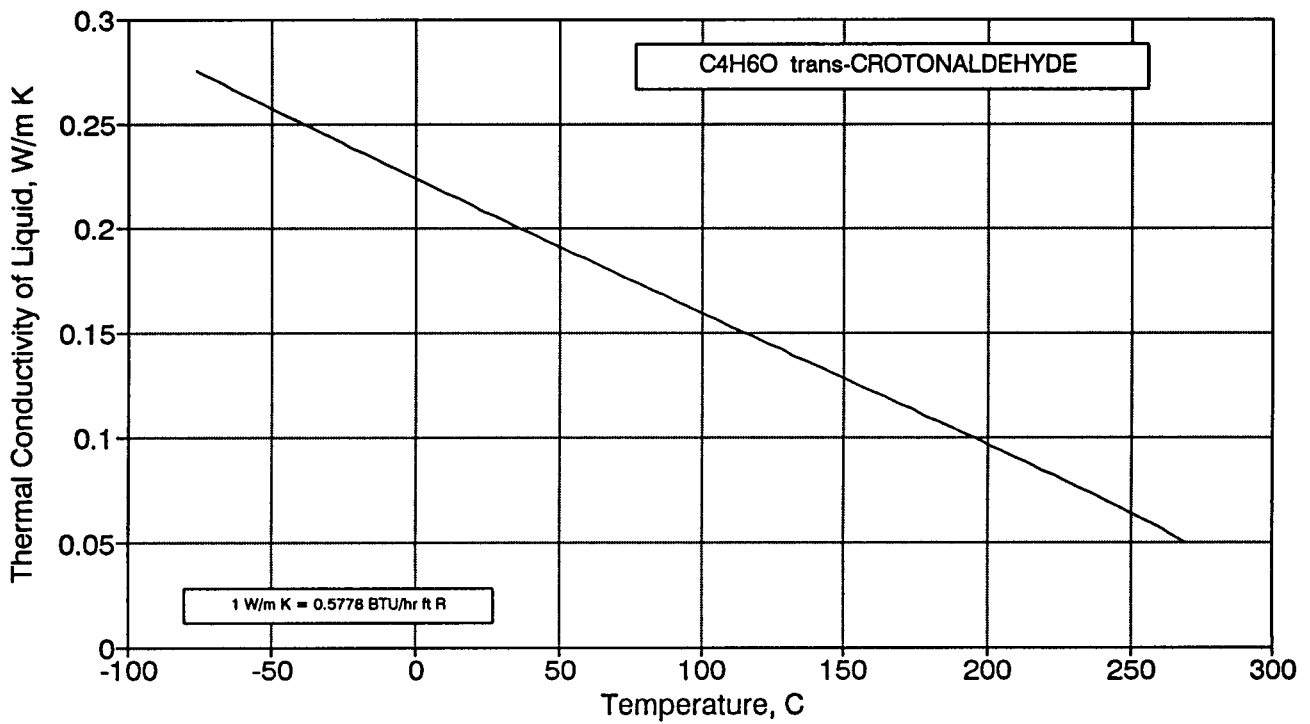
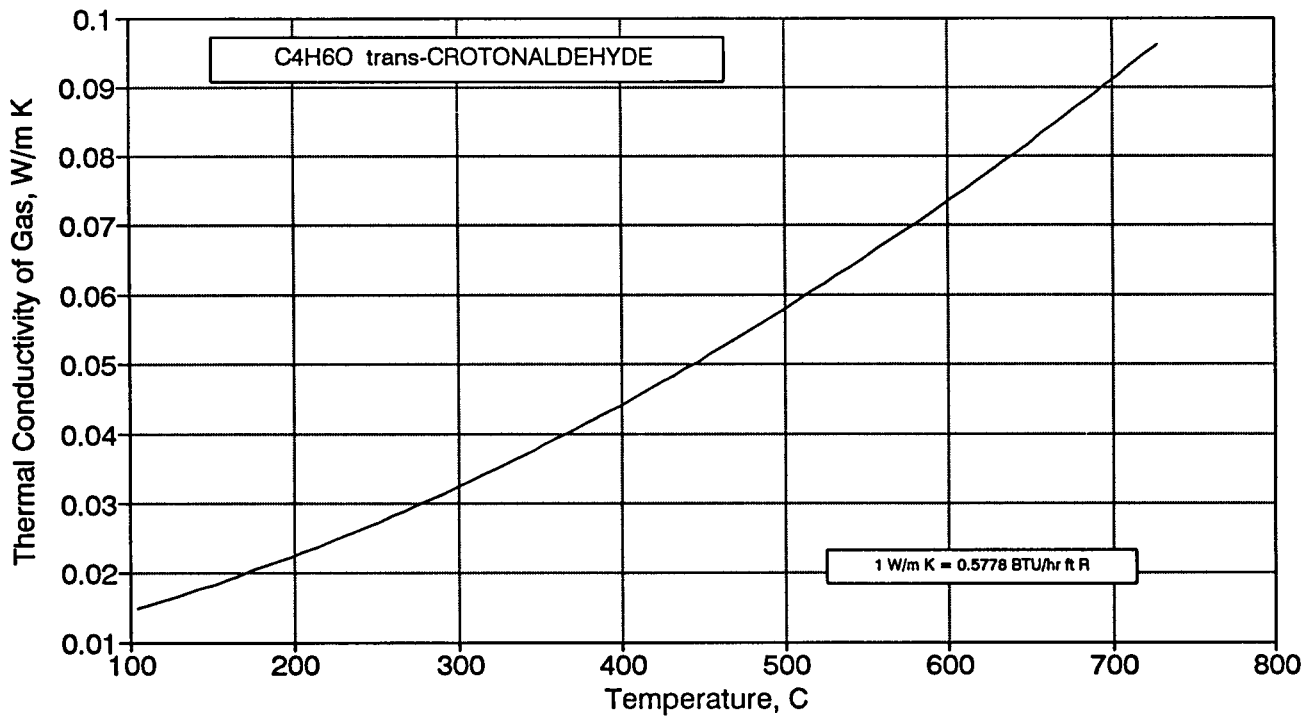


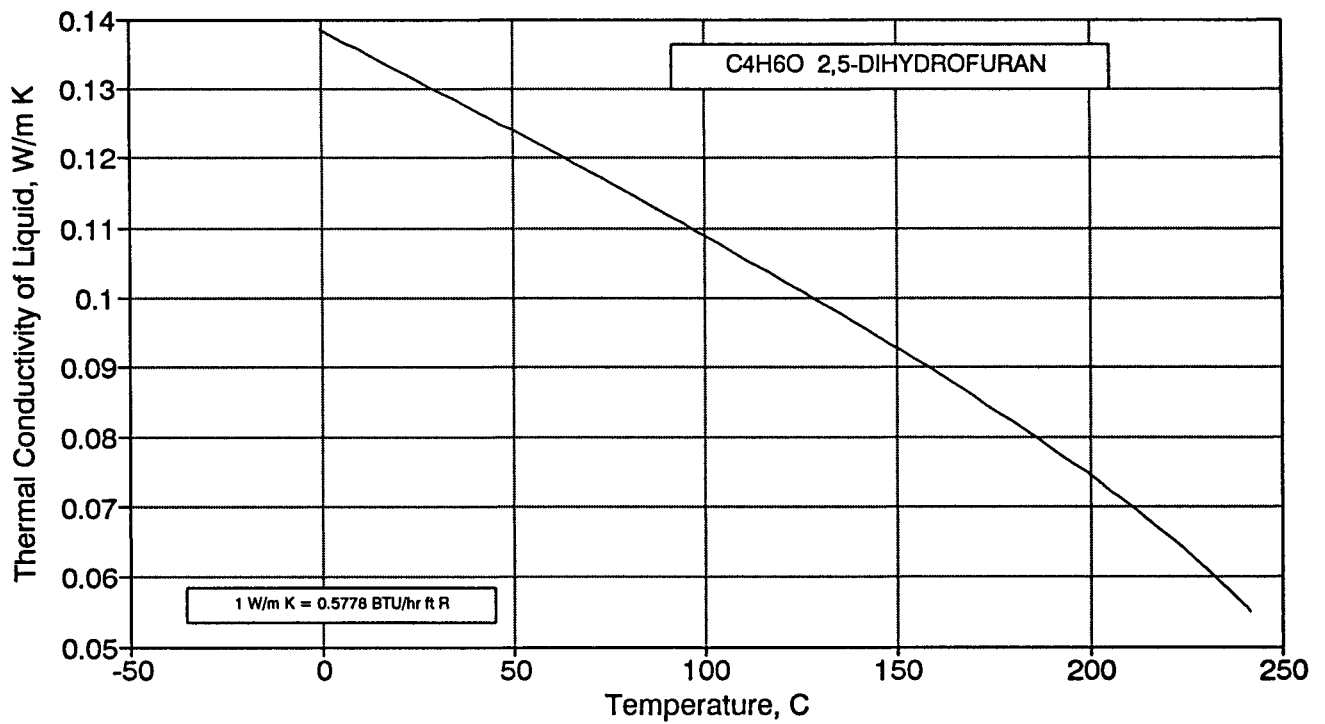
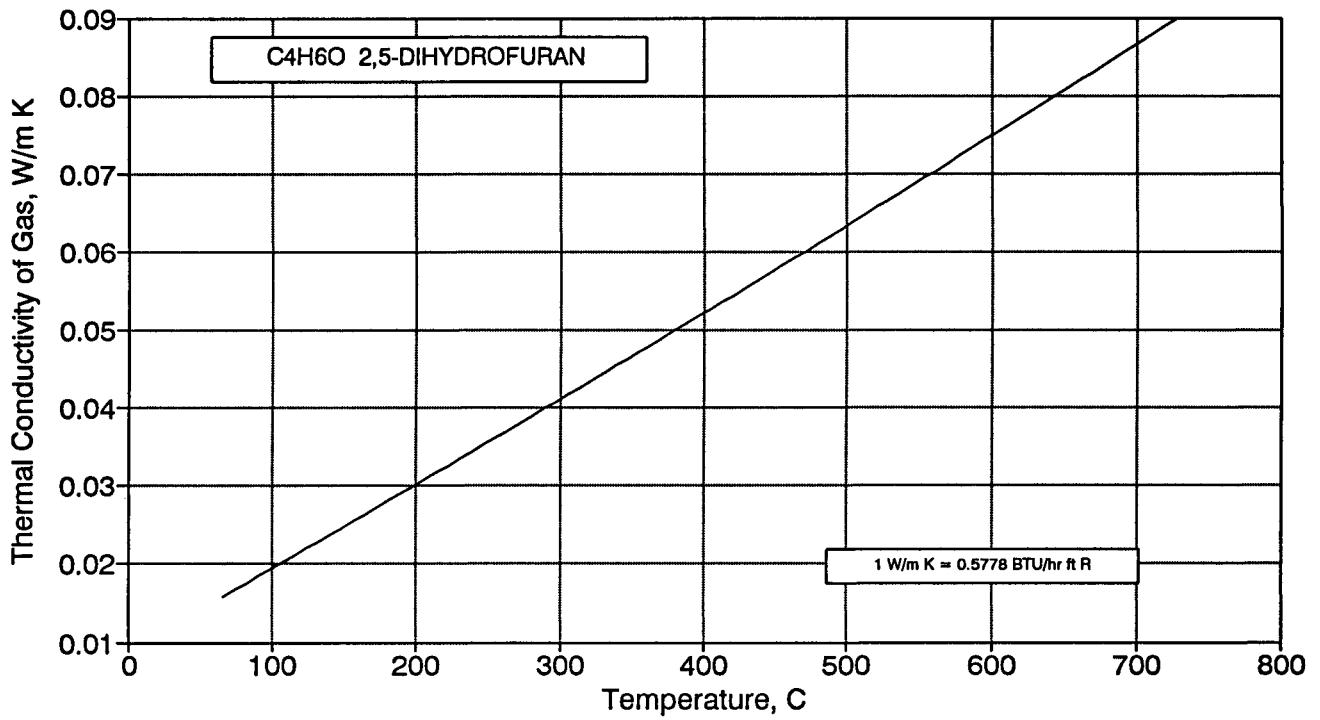


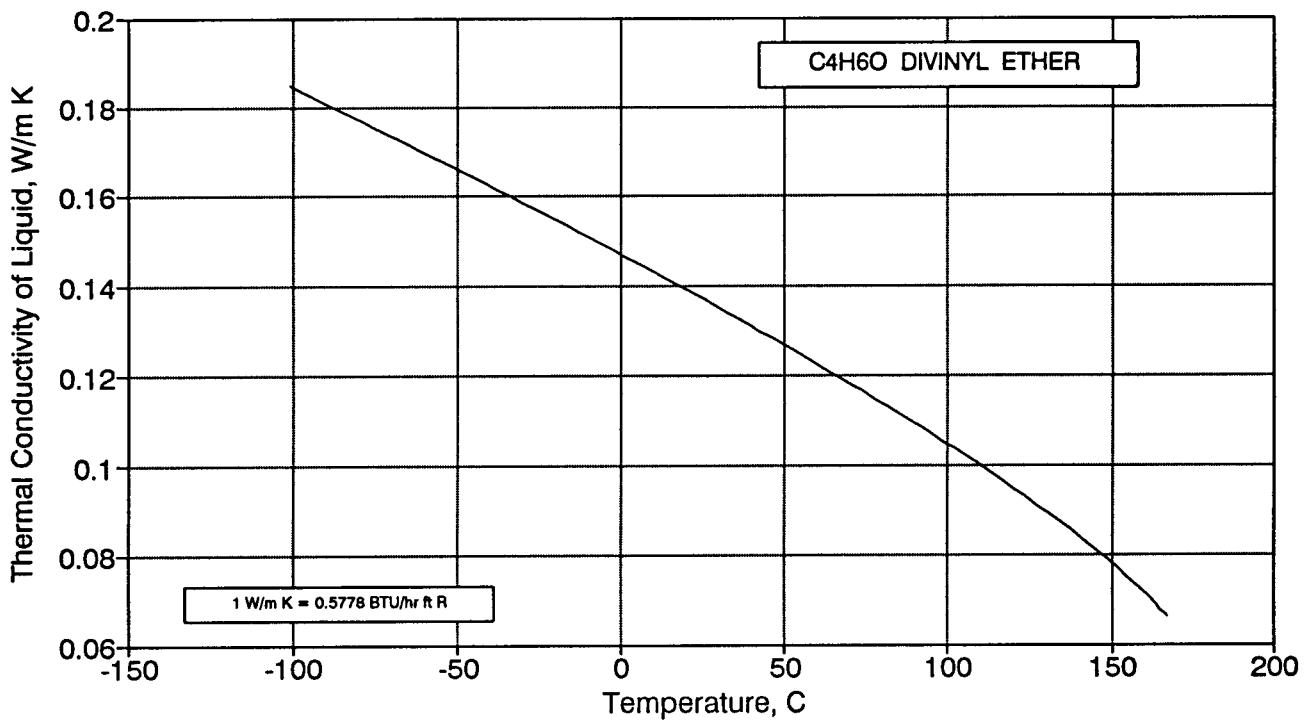
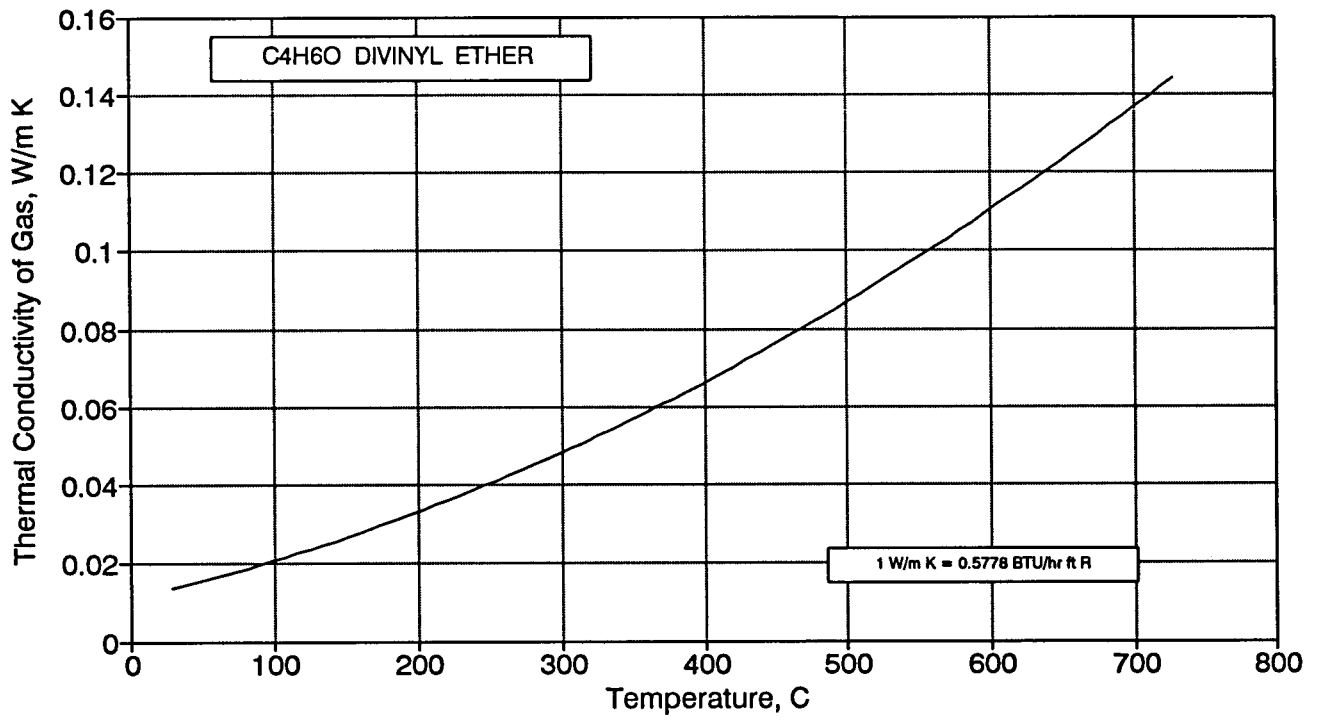


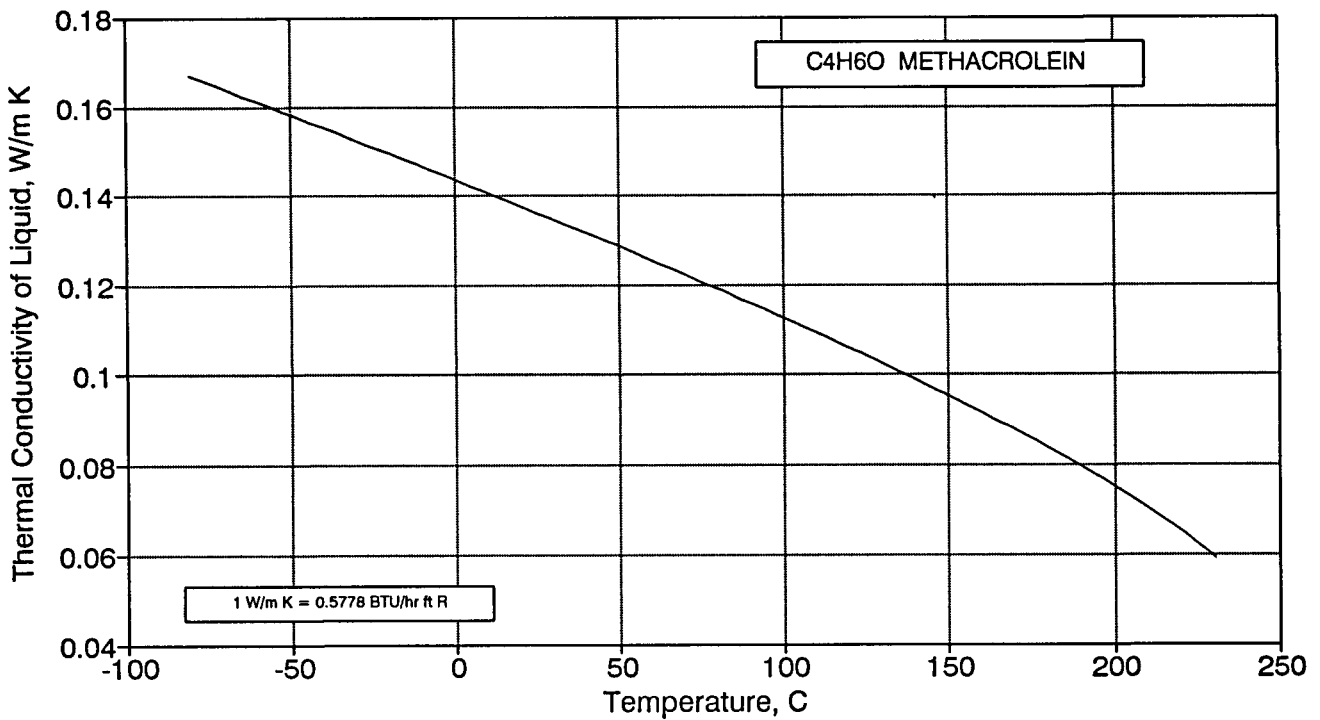
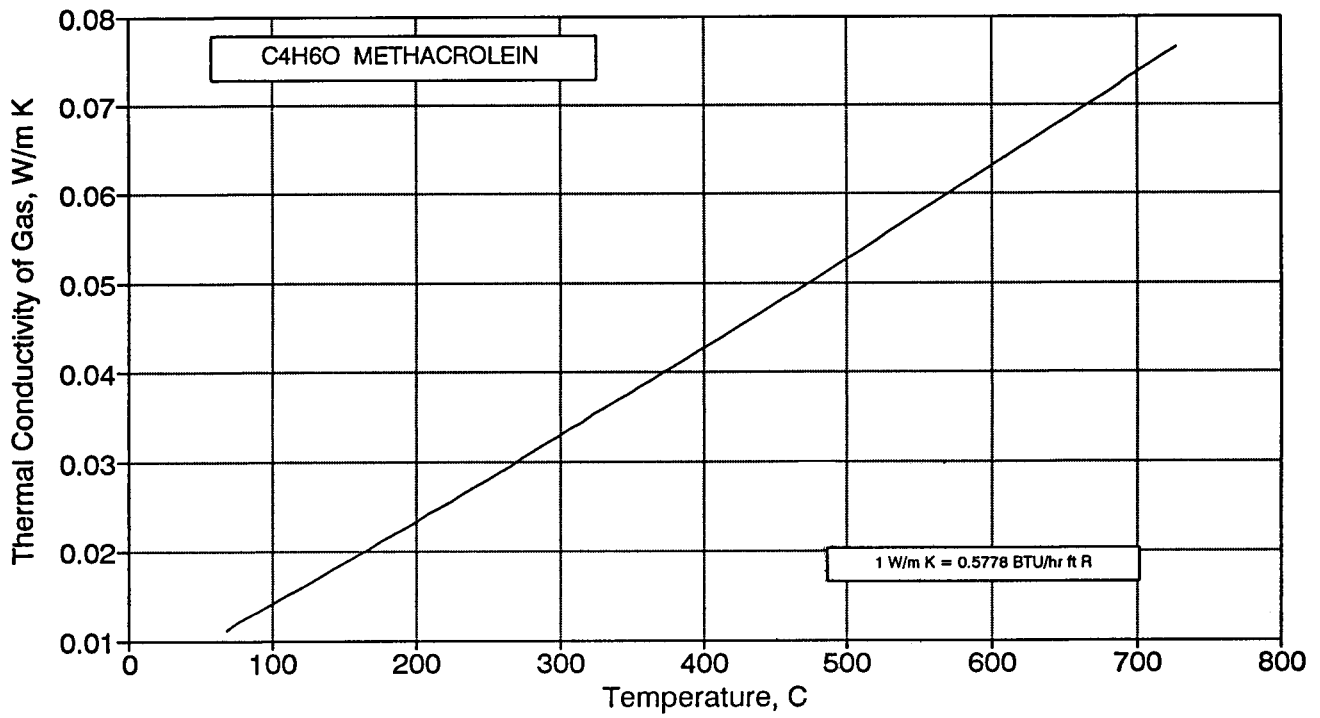


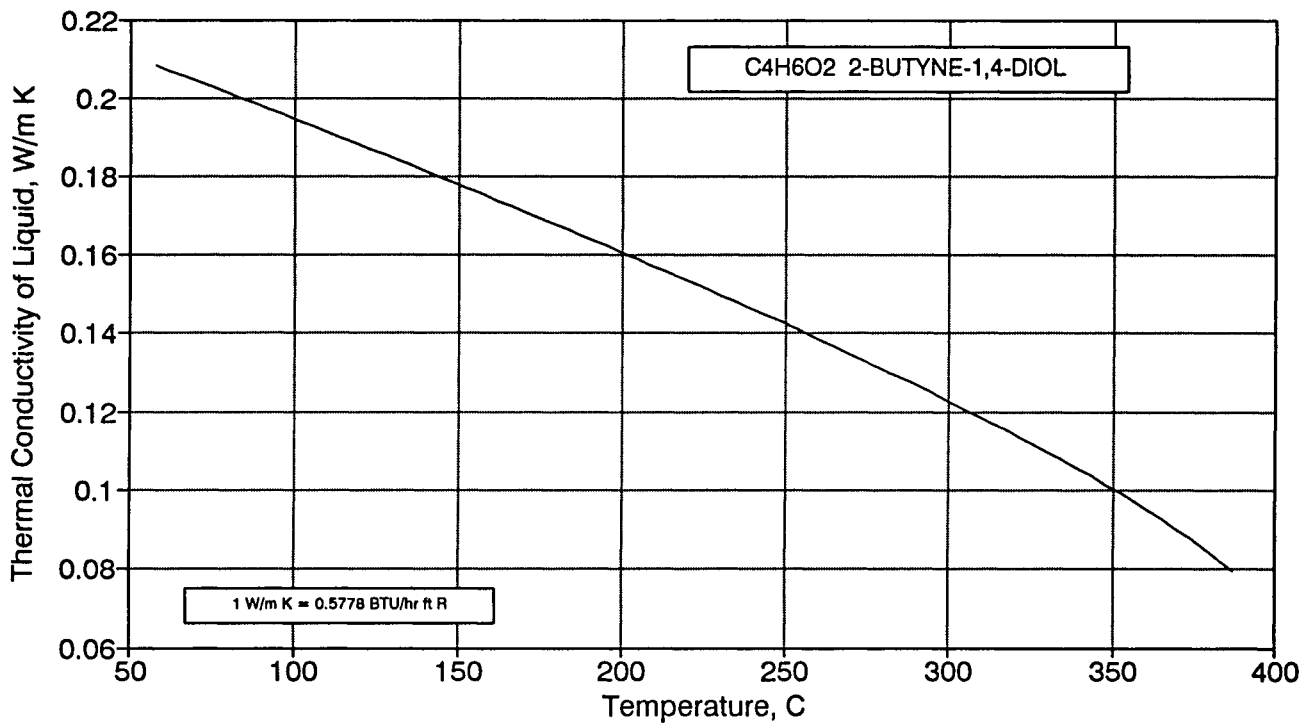
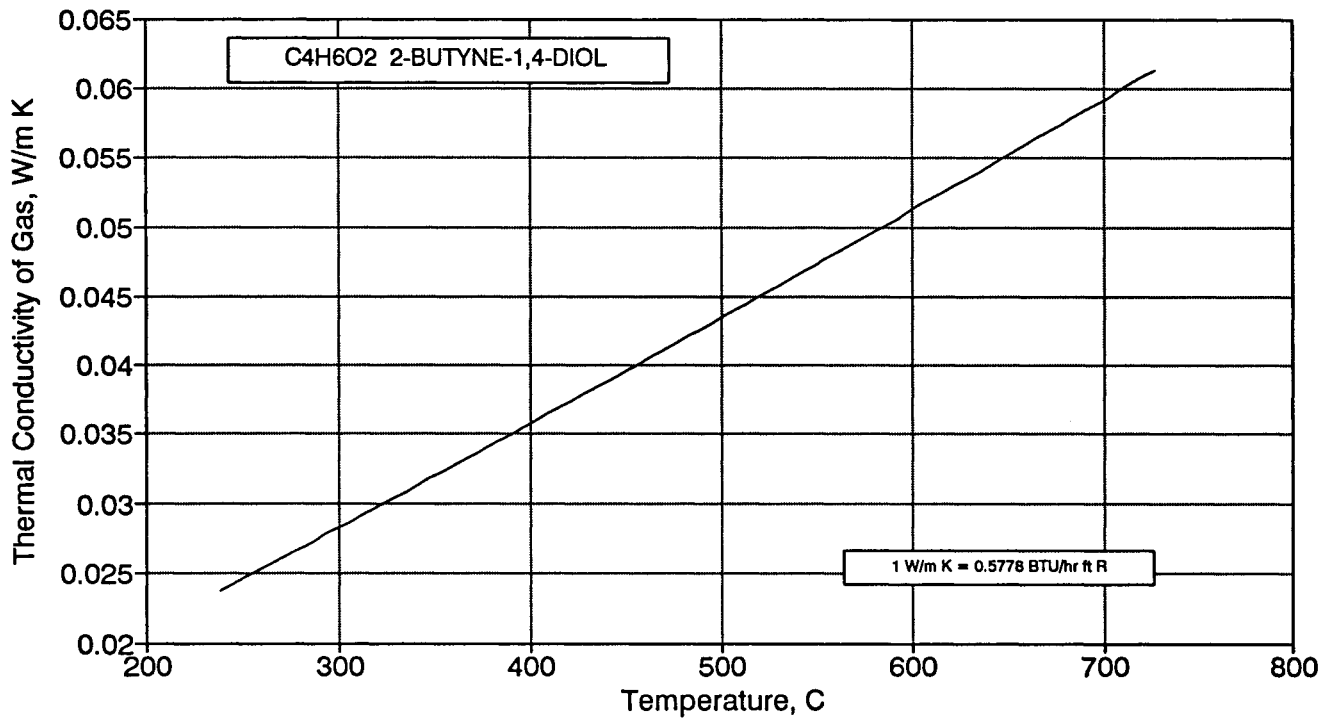


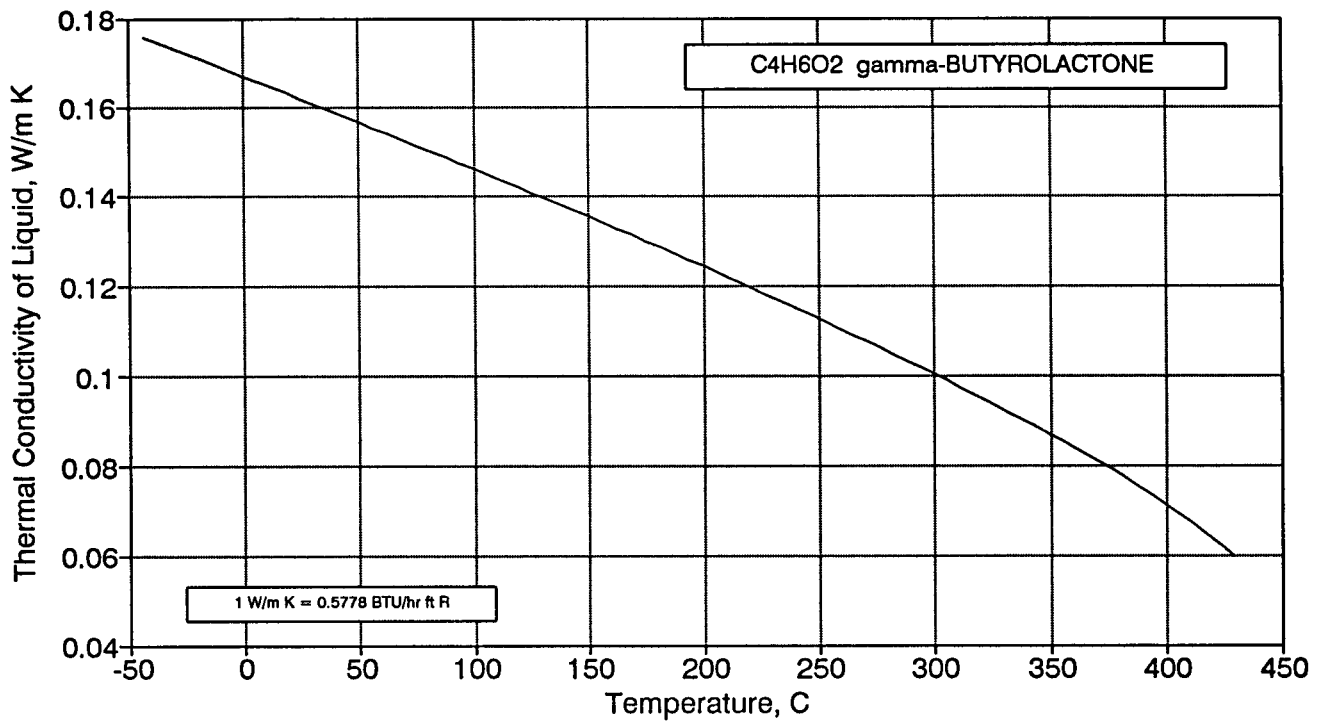
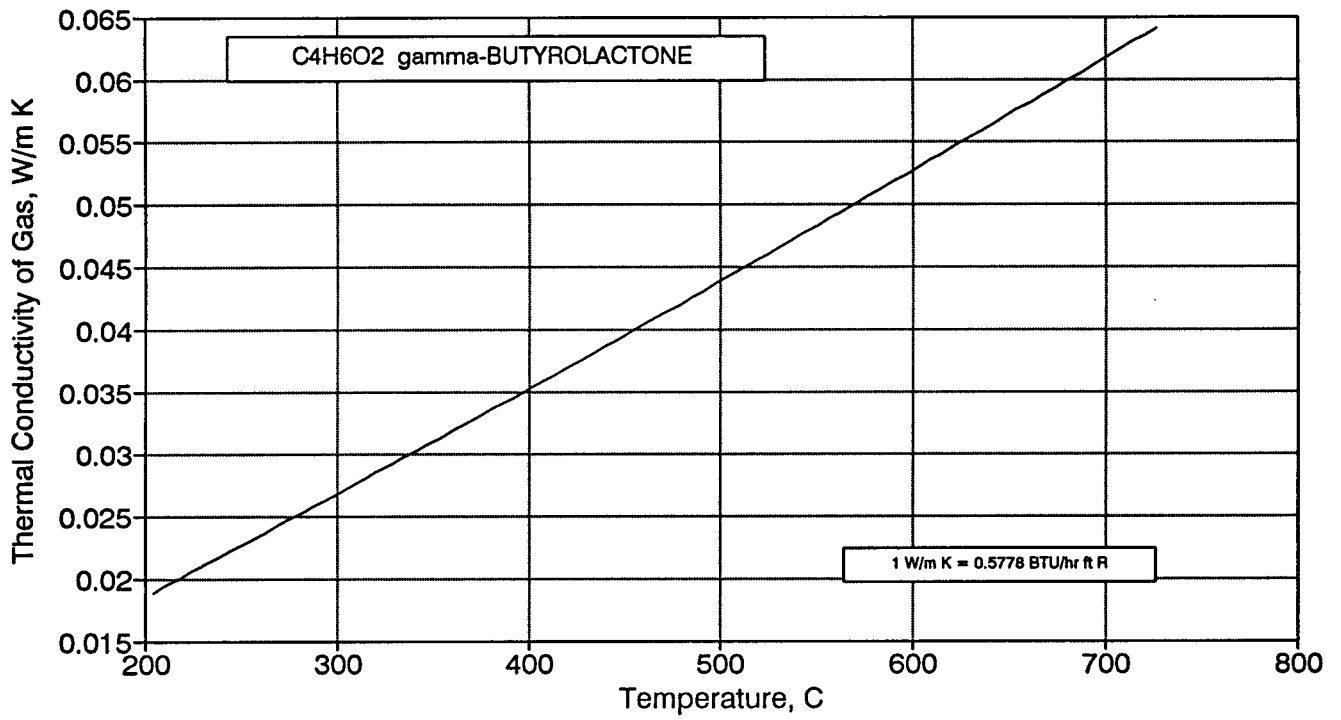


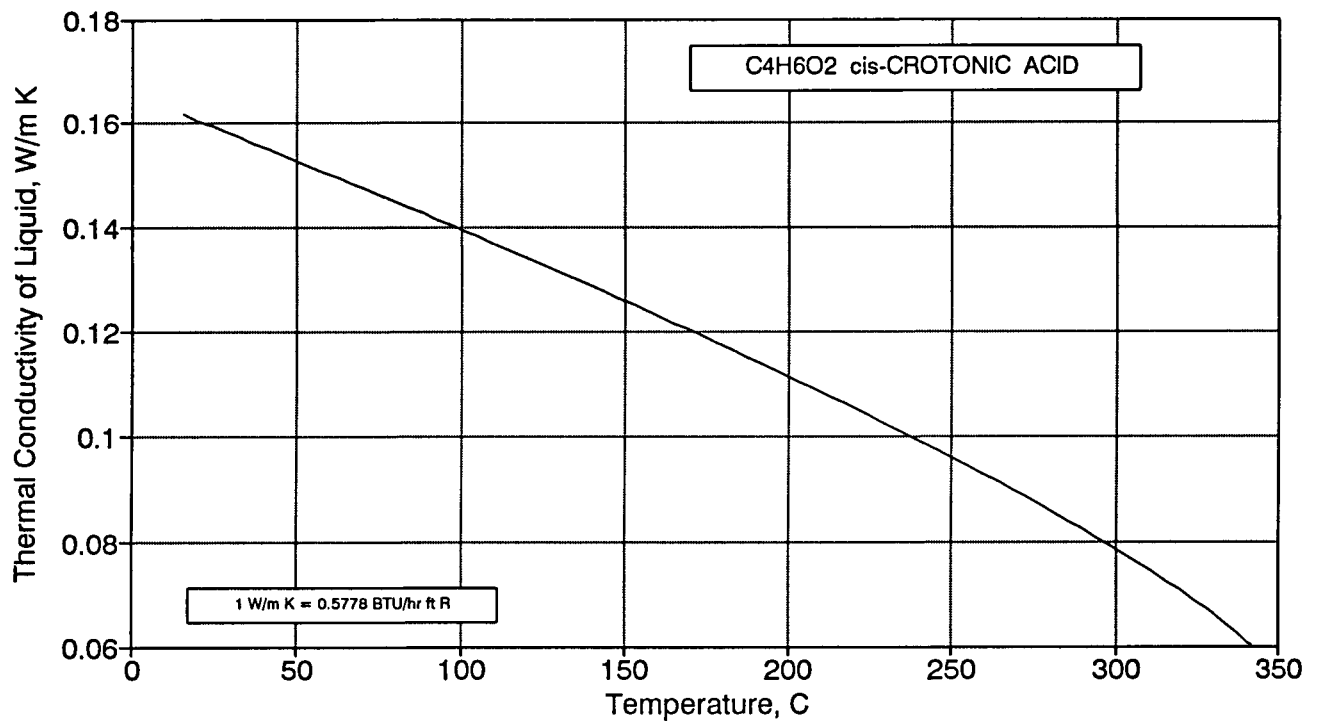
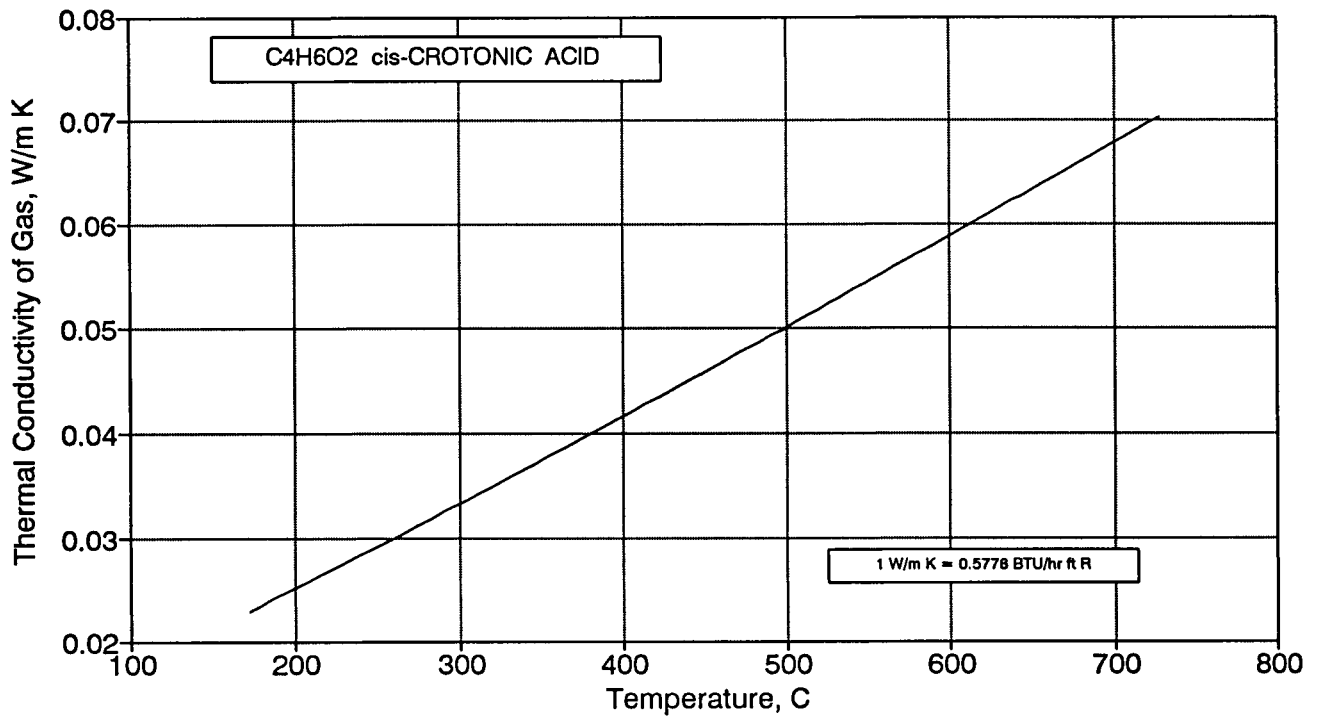


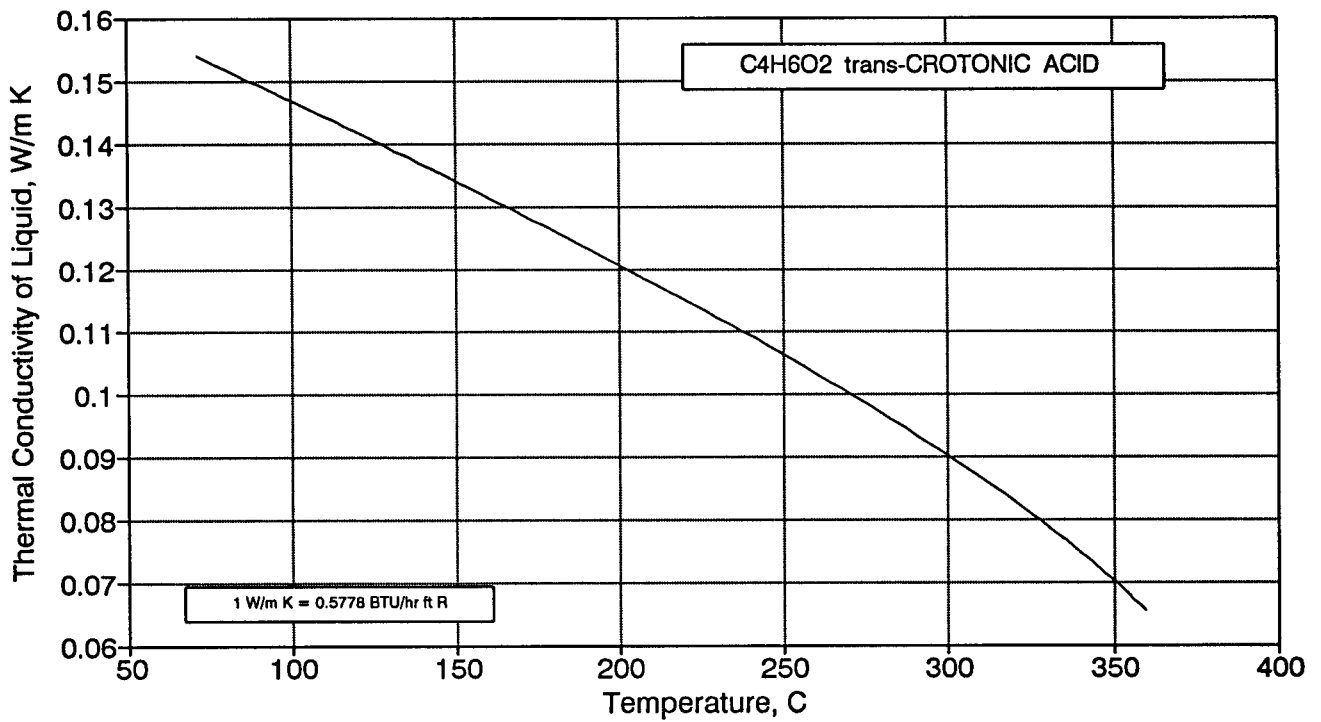
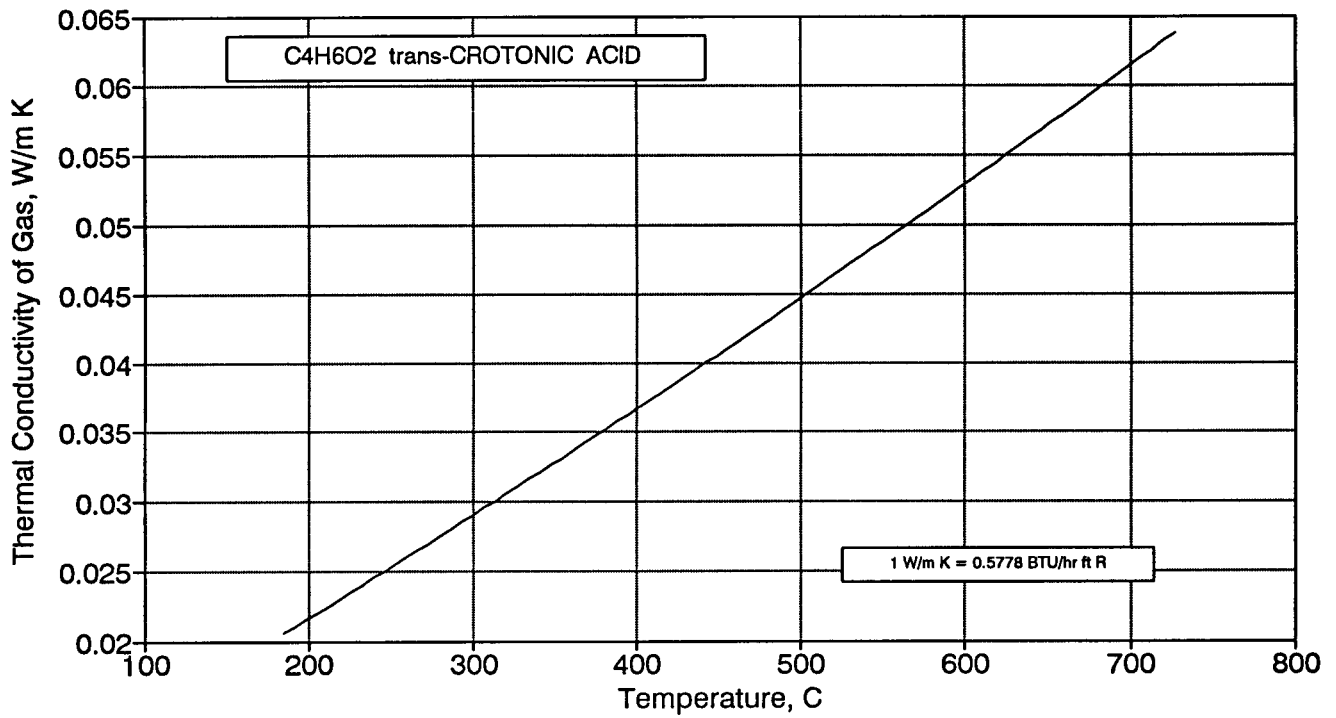




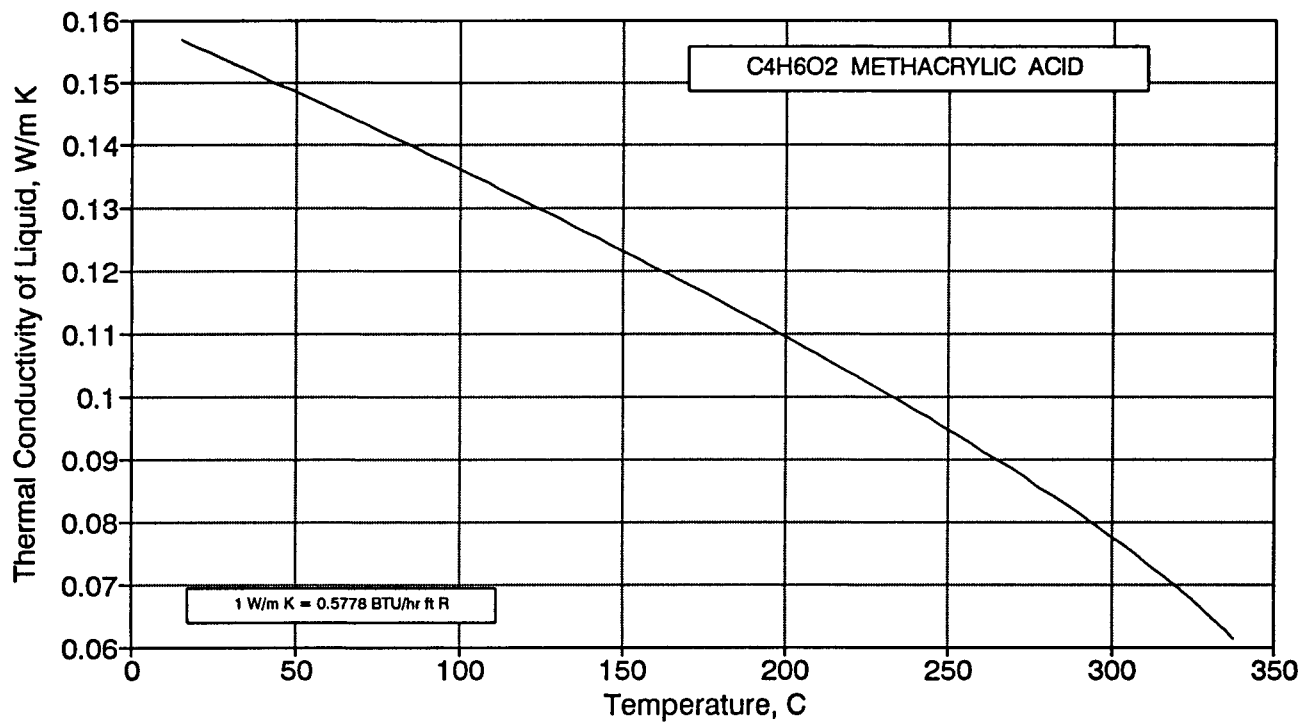
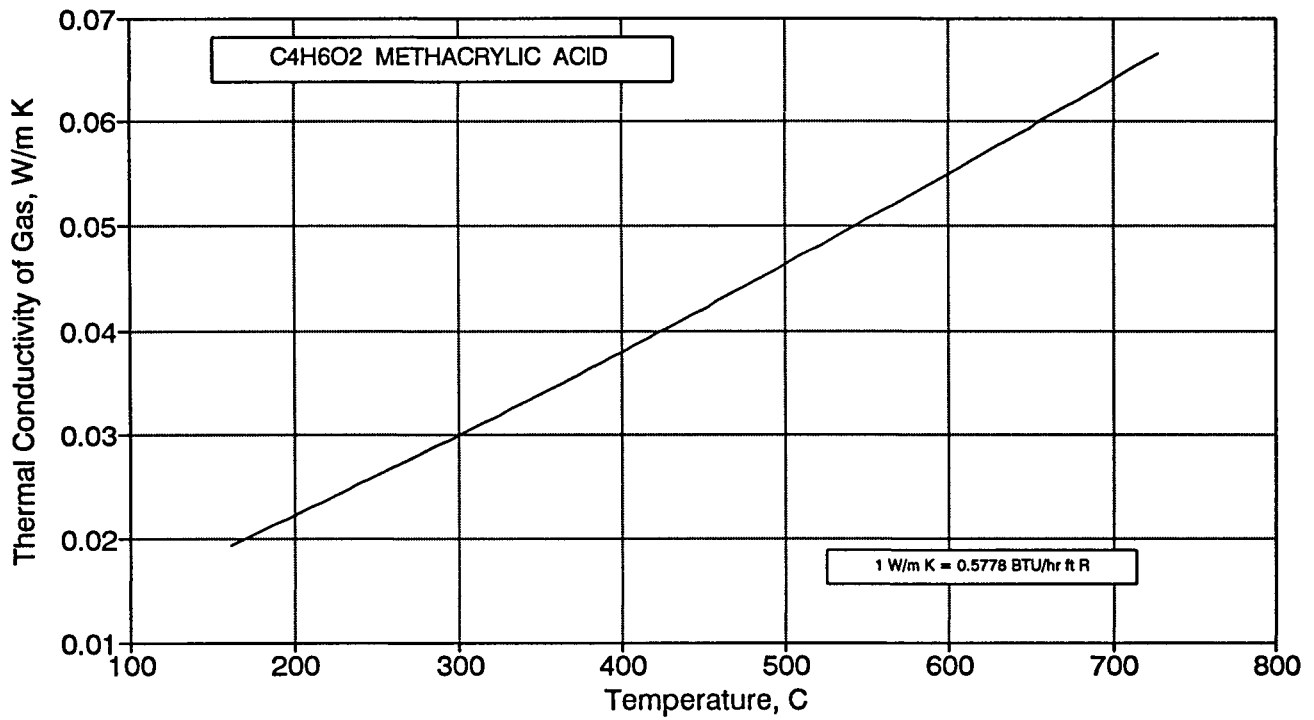


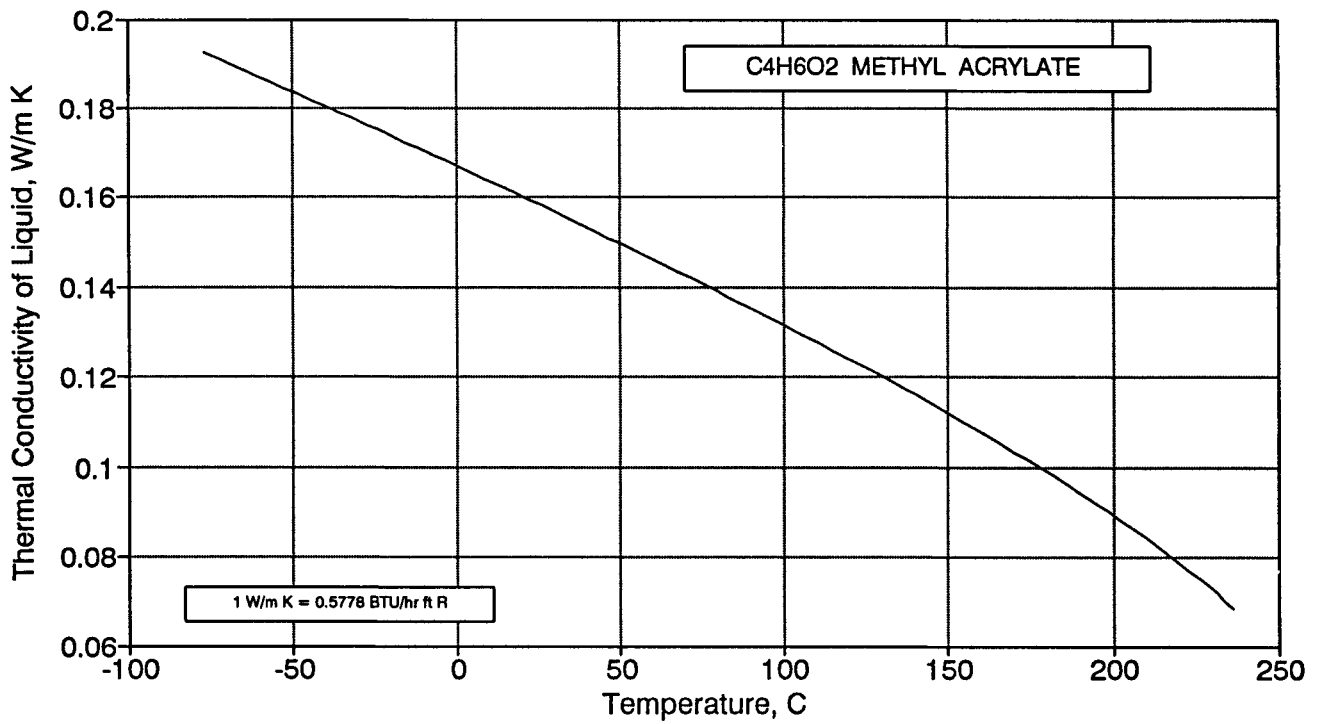
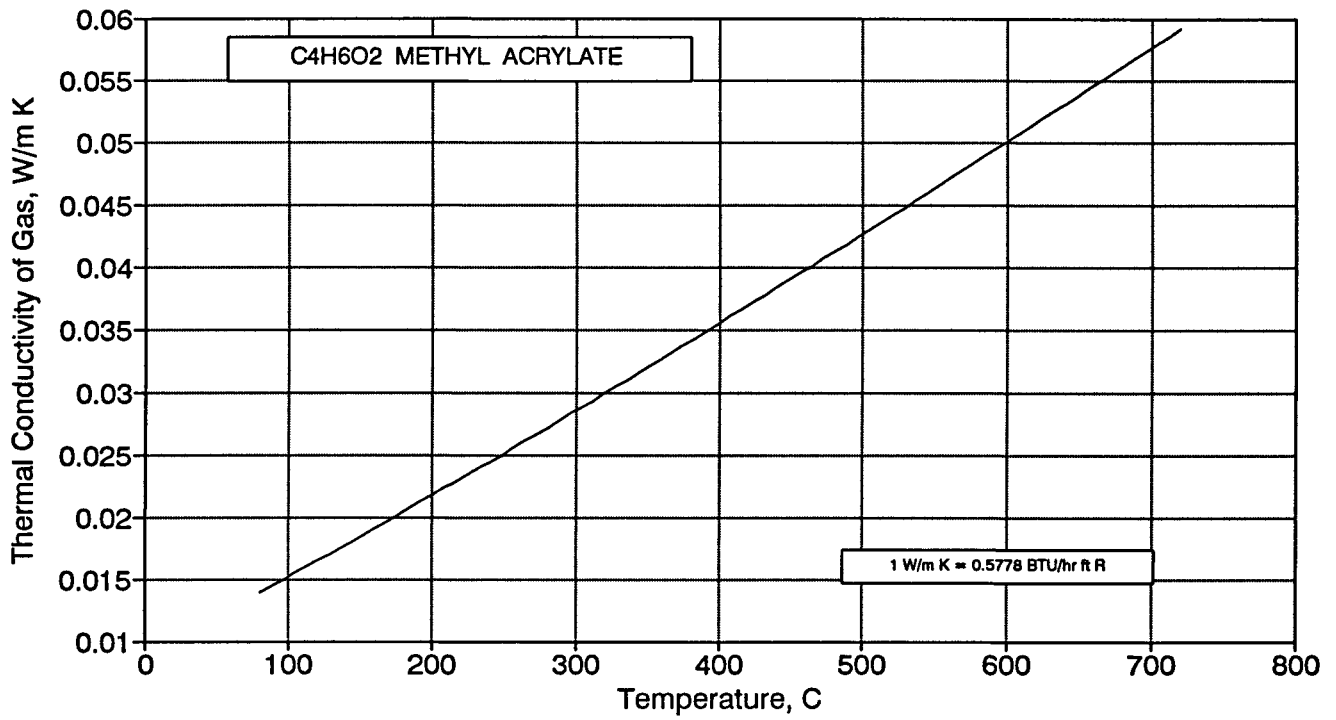


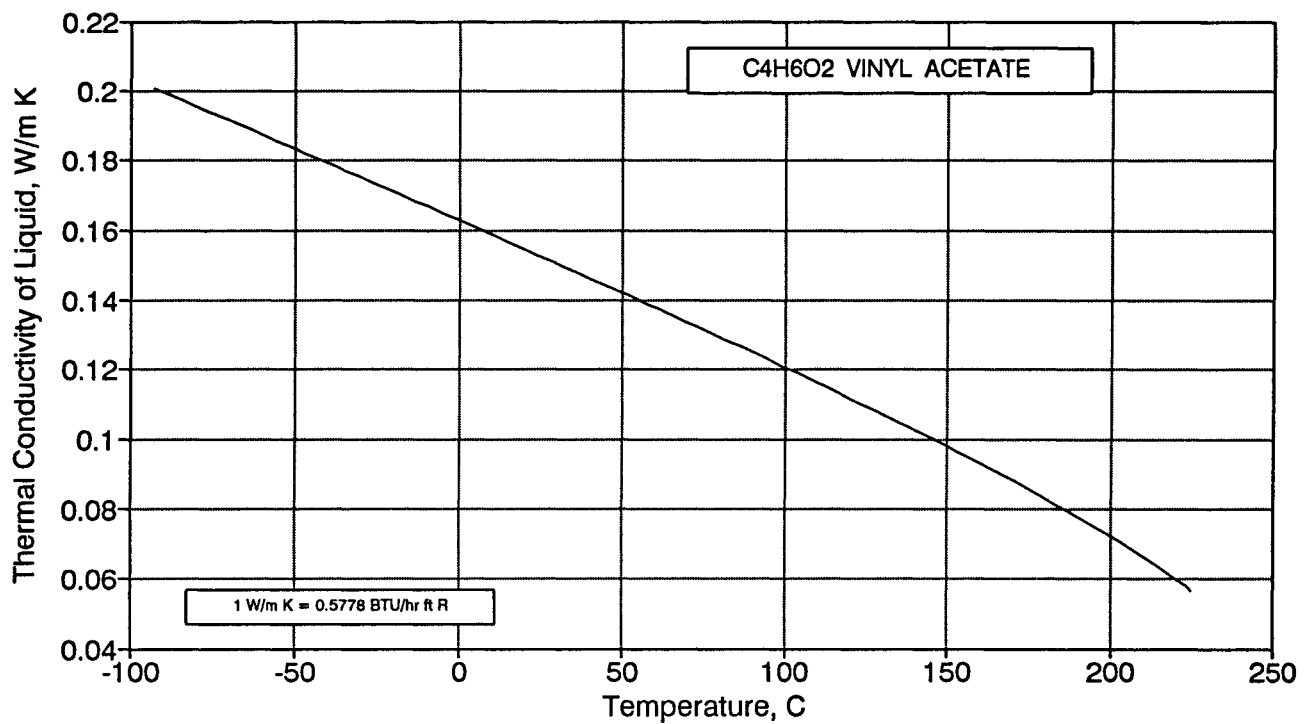
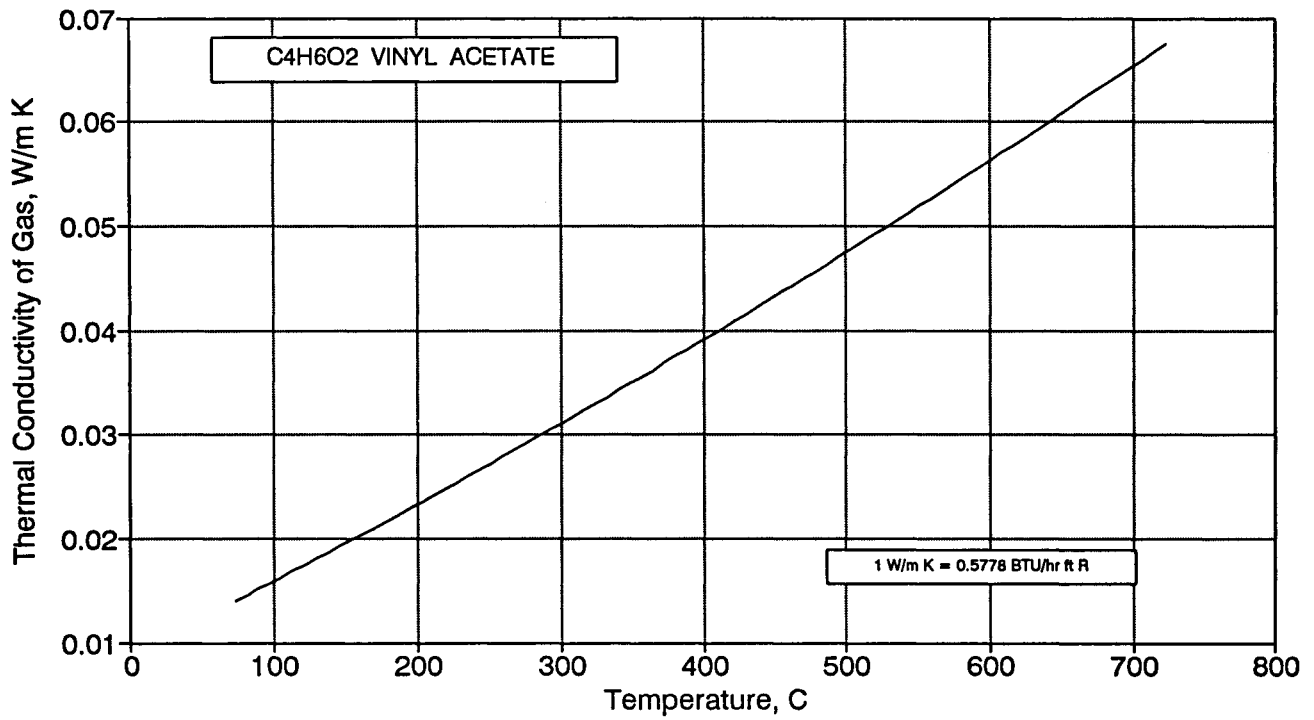


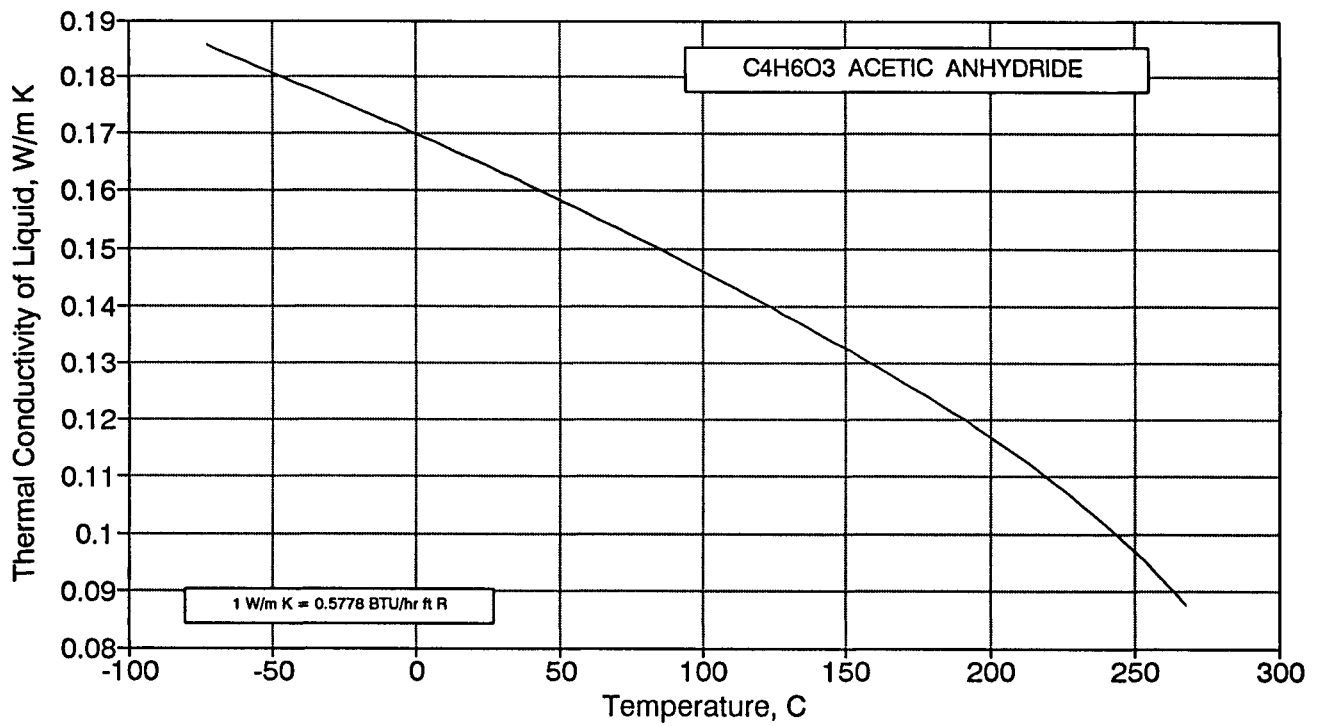
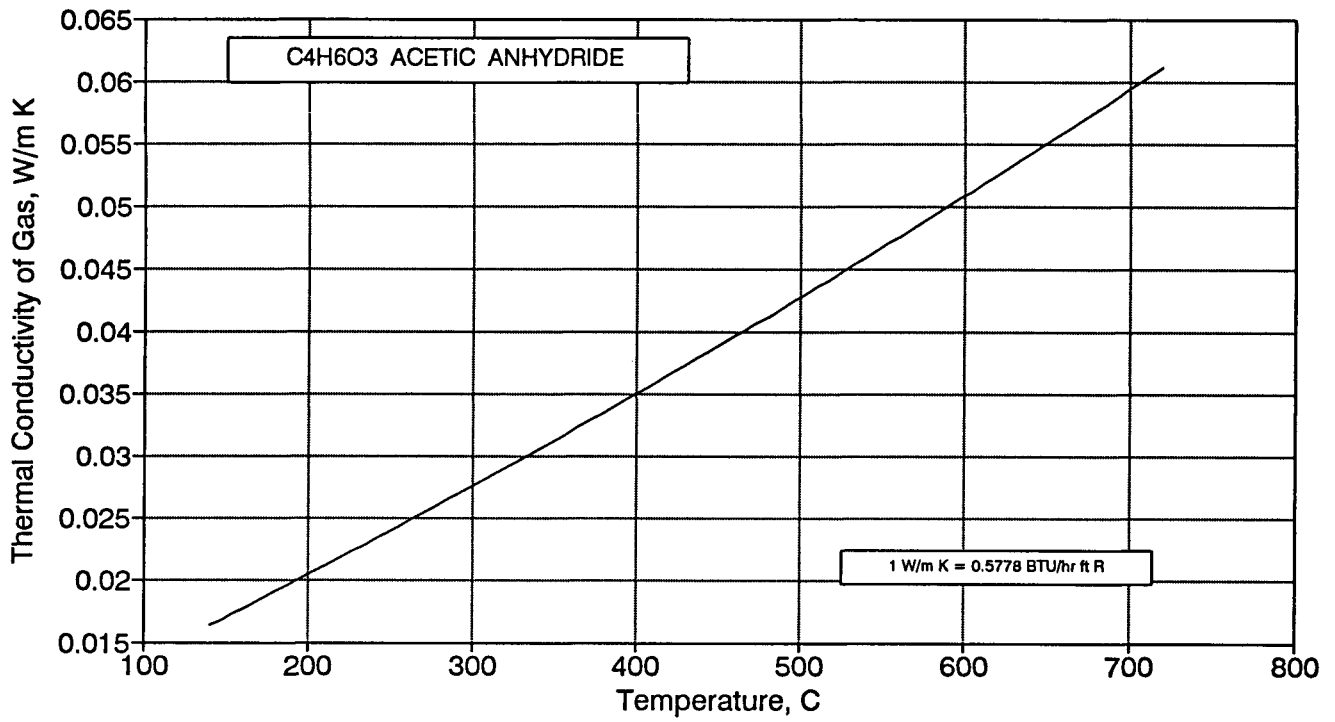


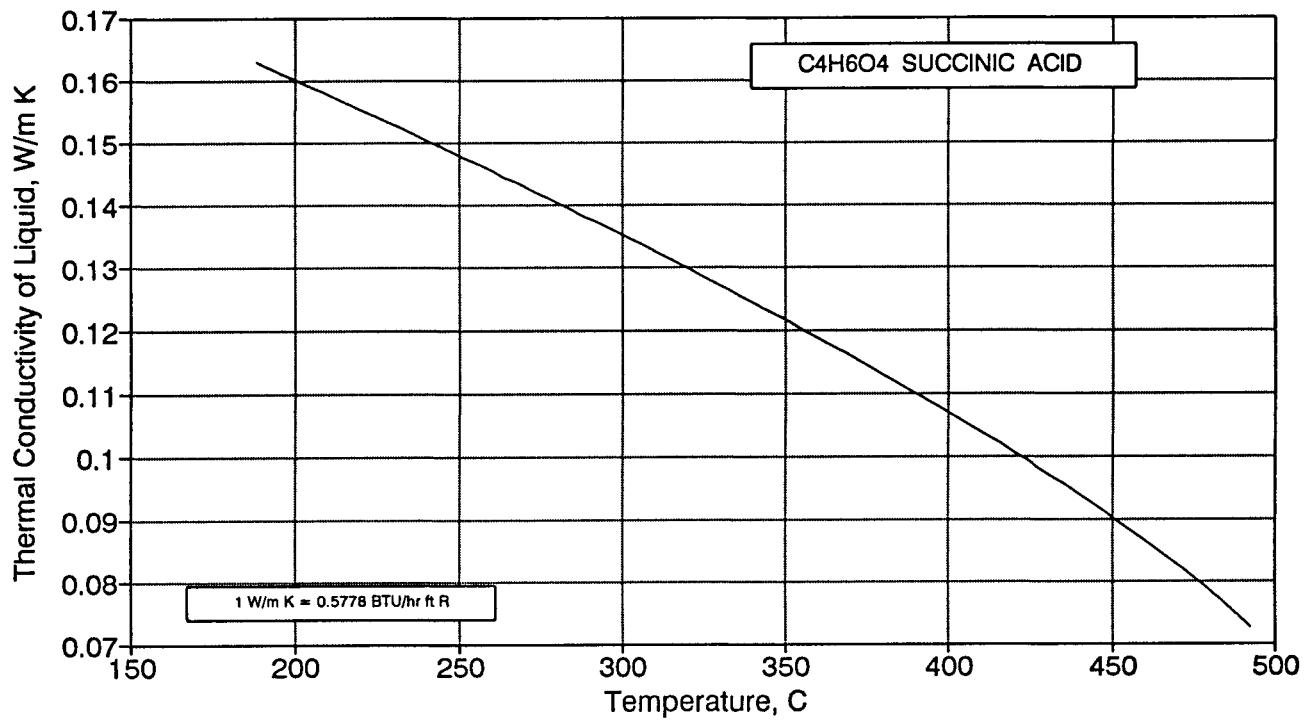
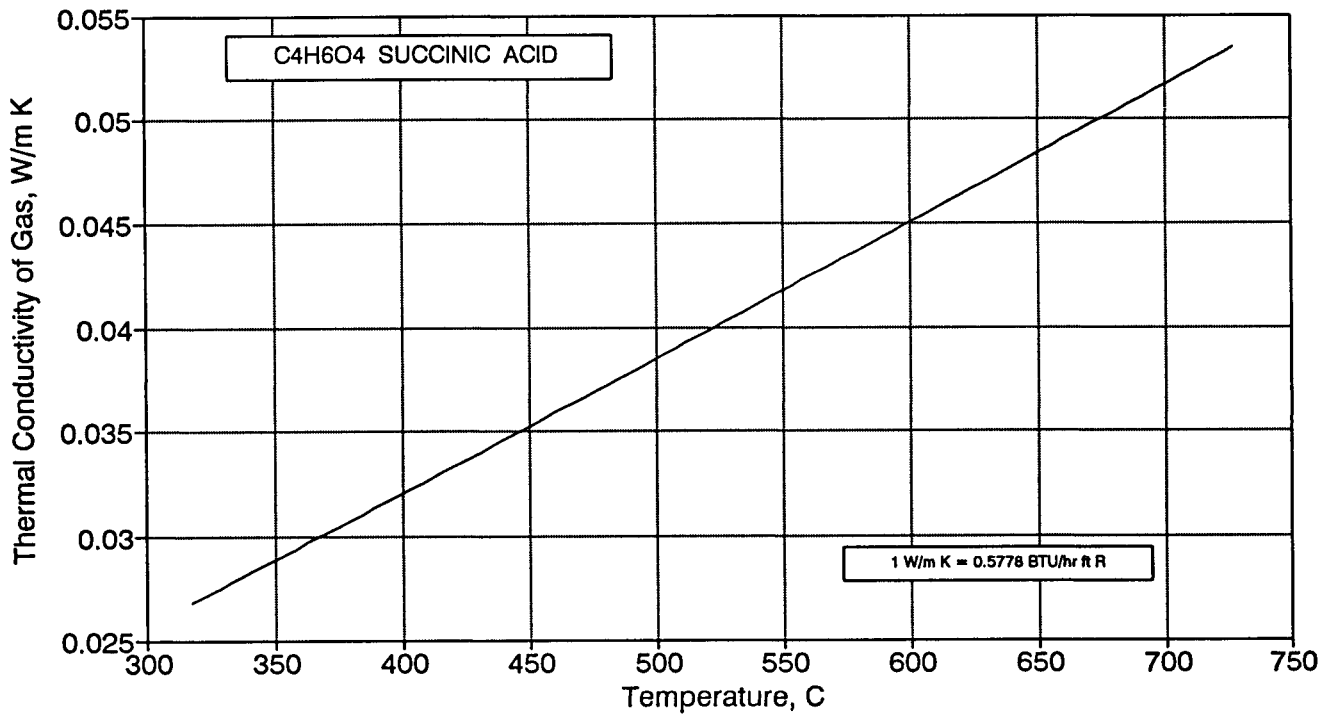


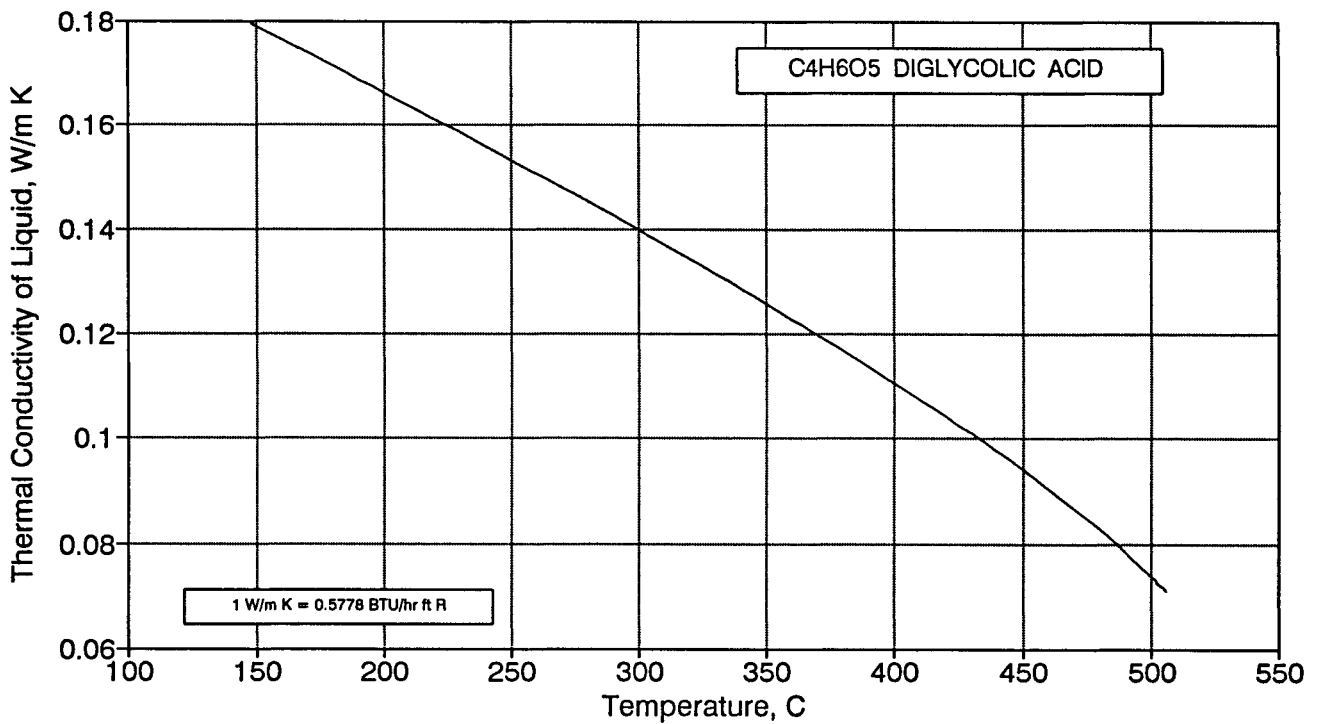
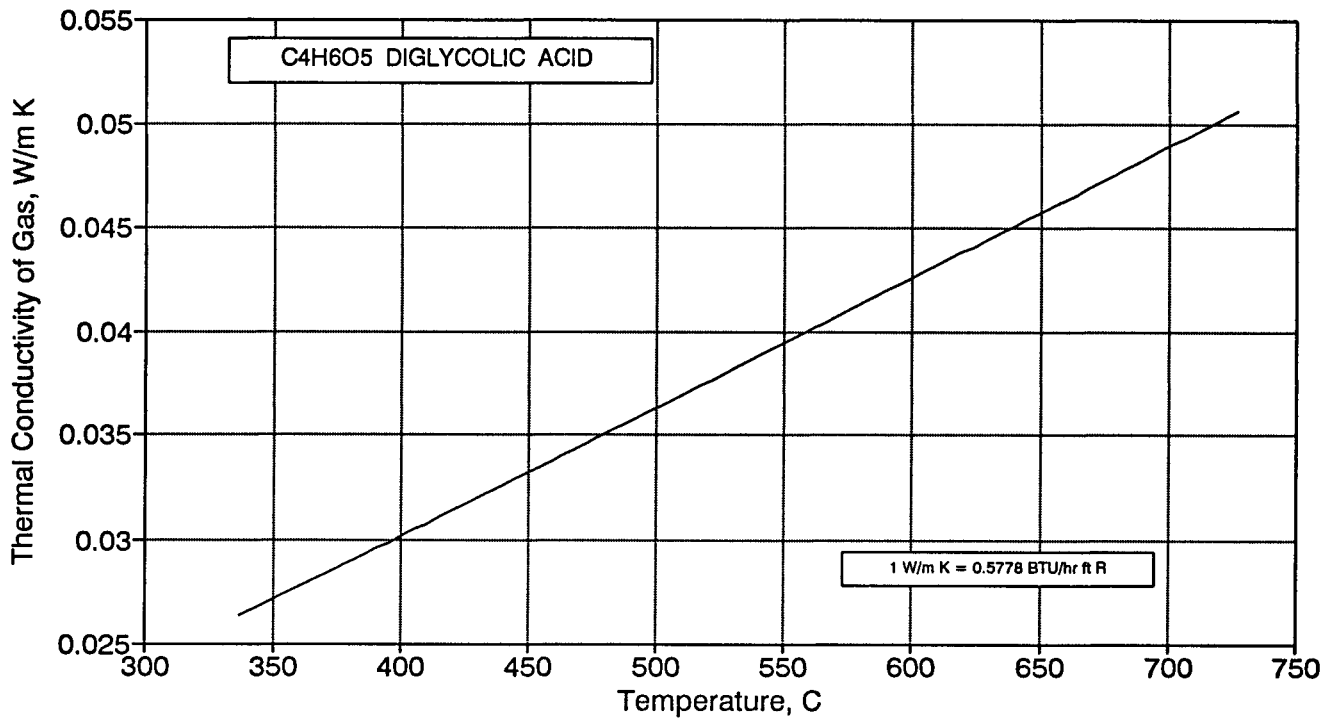


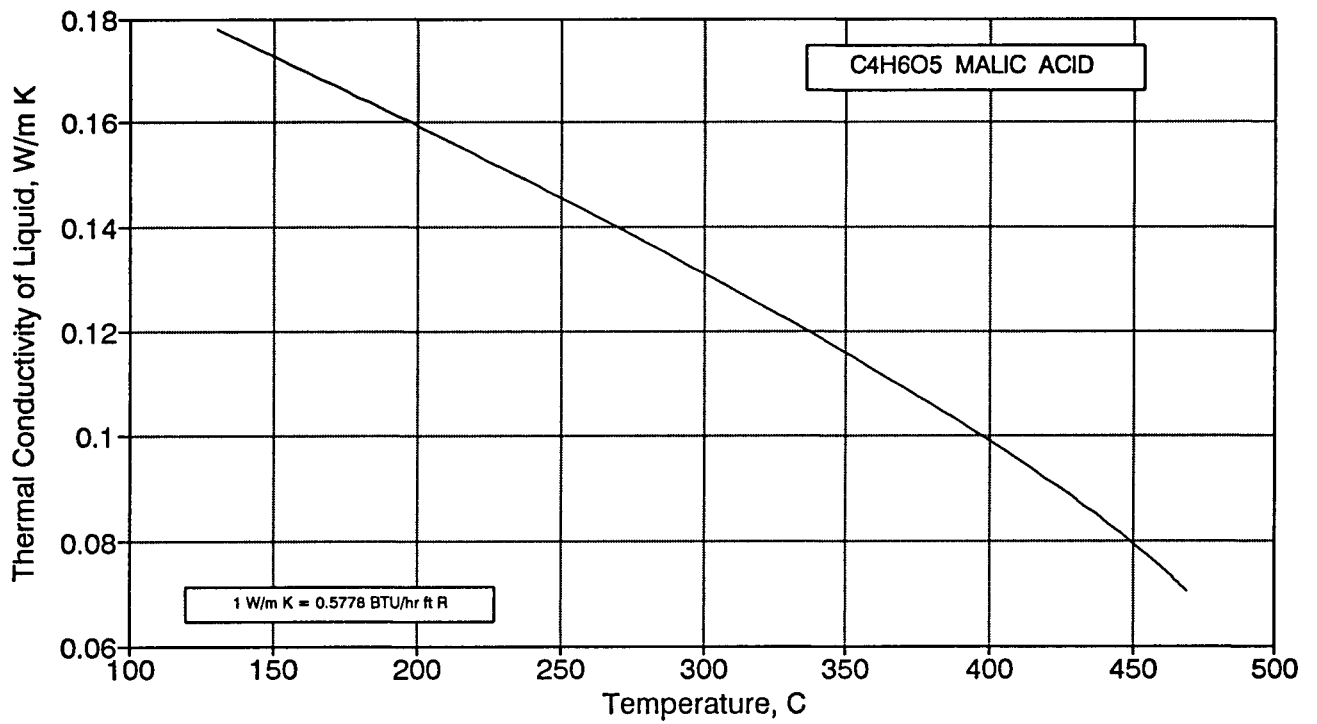
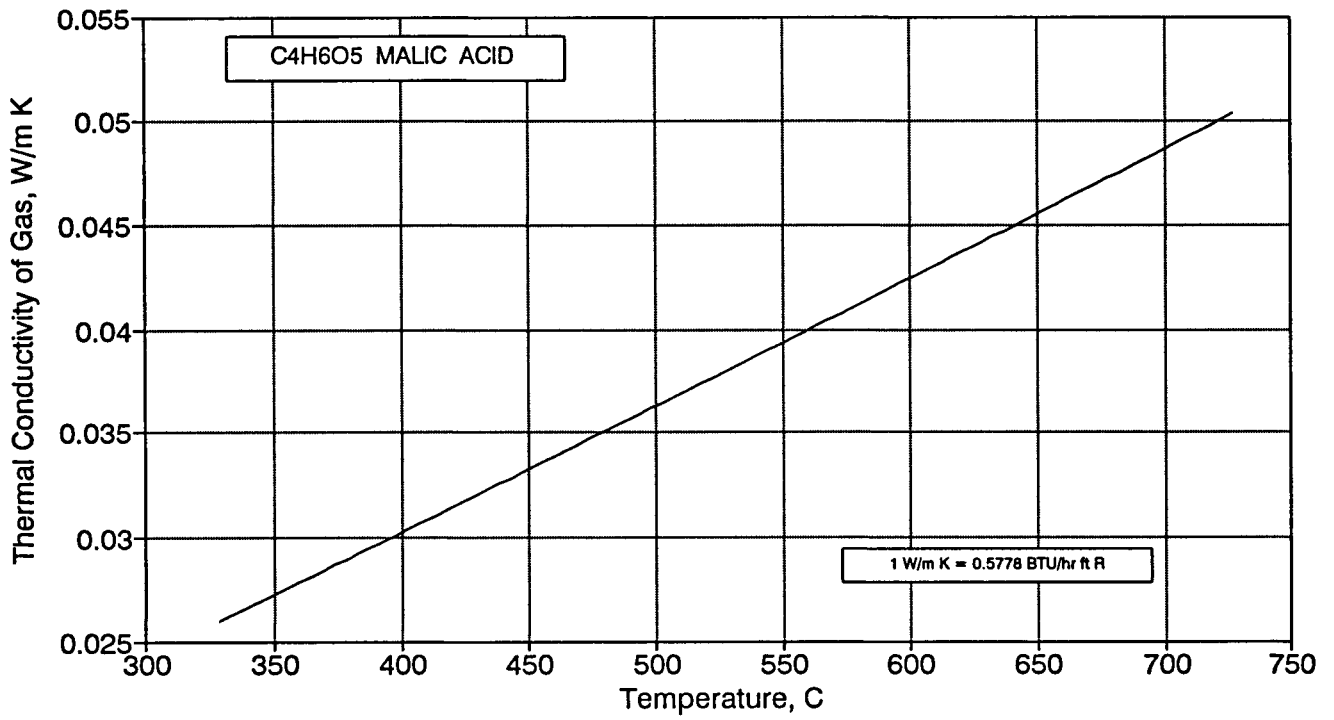


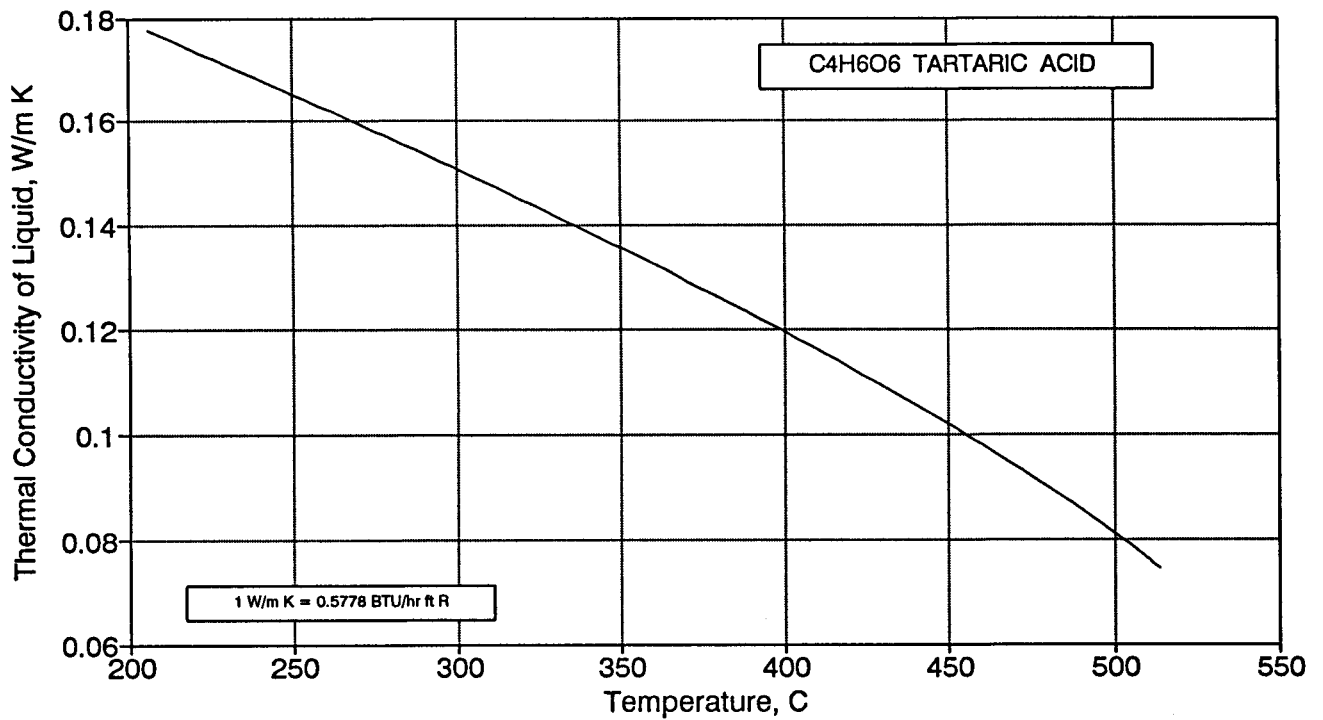
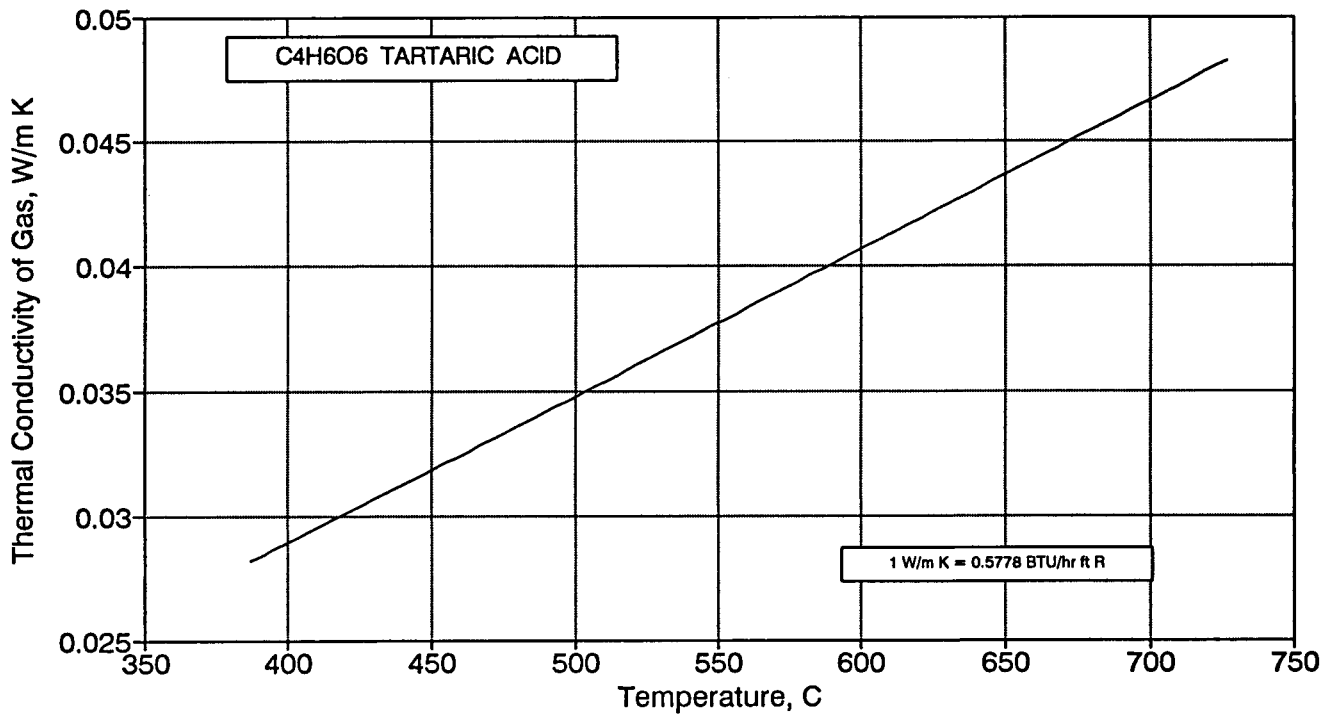




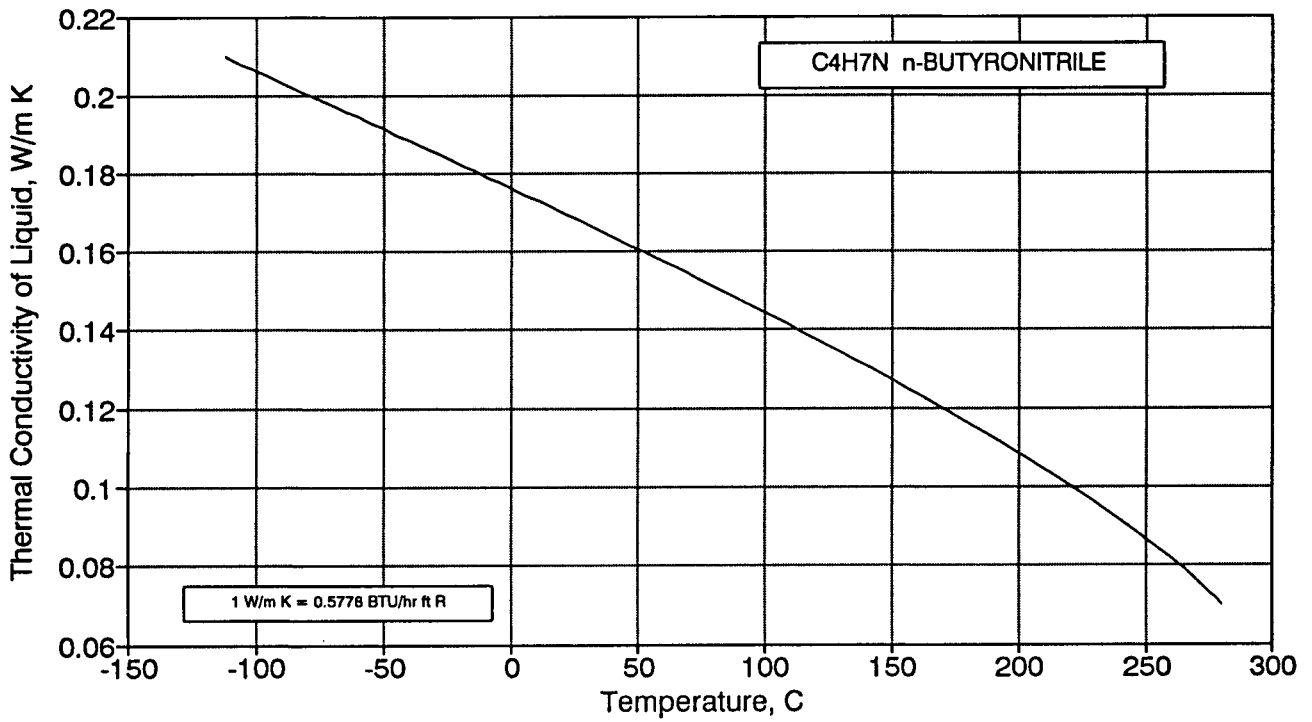
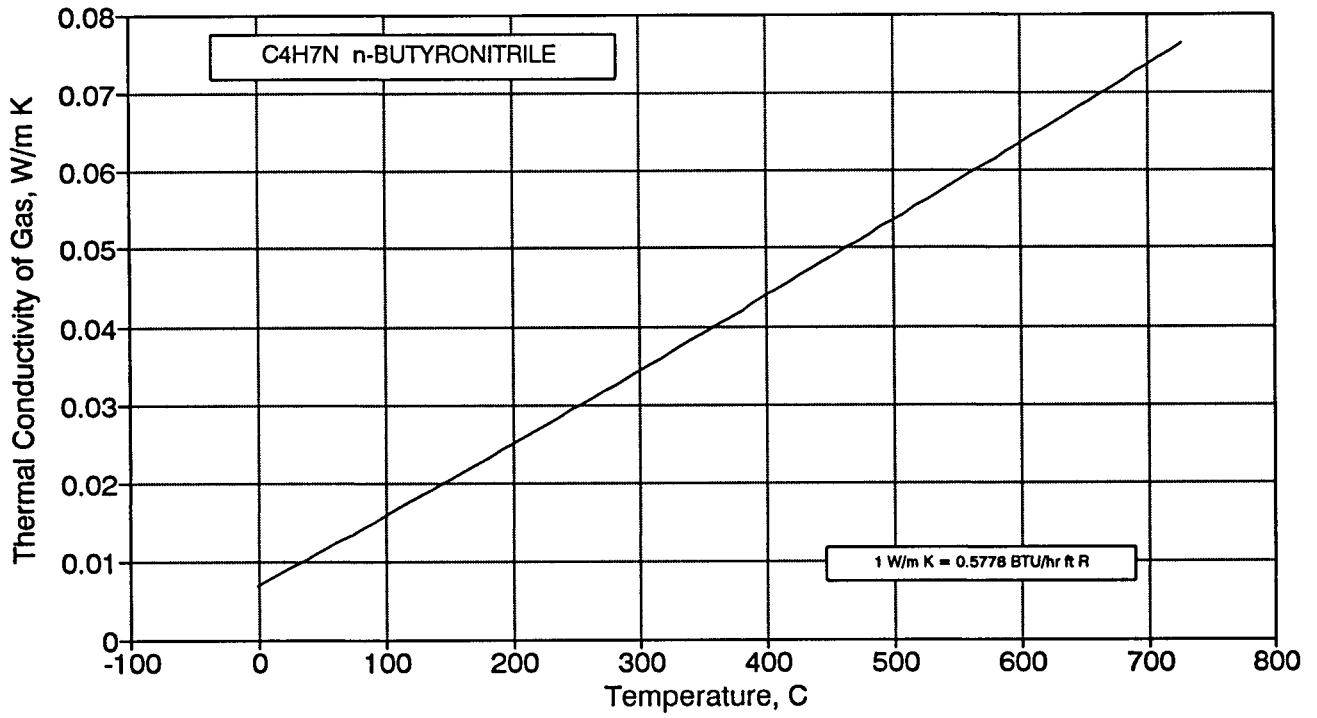


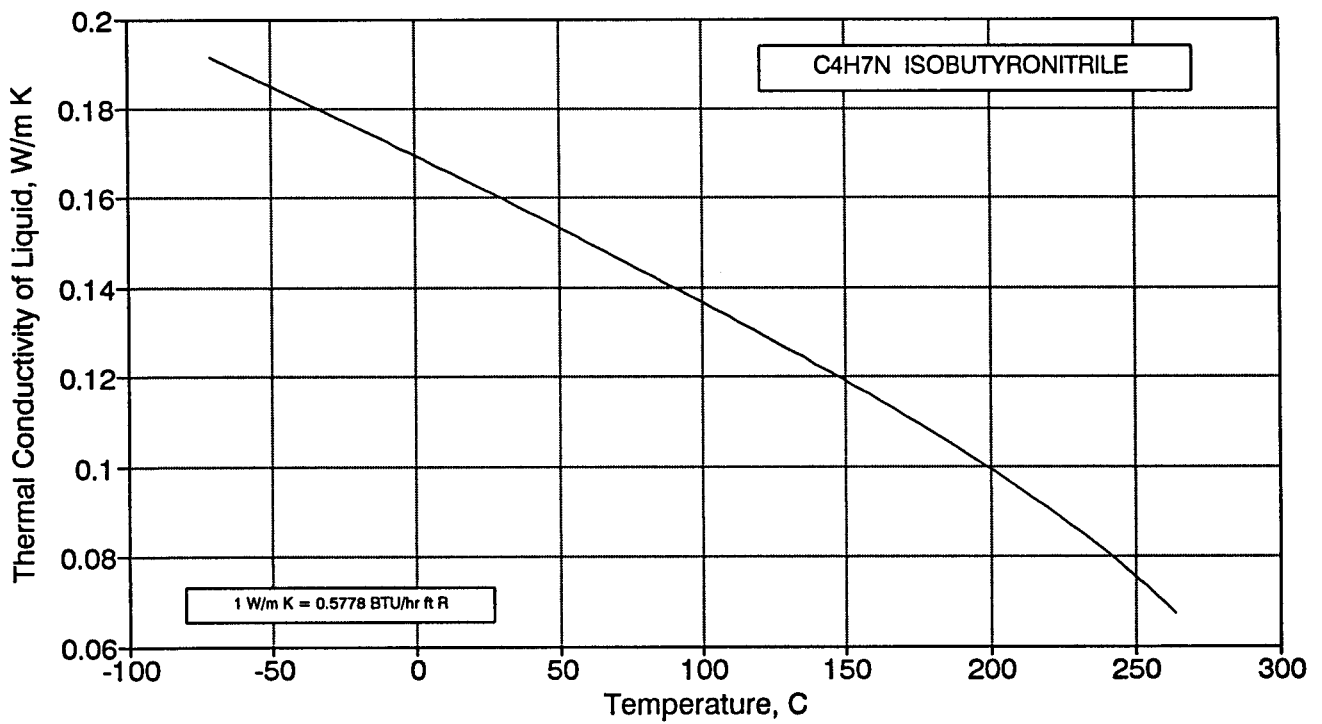
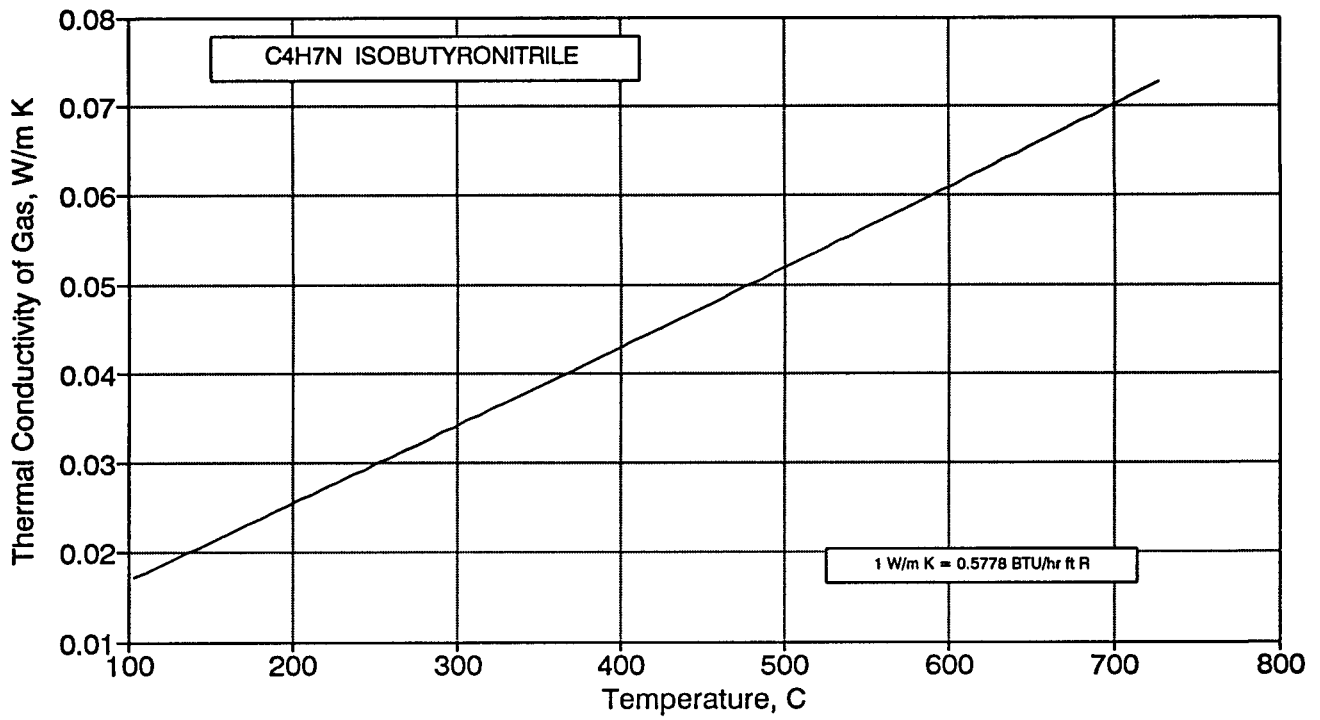


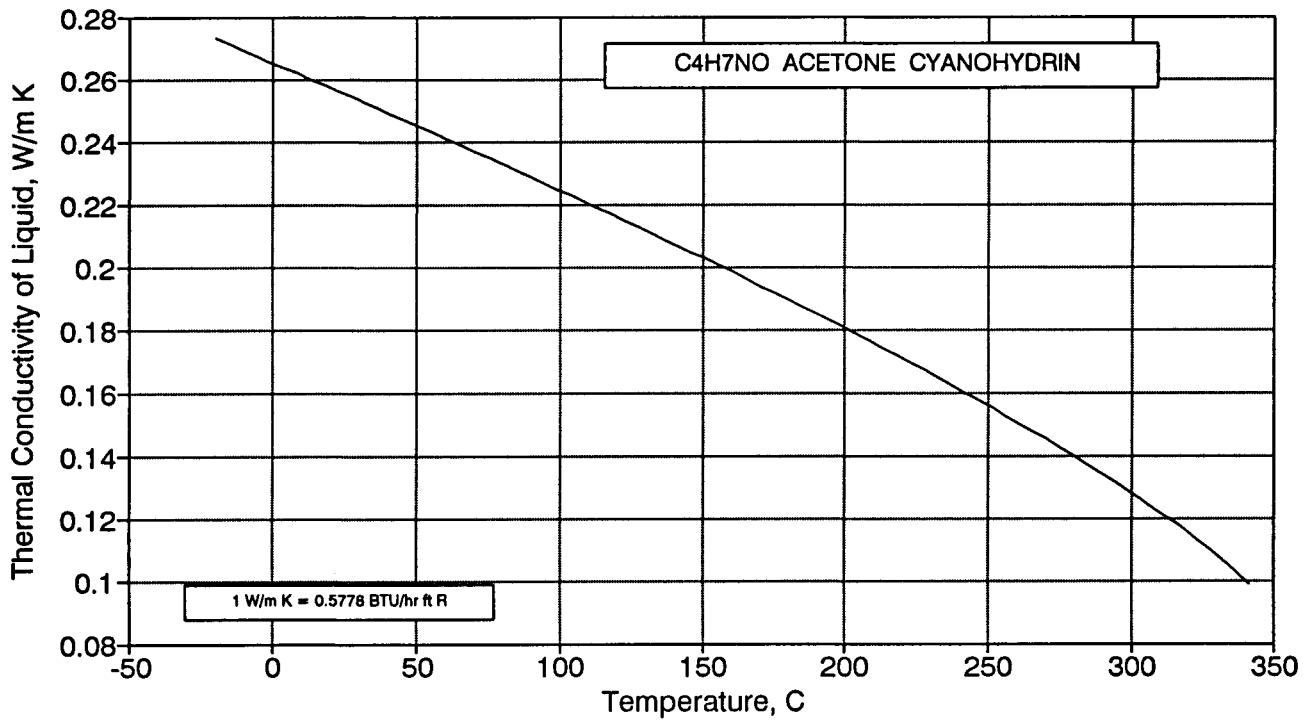
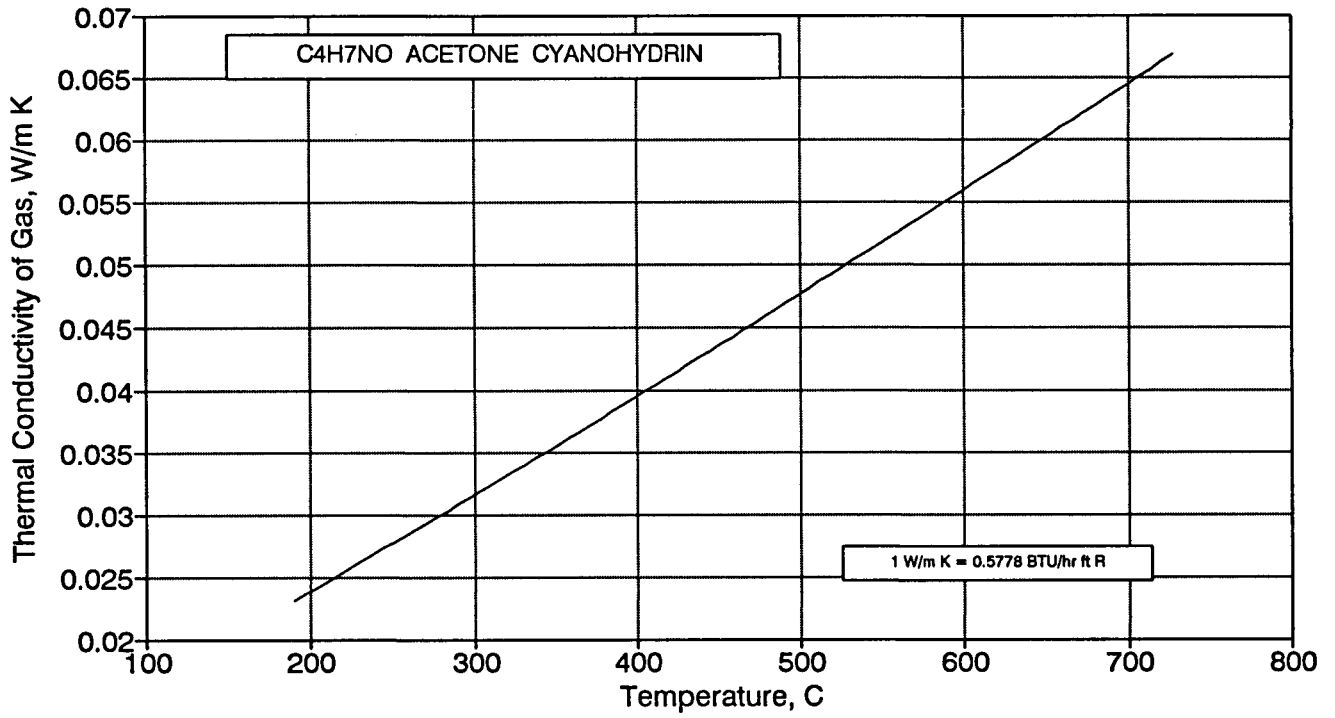


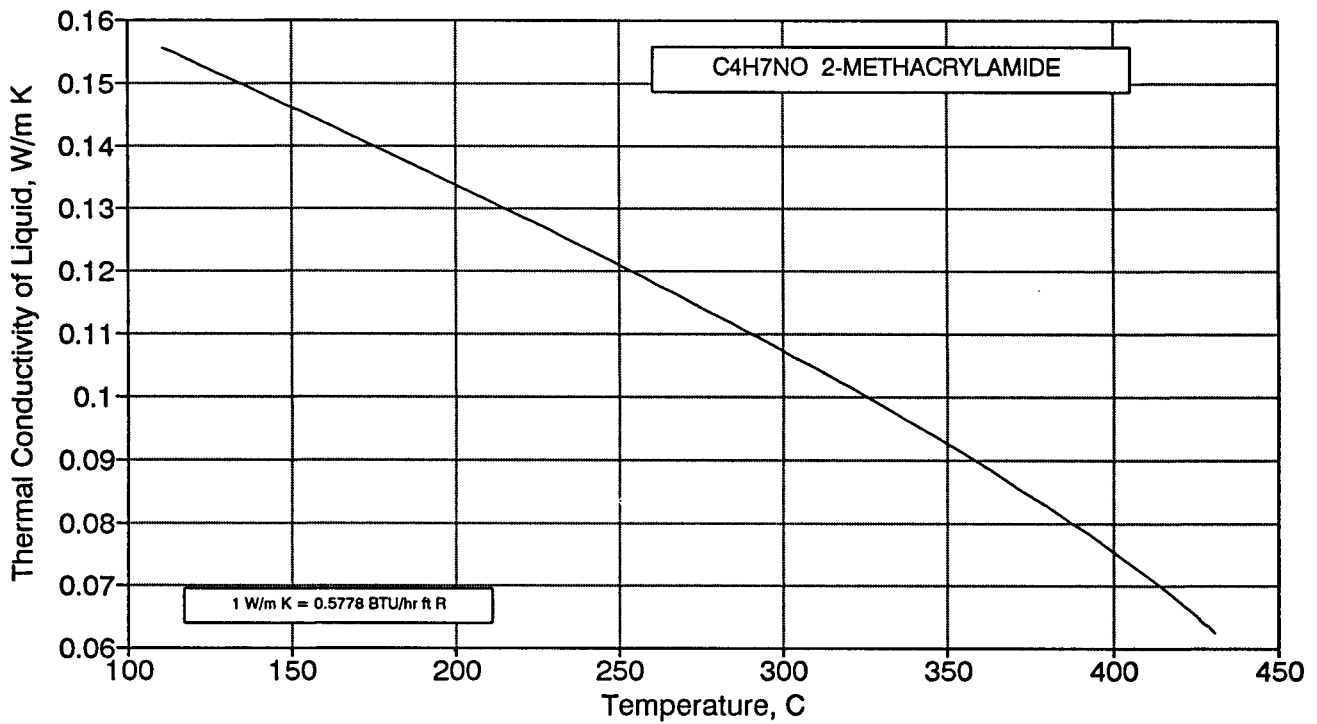
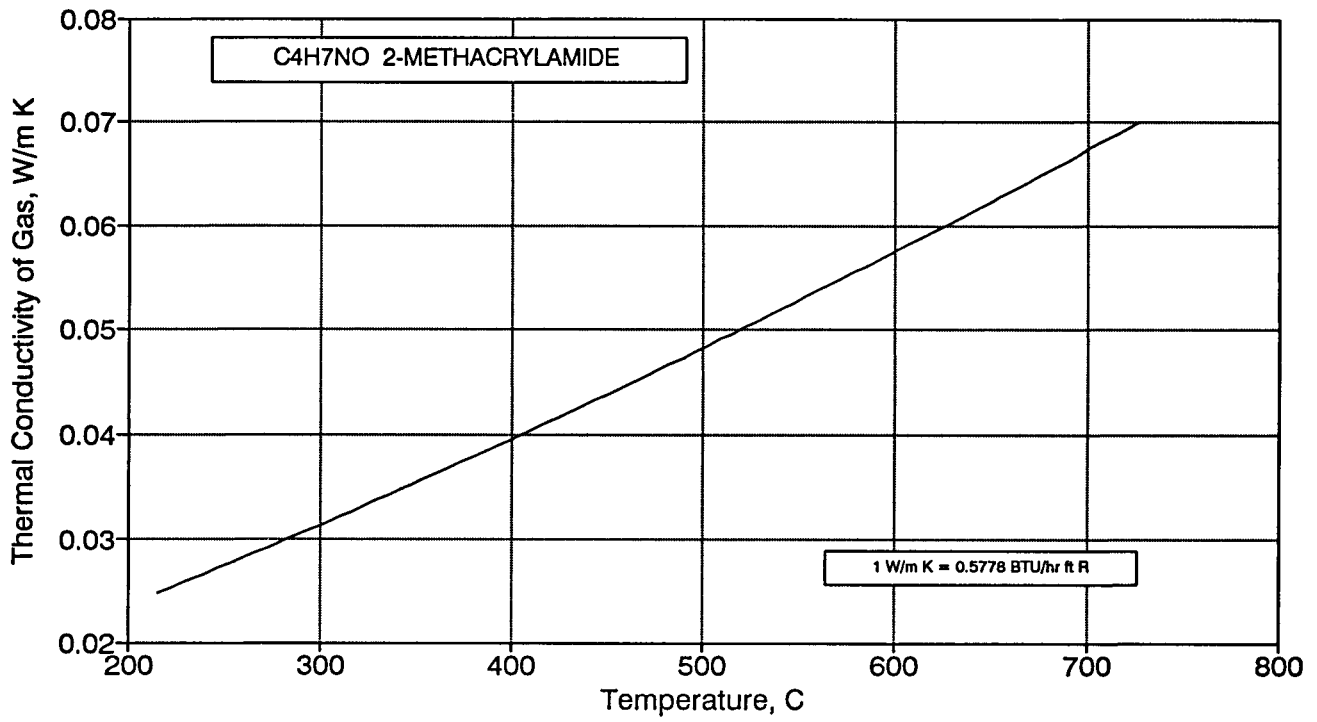


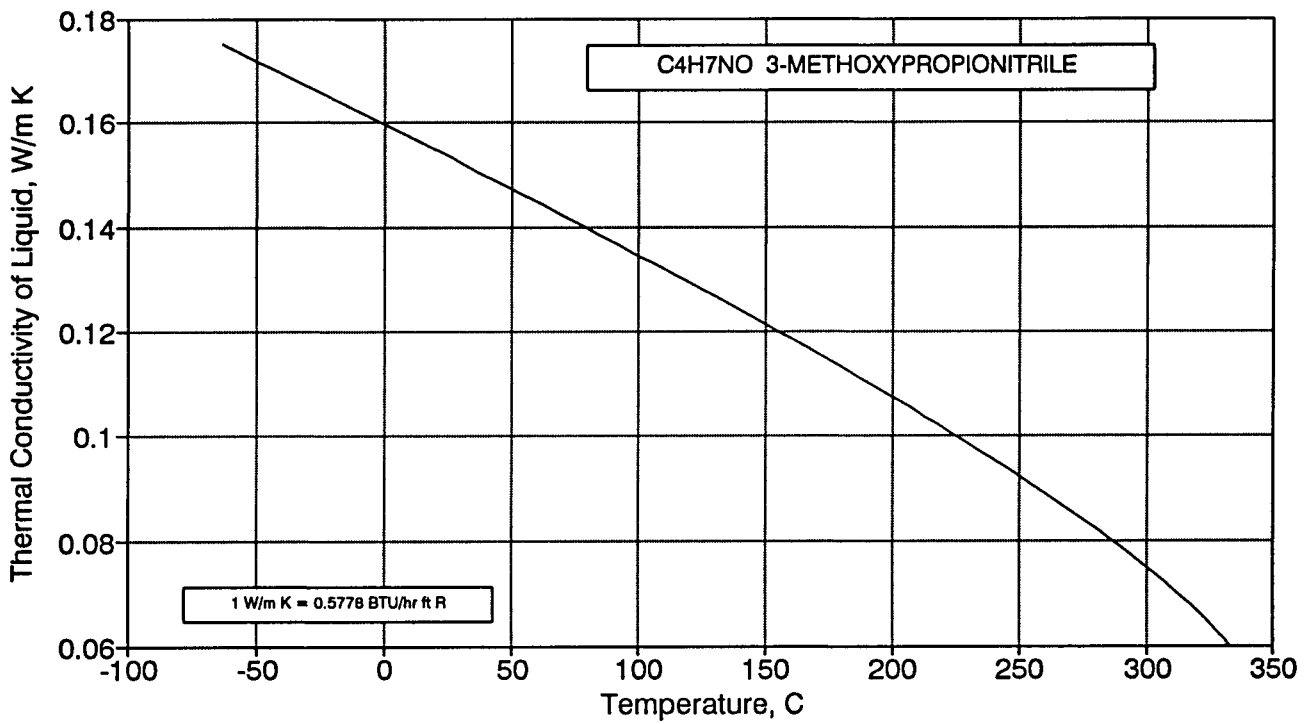
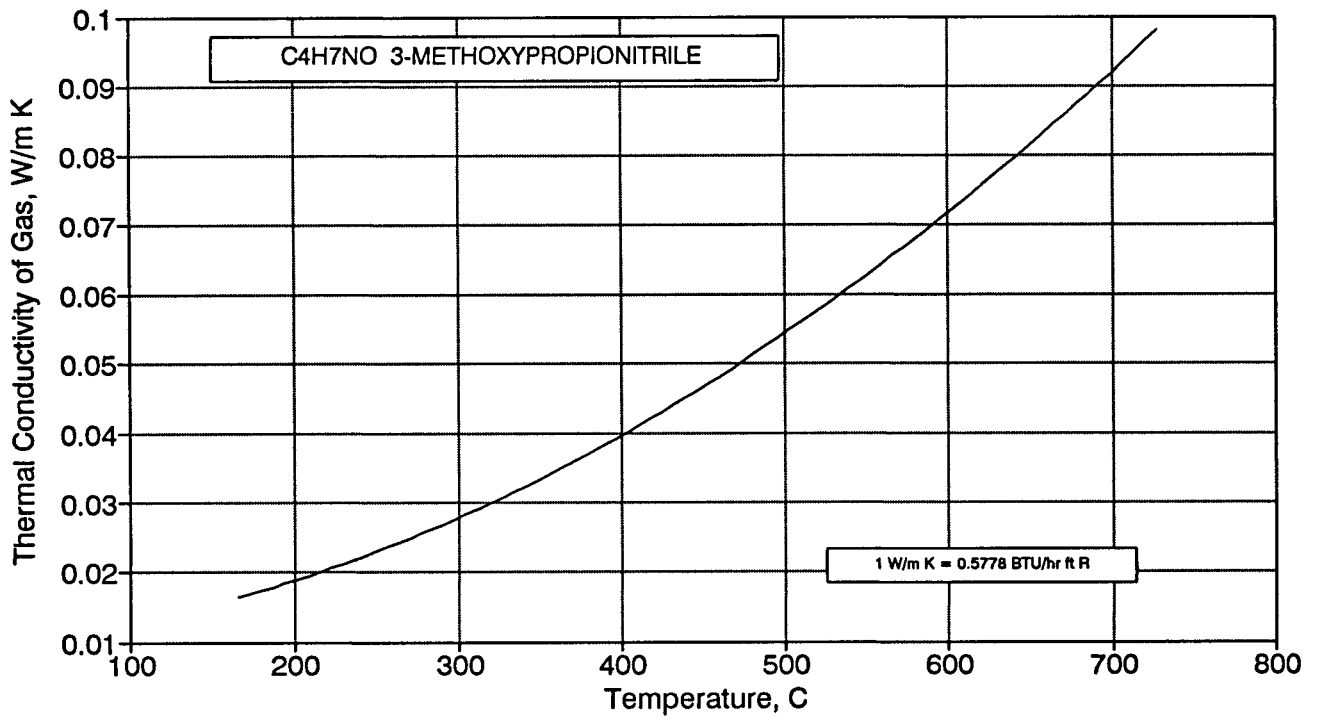


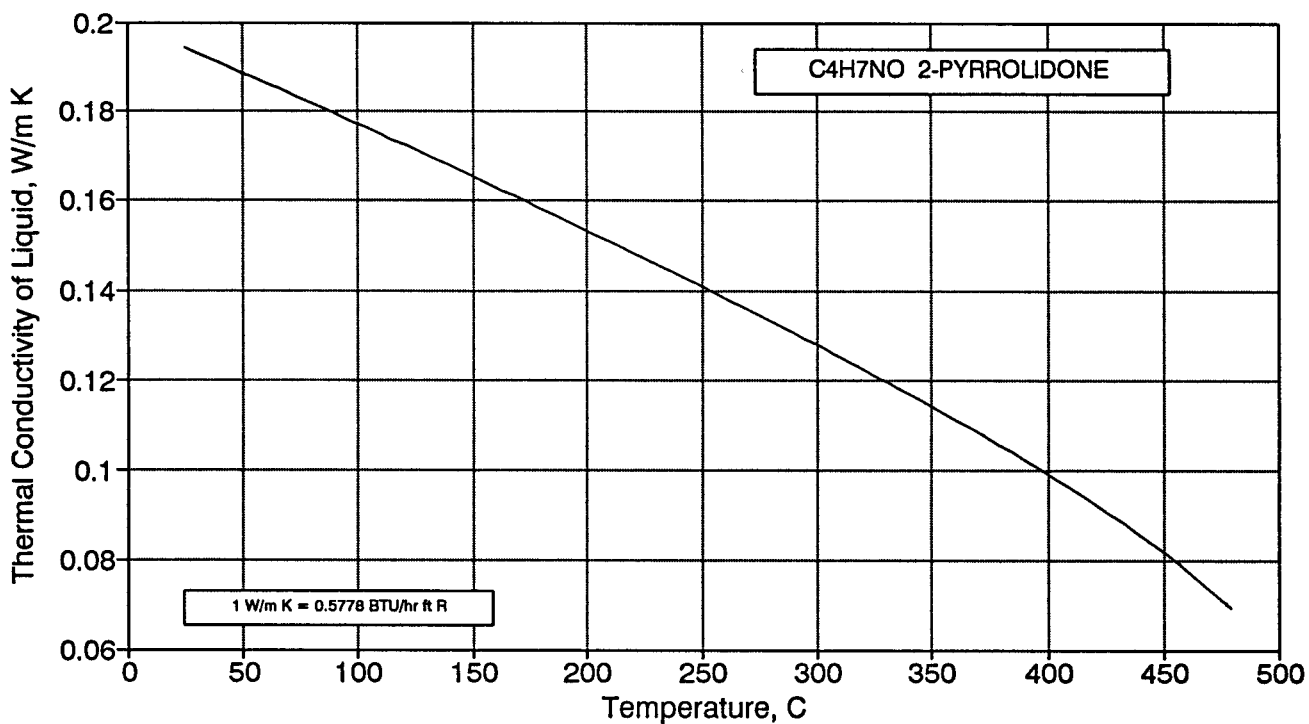
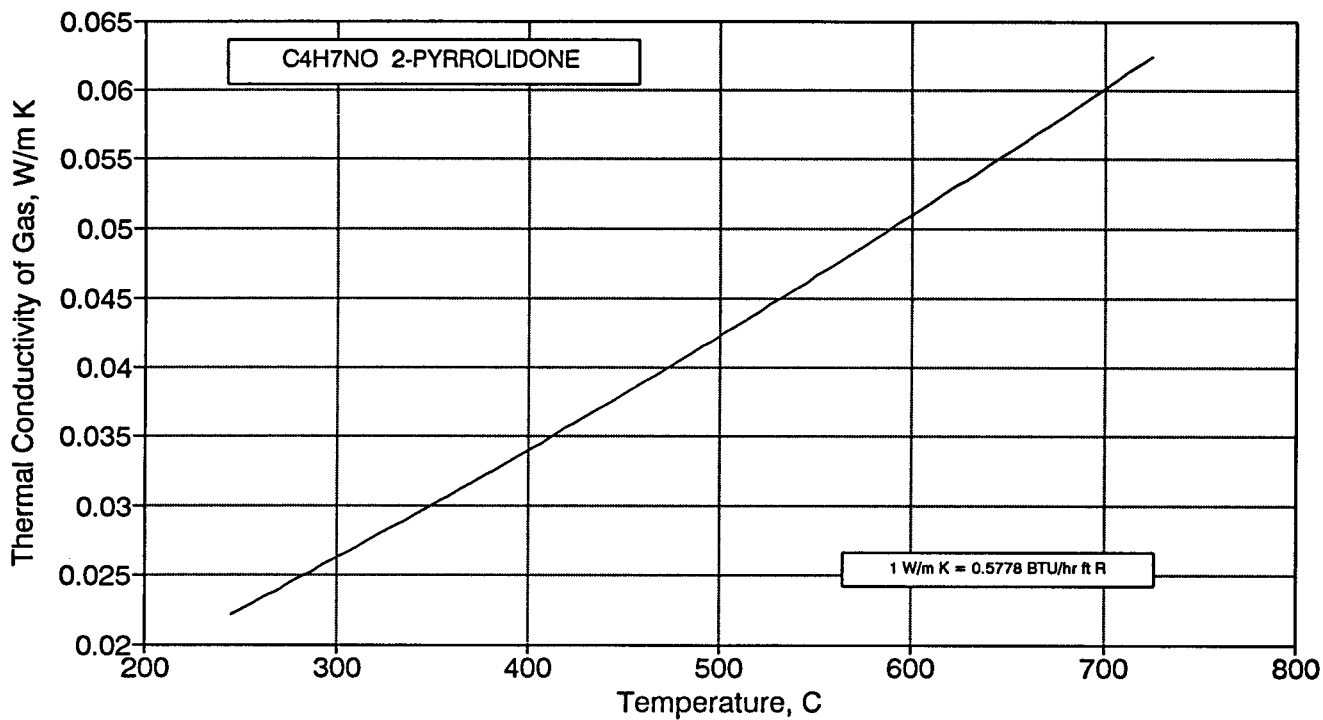


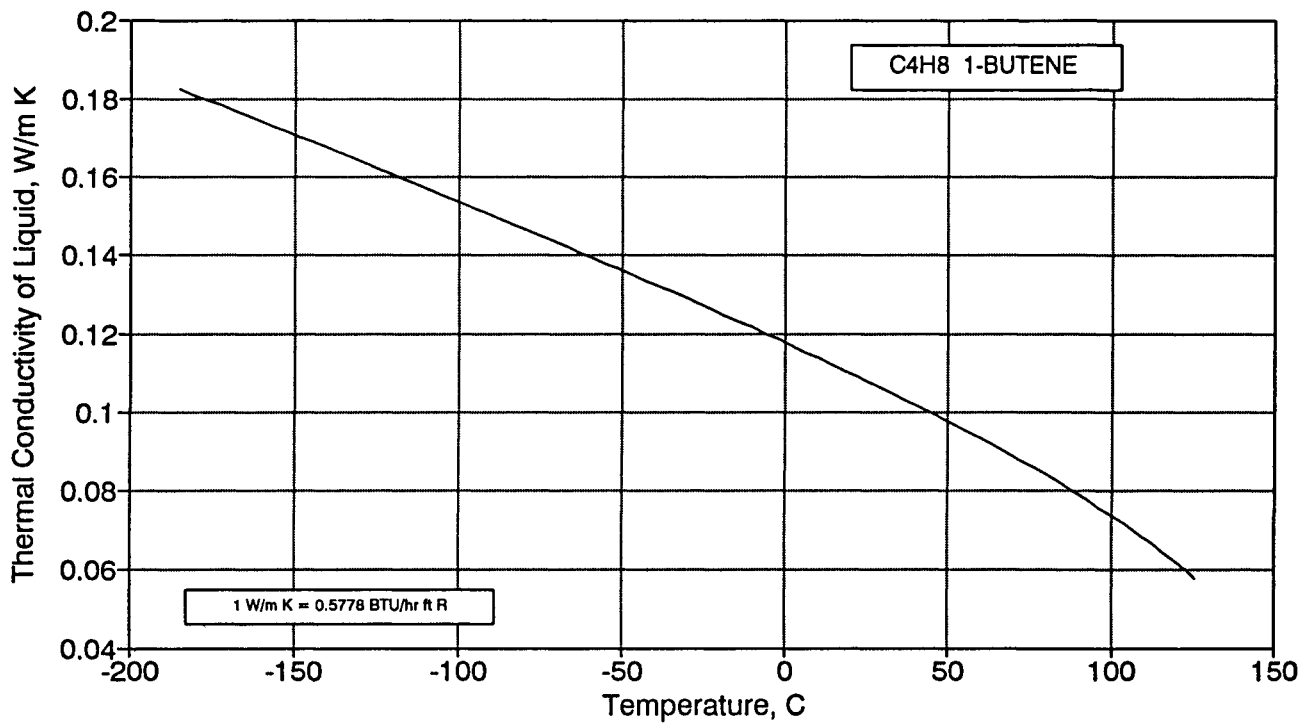
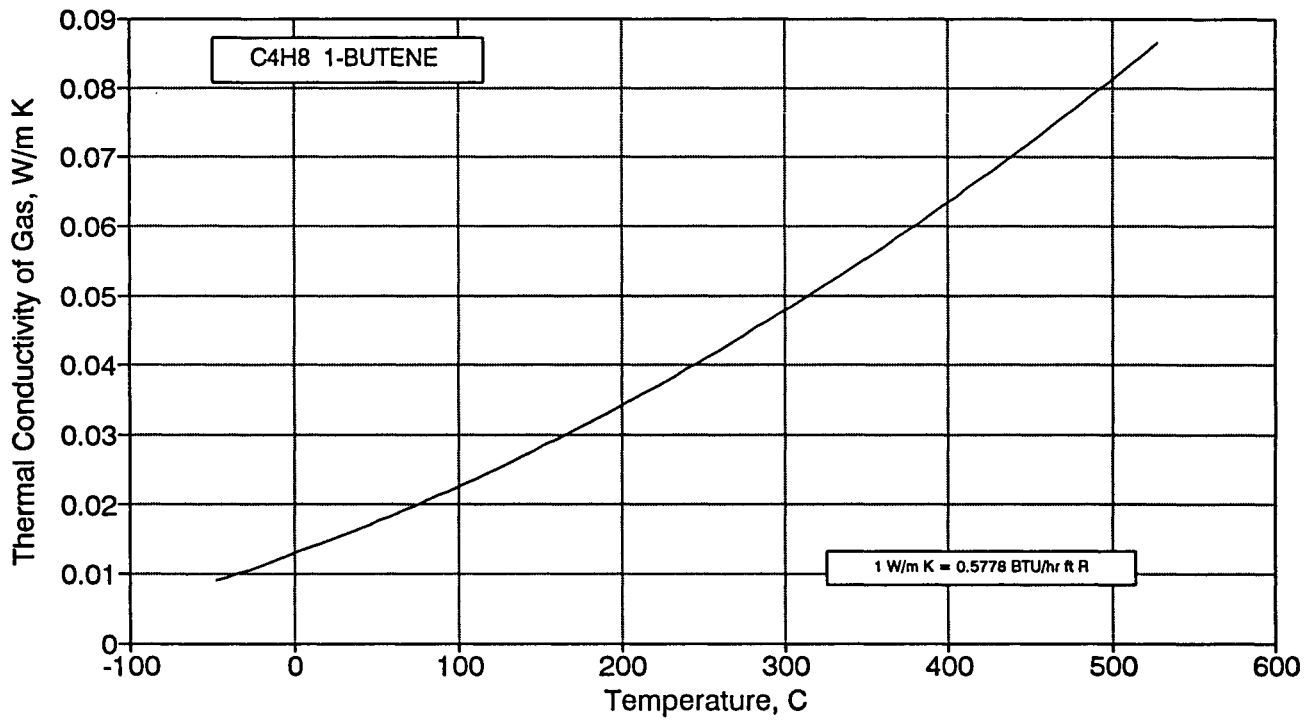


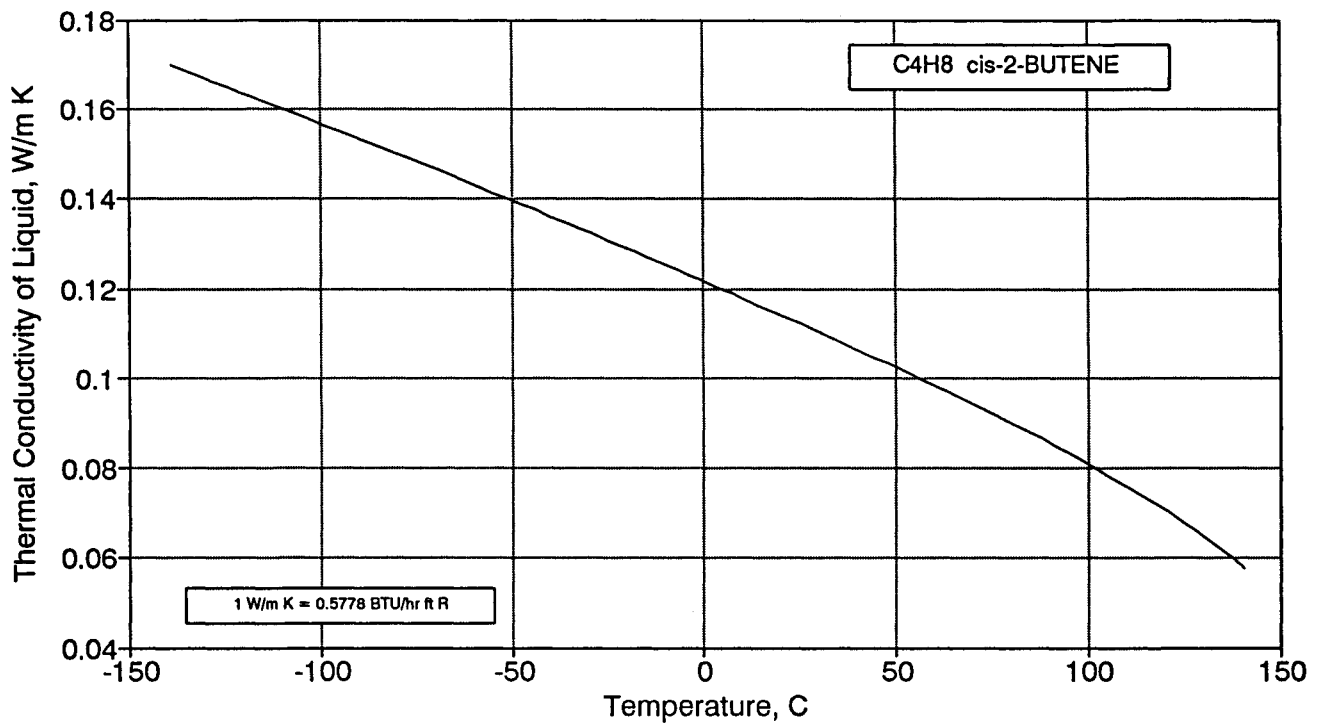
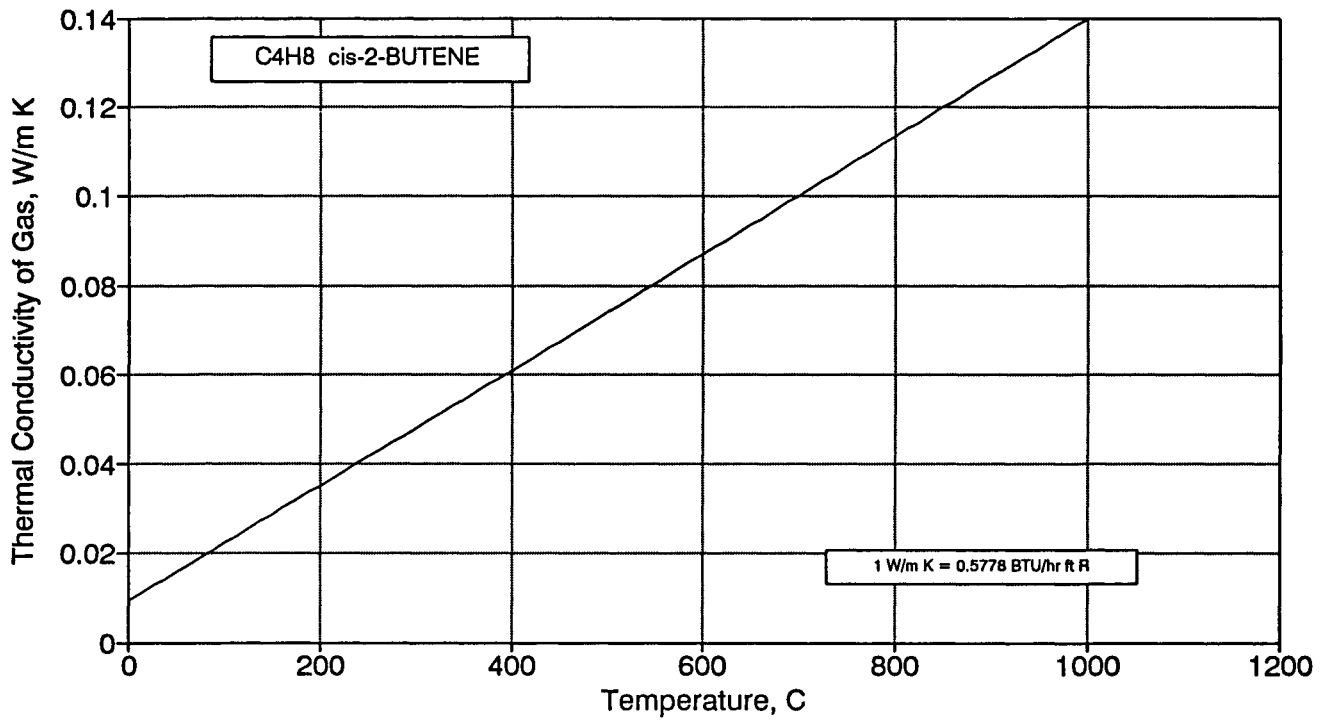




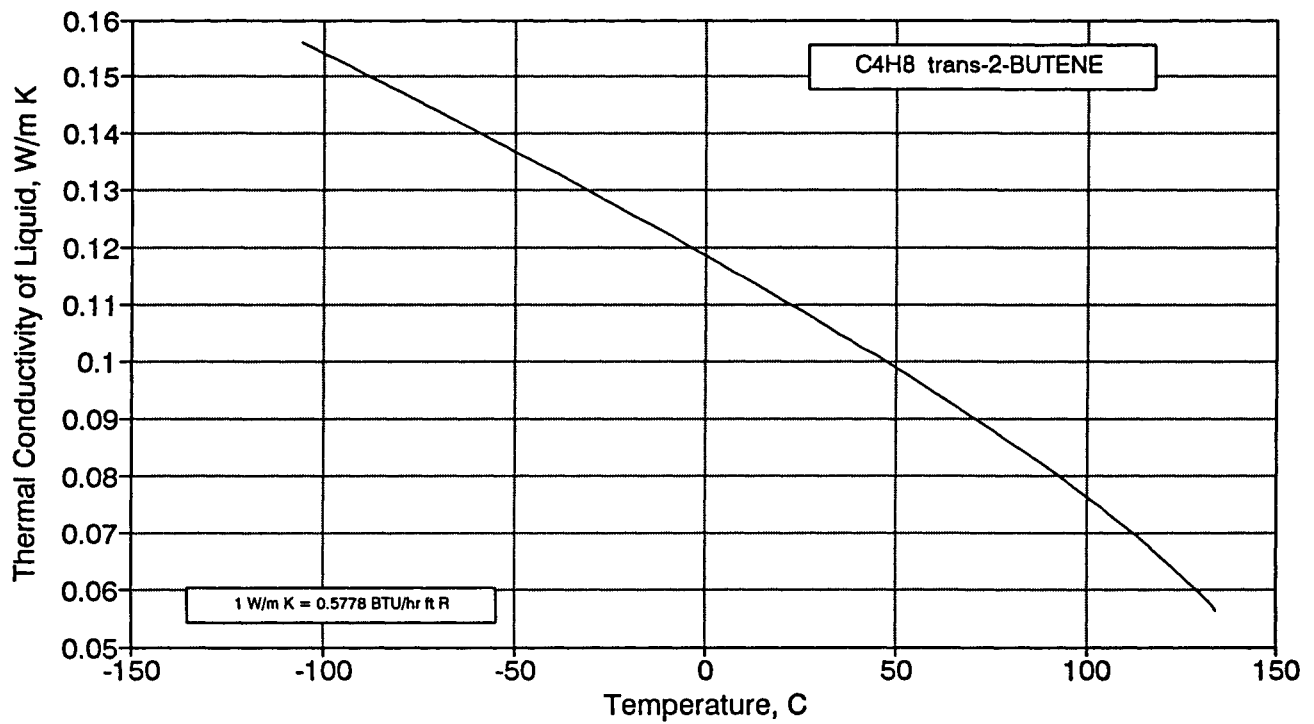
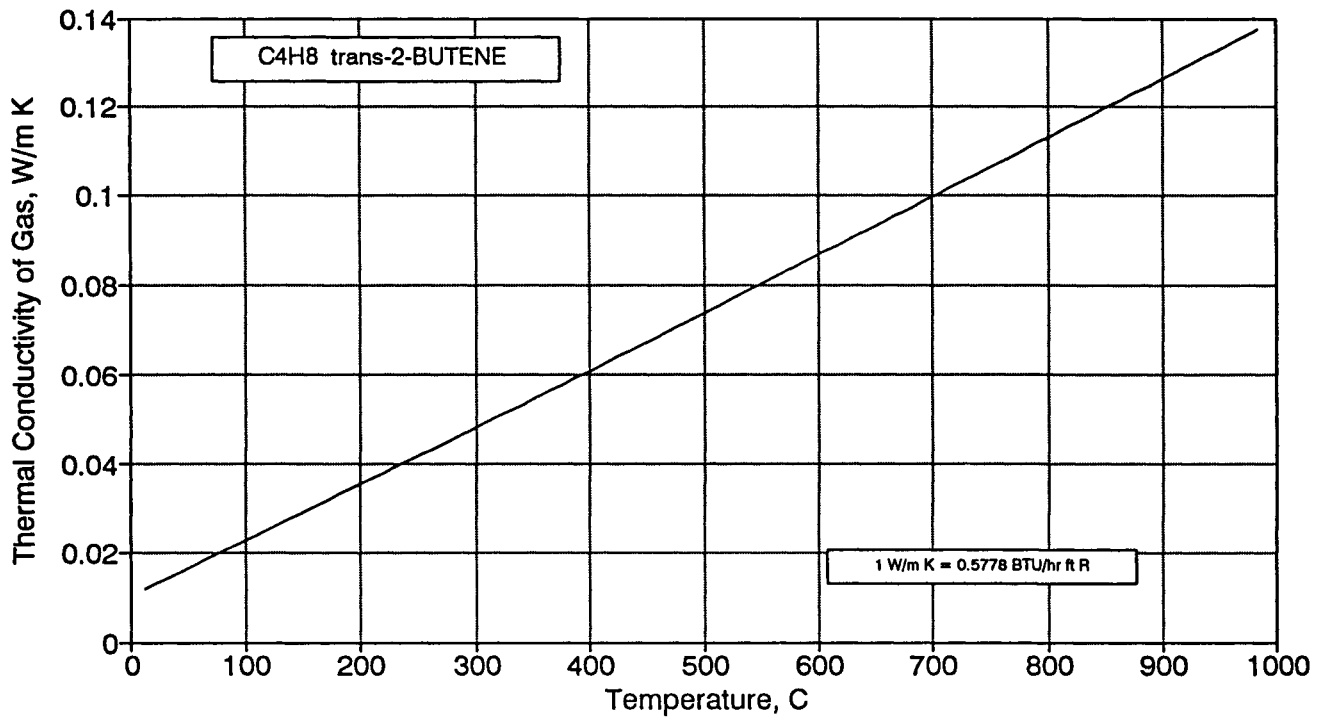


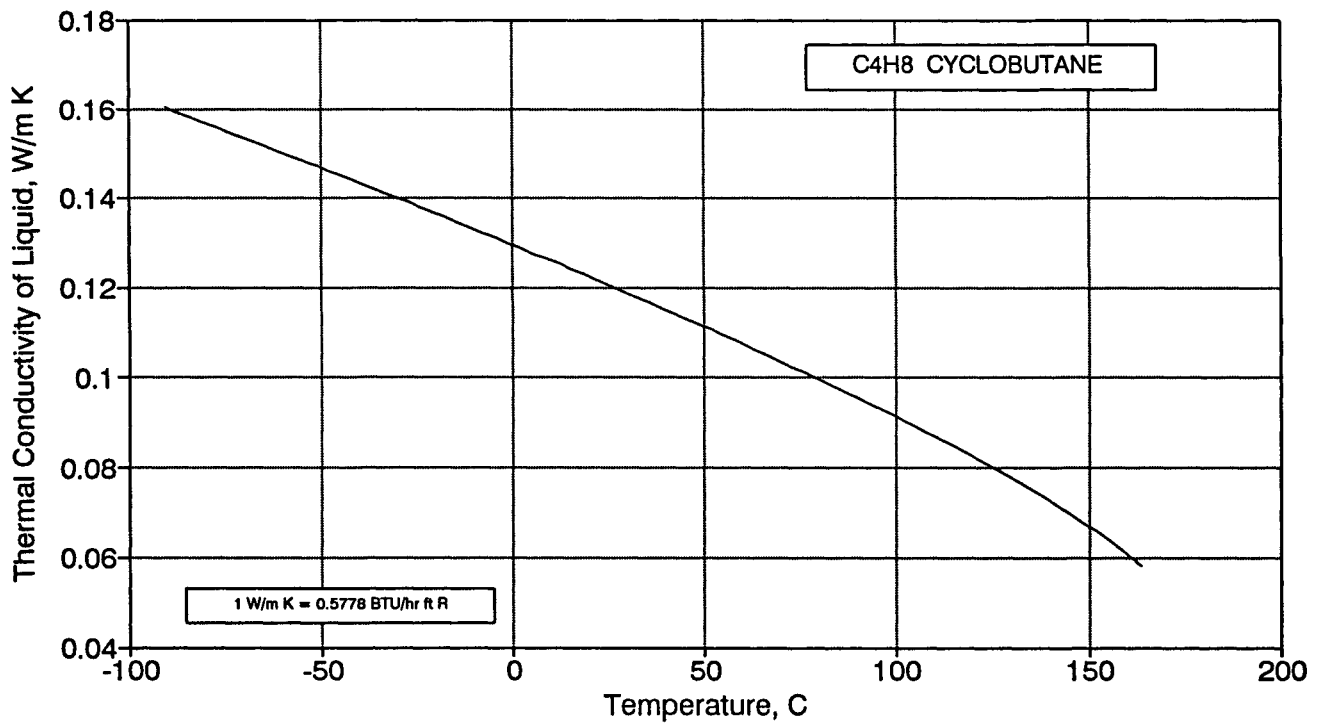
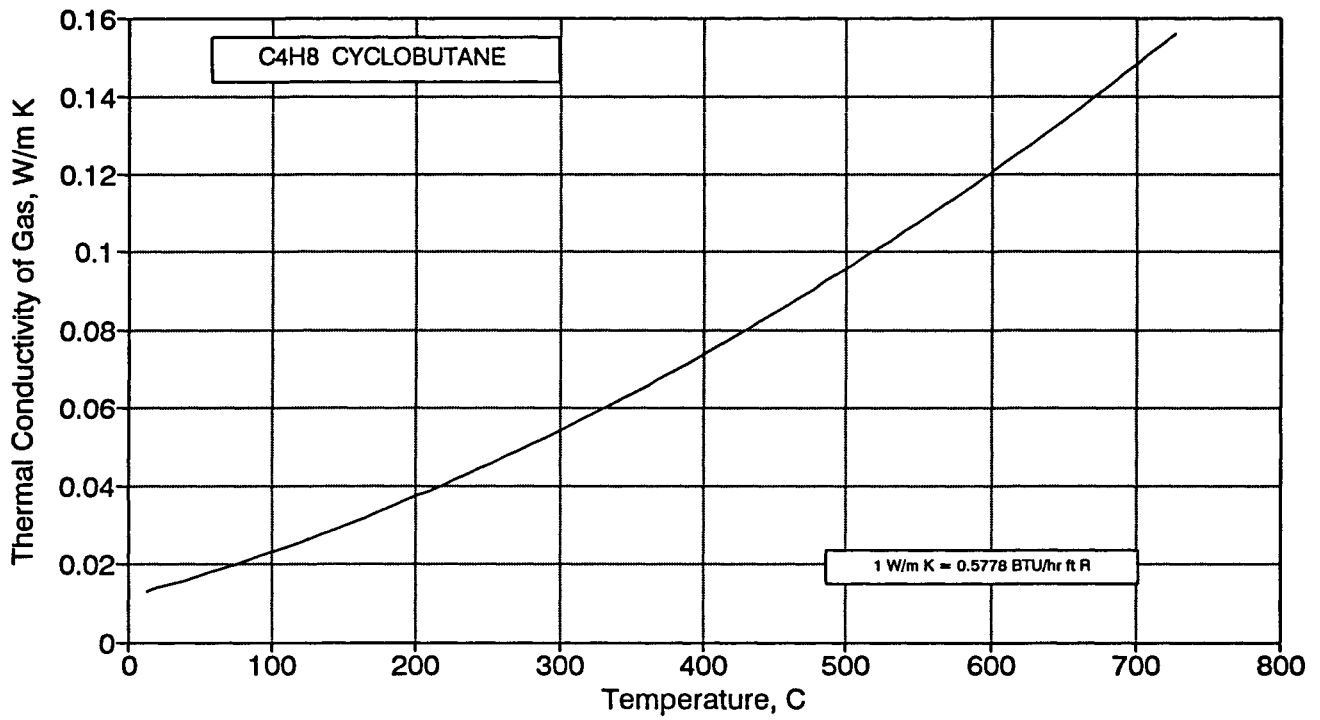


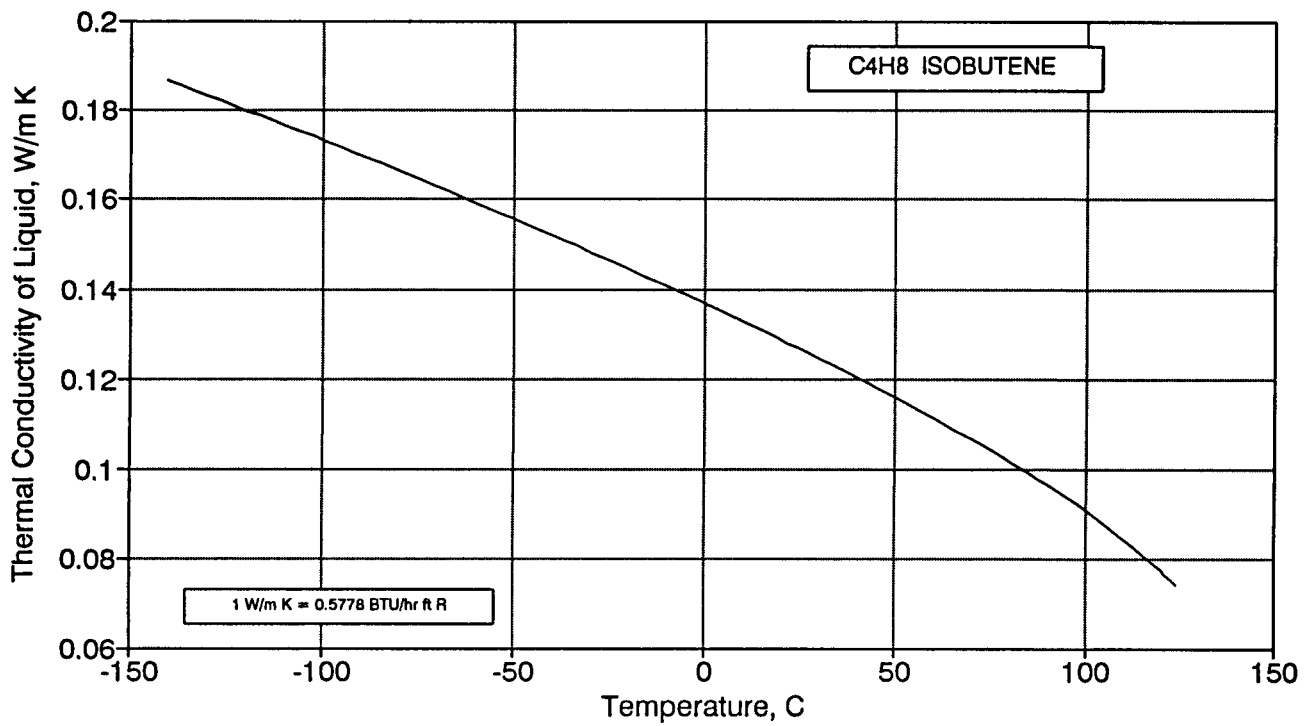
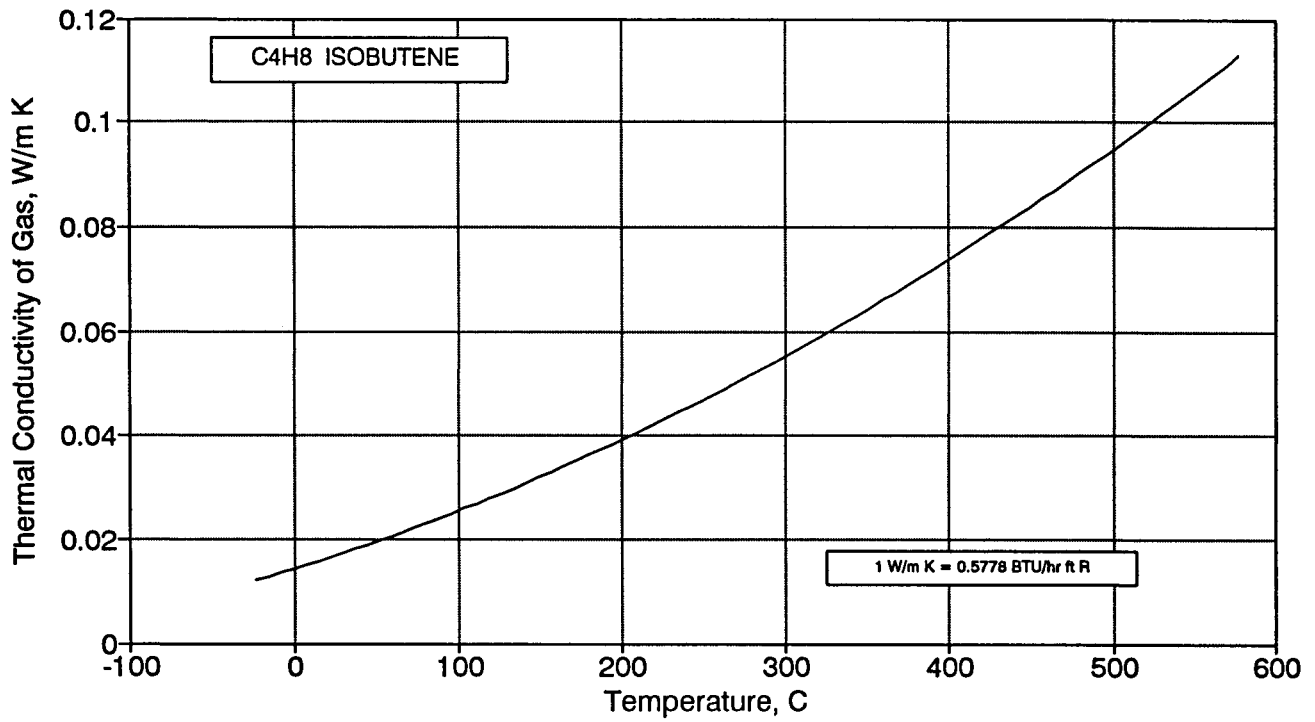


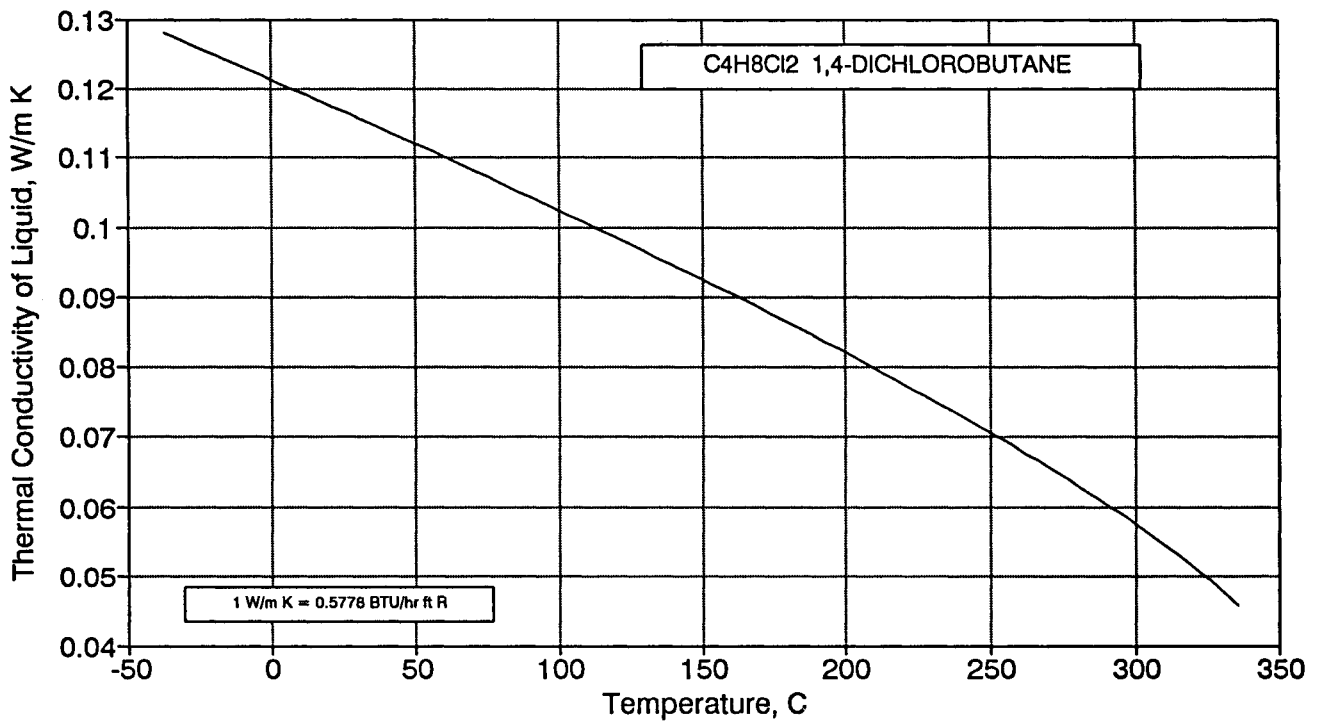
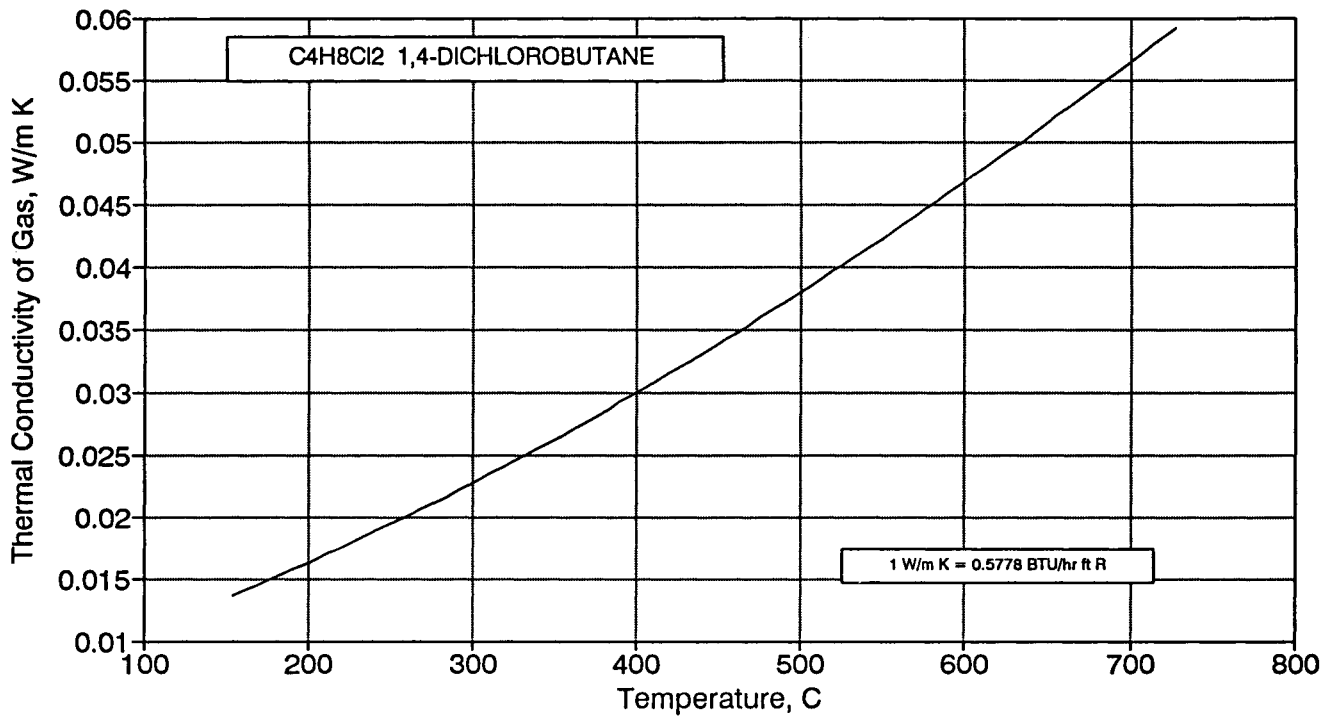


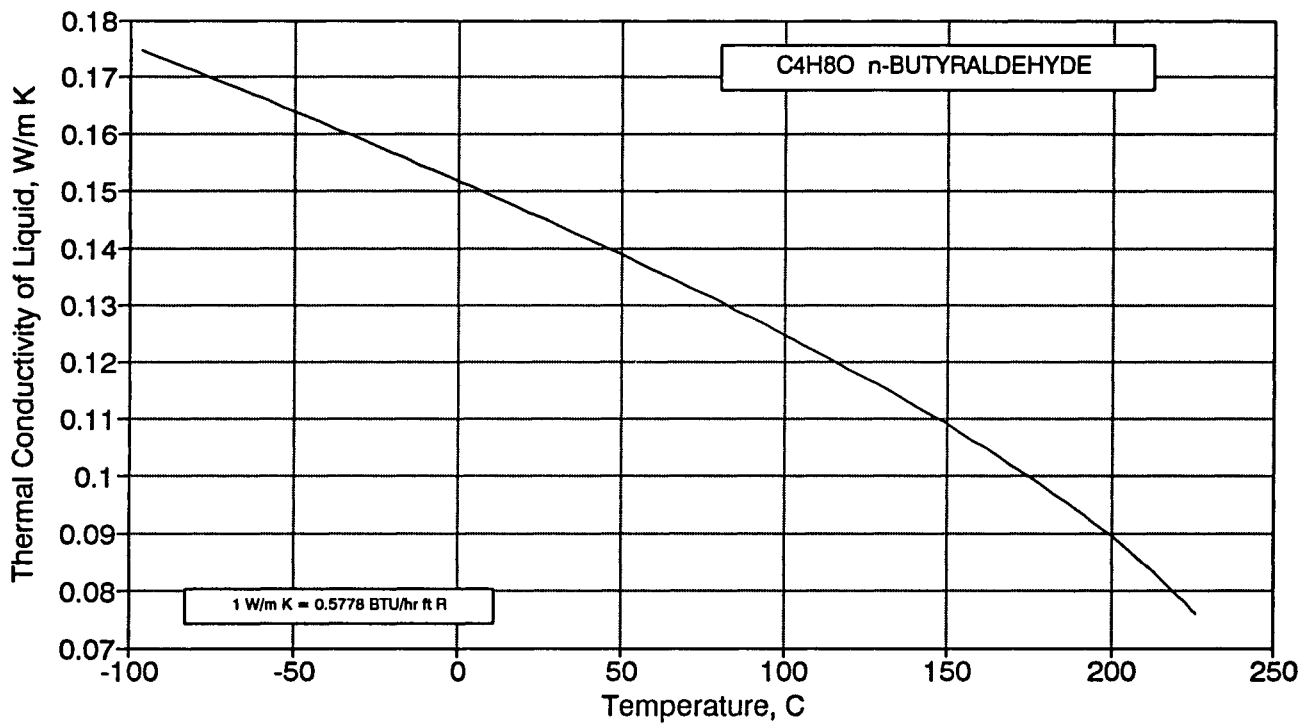
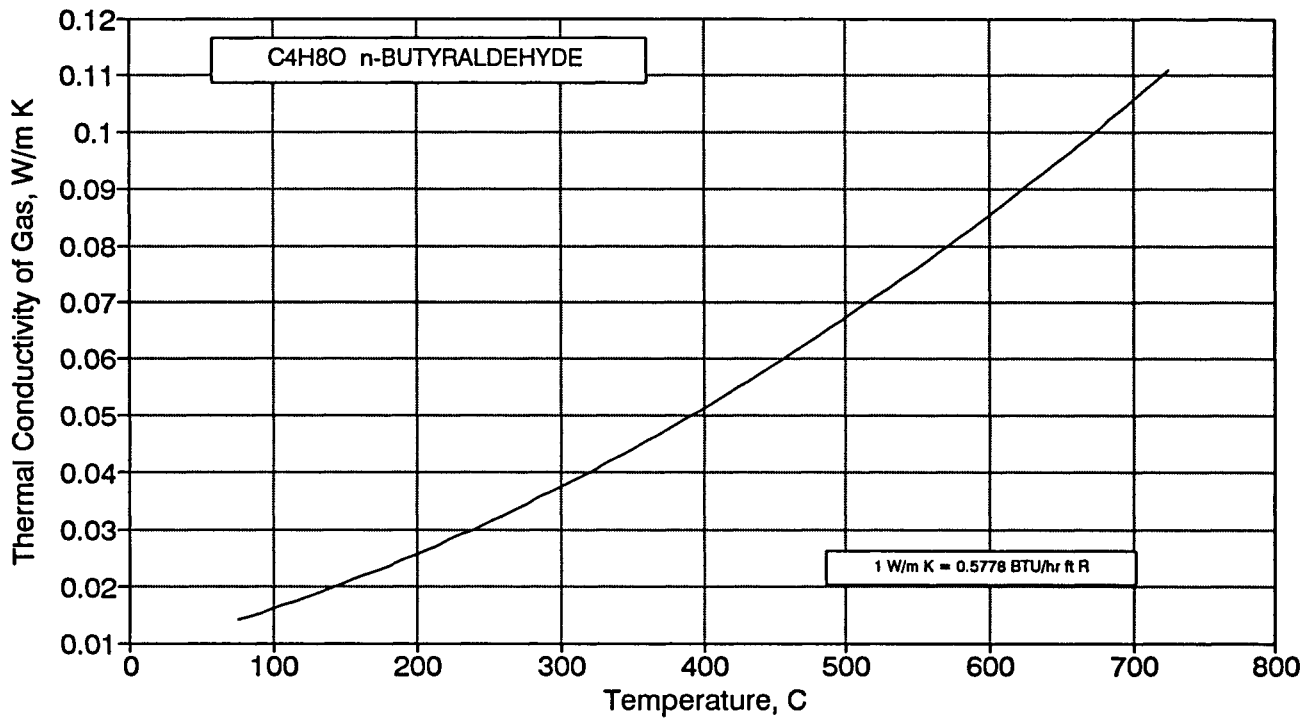


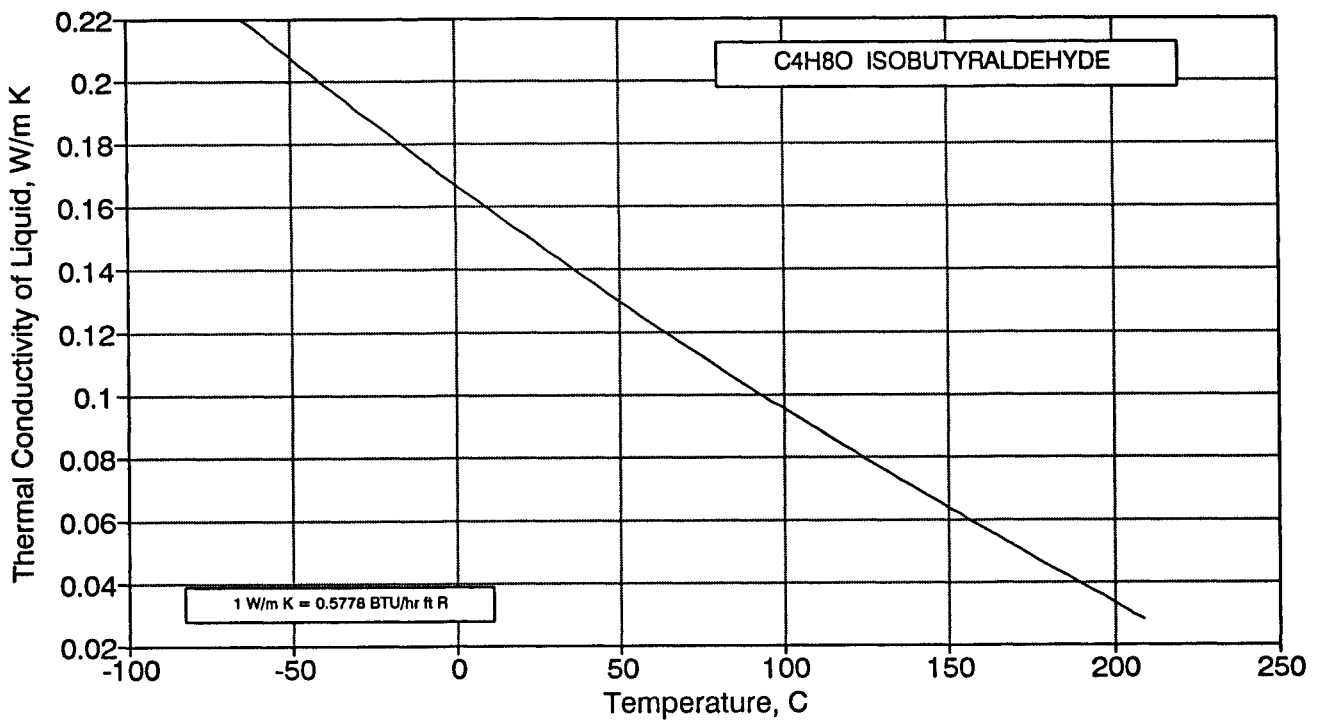
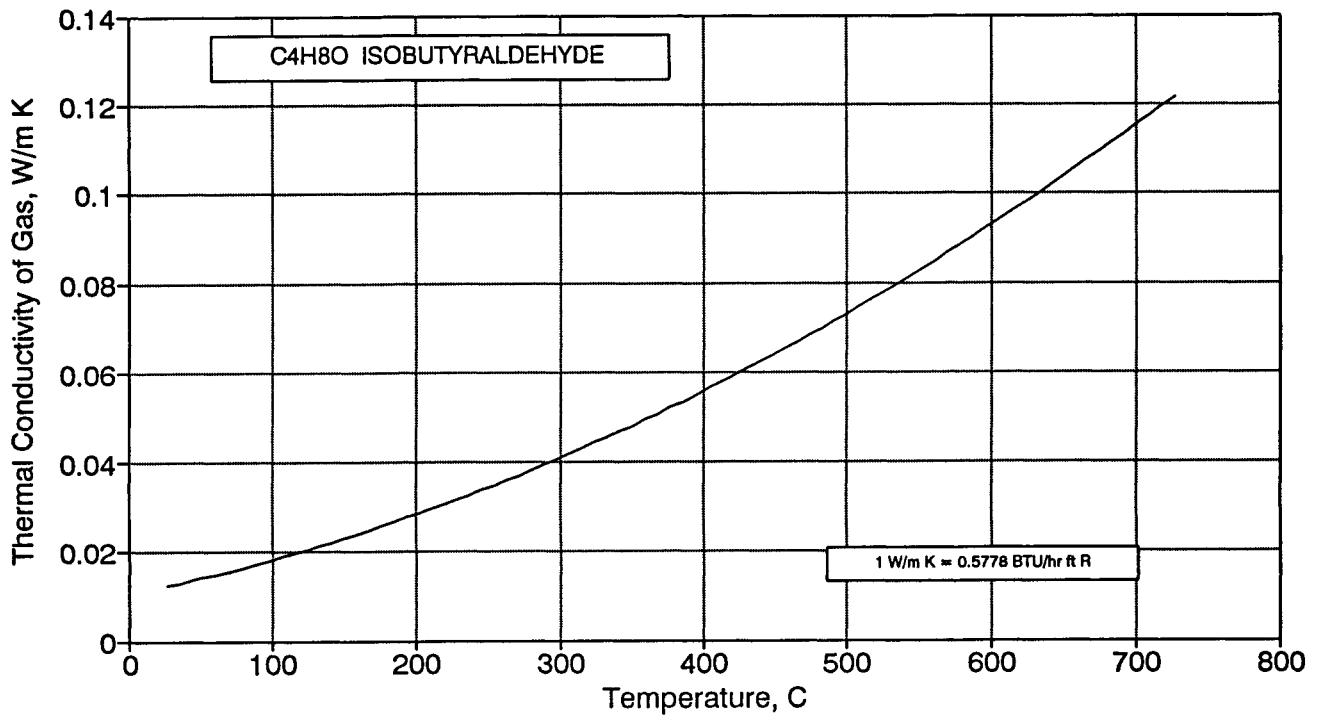


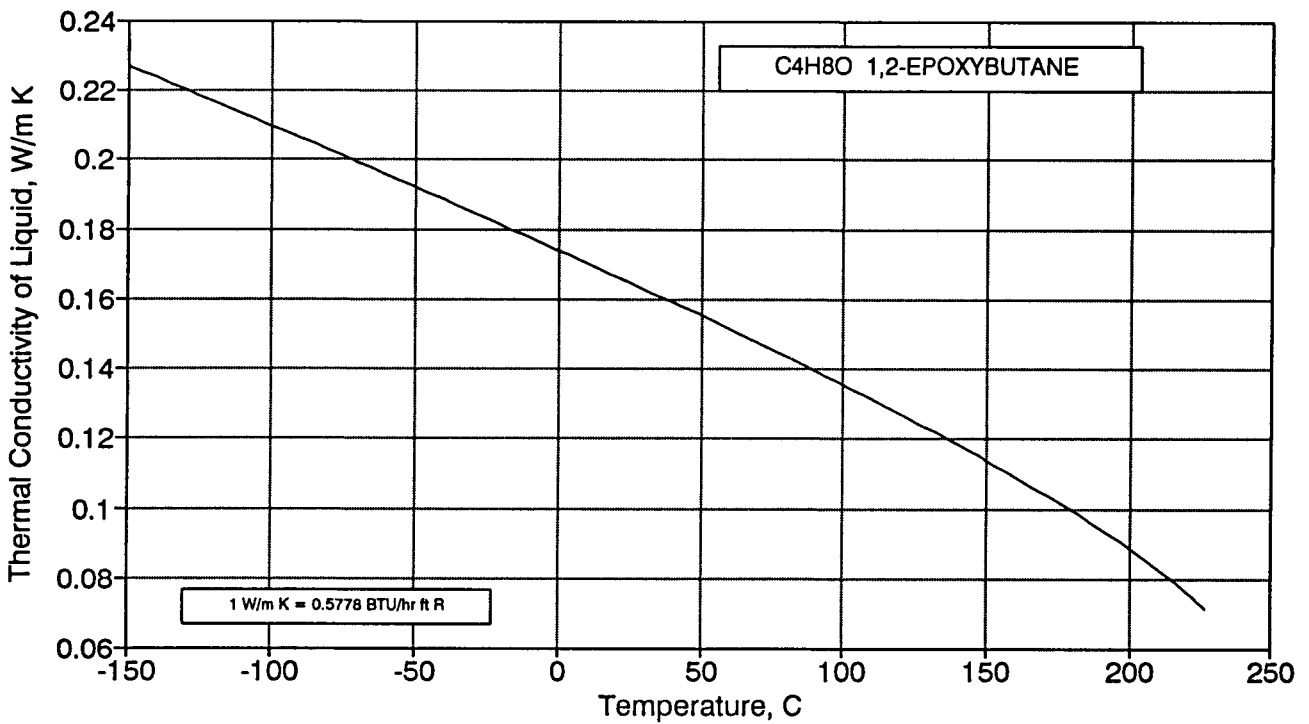
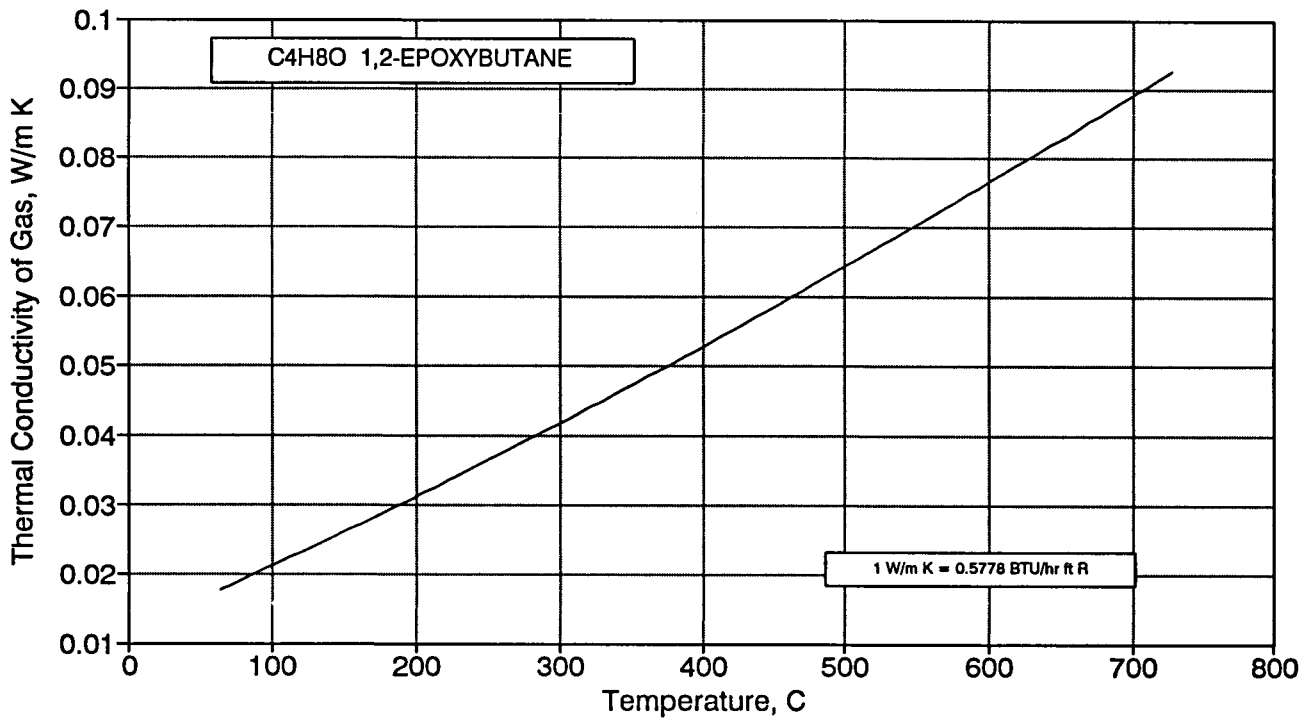


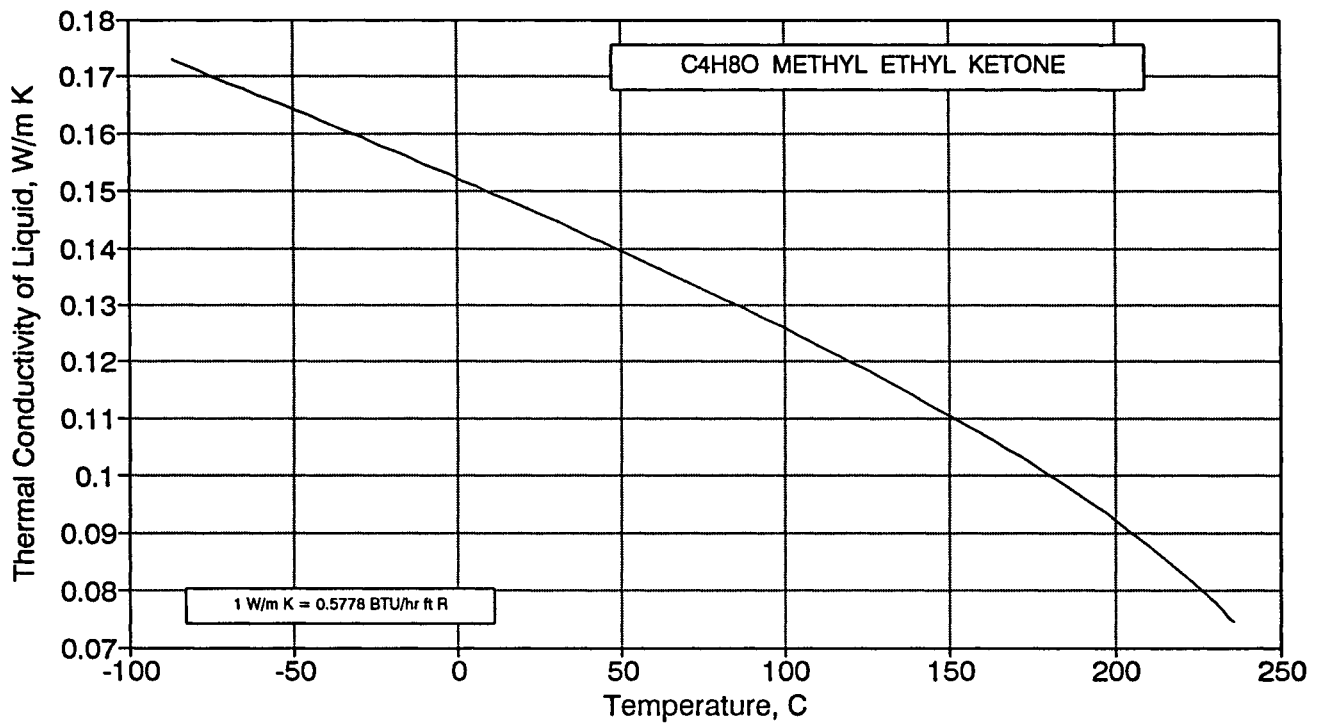
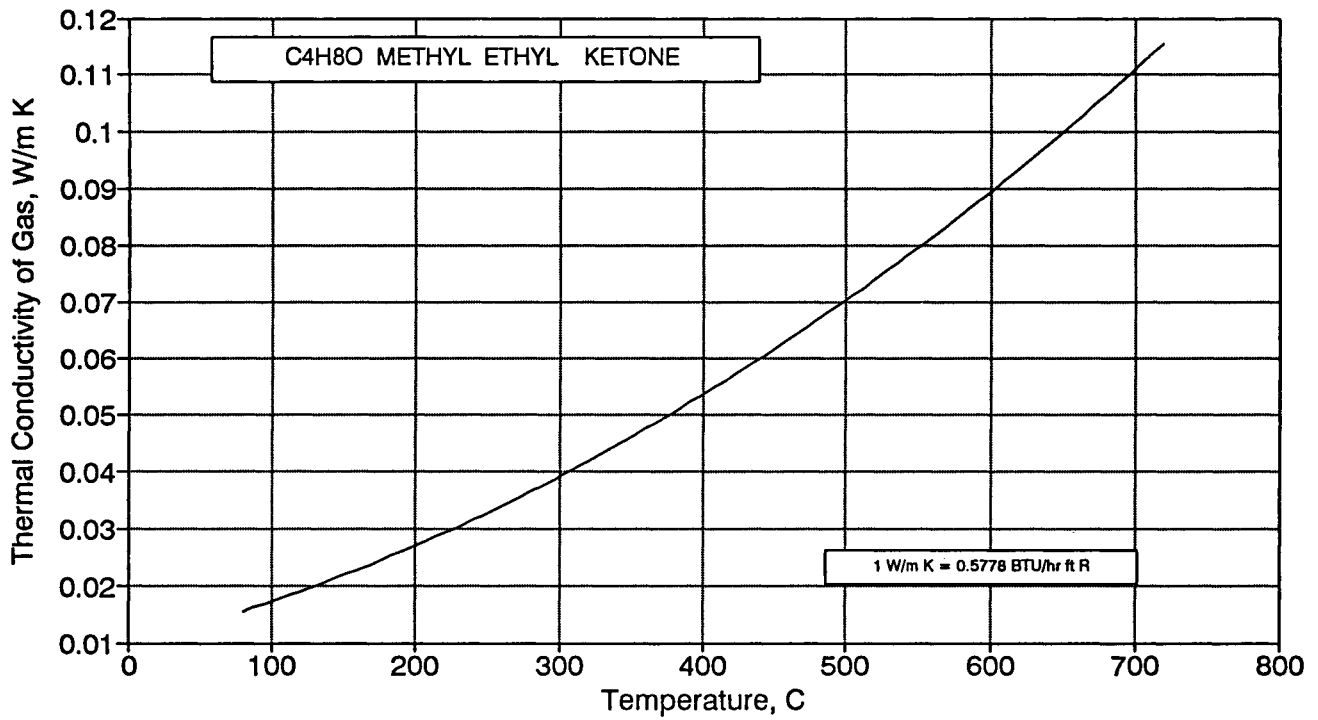




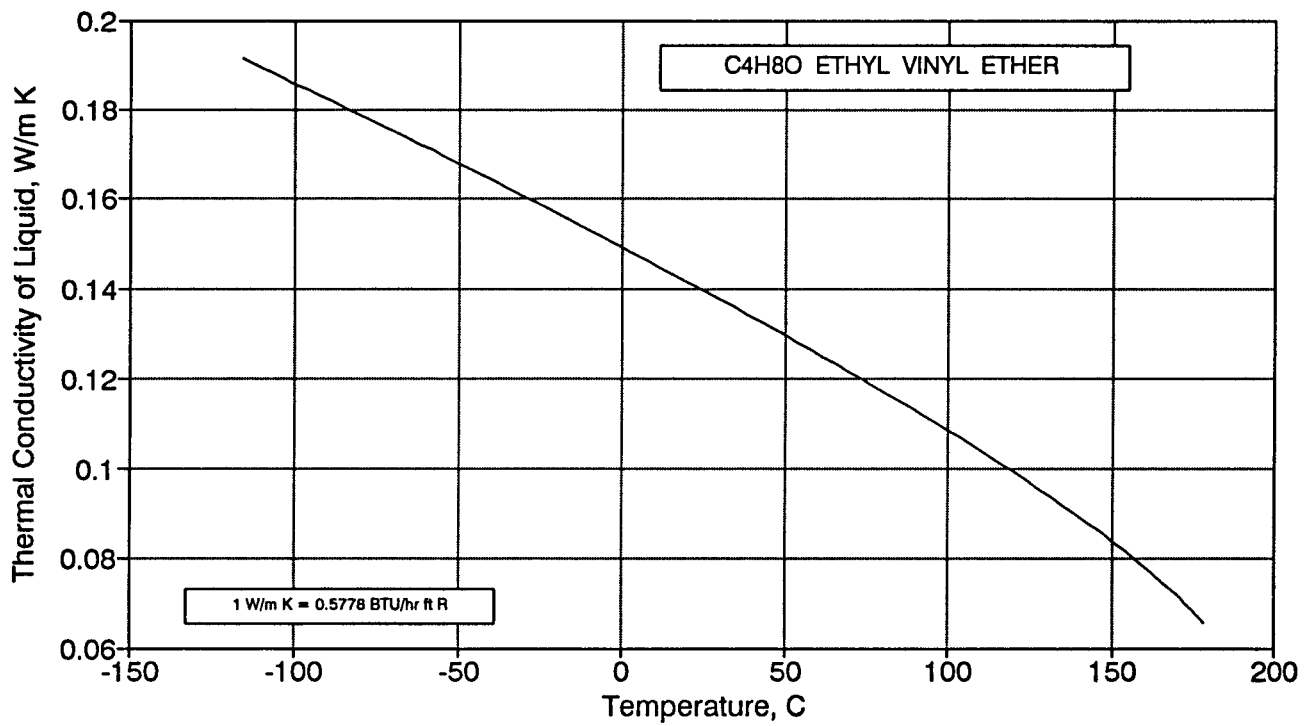
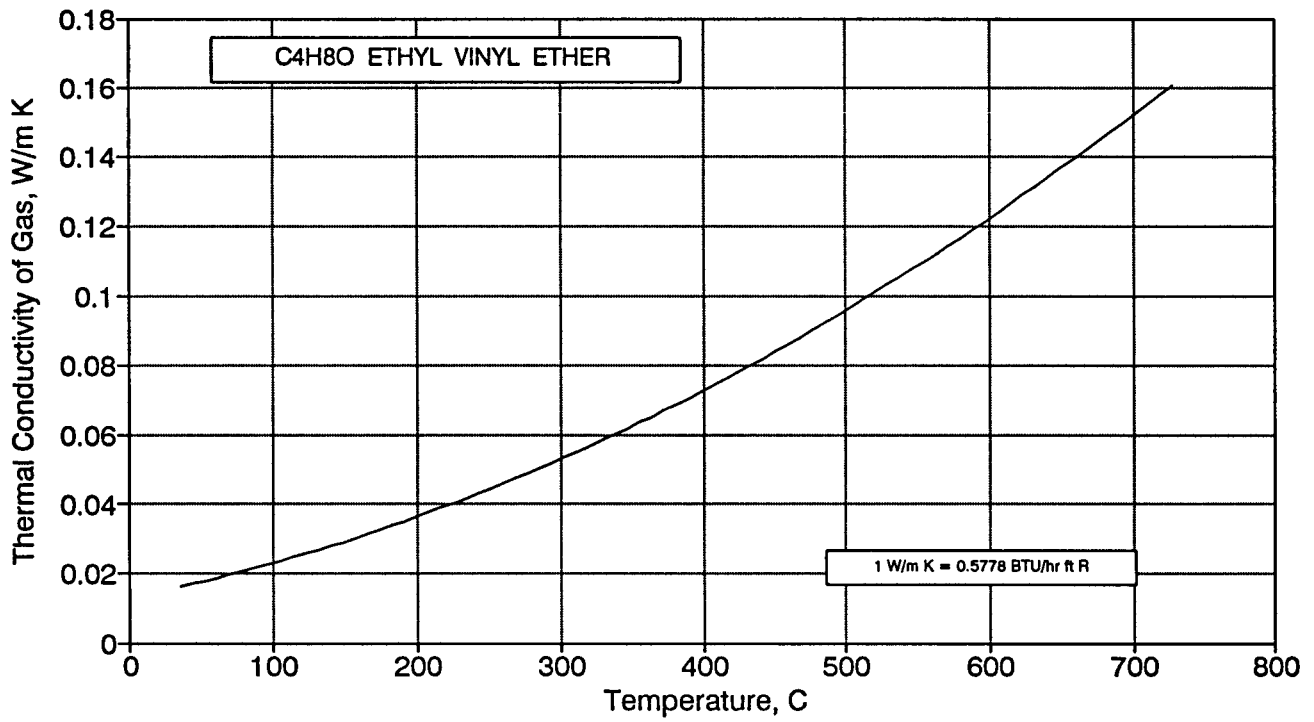


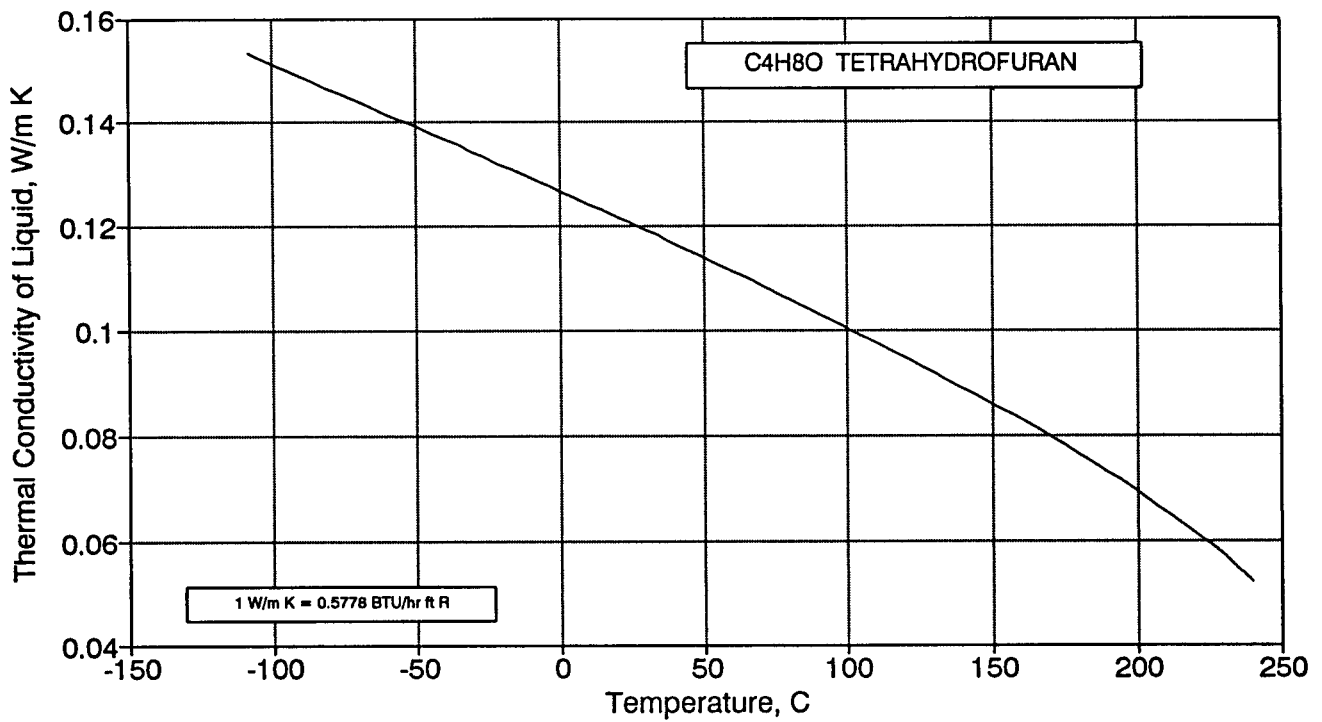
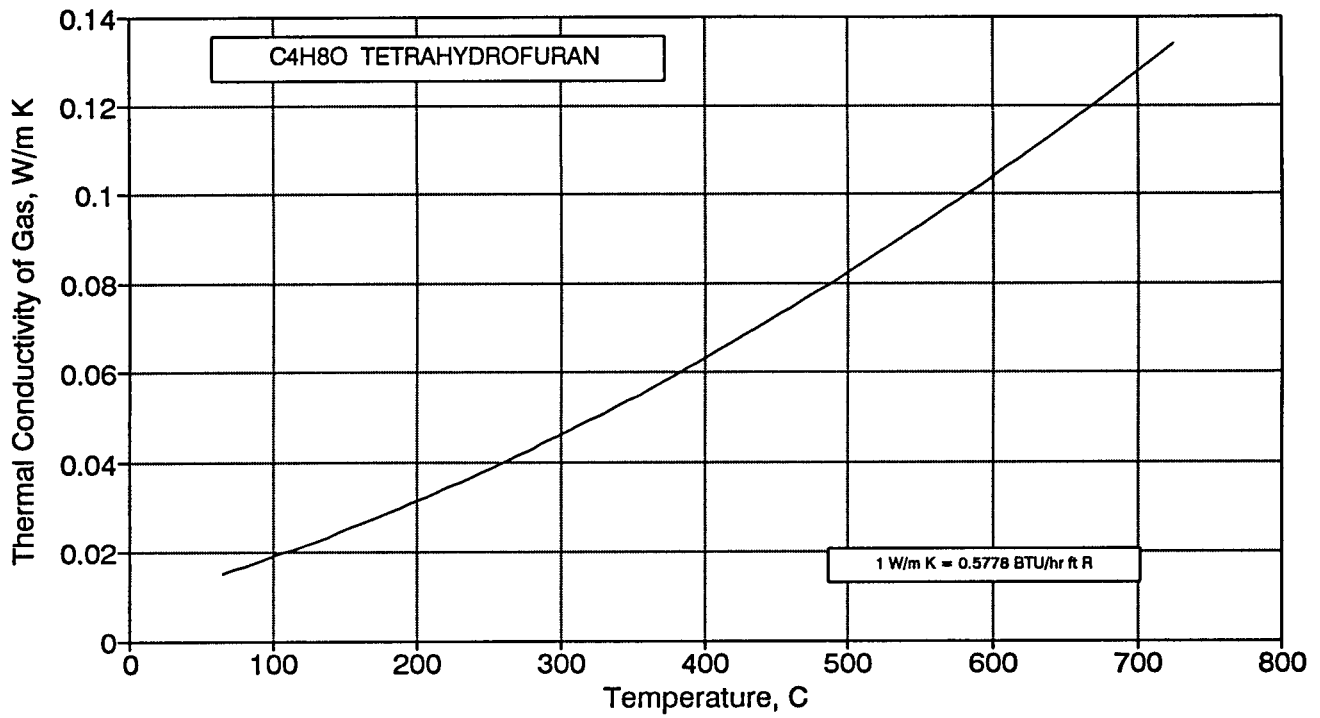


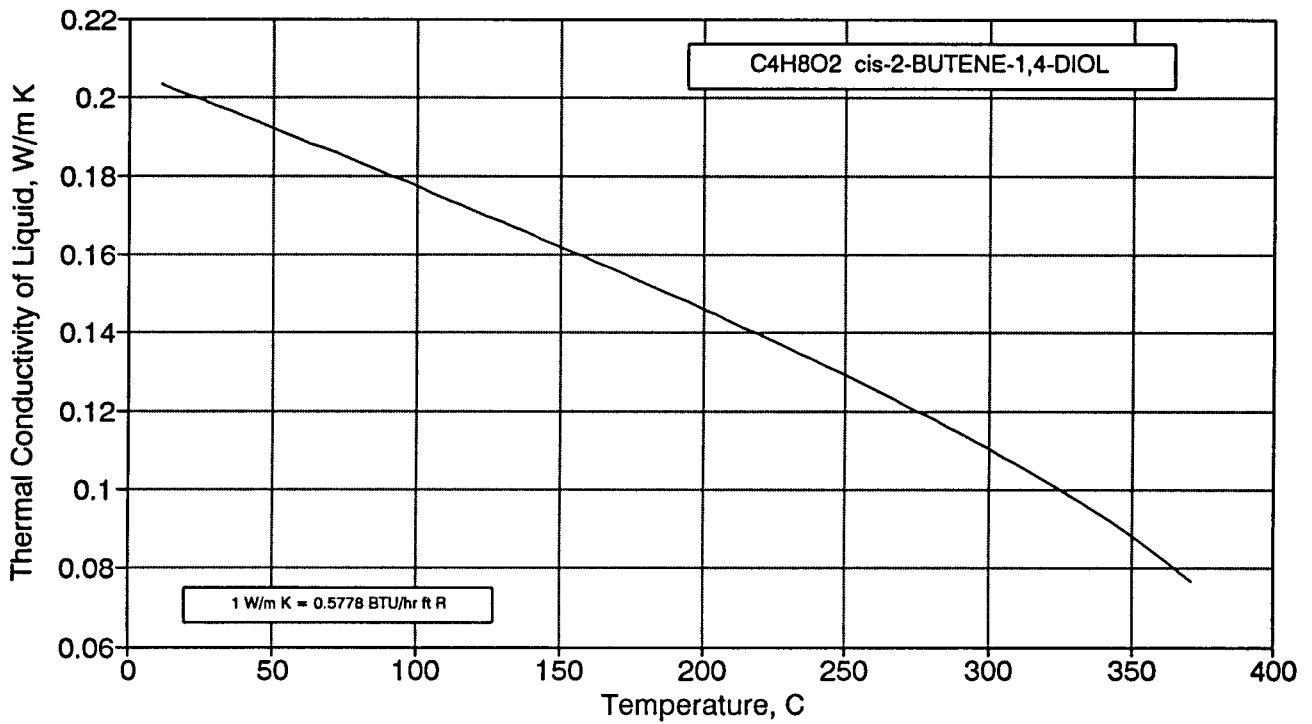
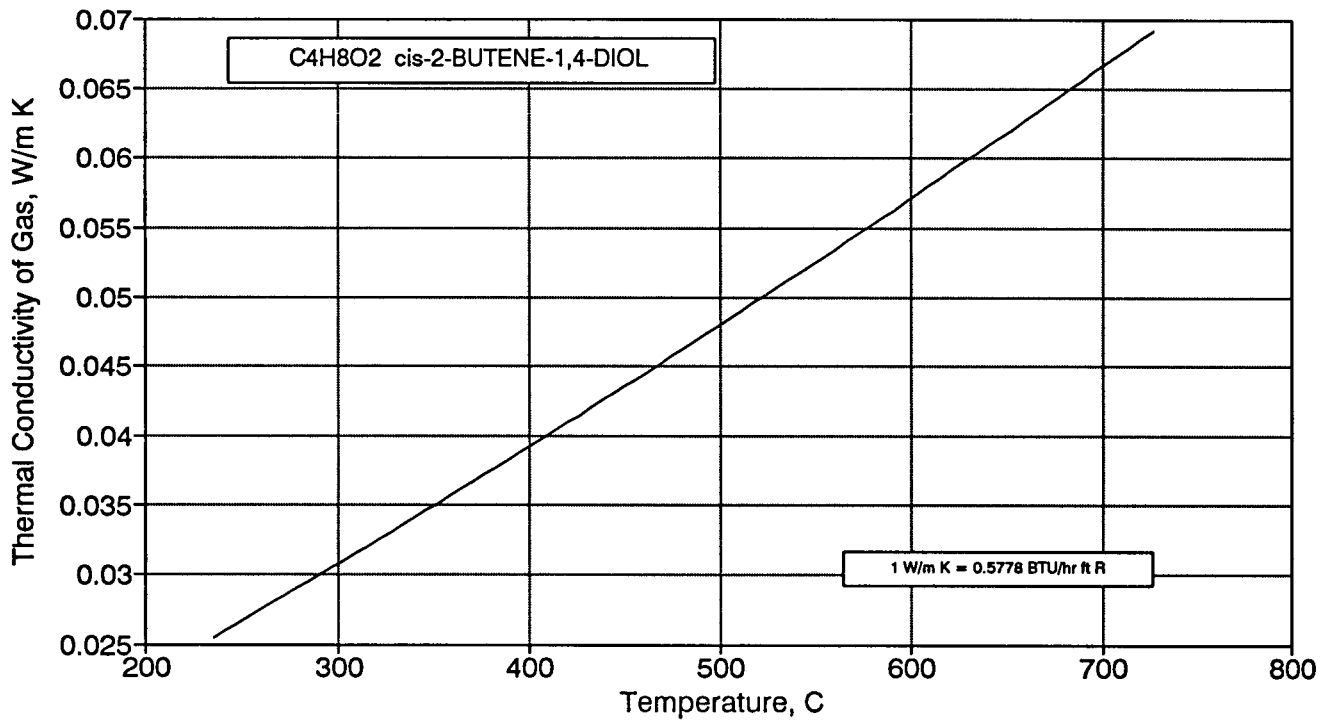


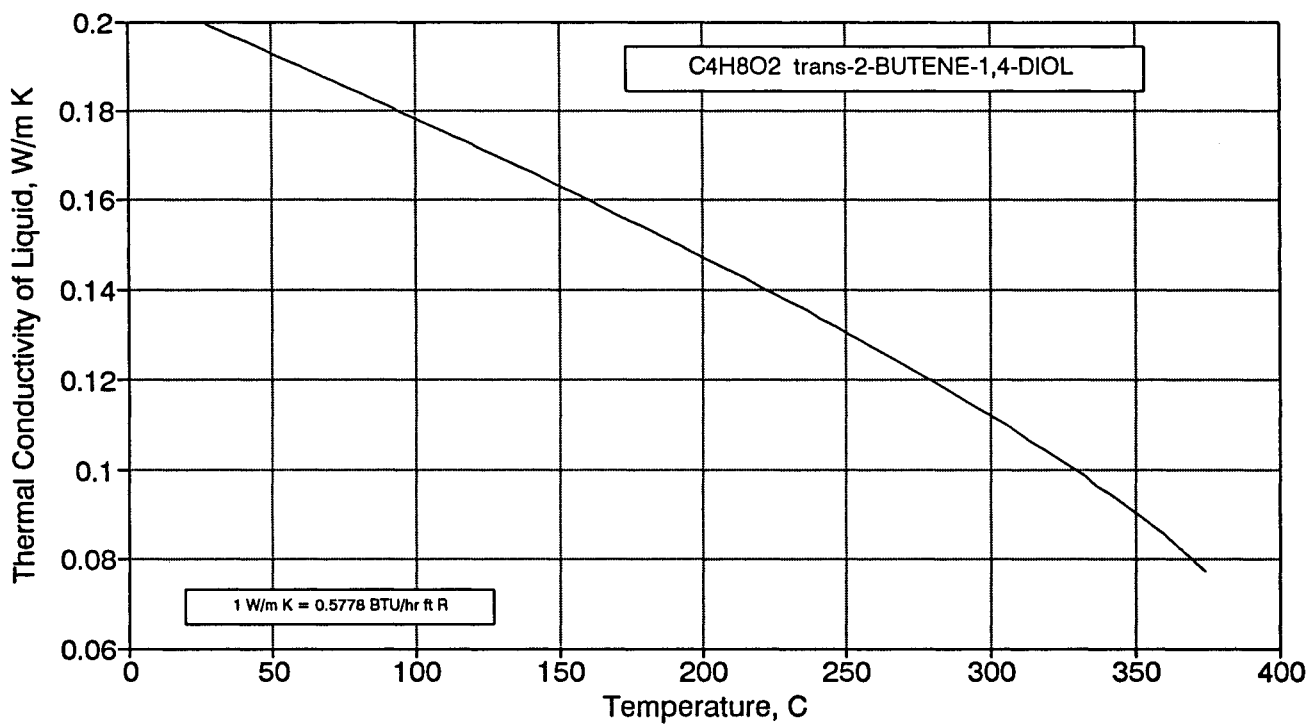
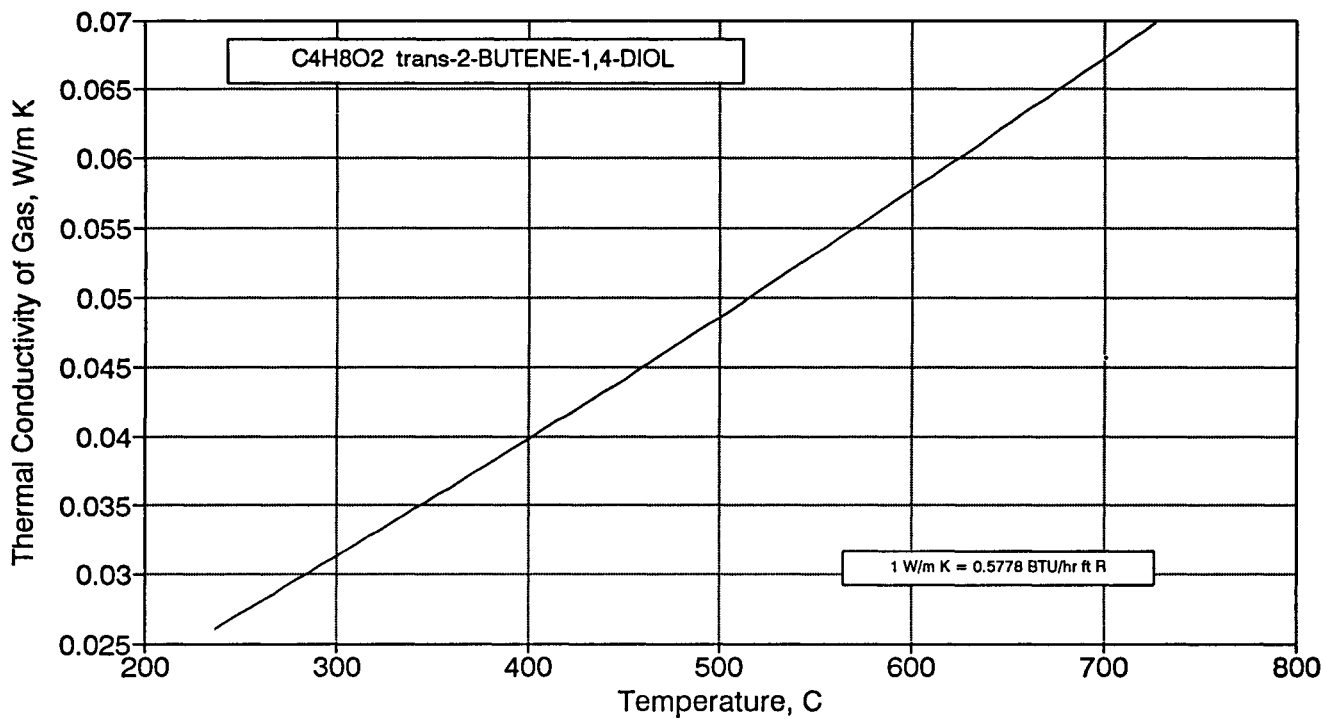


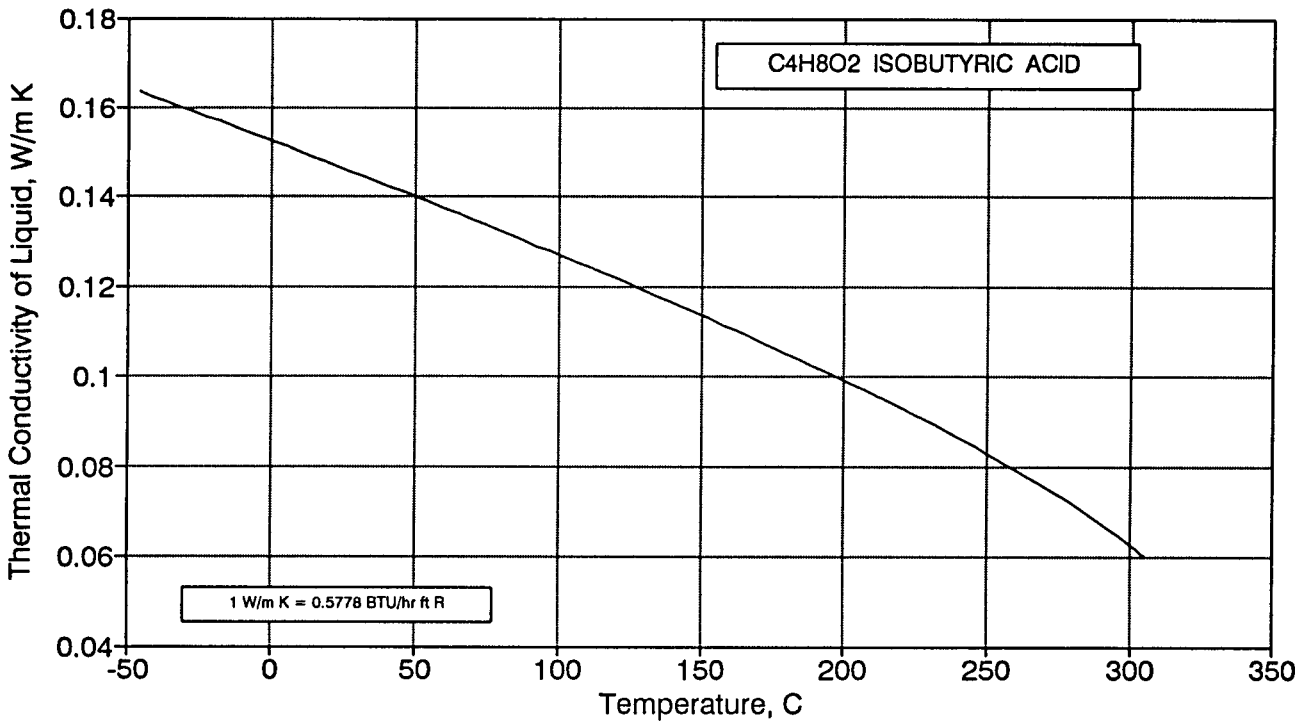
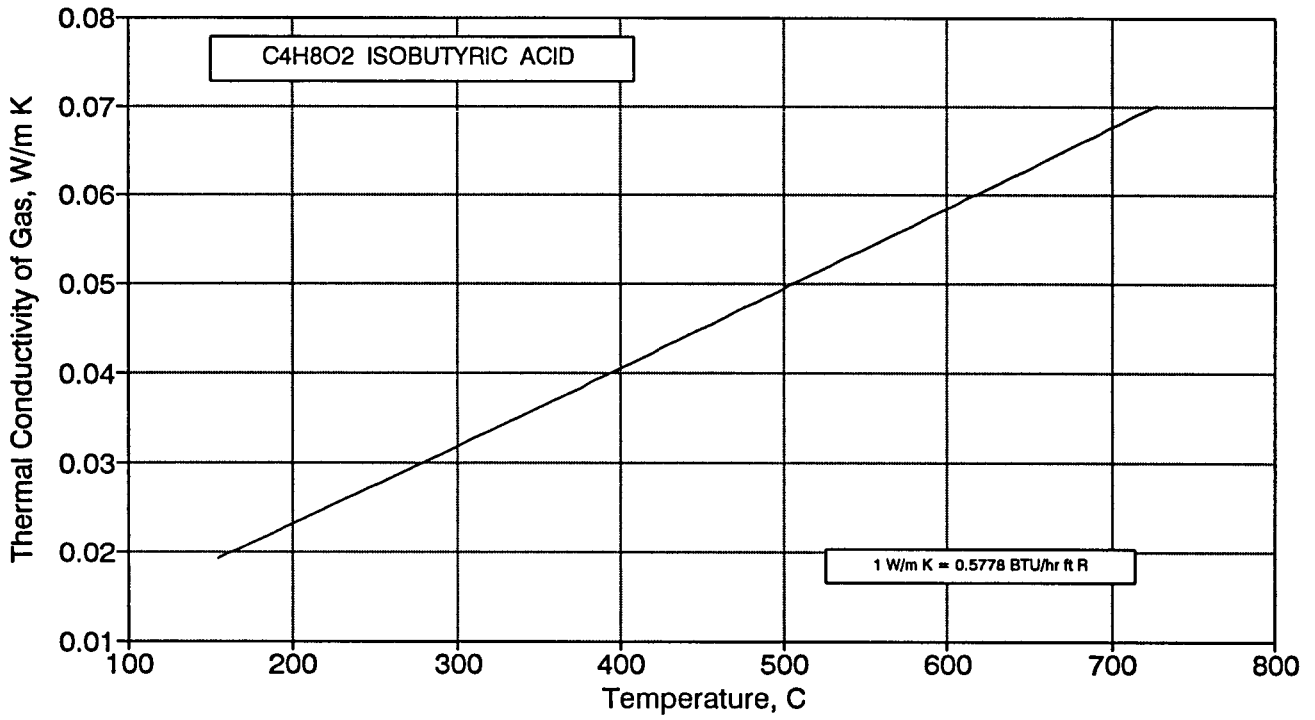


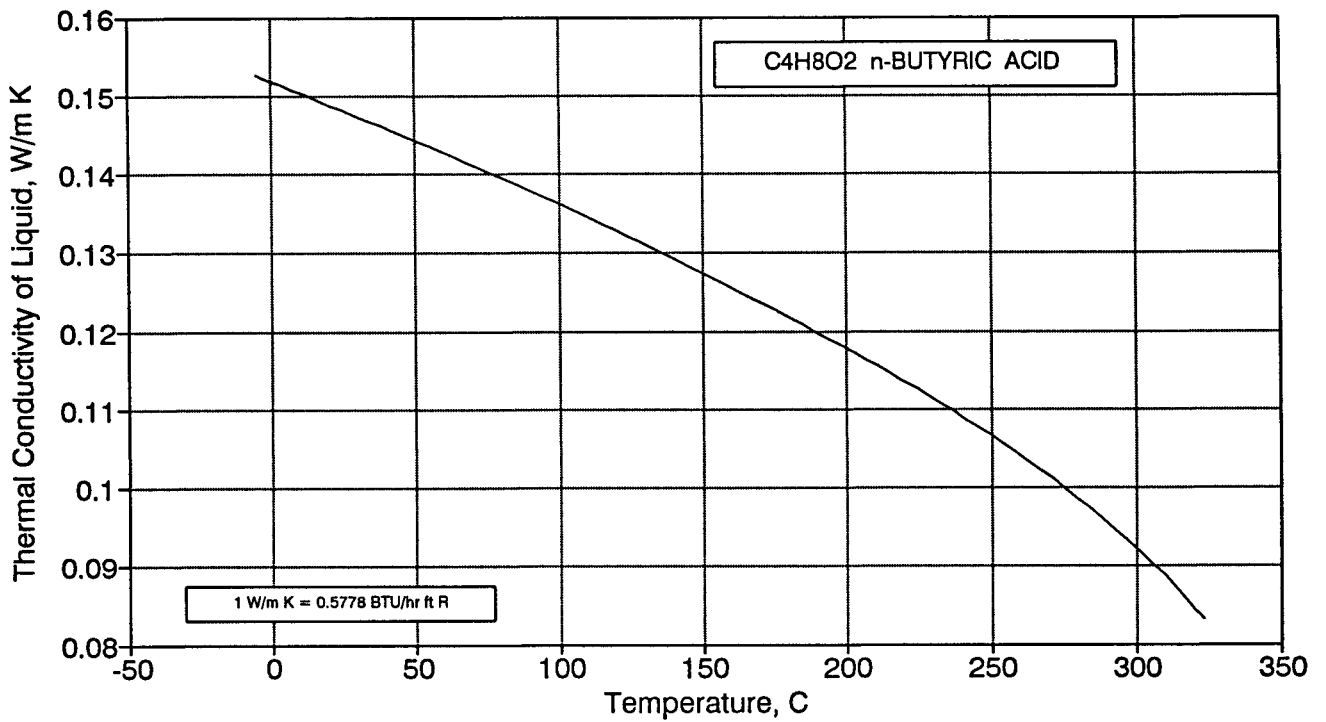
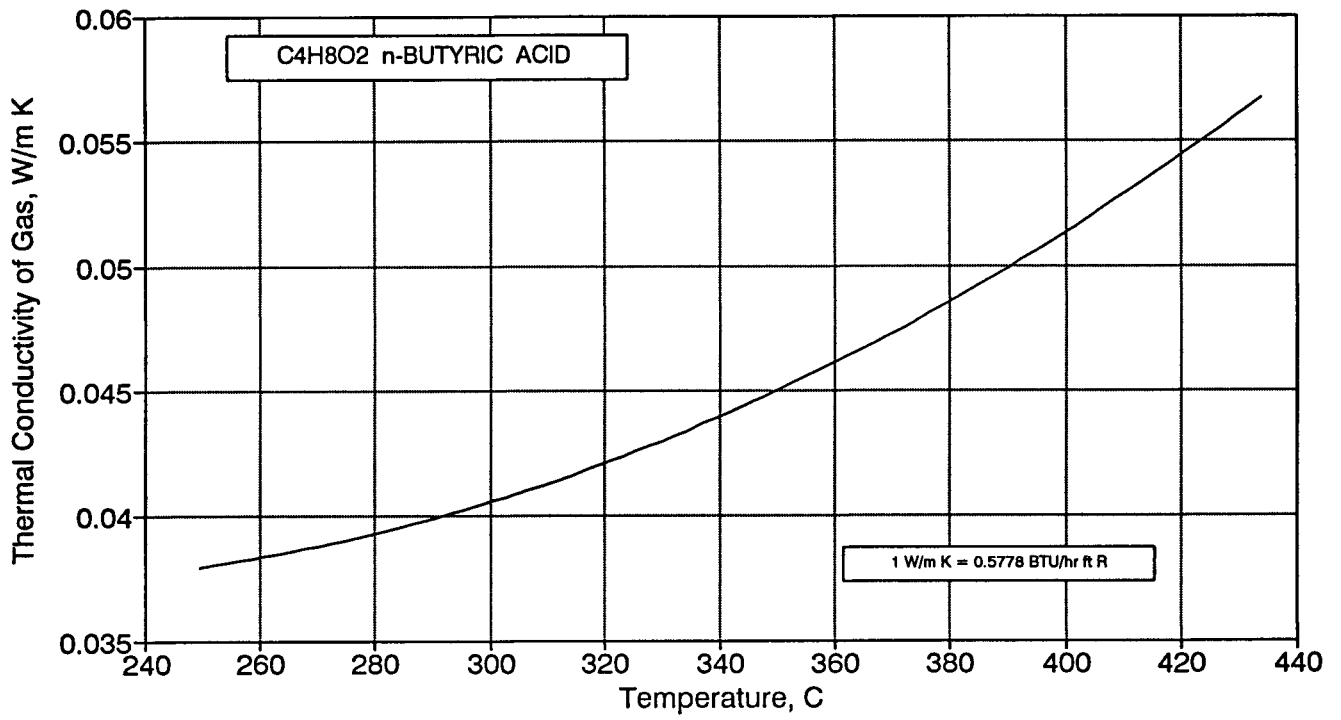


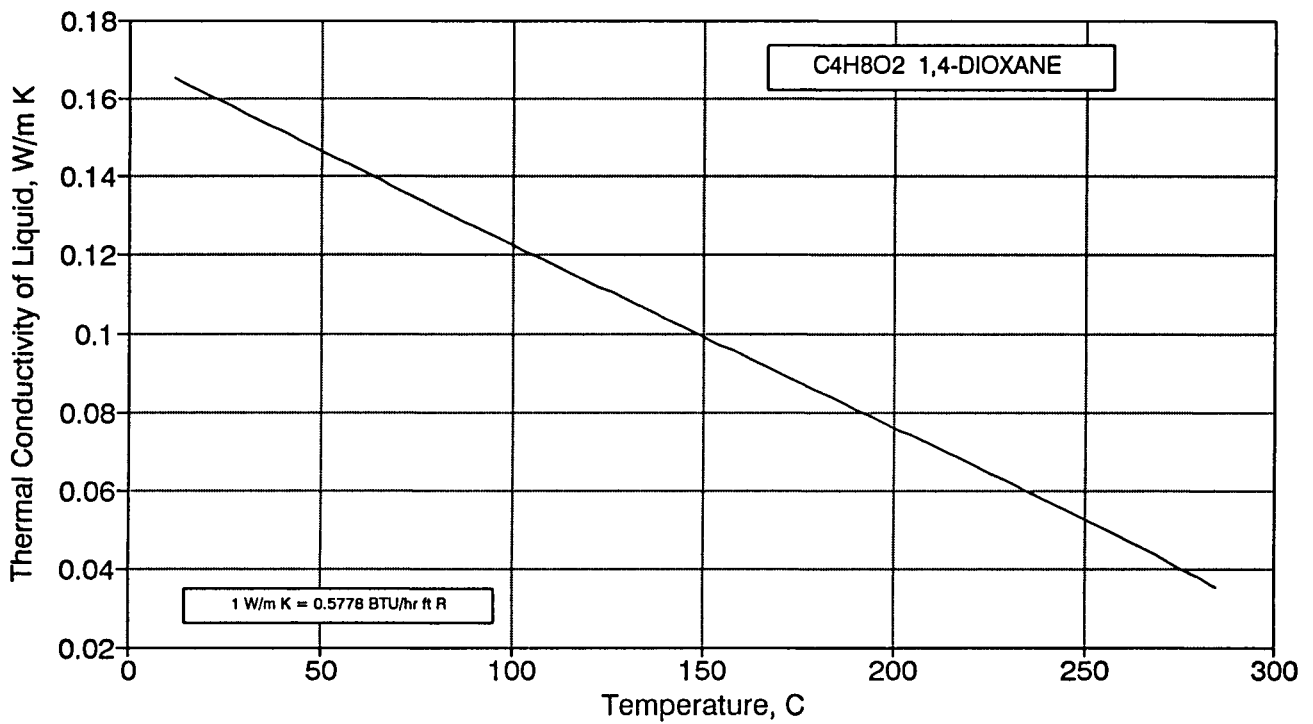
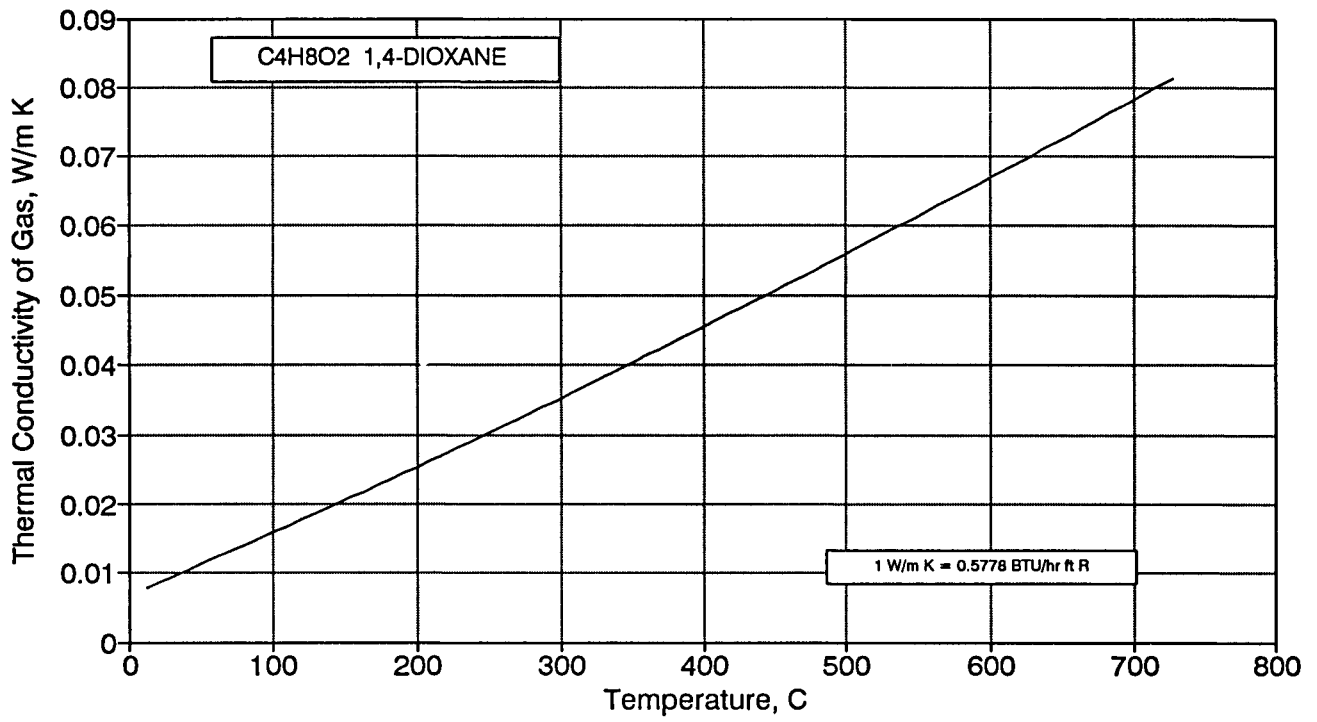


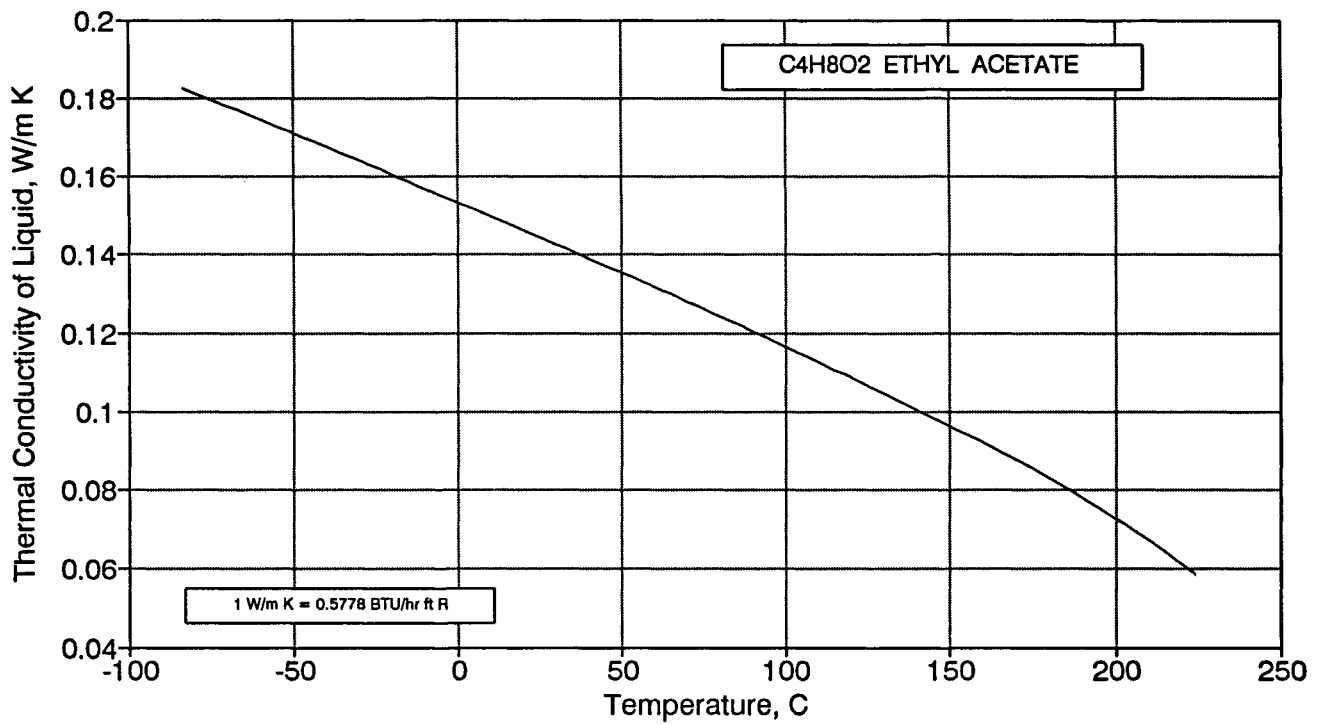
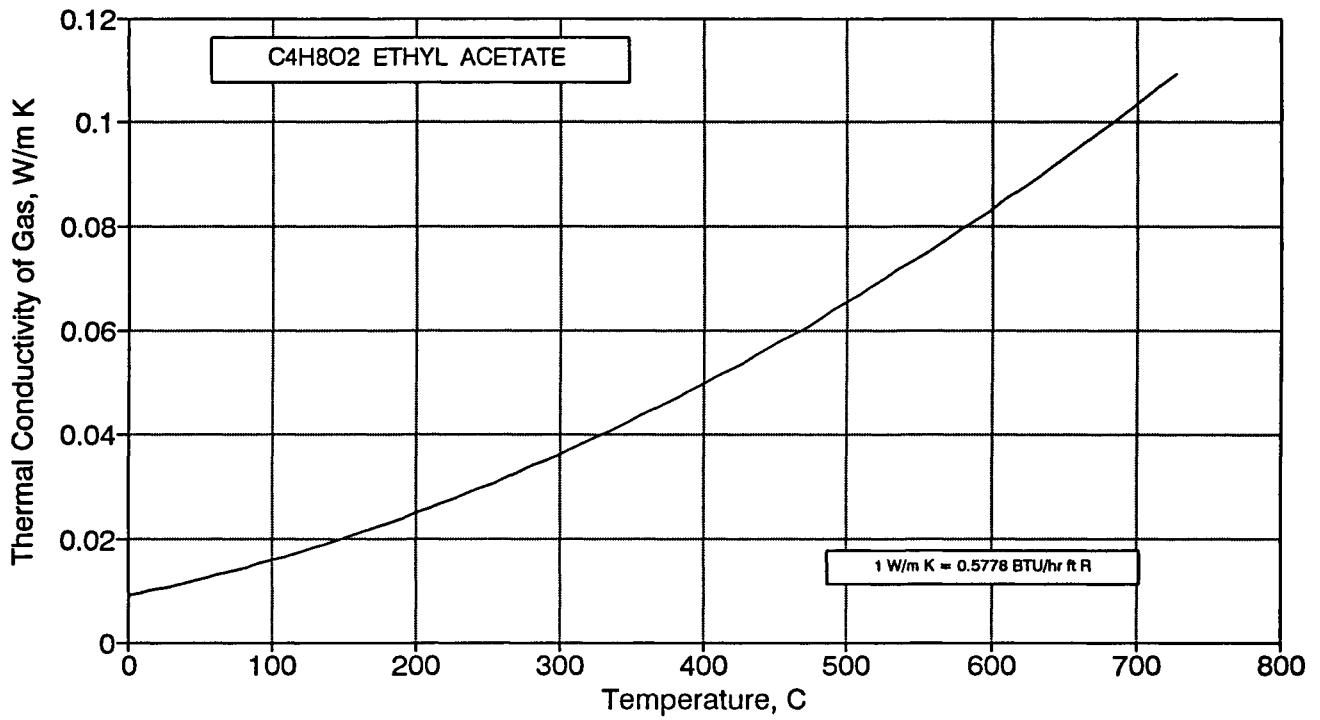




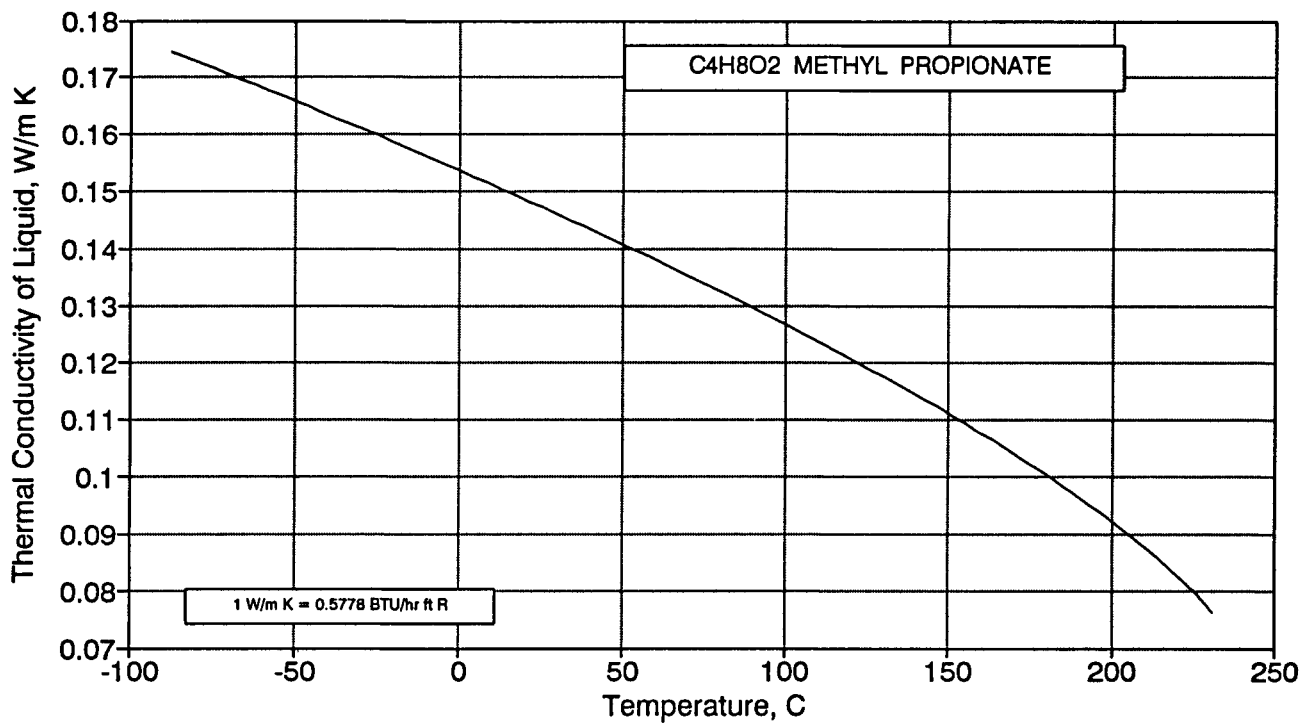
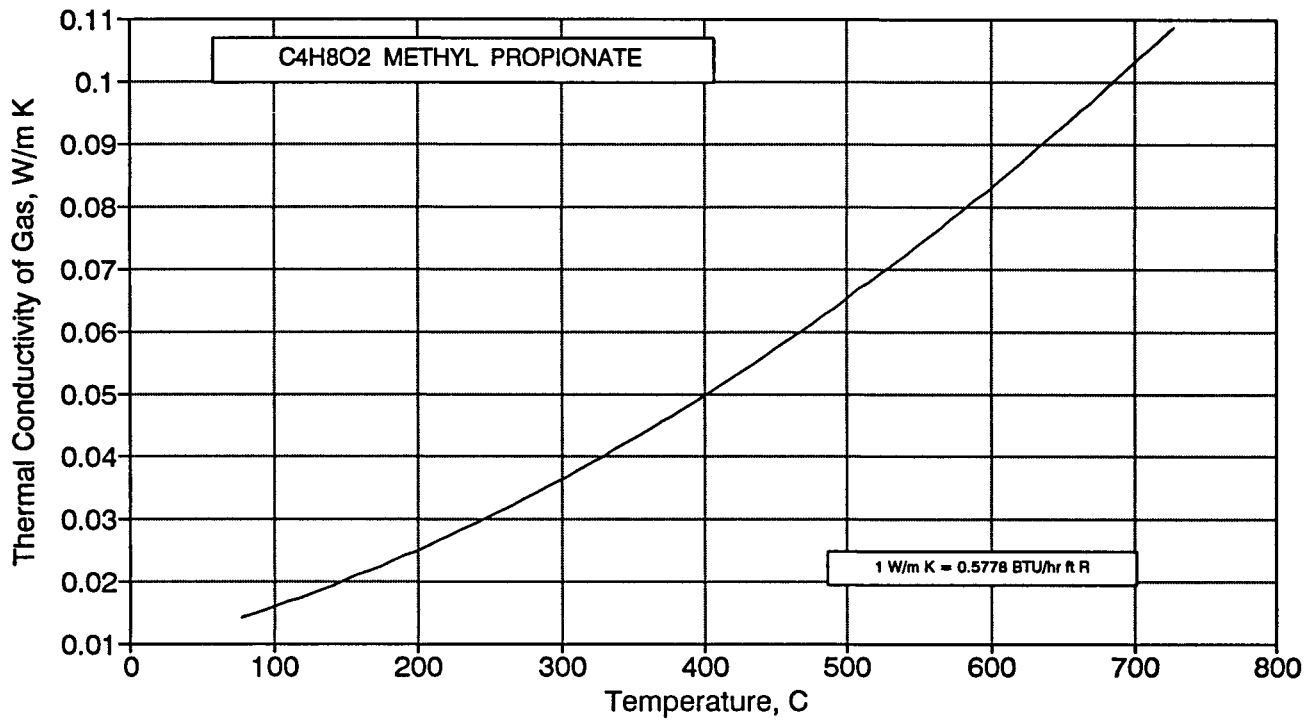


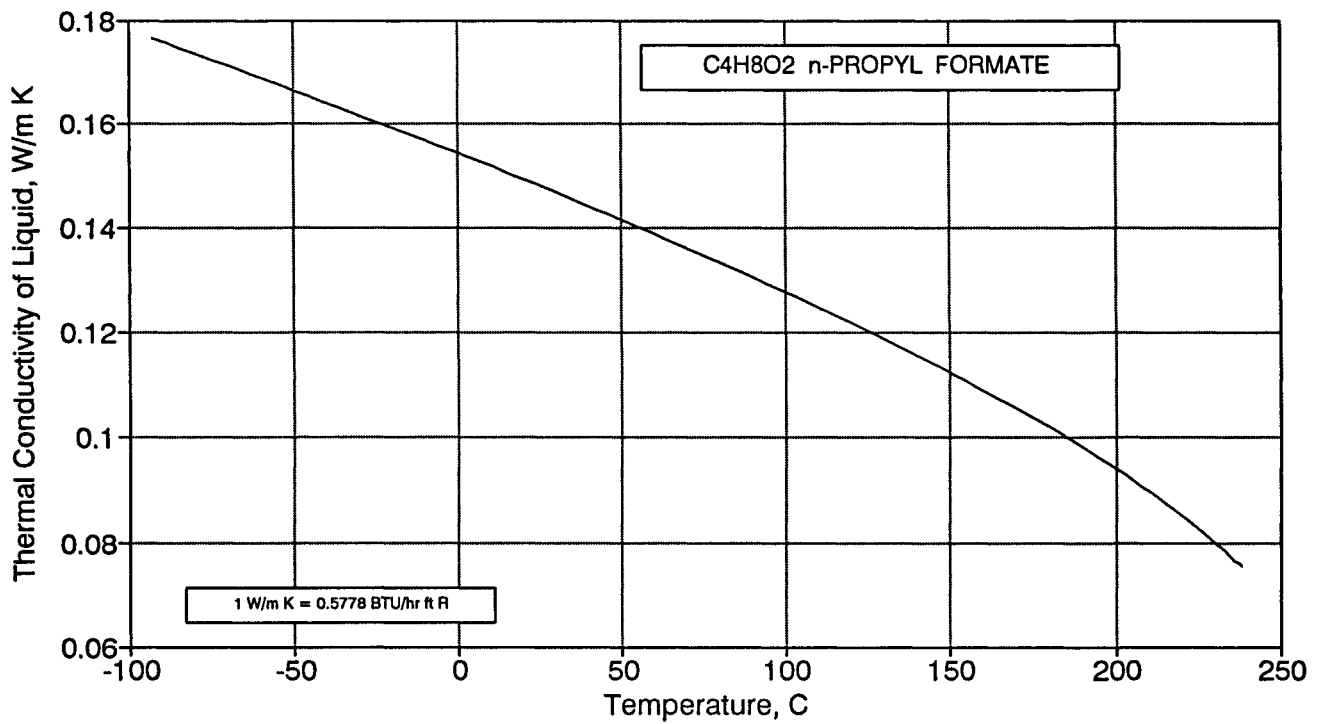
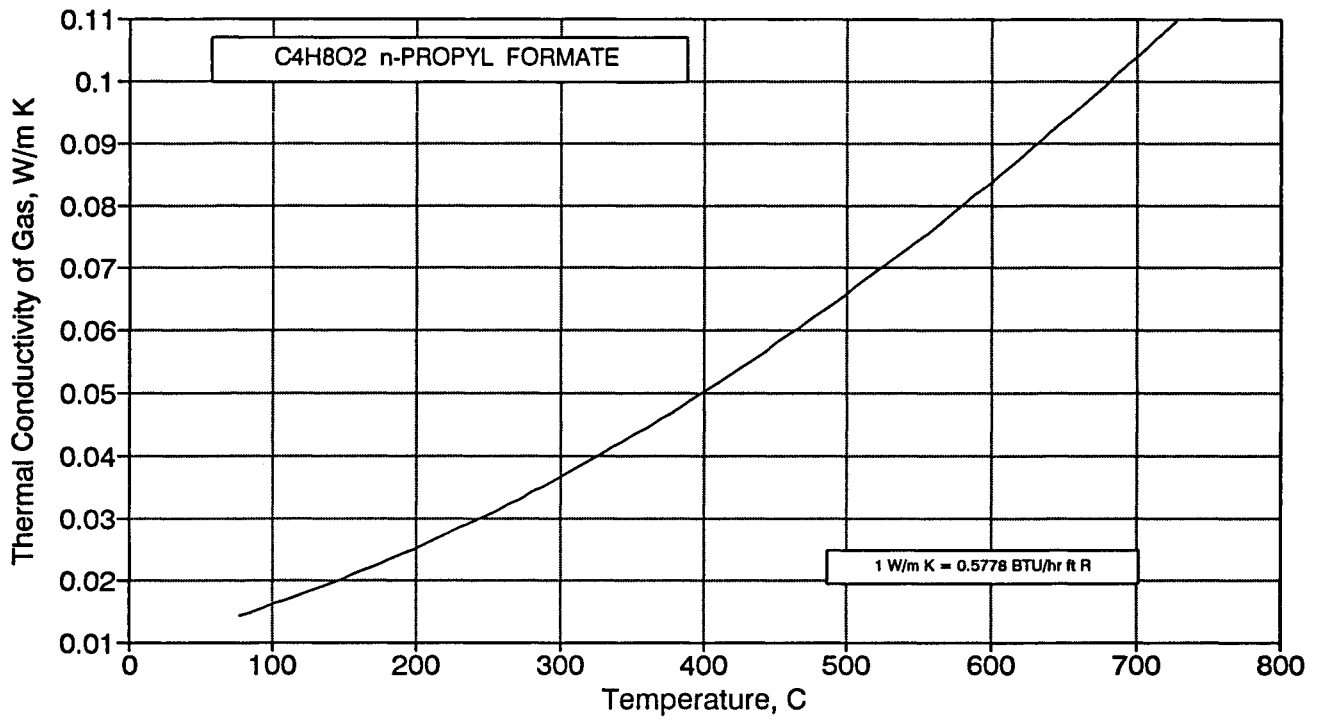


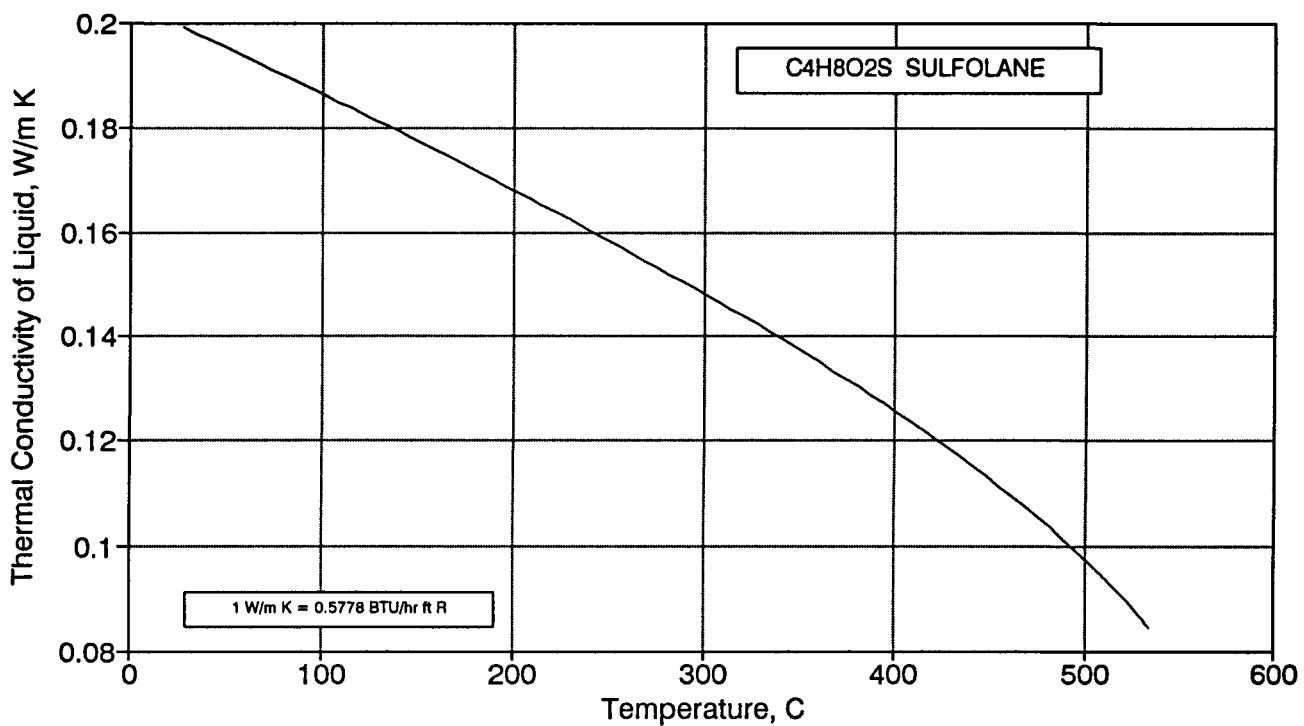
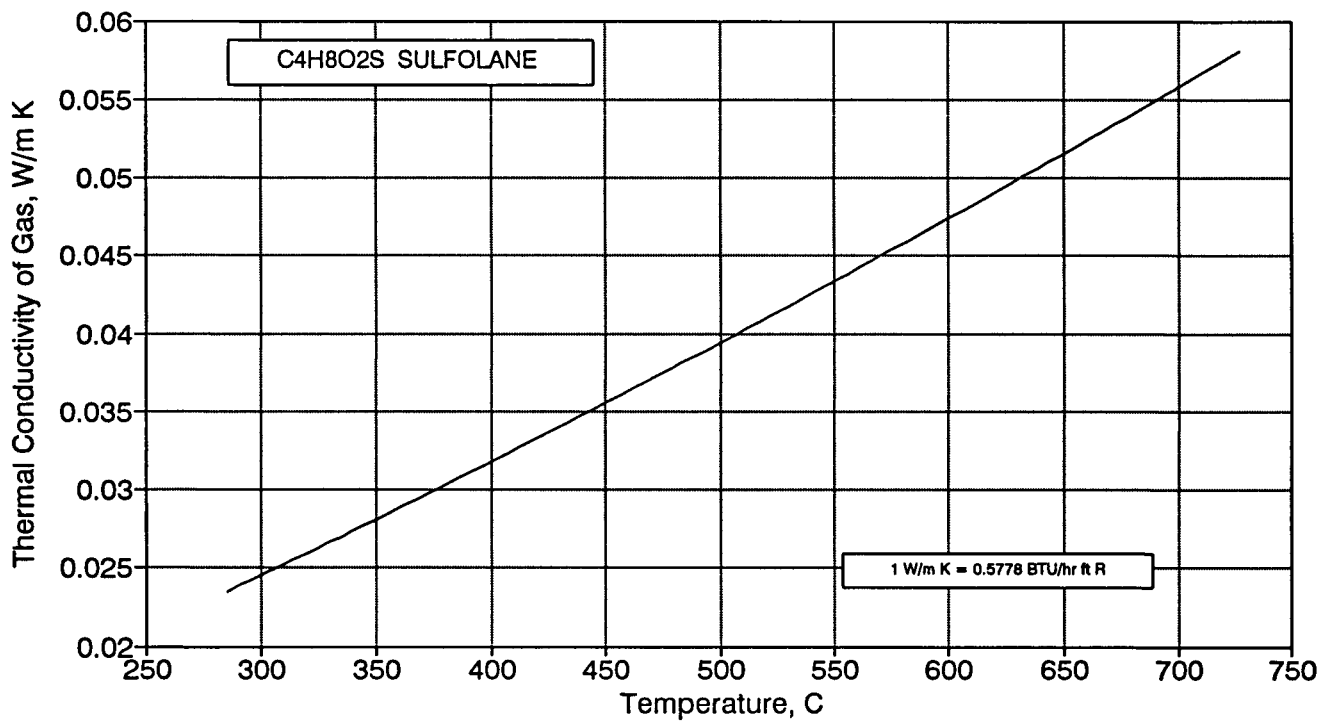


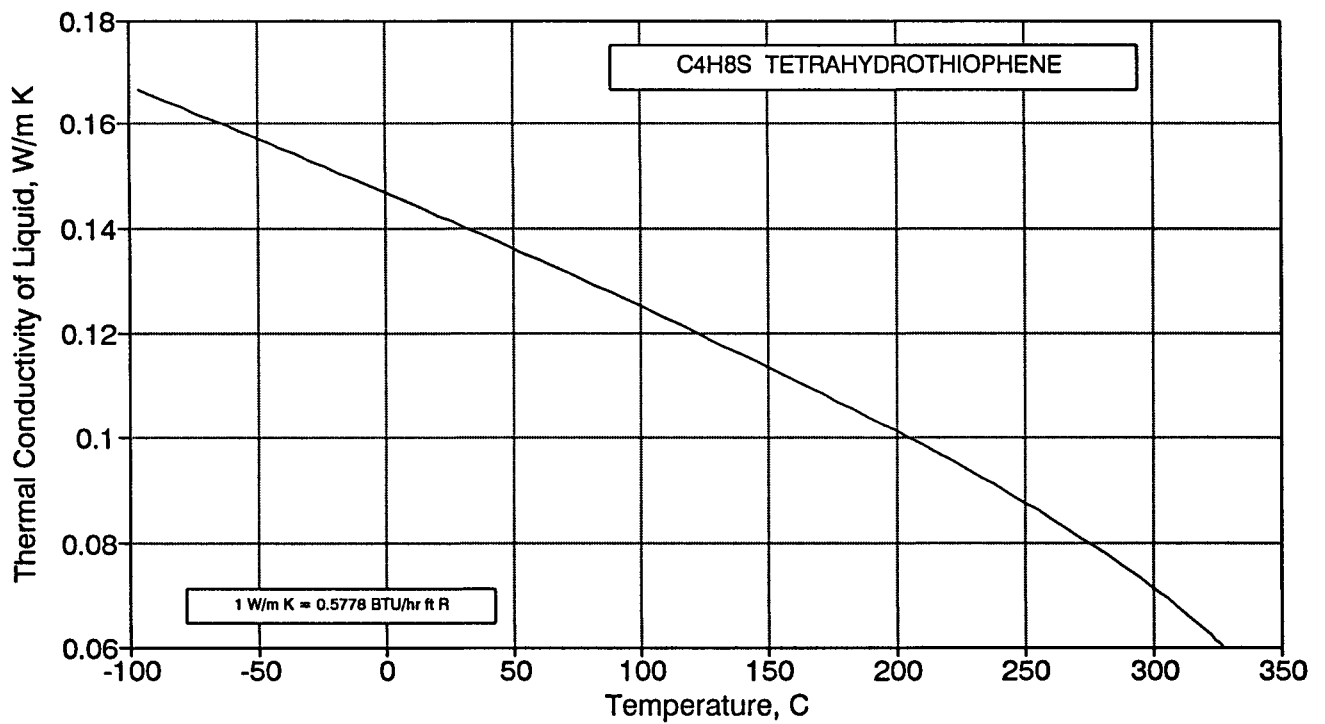
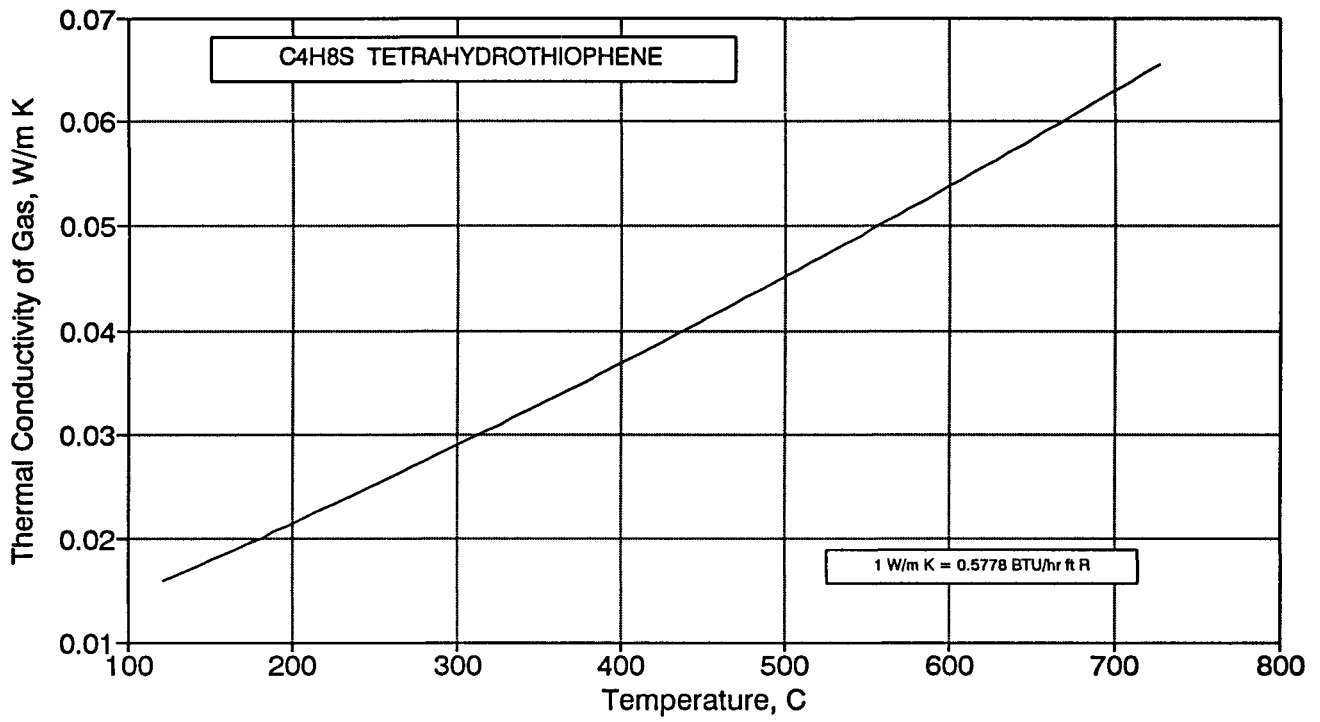


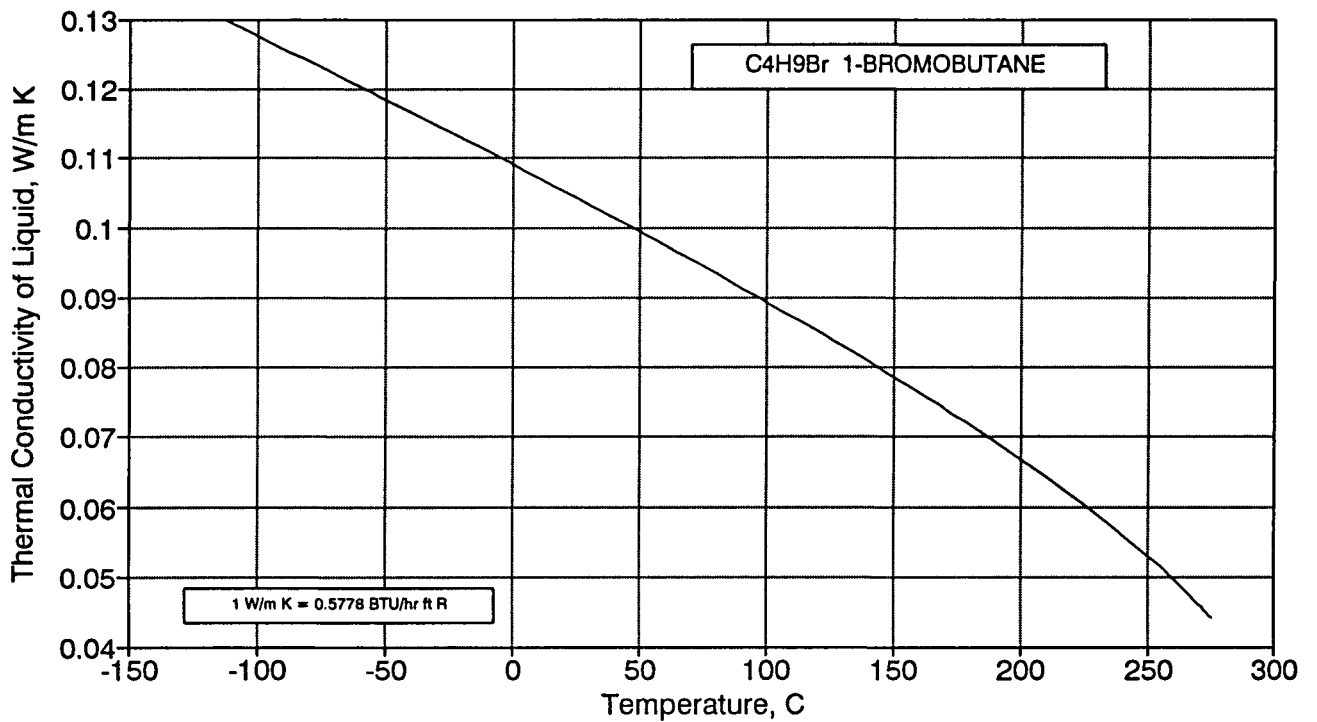
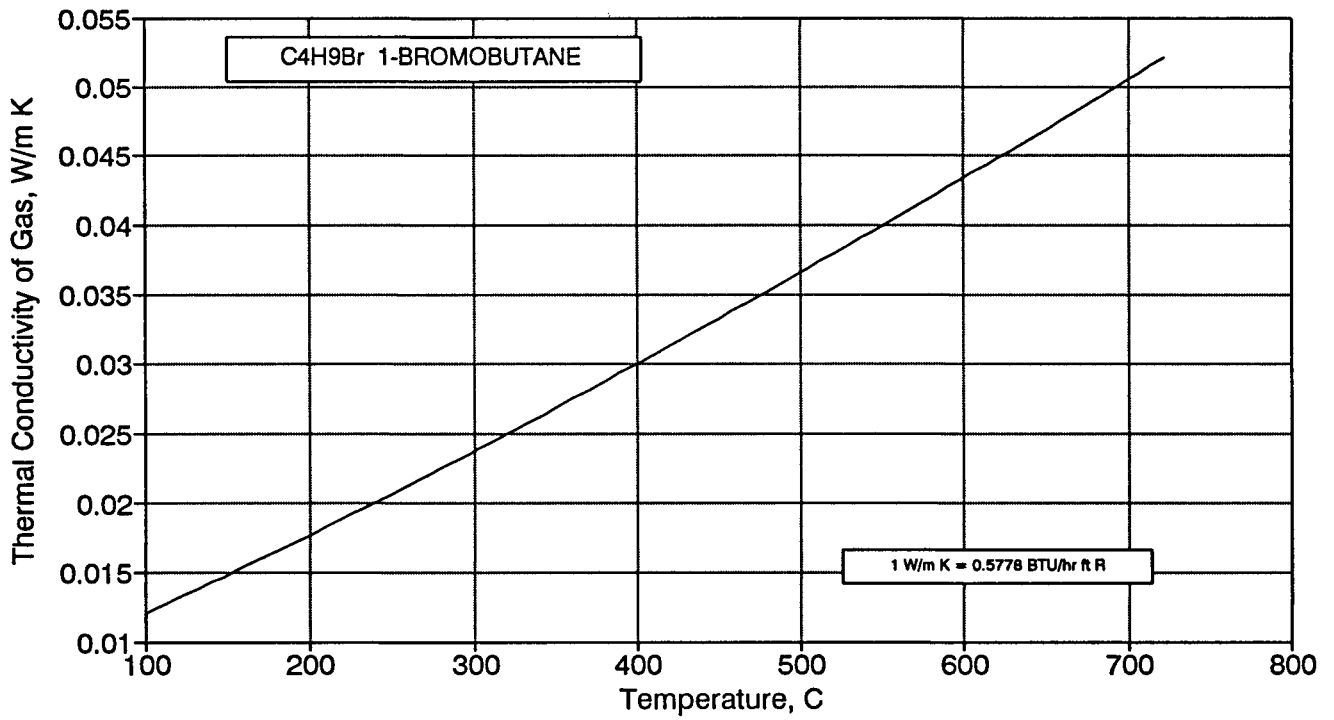


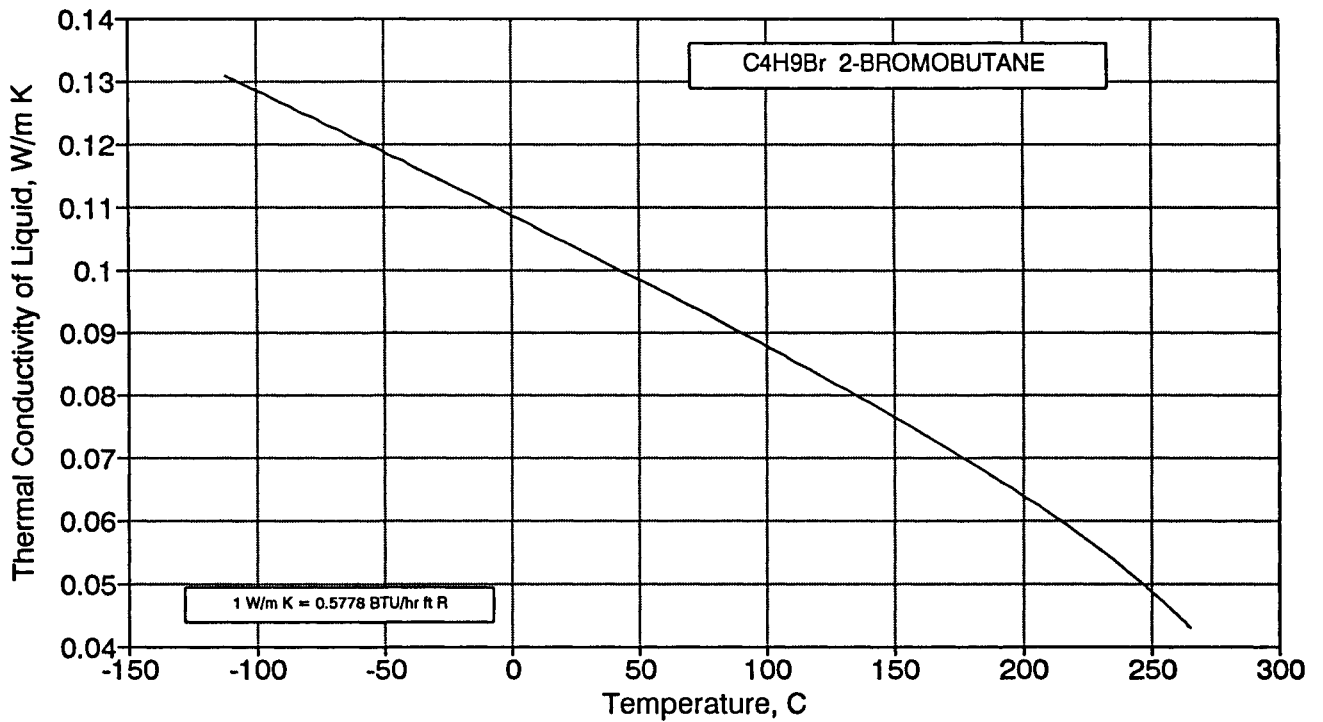
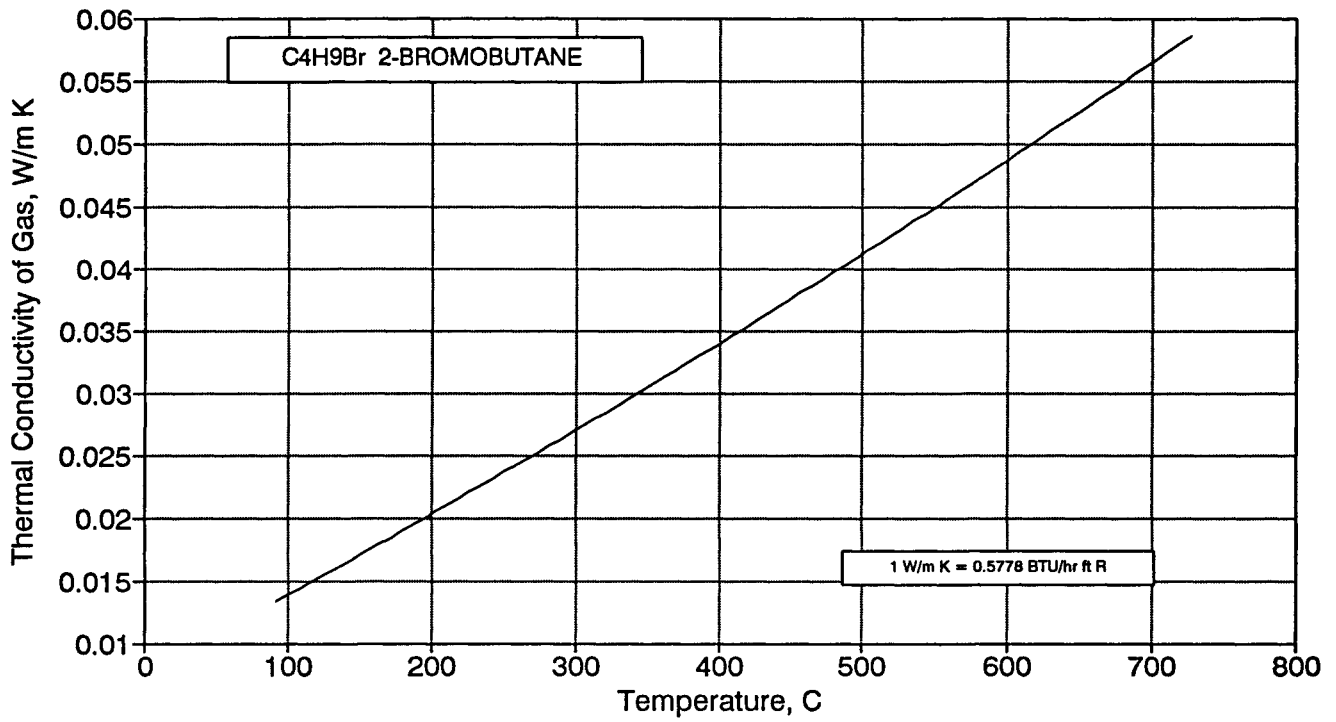


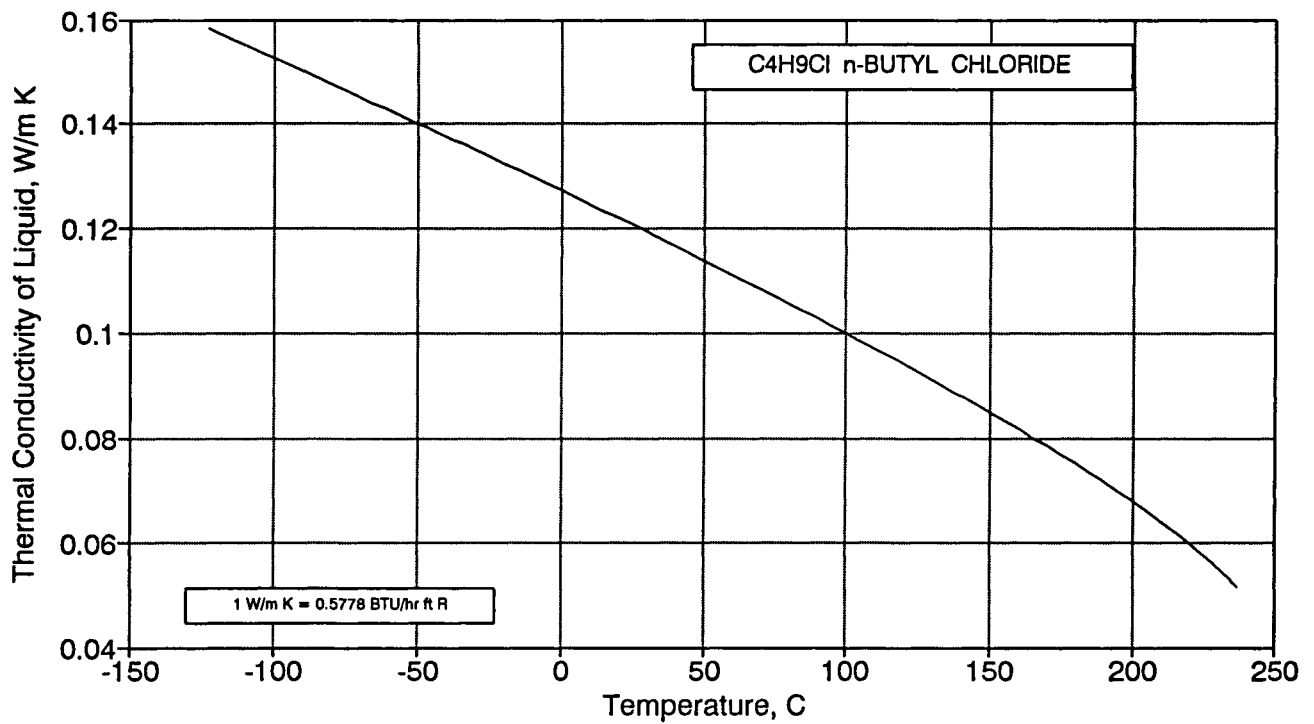
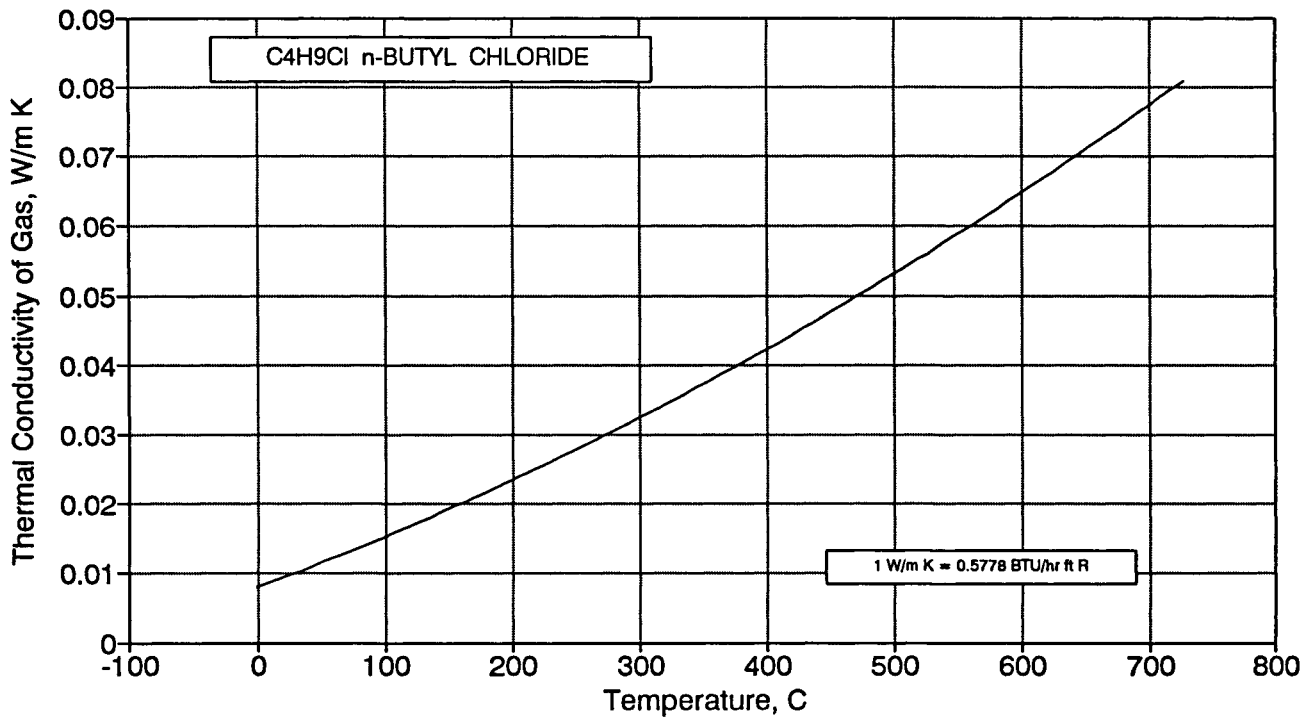


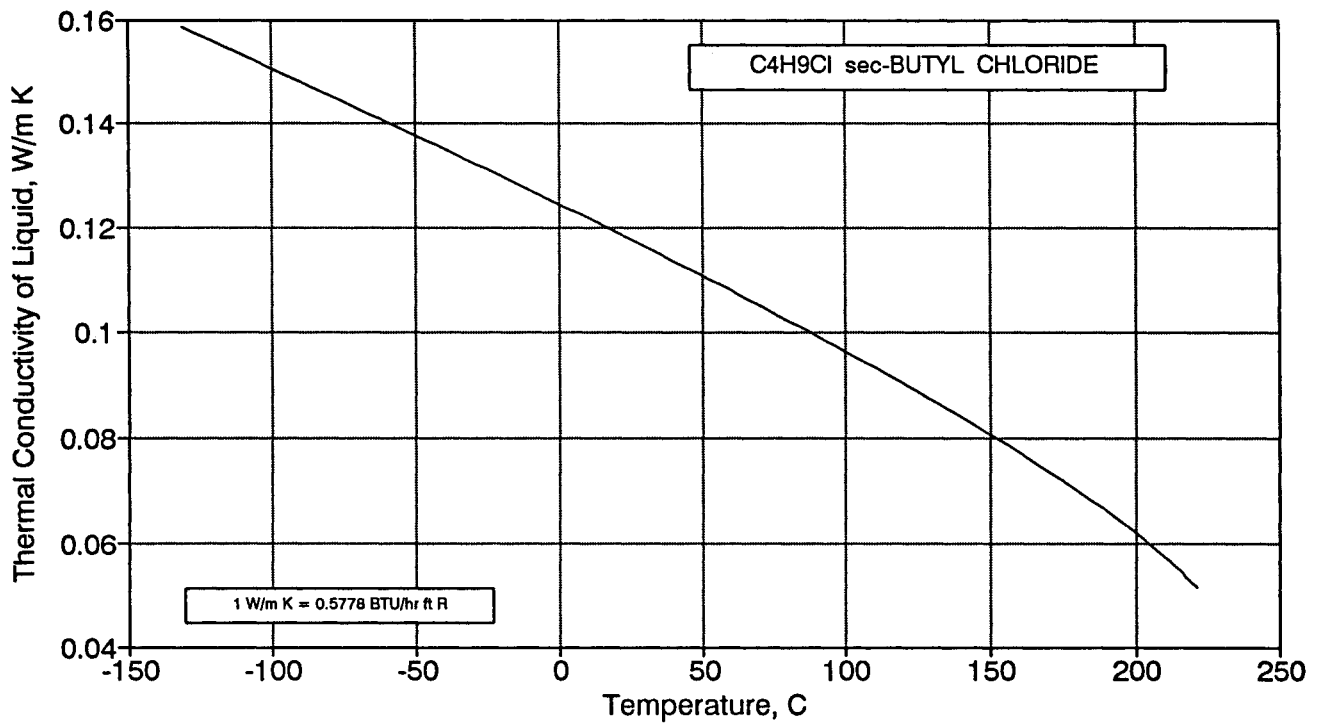
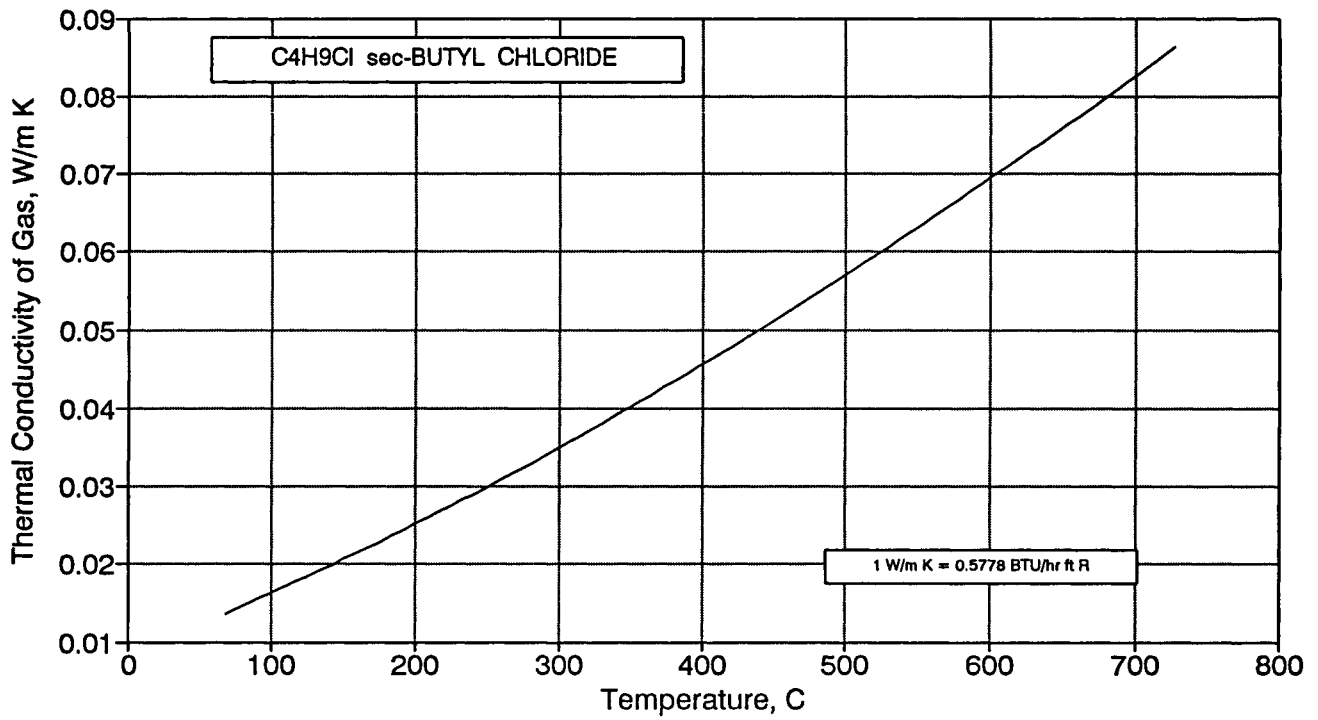




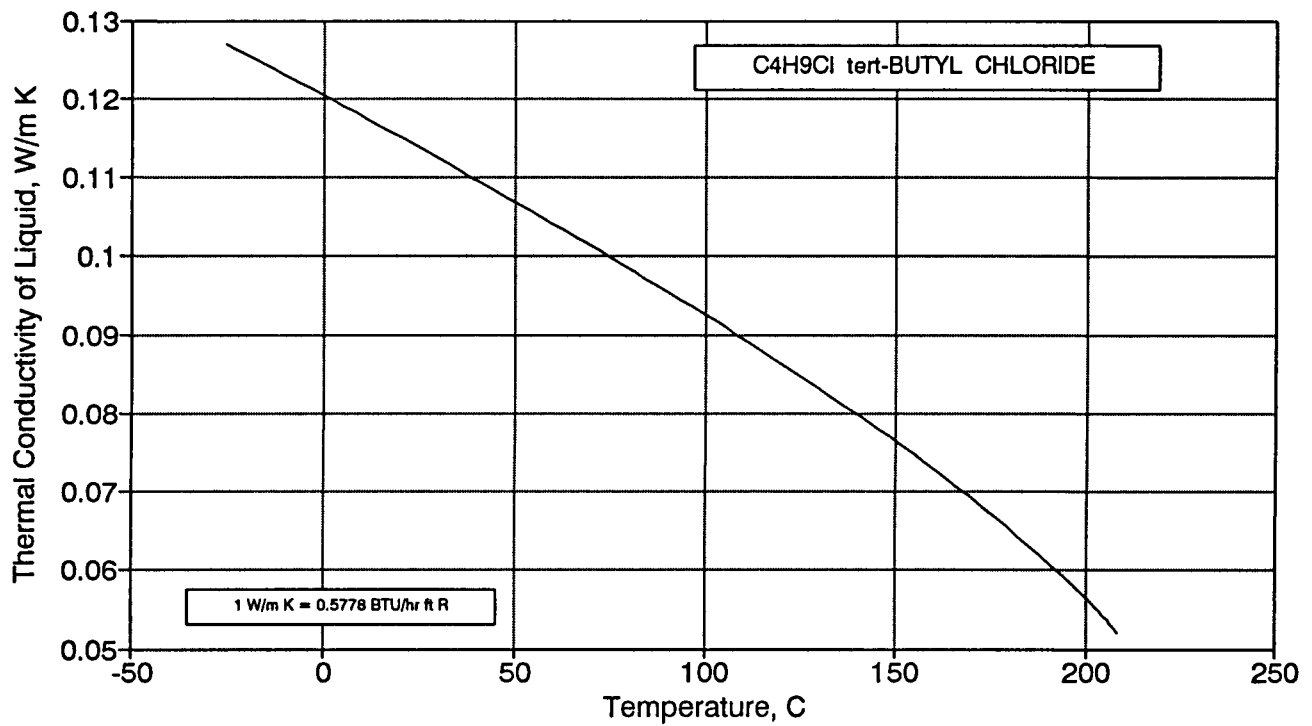
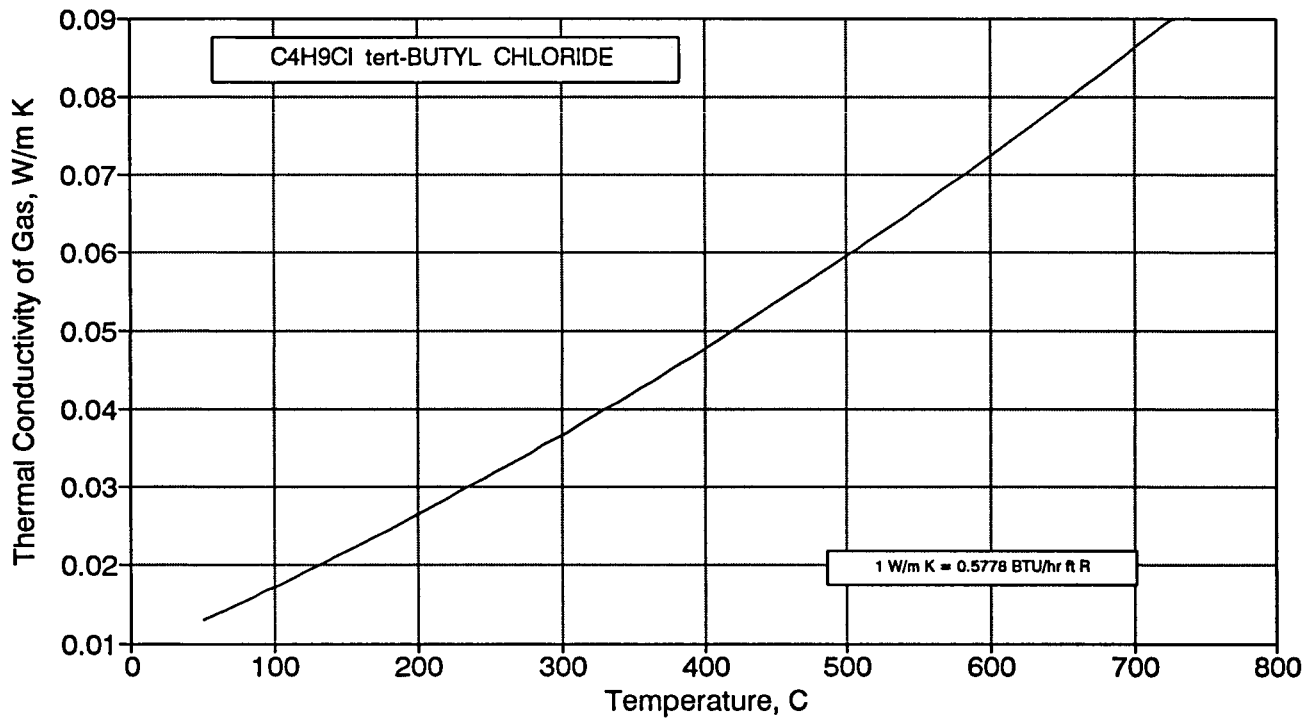


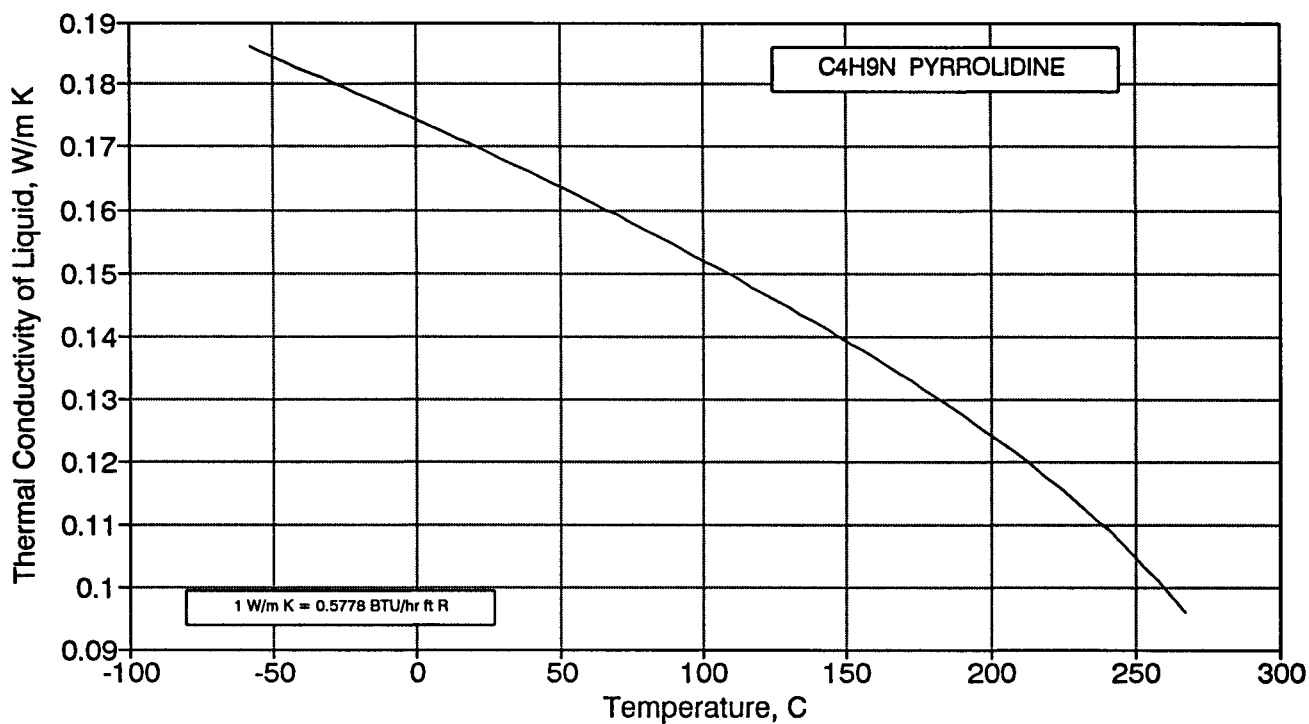
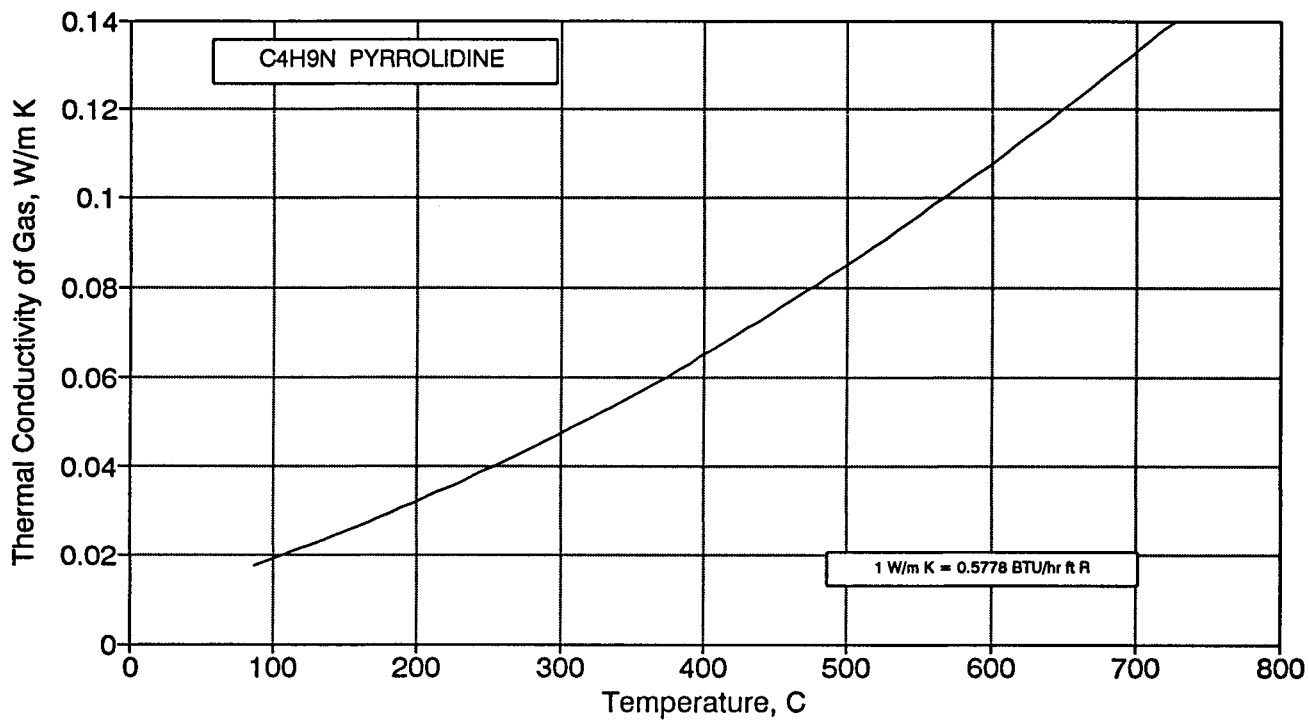


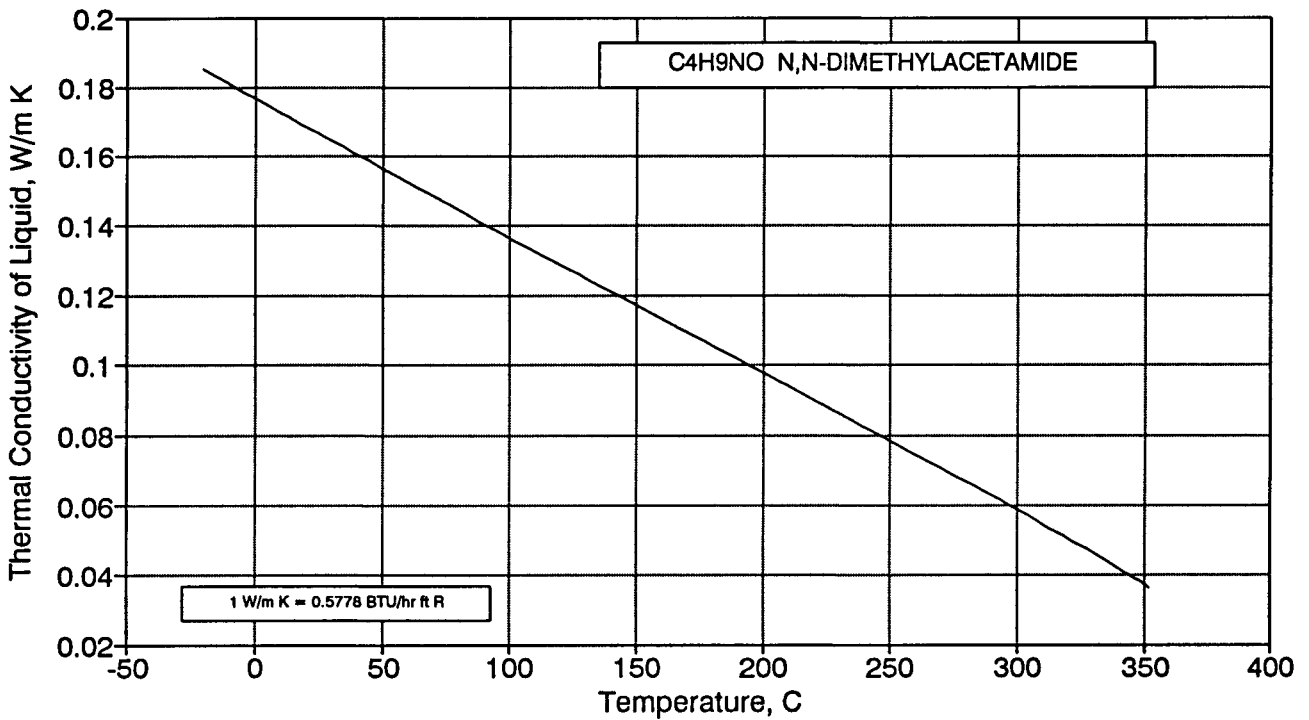
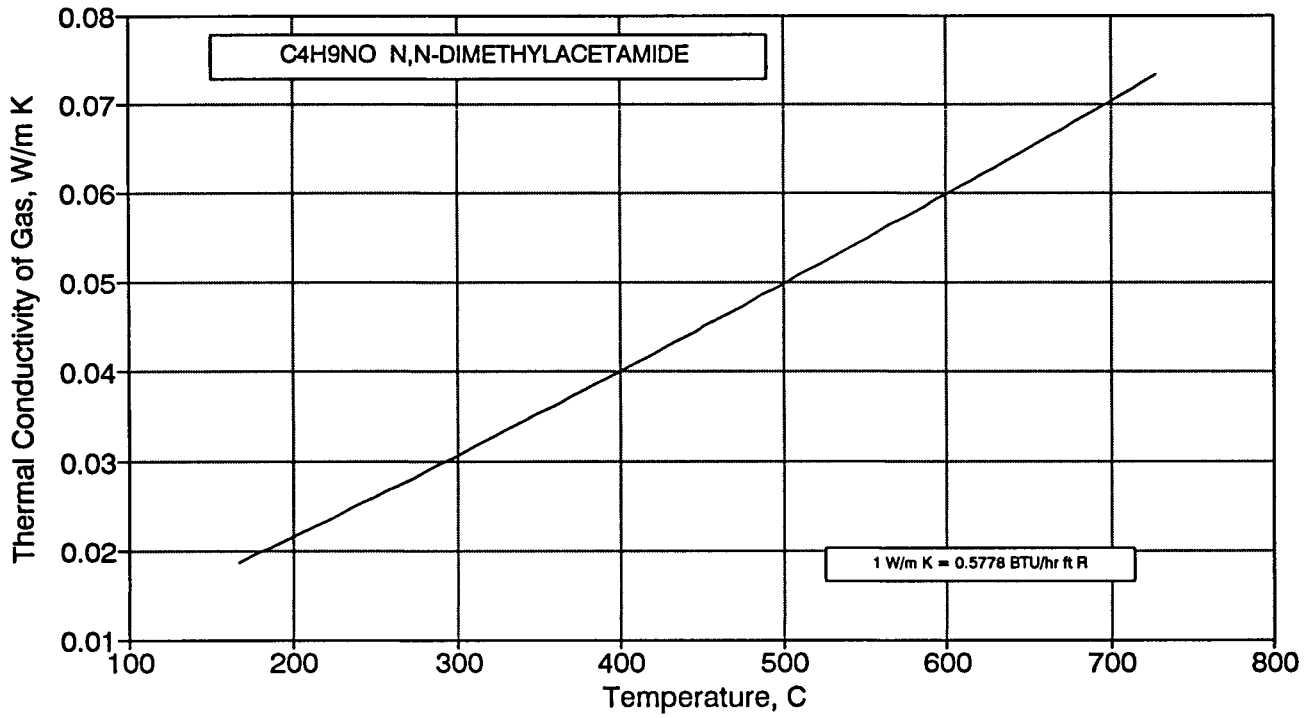


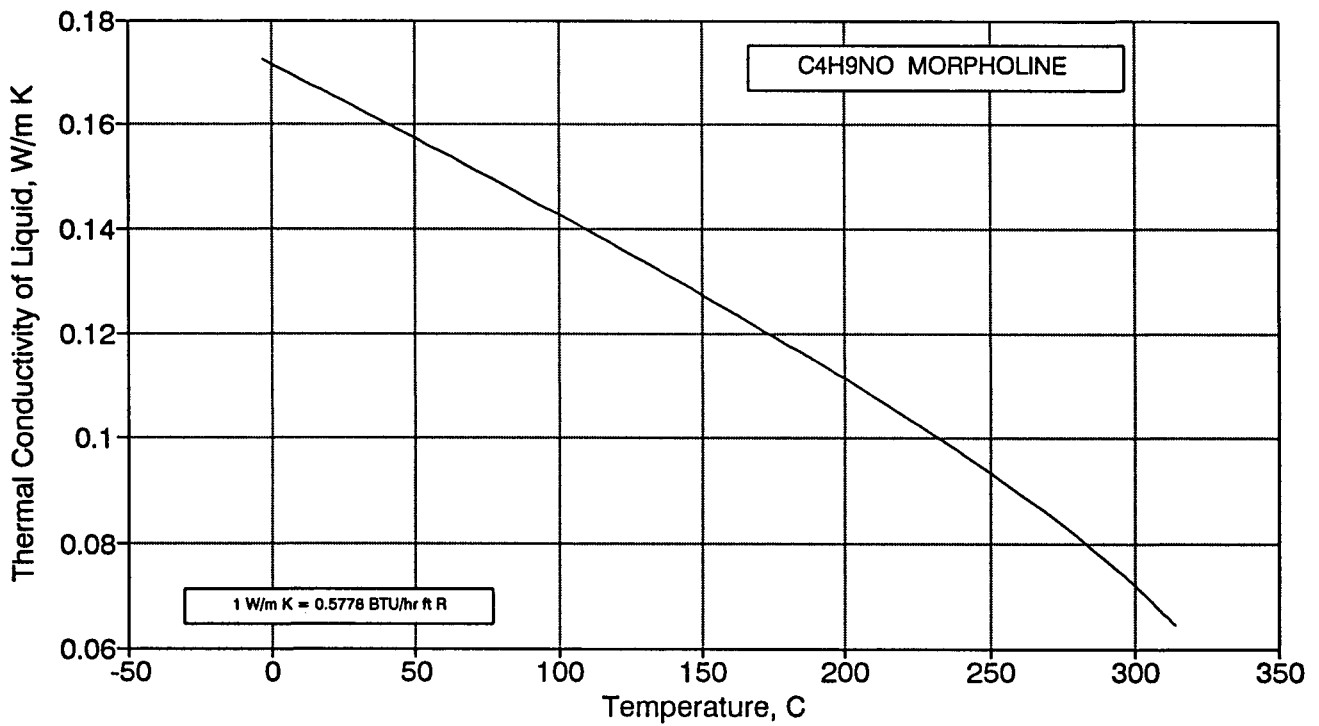
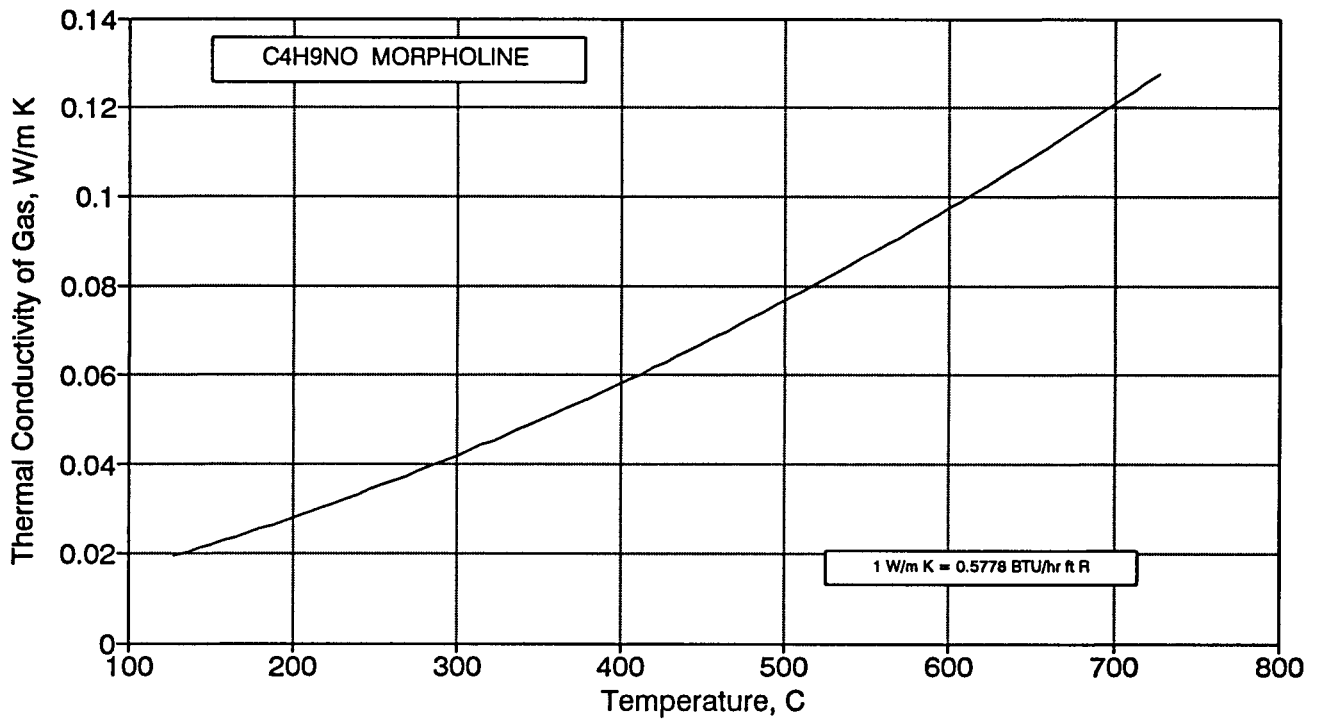


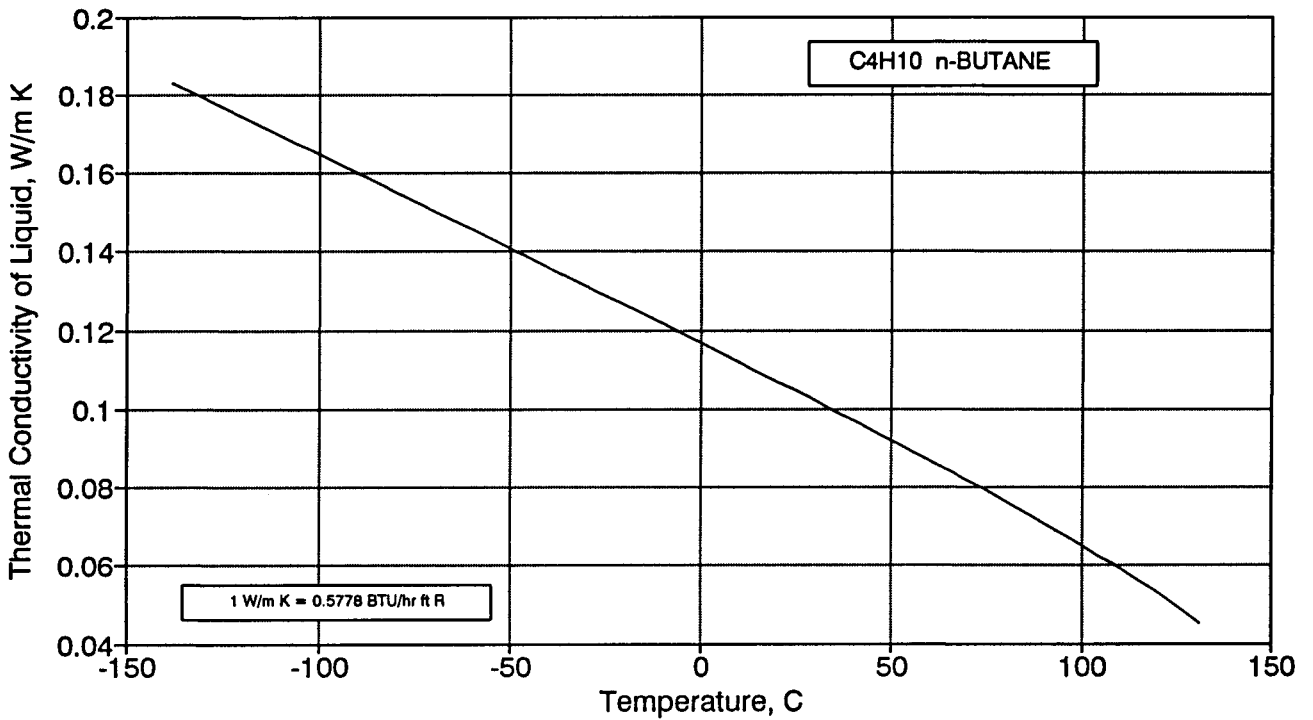
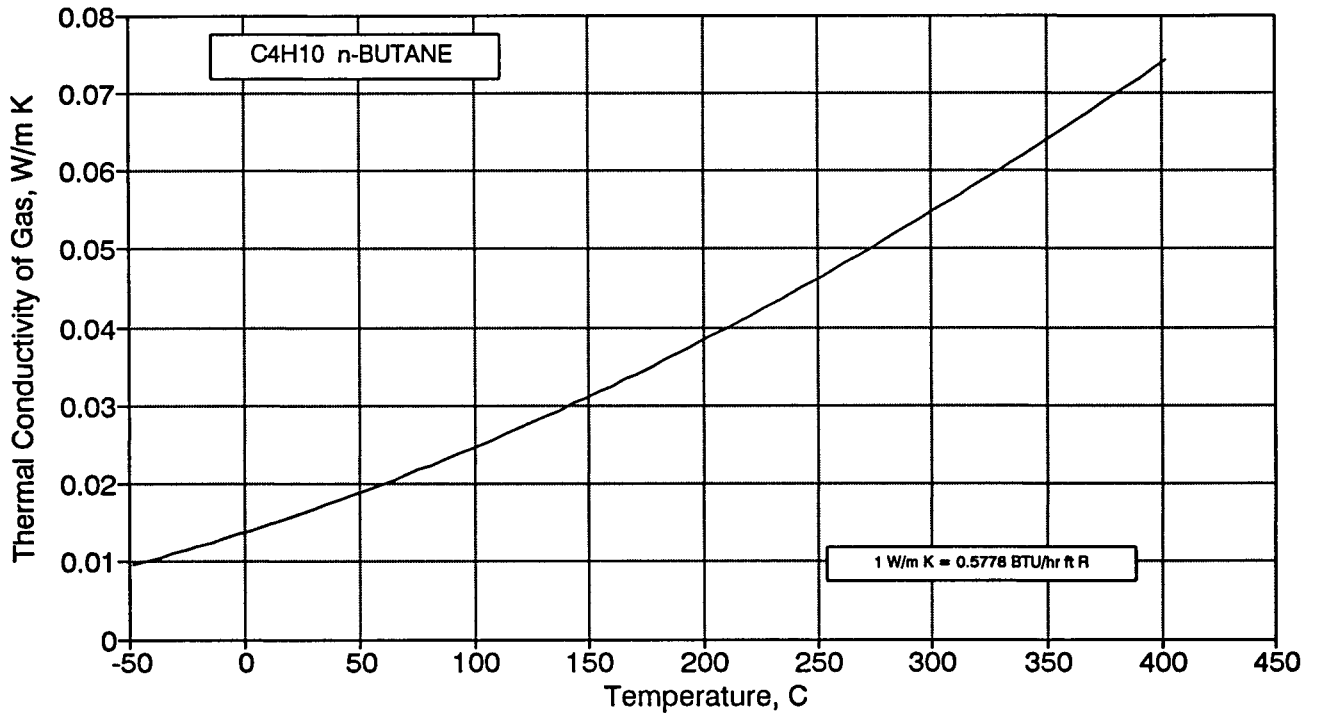


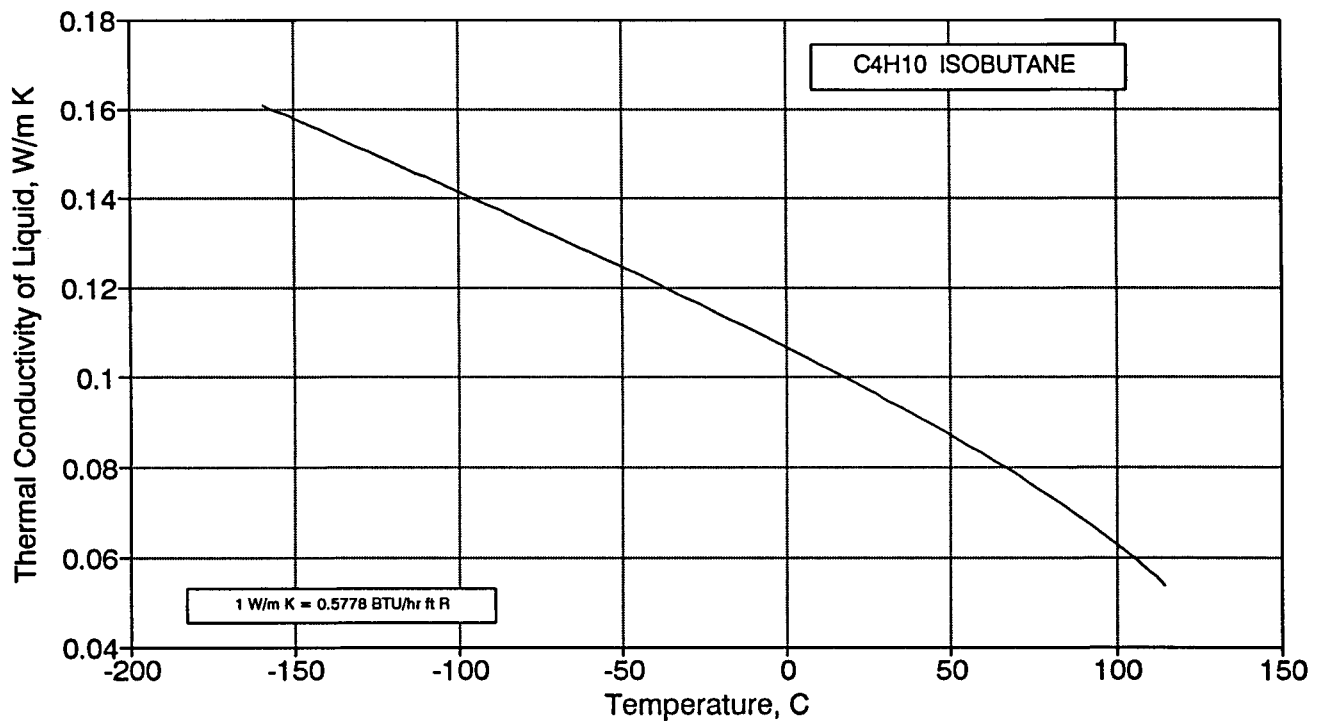
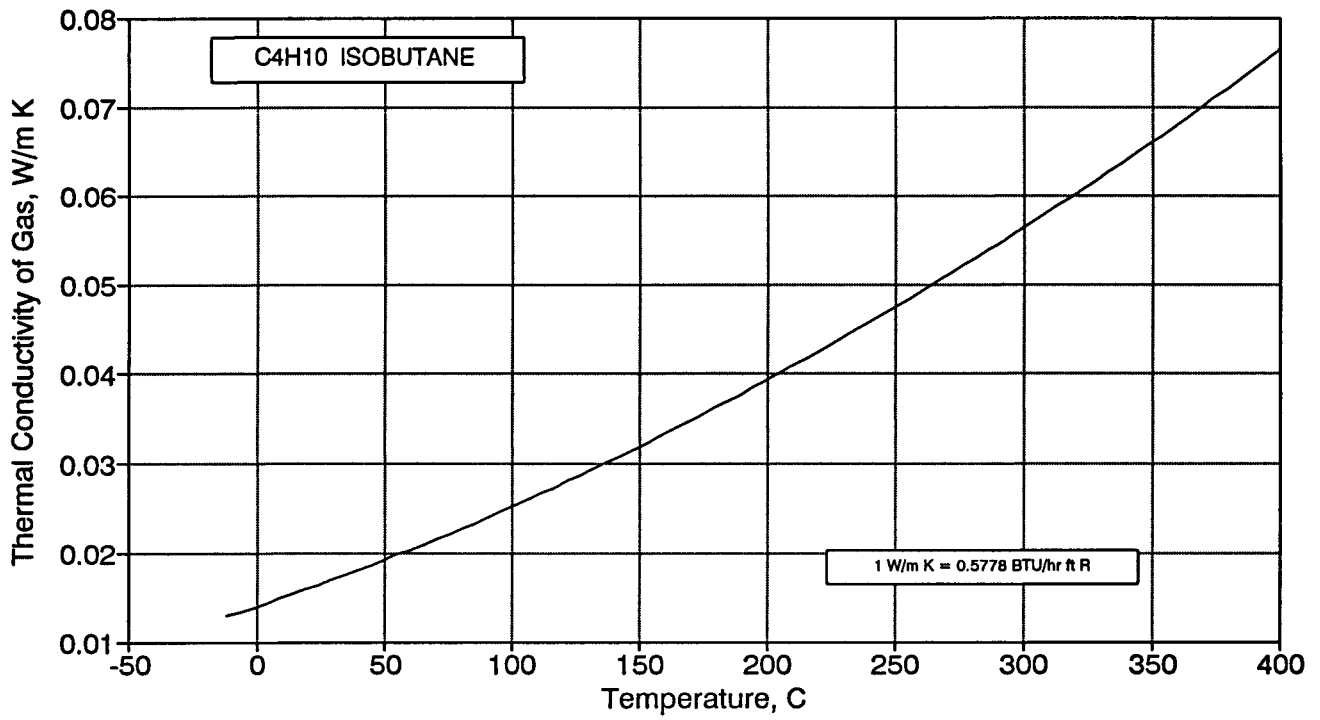


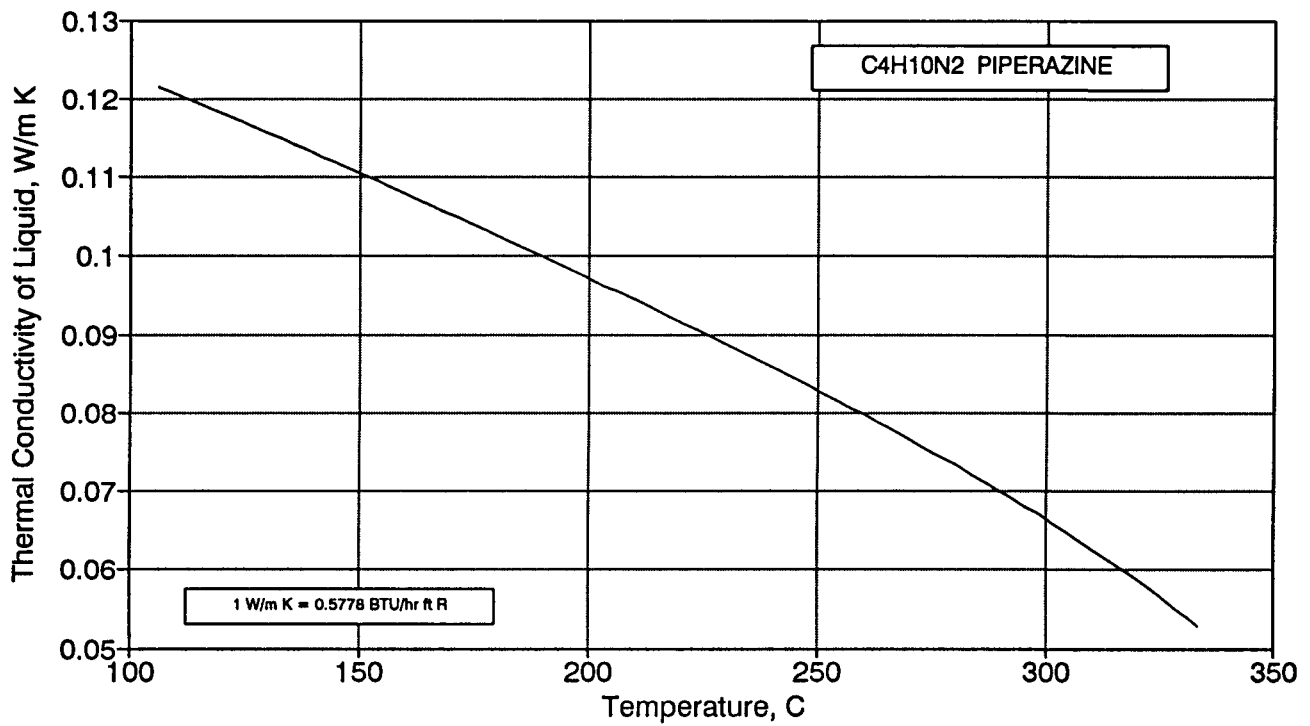
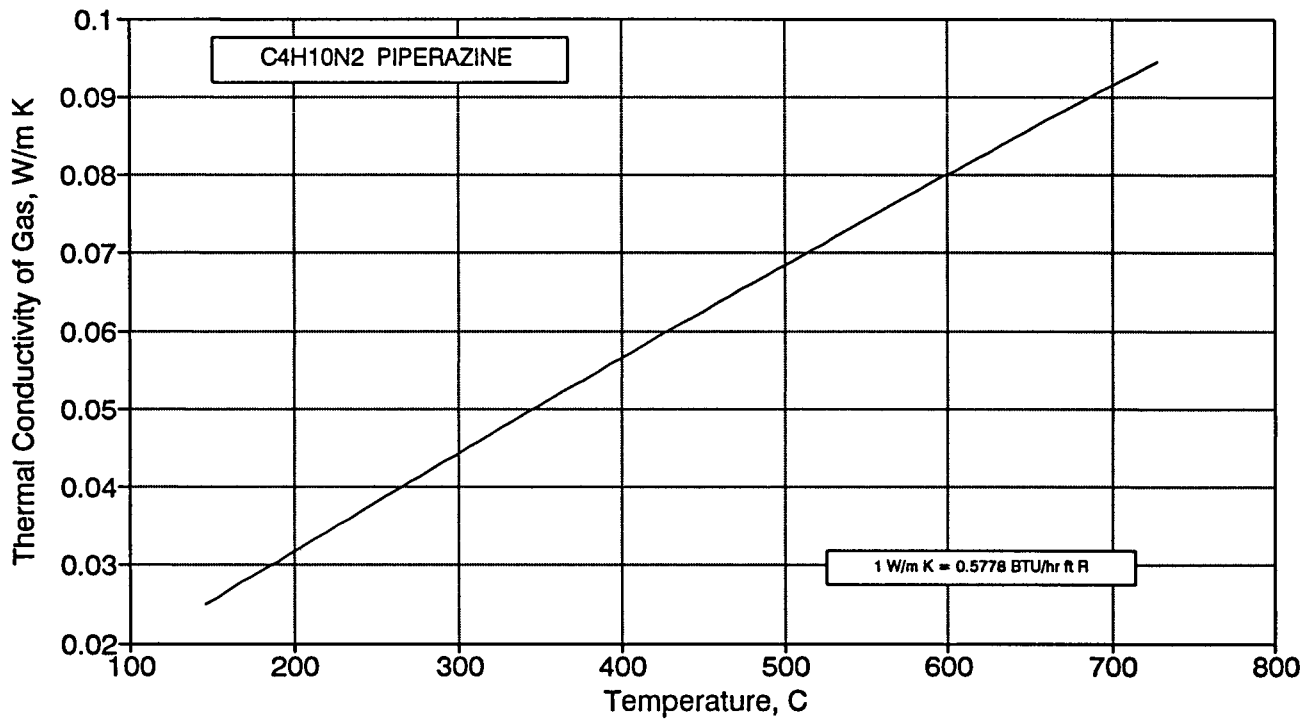


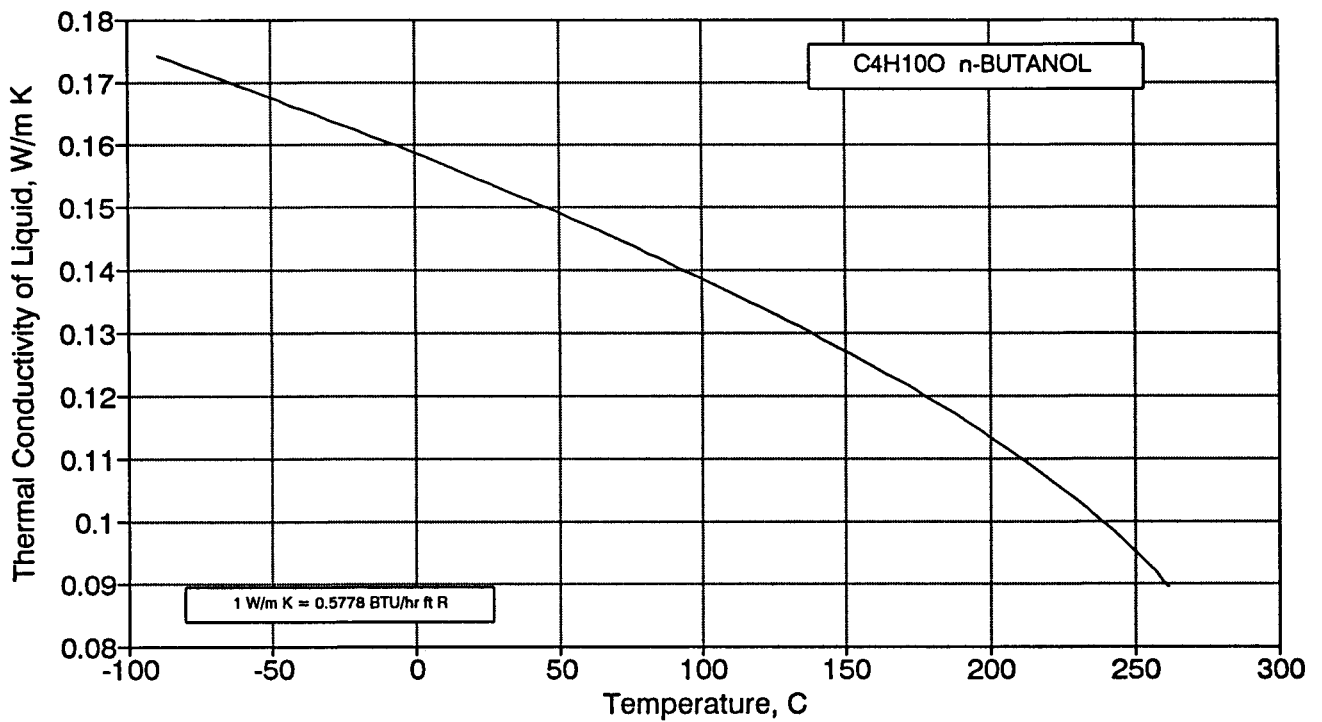
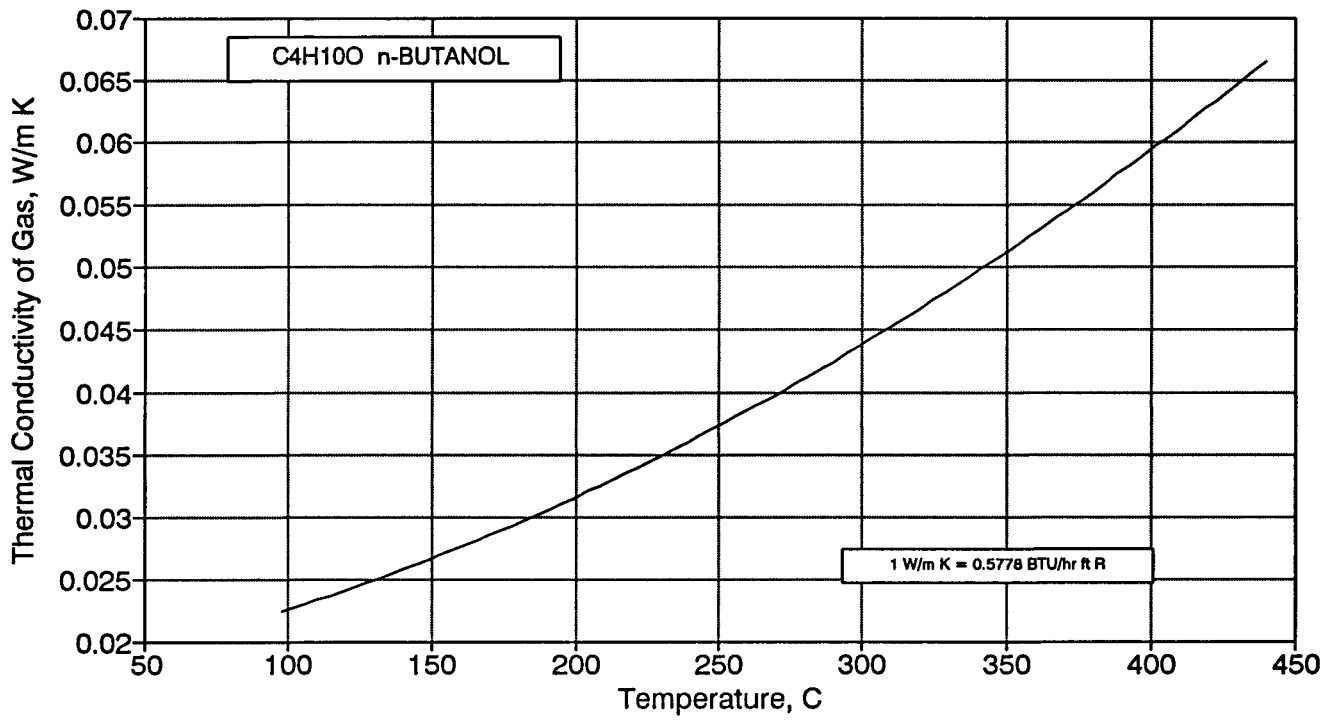




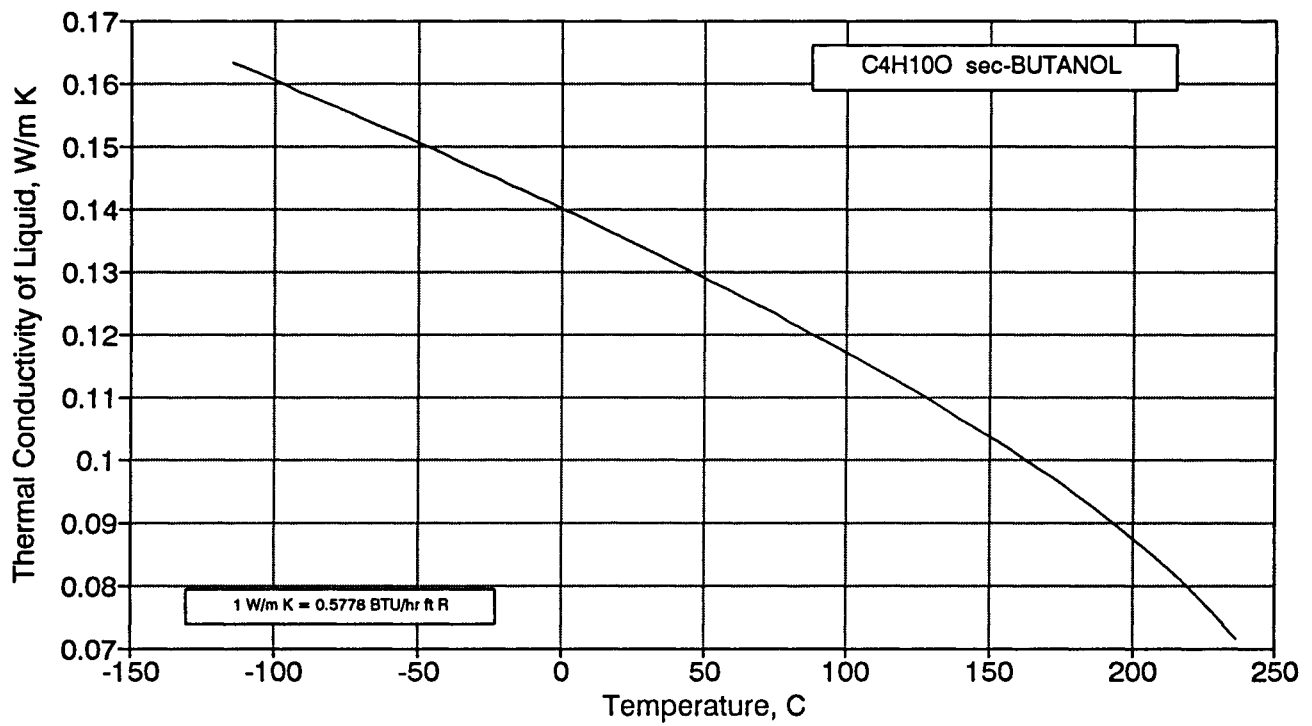
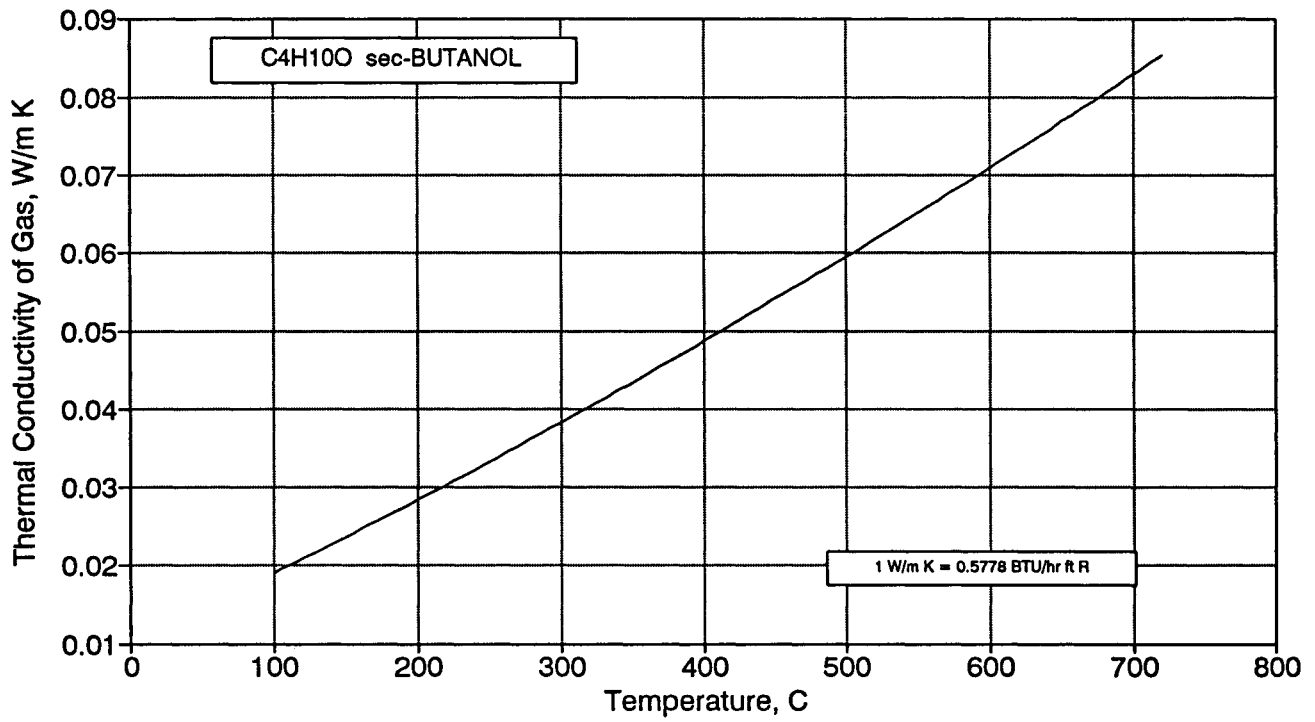


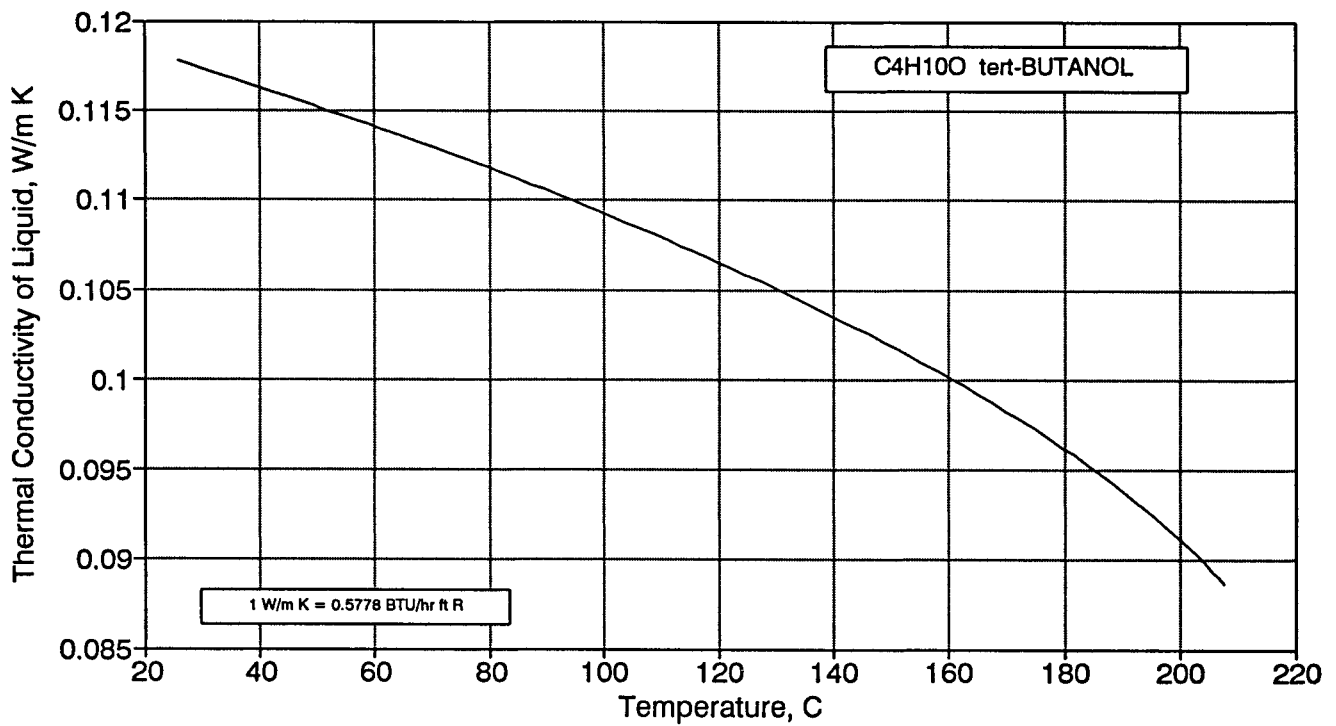
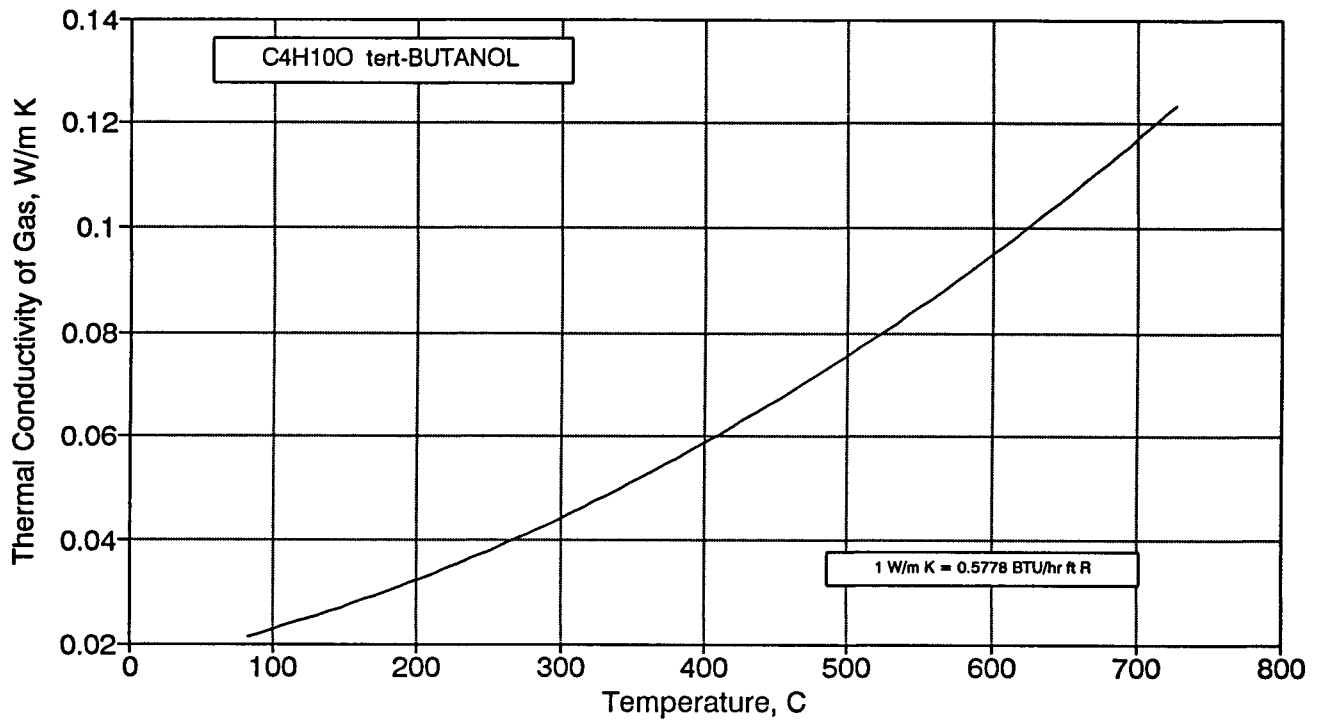


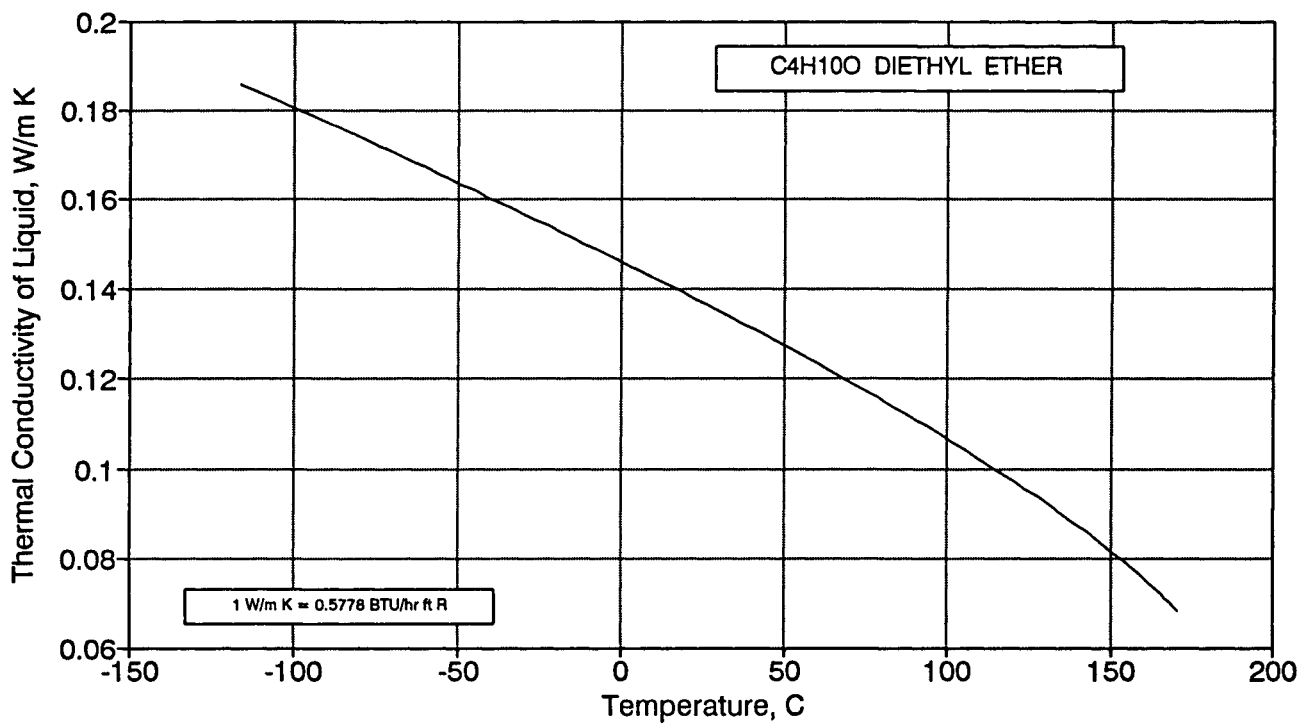
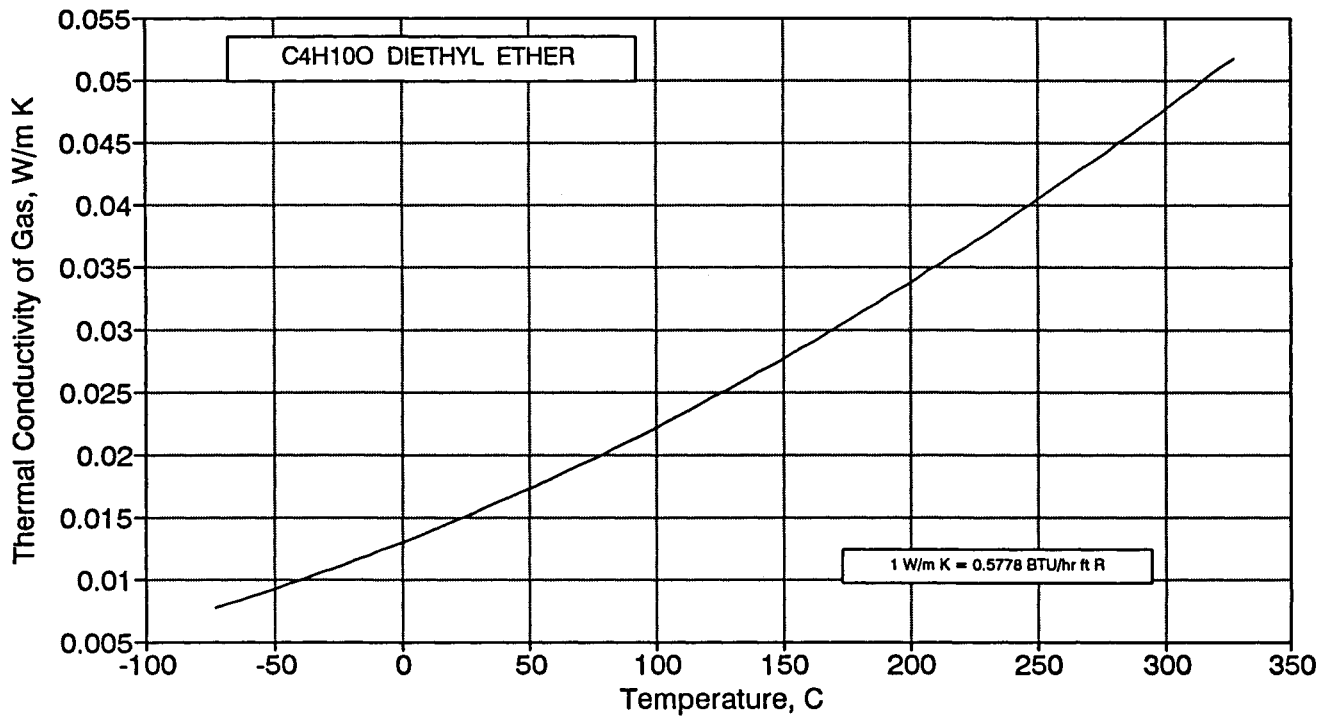


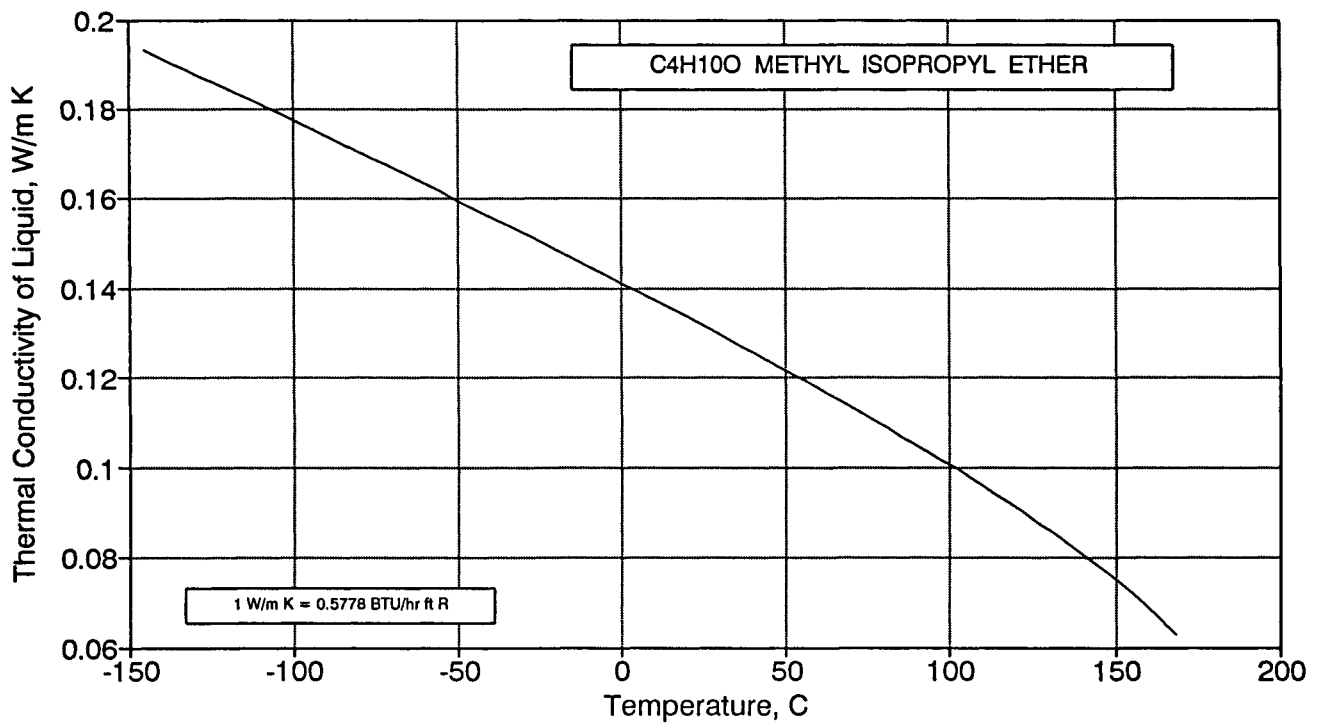
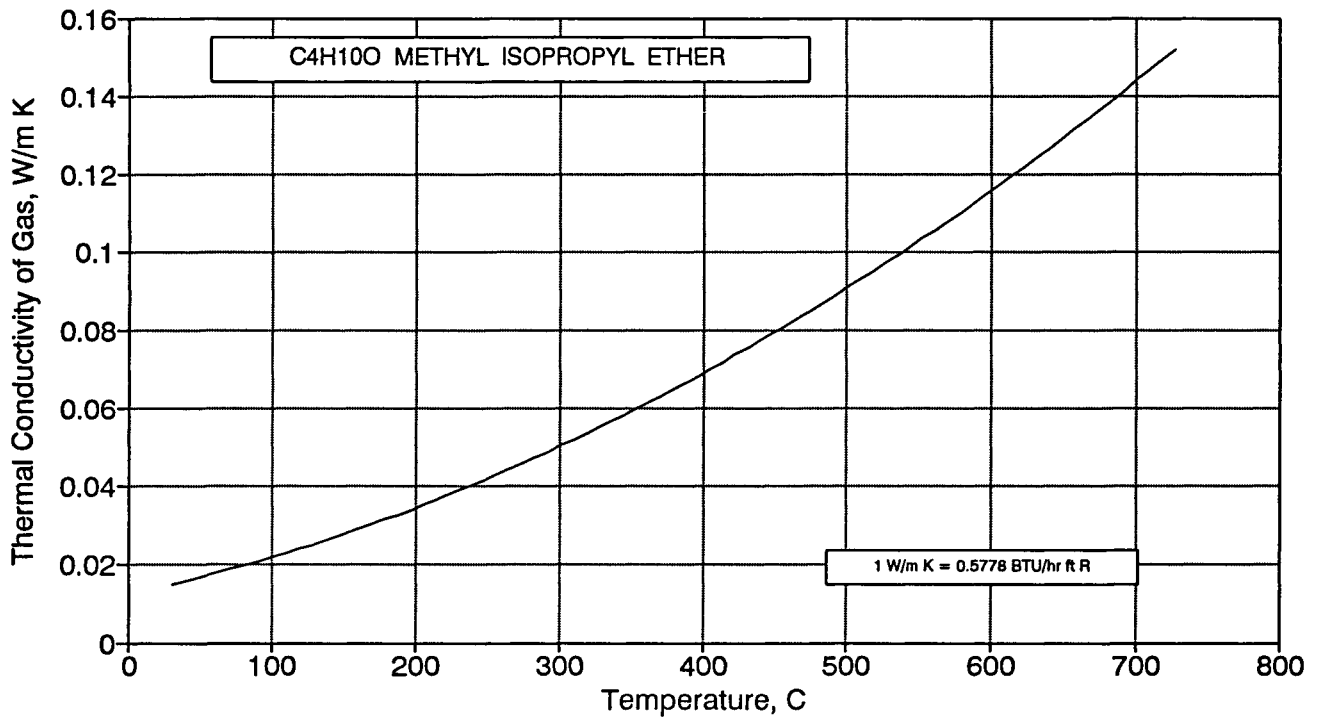


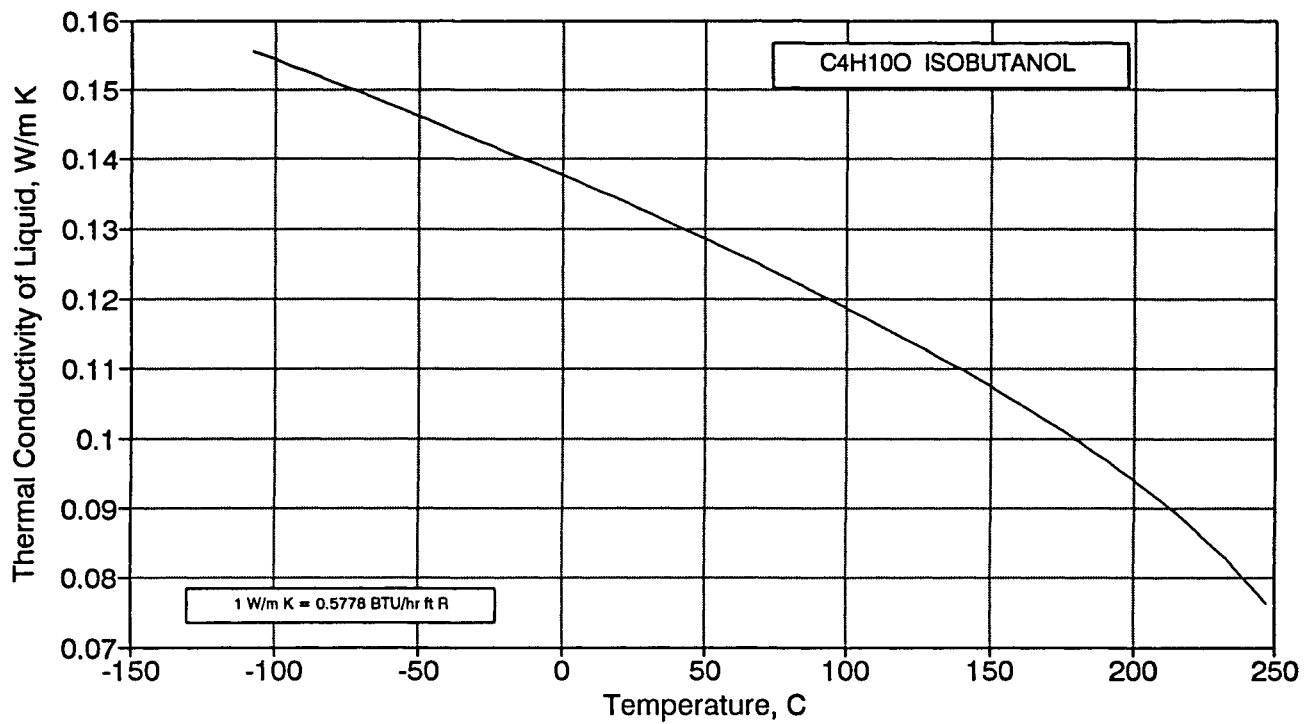
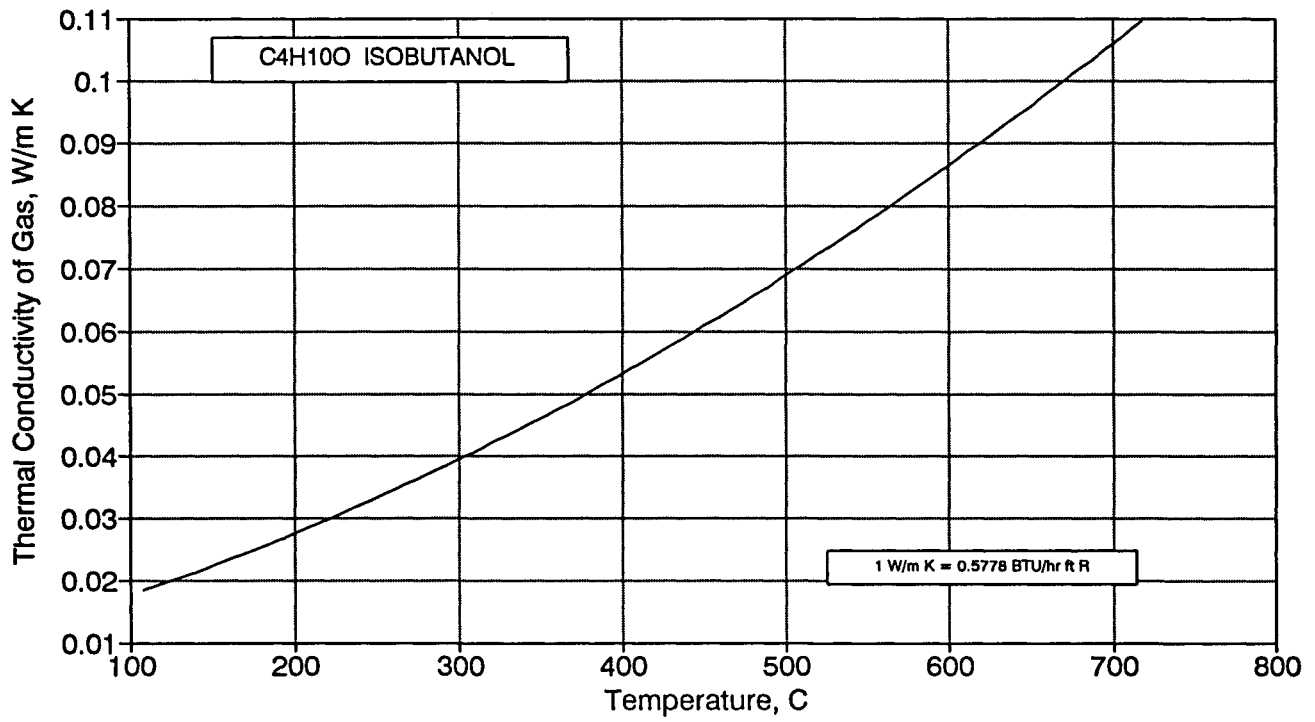


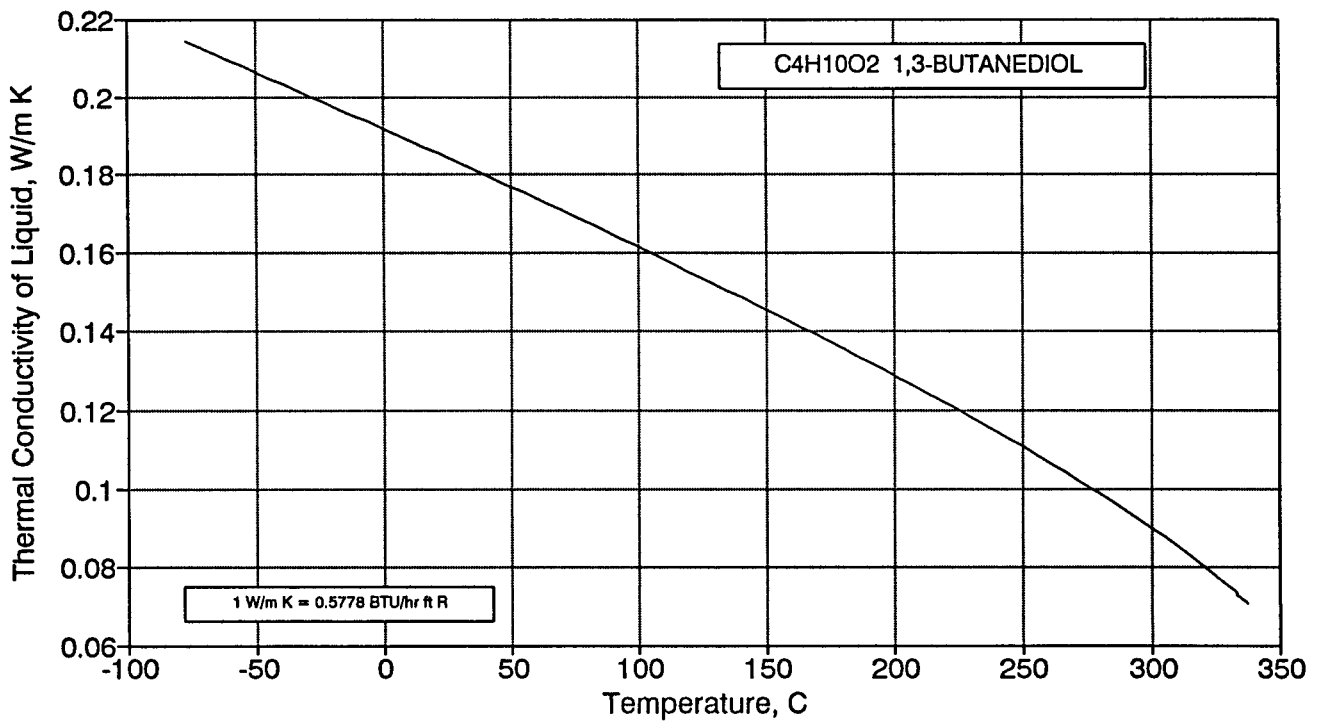
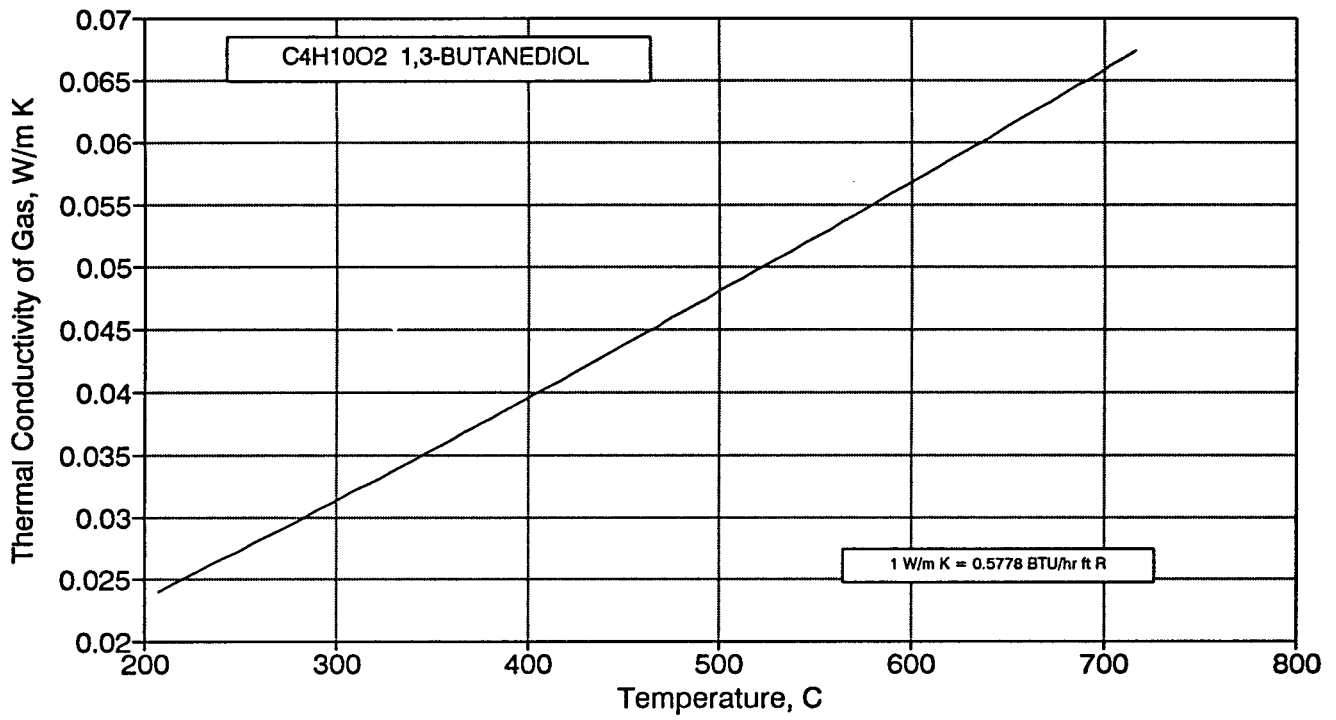


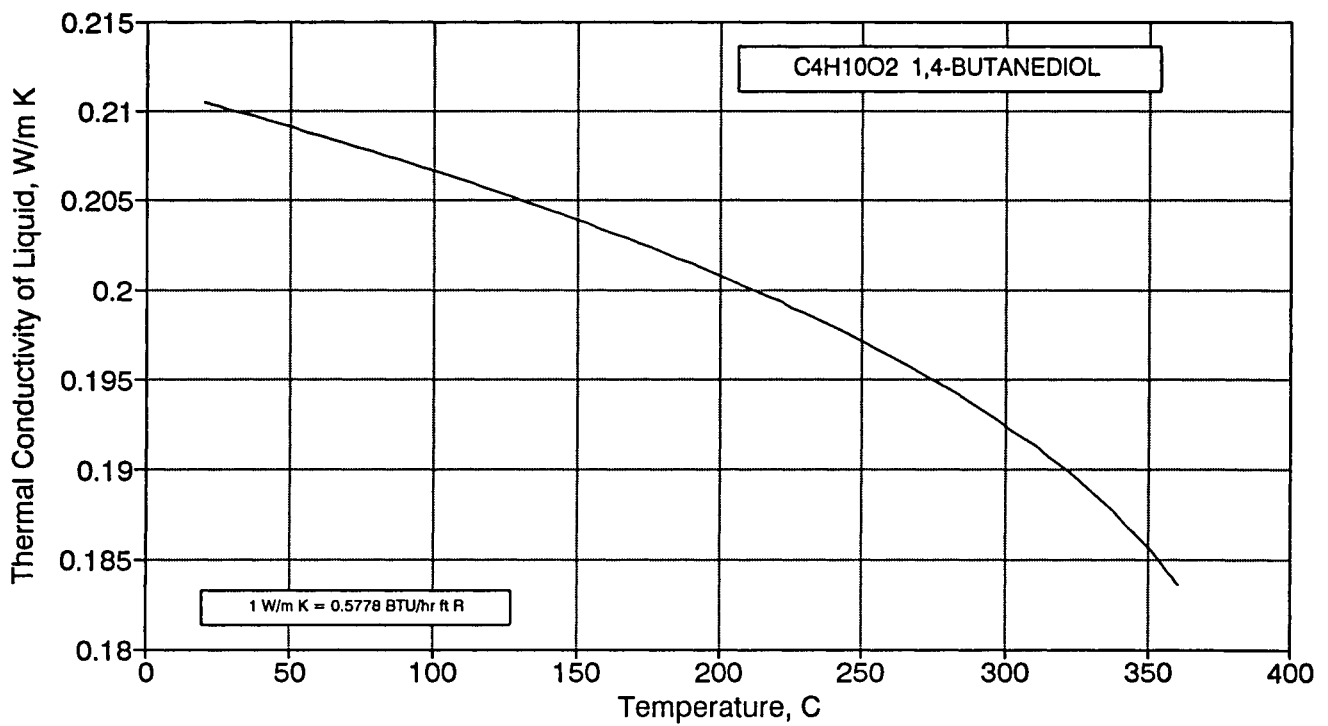
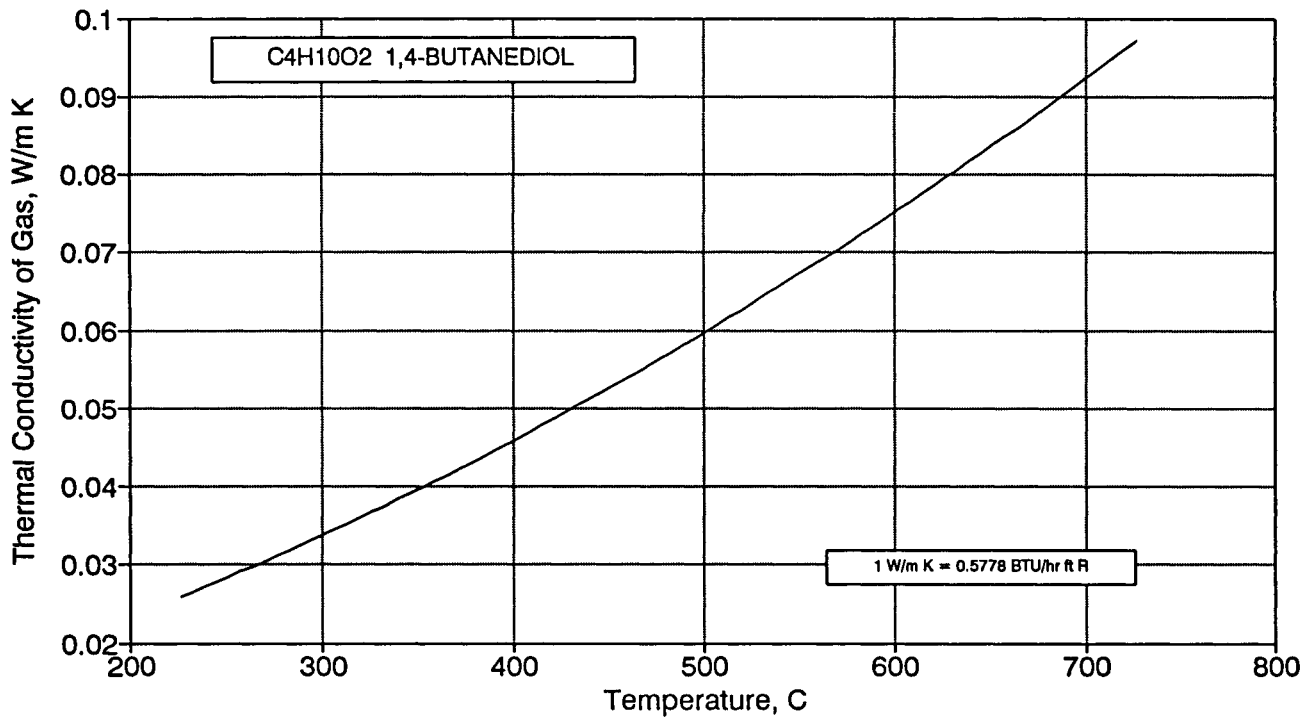


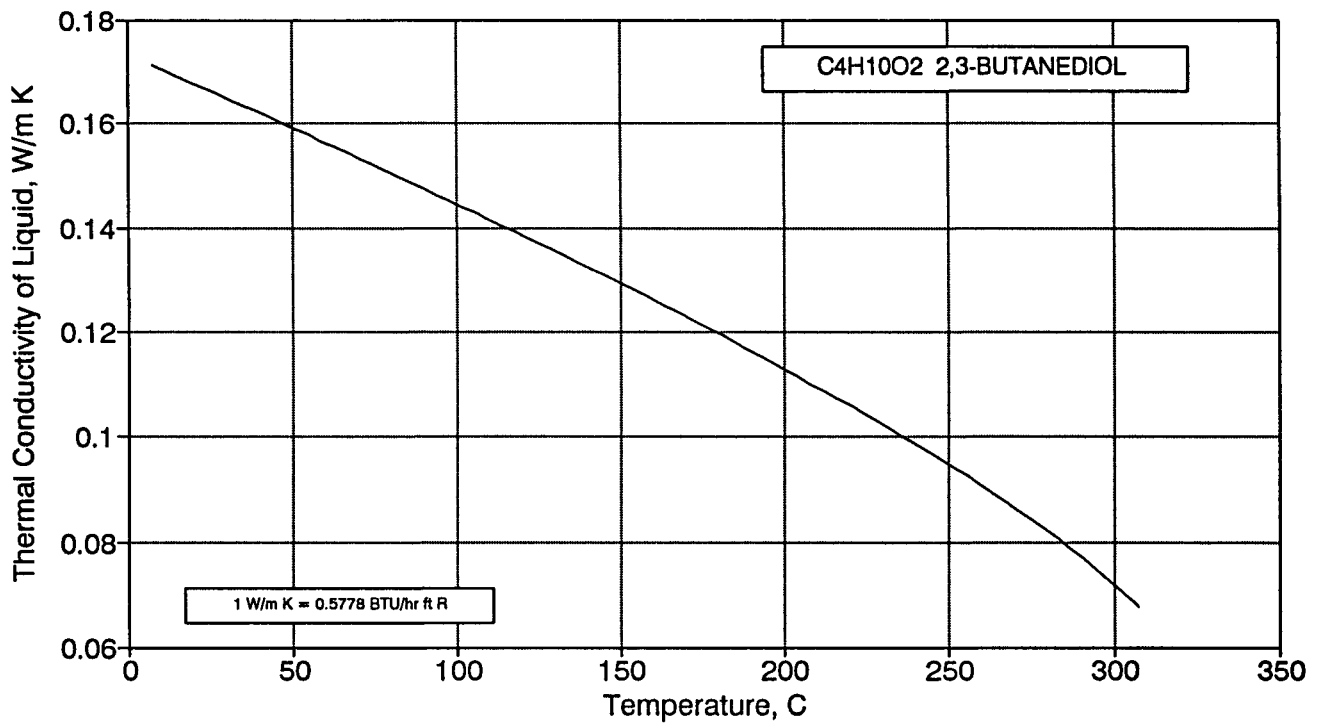
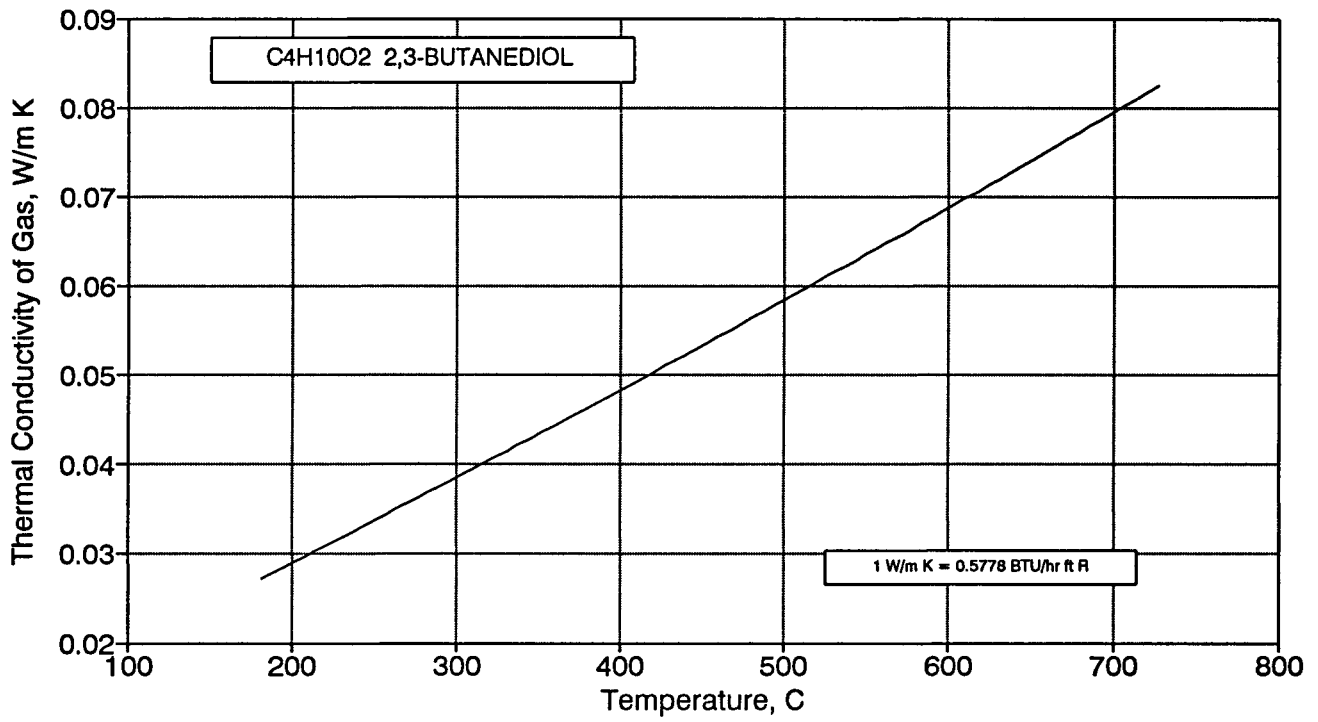




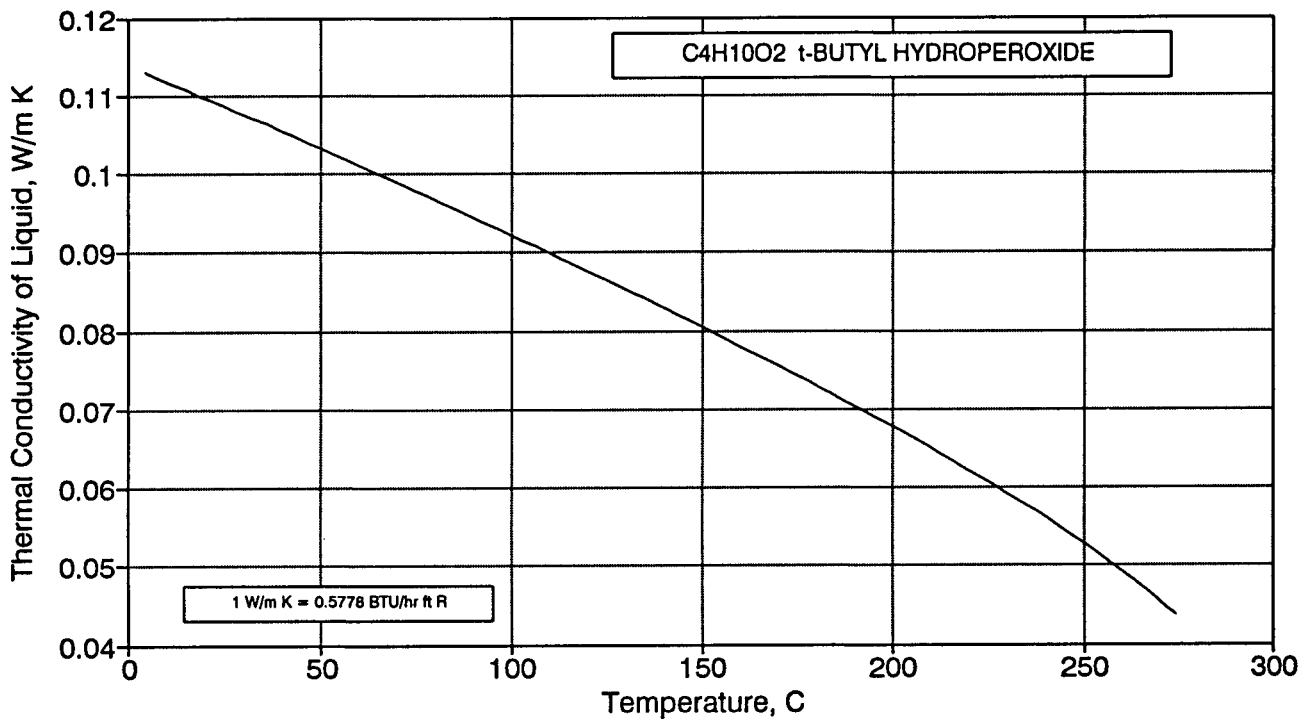
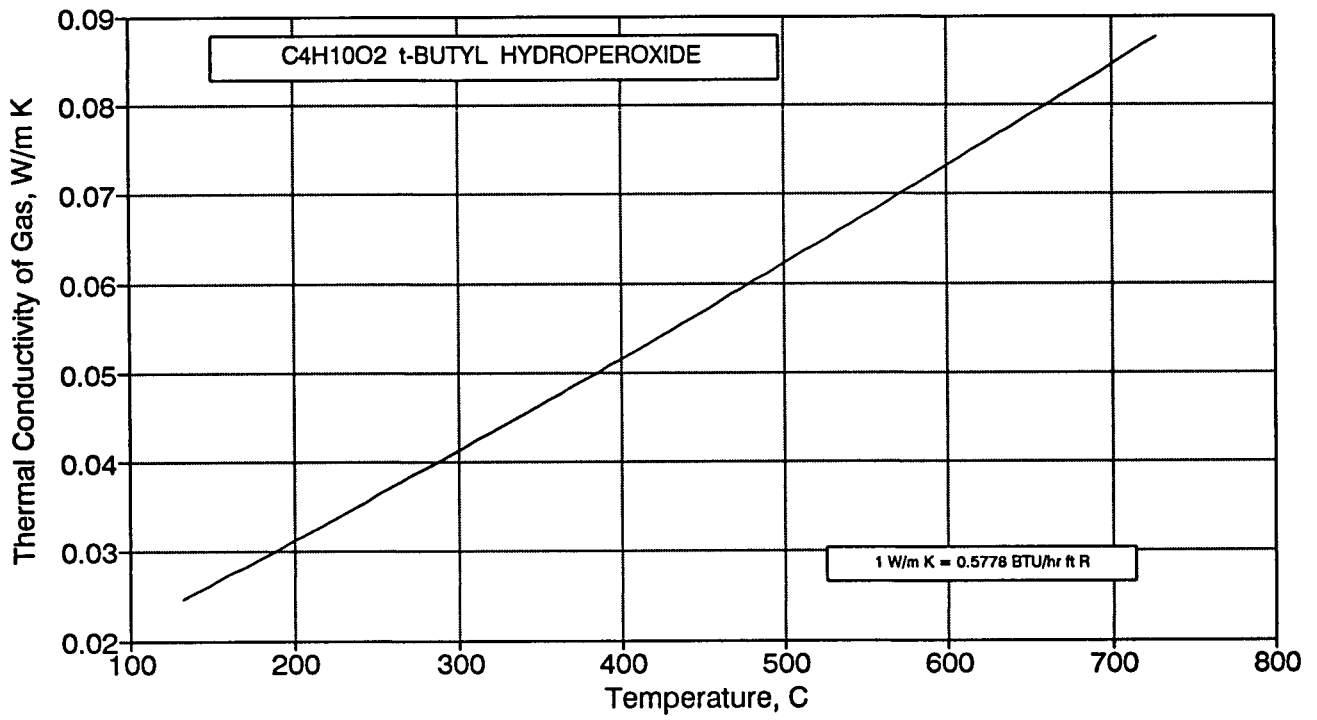


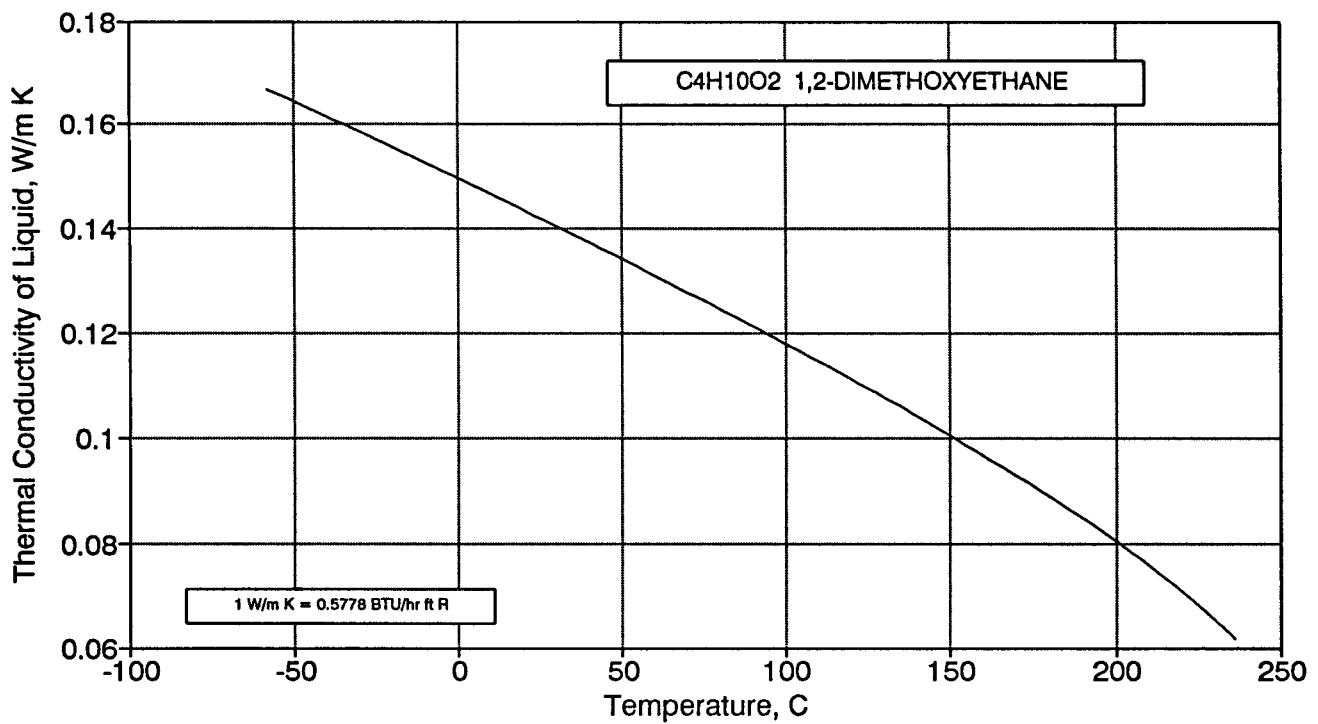
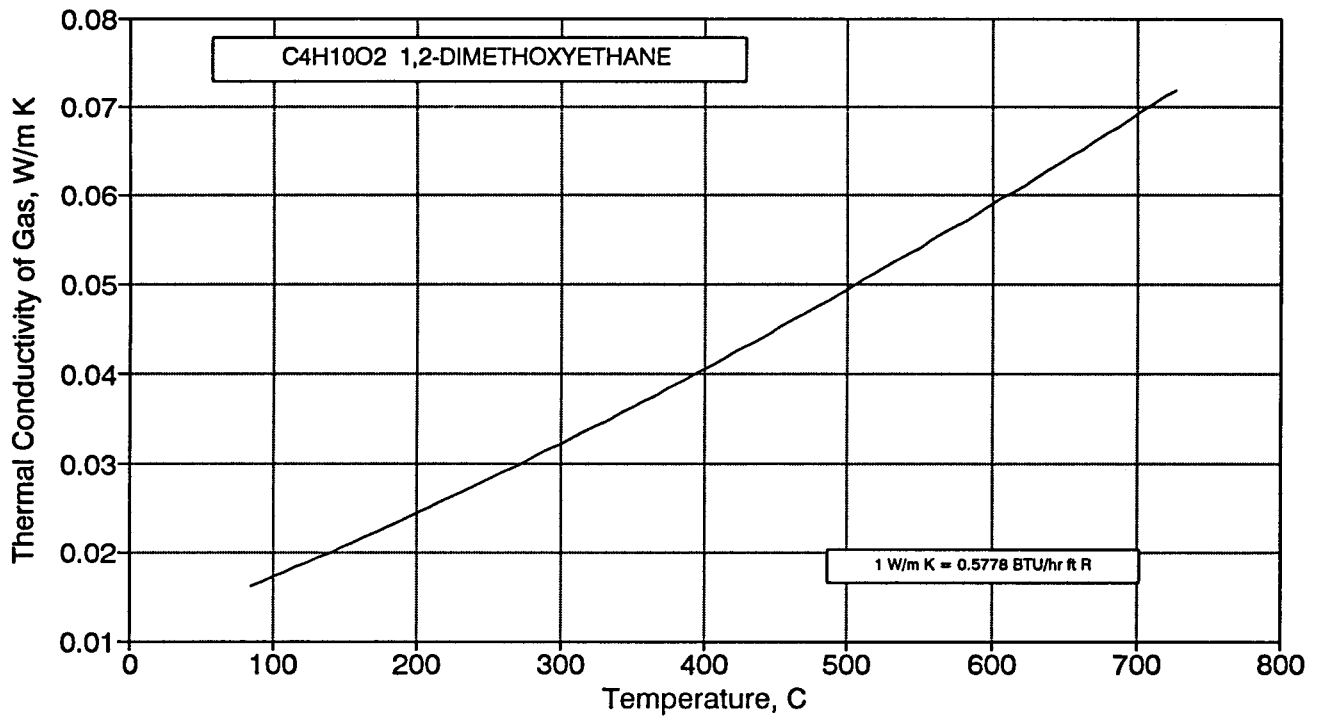


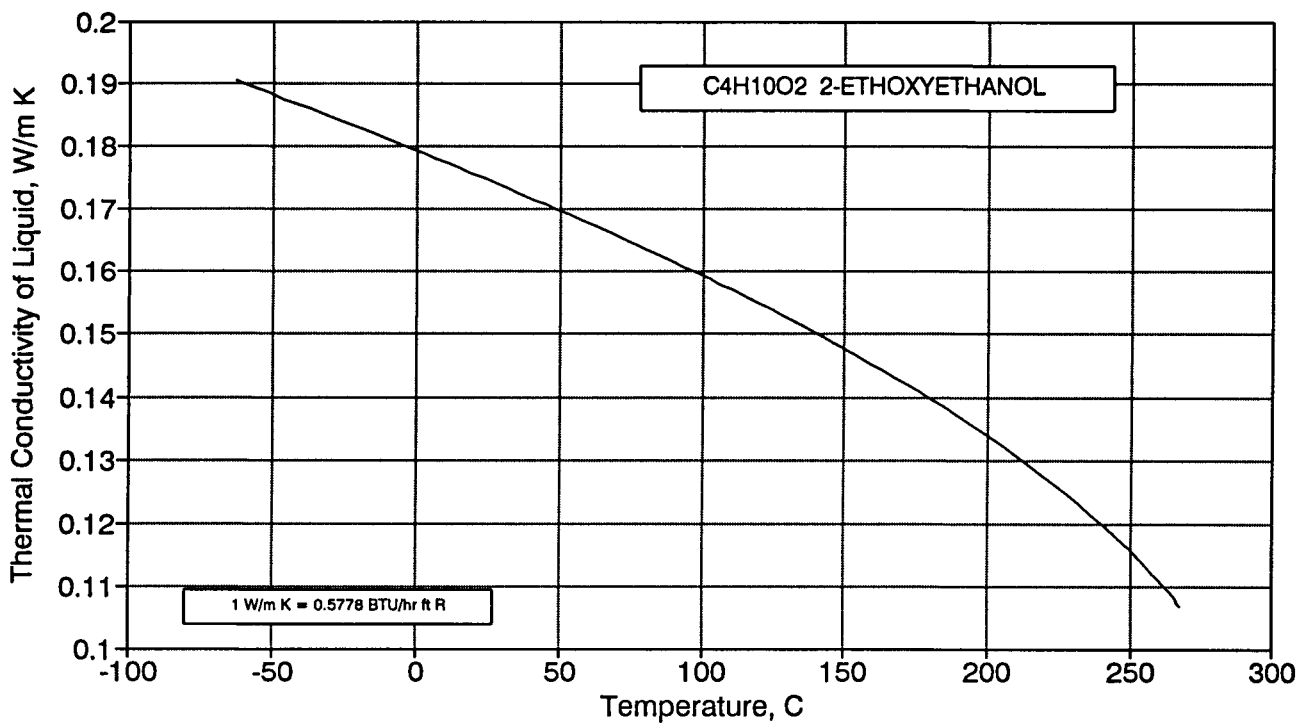
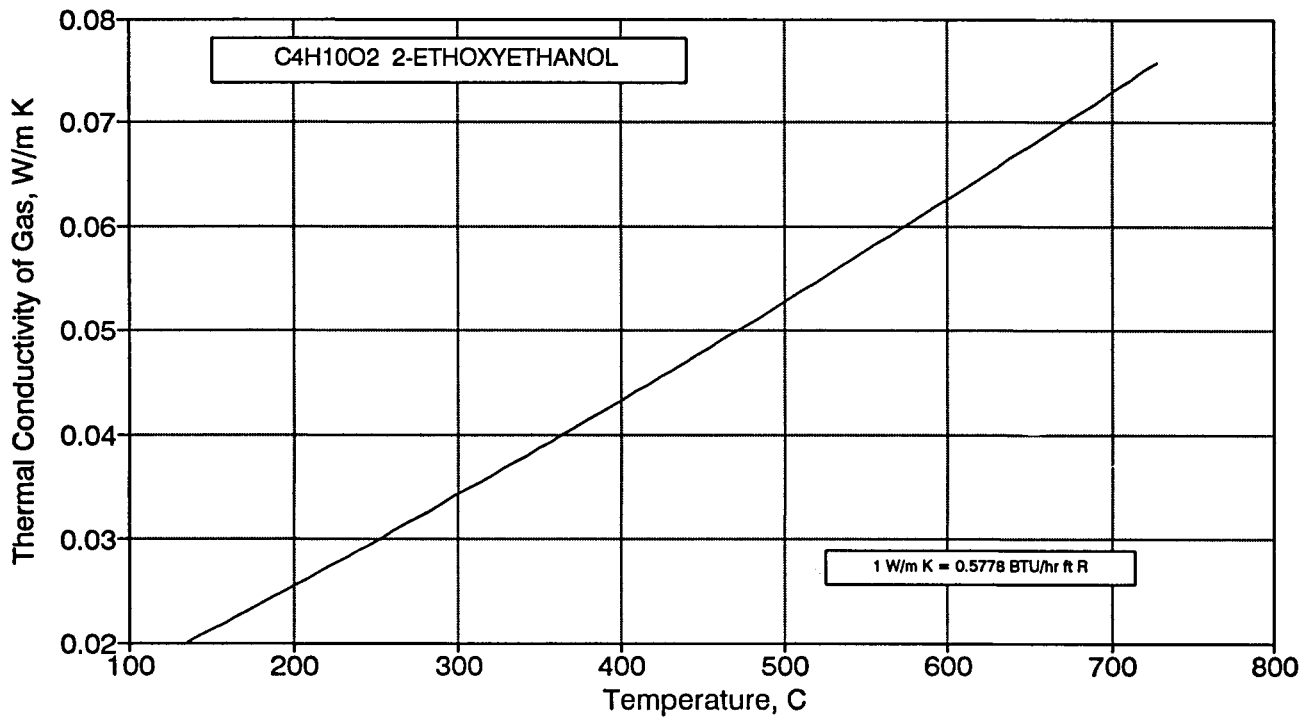


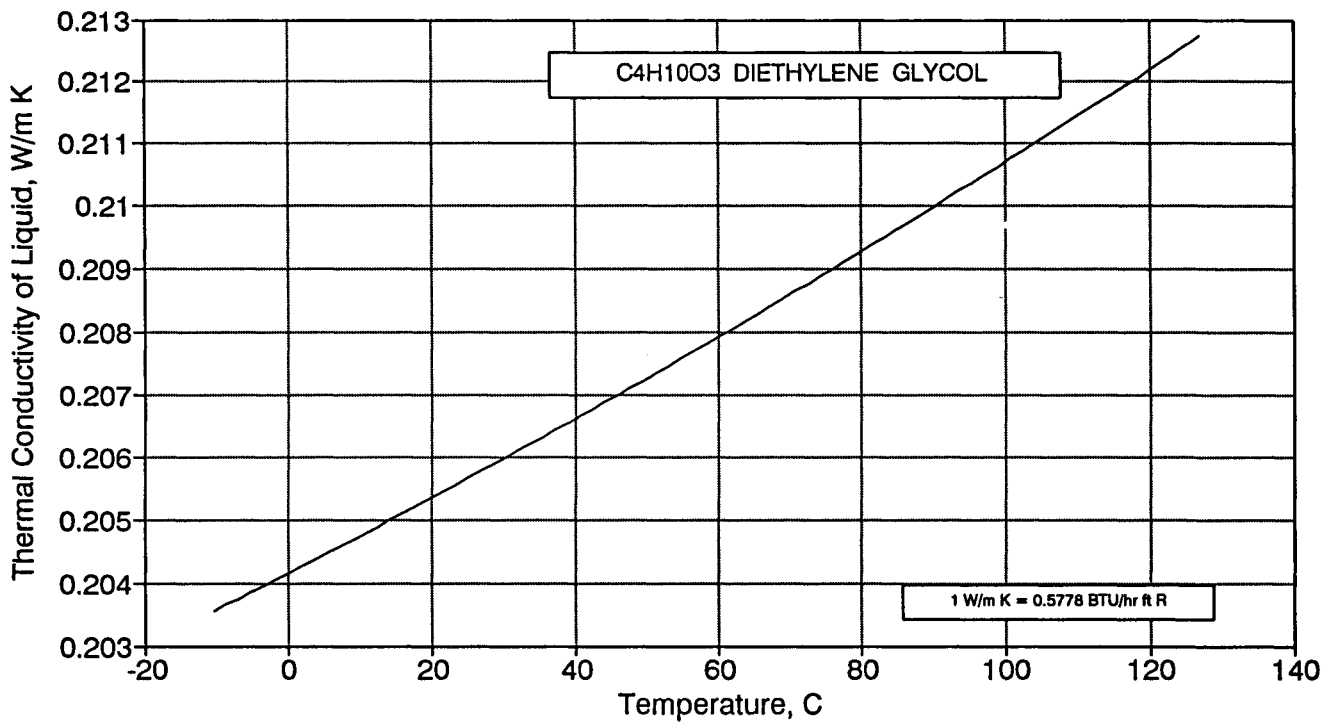
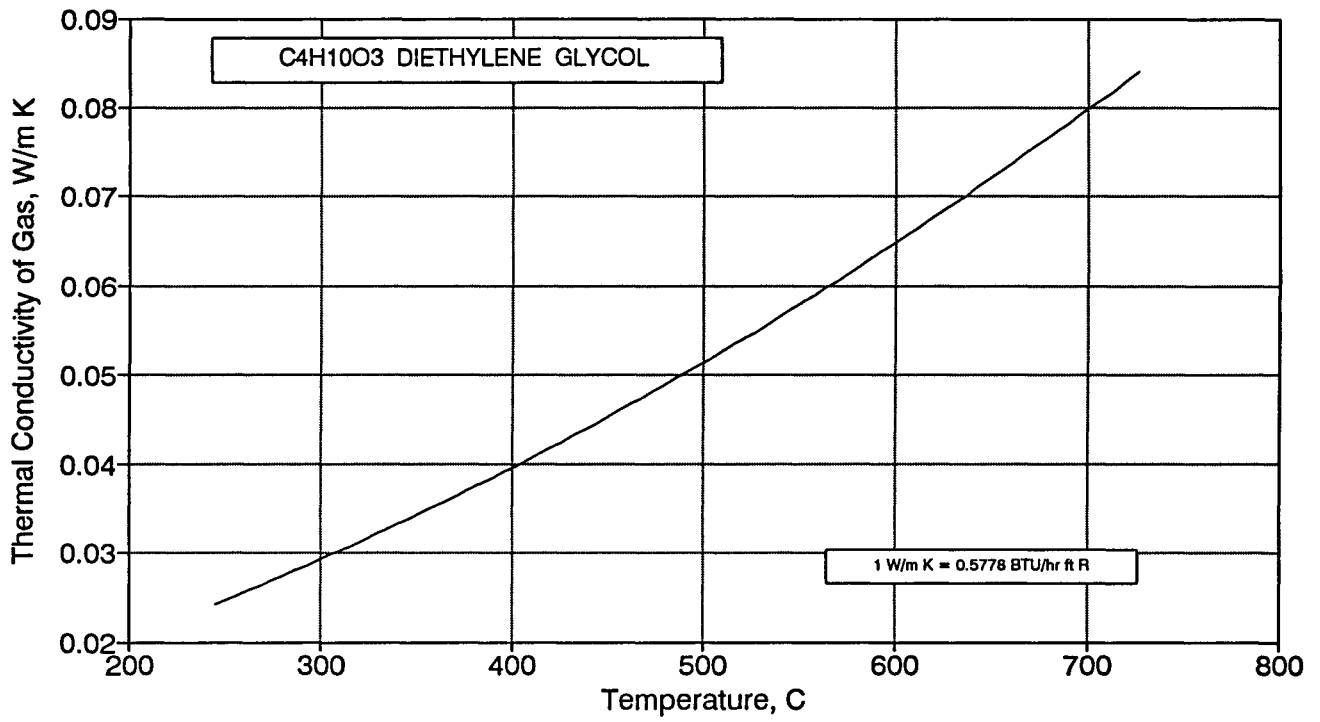












C4H10O4S DIETHYL SULFATE

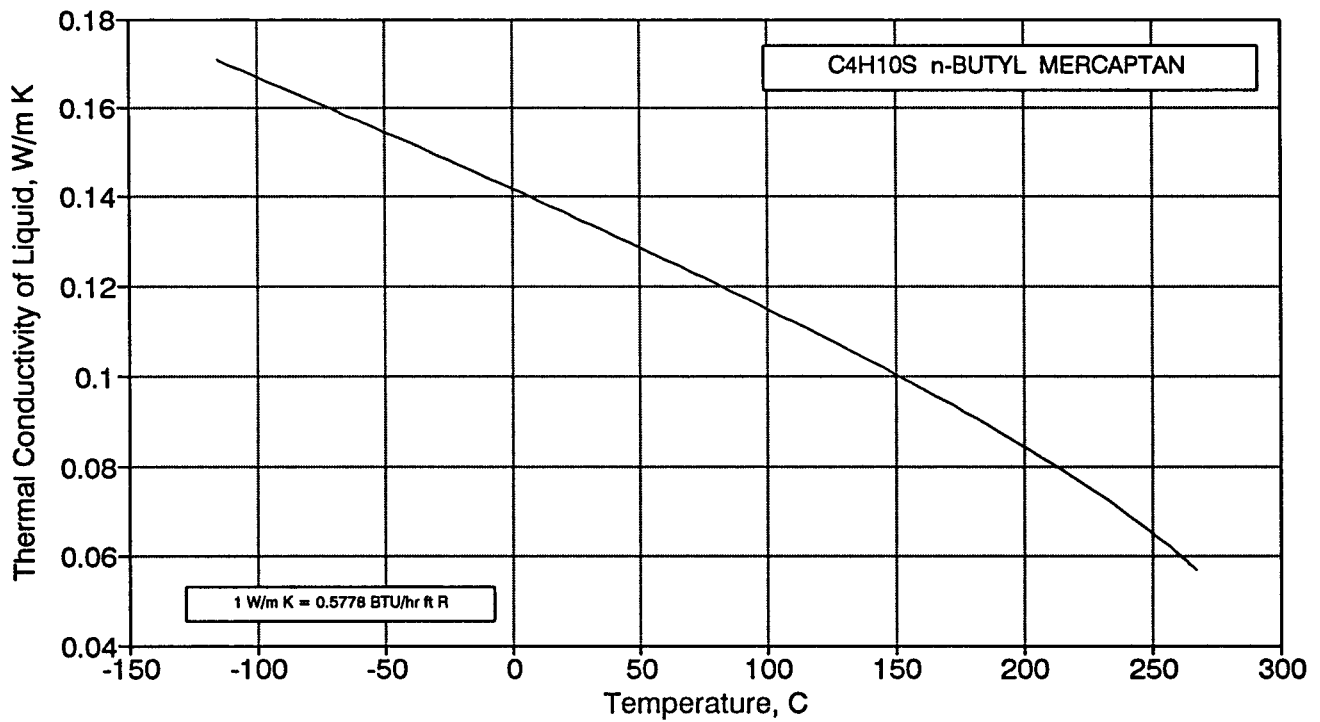
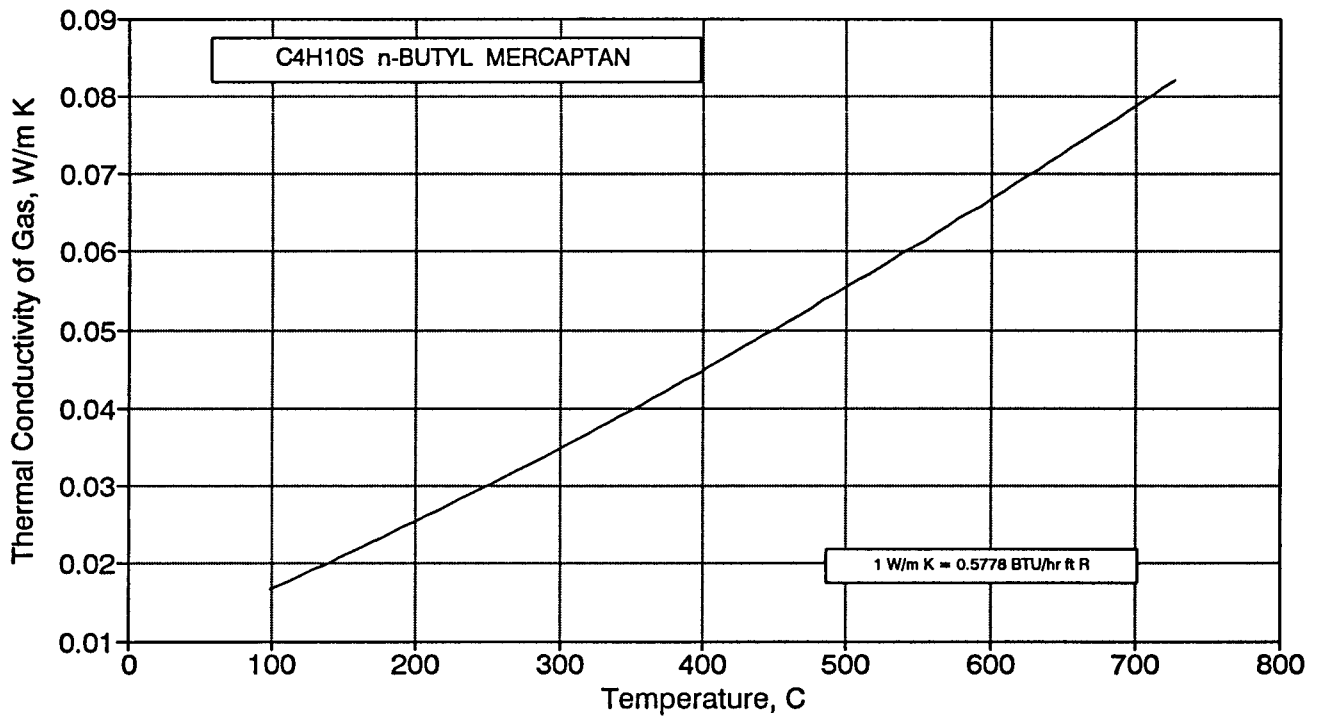
Gas thermal conductivity data are not available .

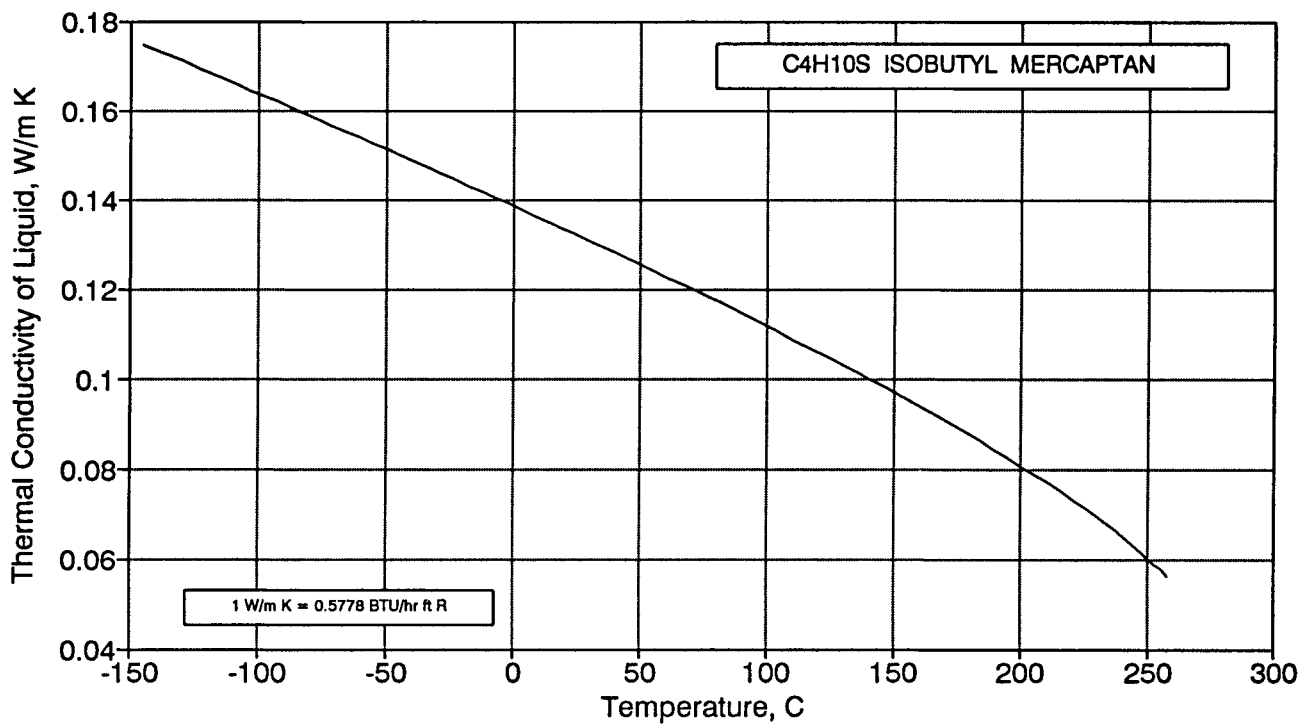
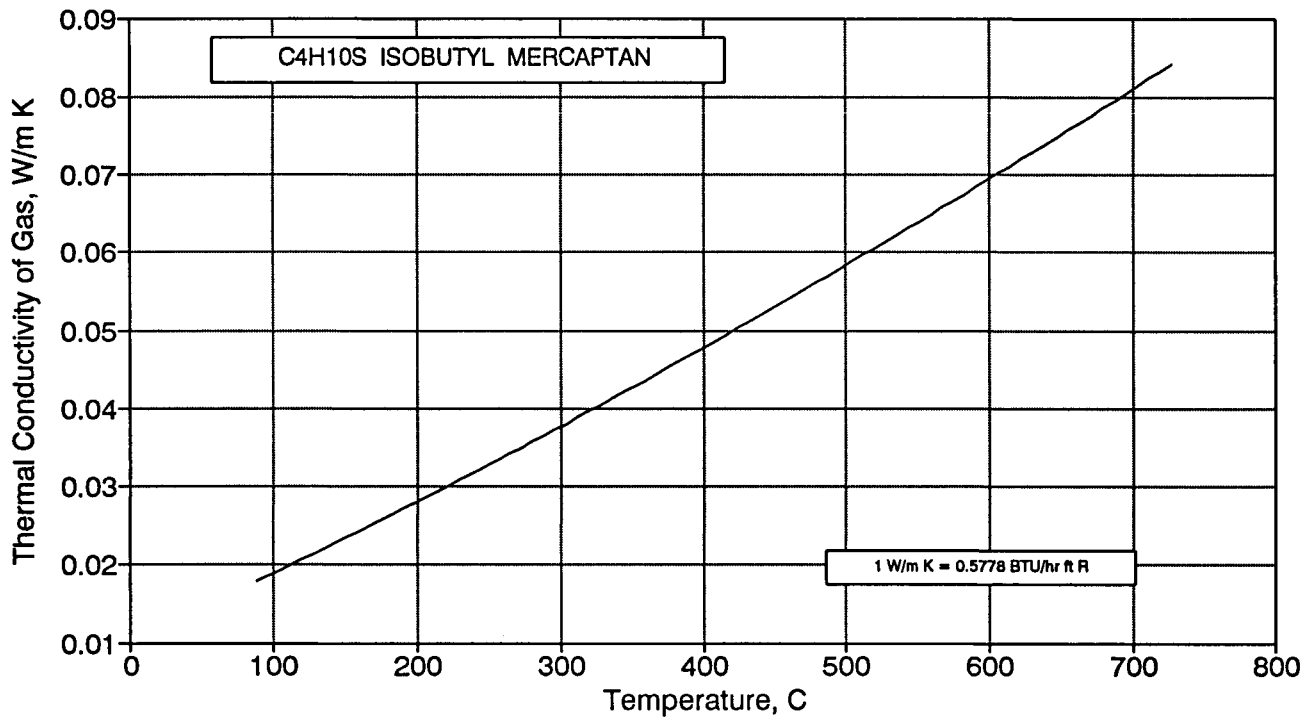
TF , K = 248.00

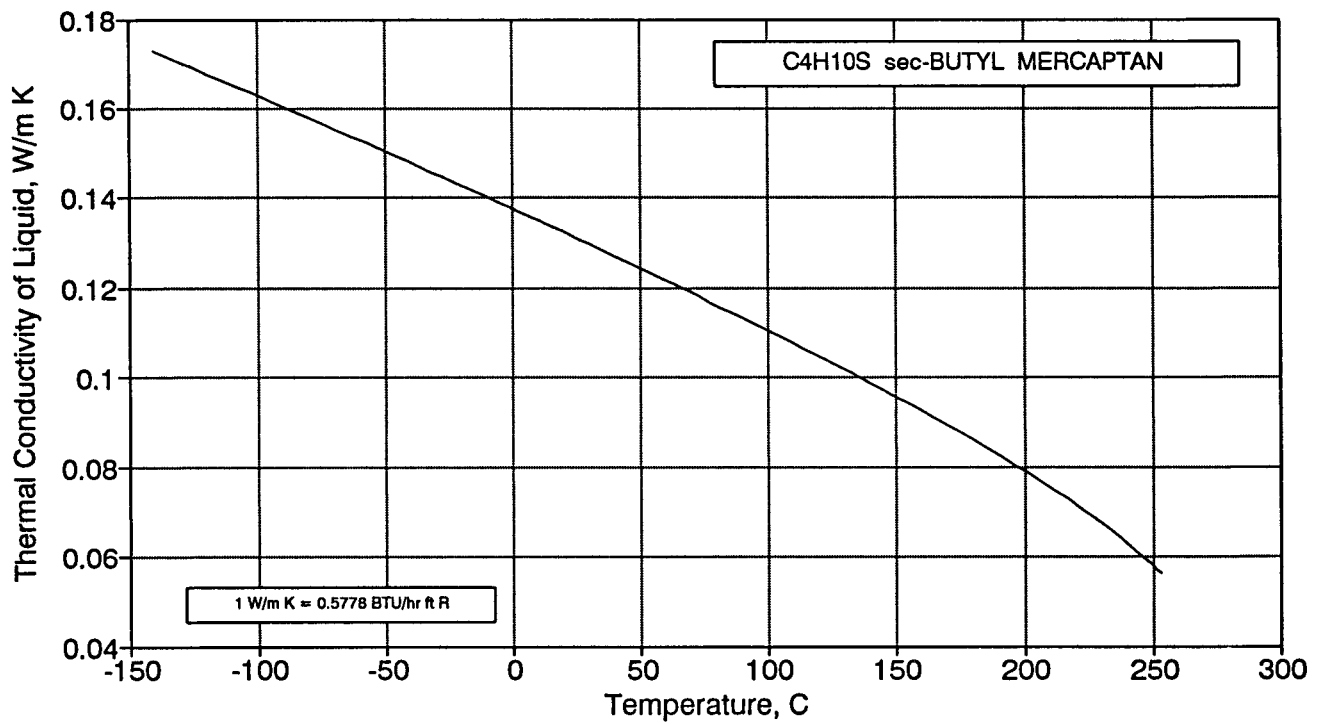
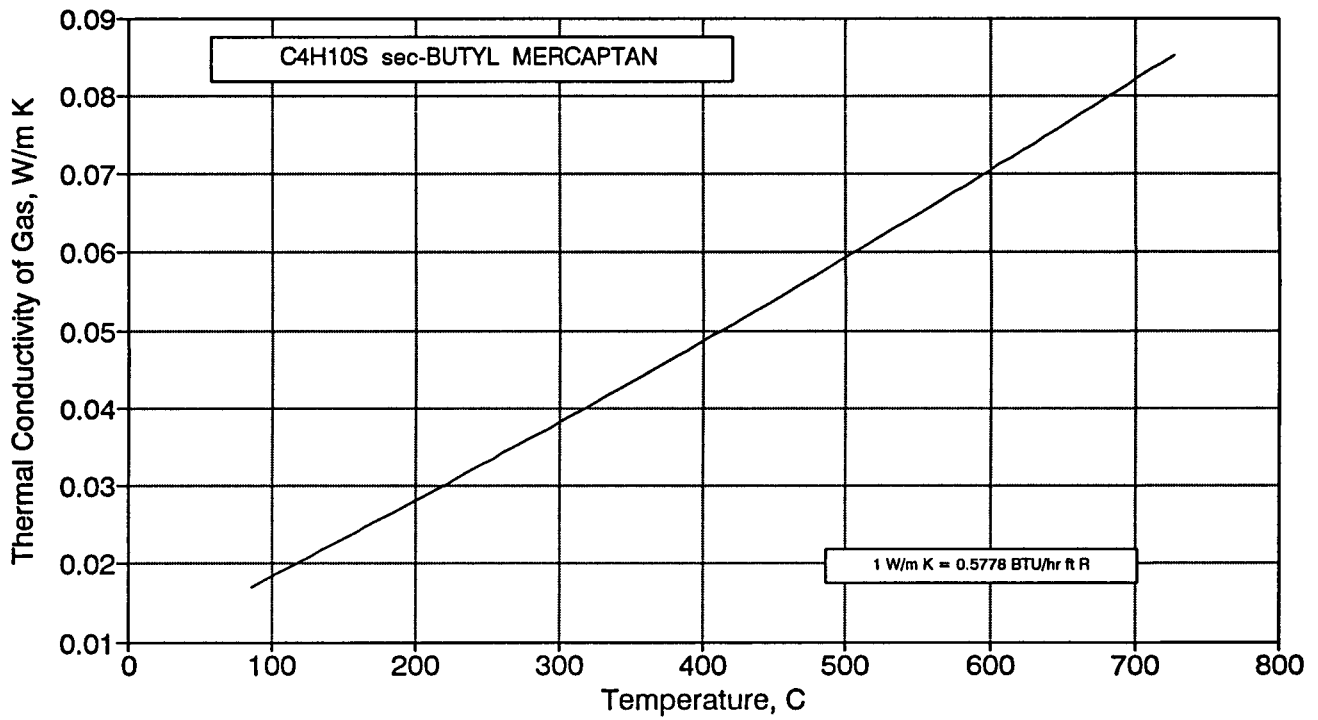
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C4H10O4S DIETHYL SULFATE

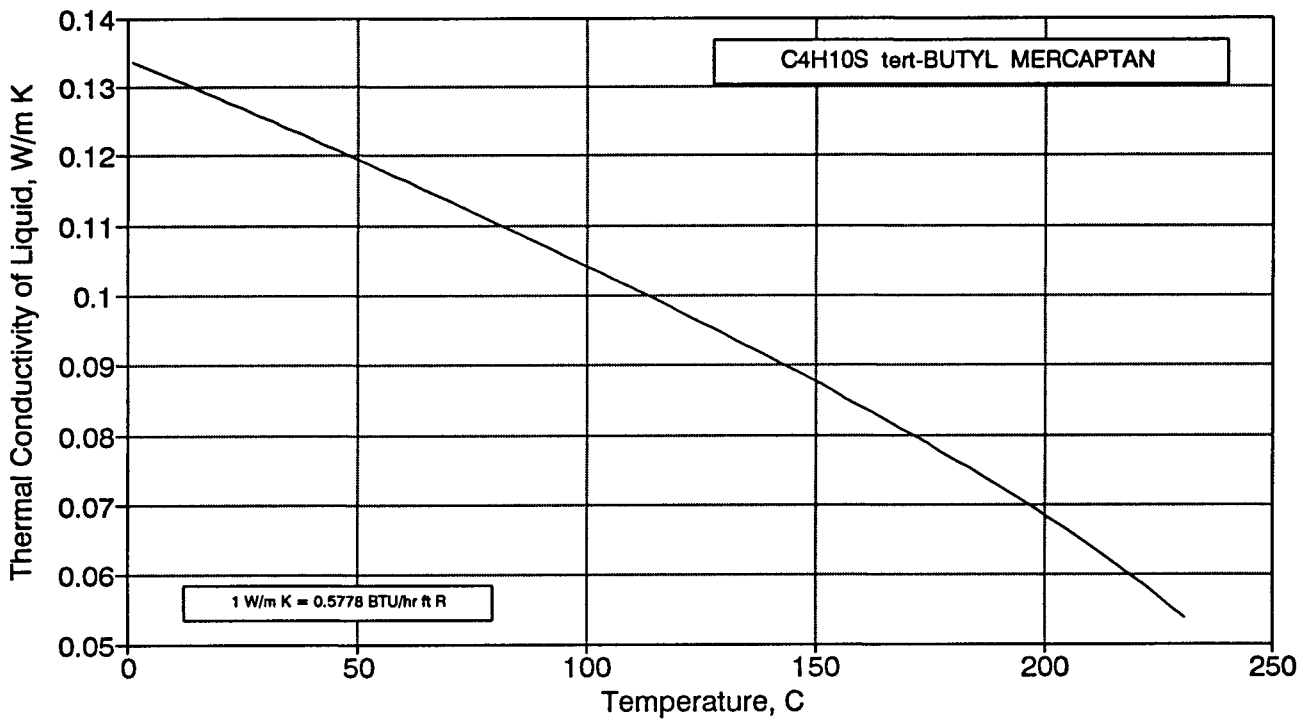
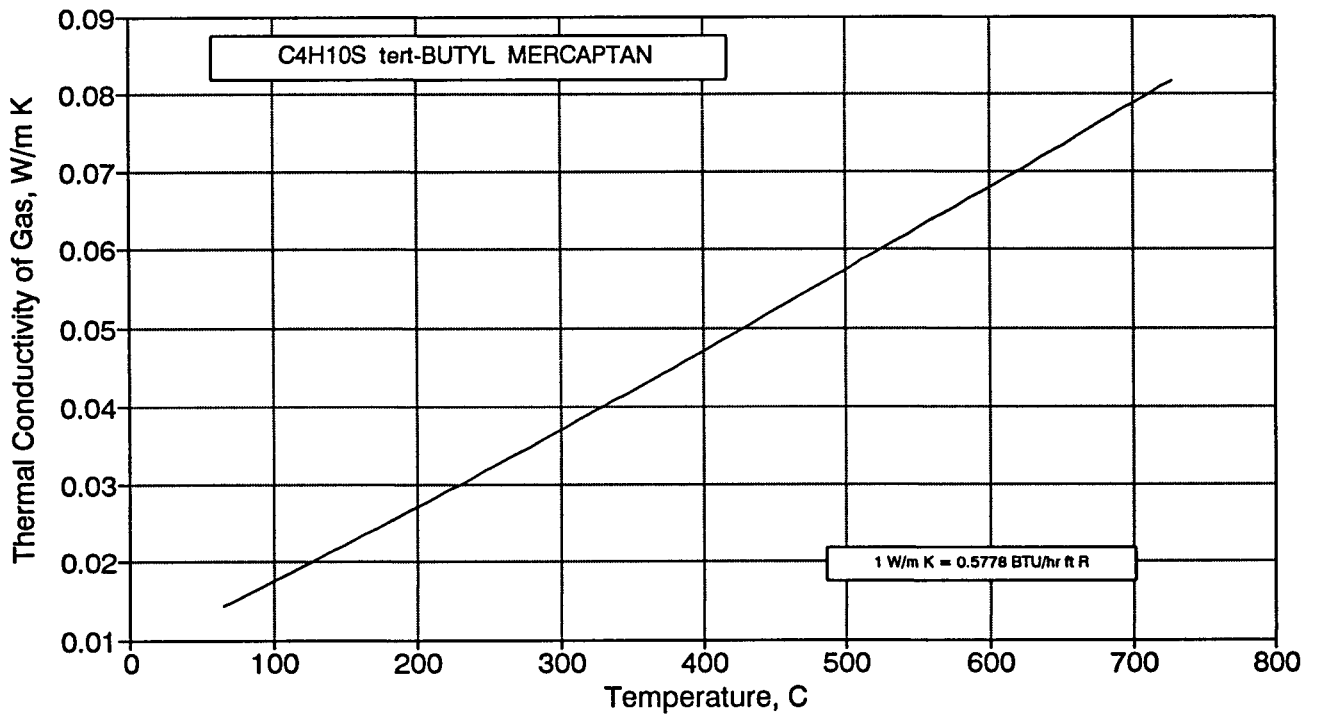
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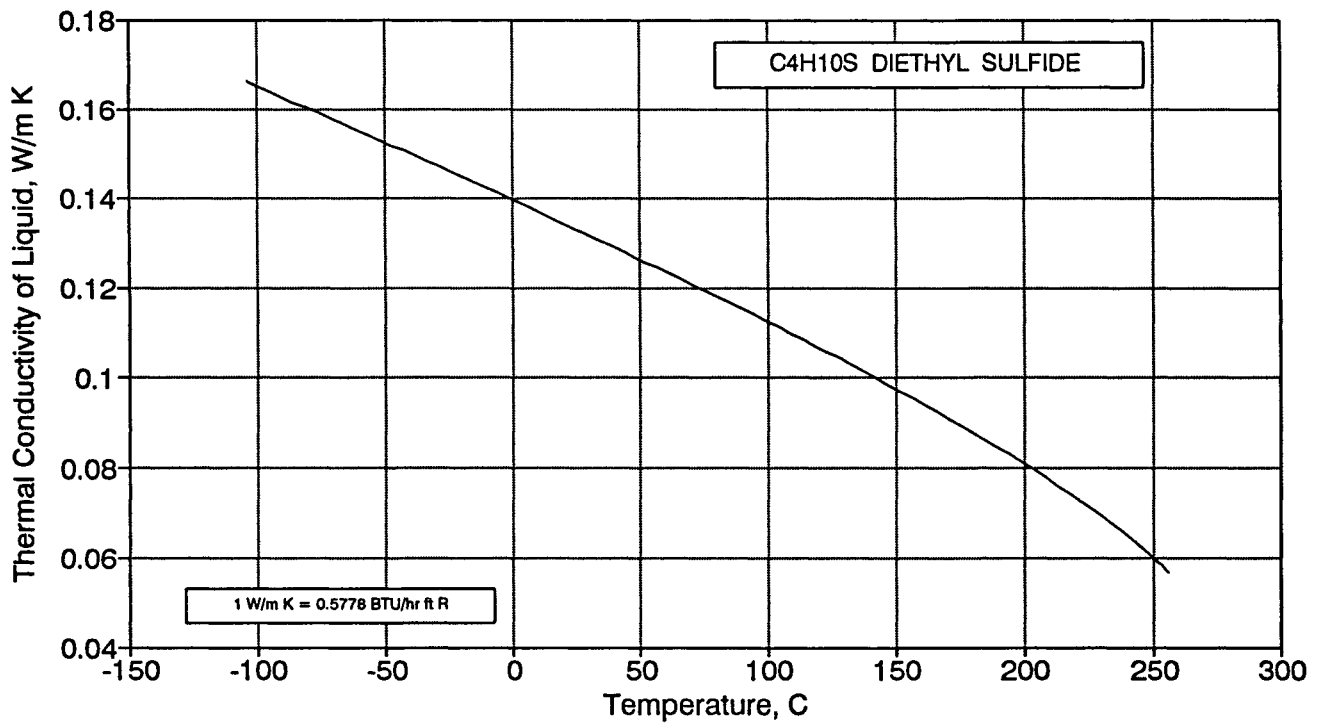
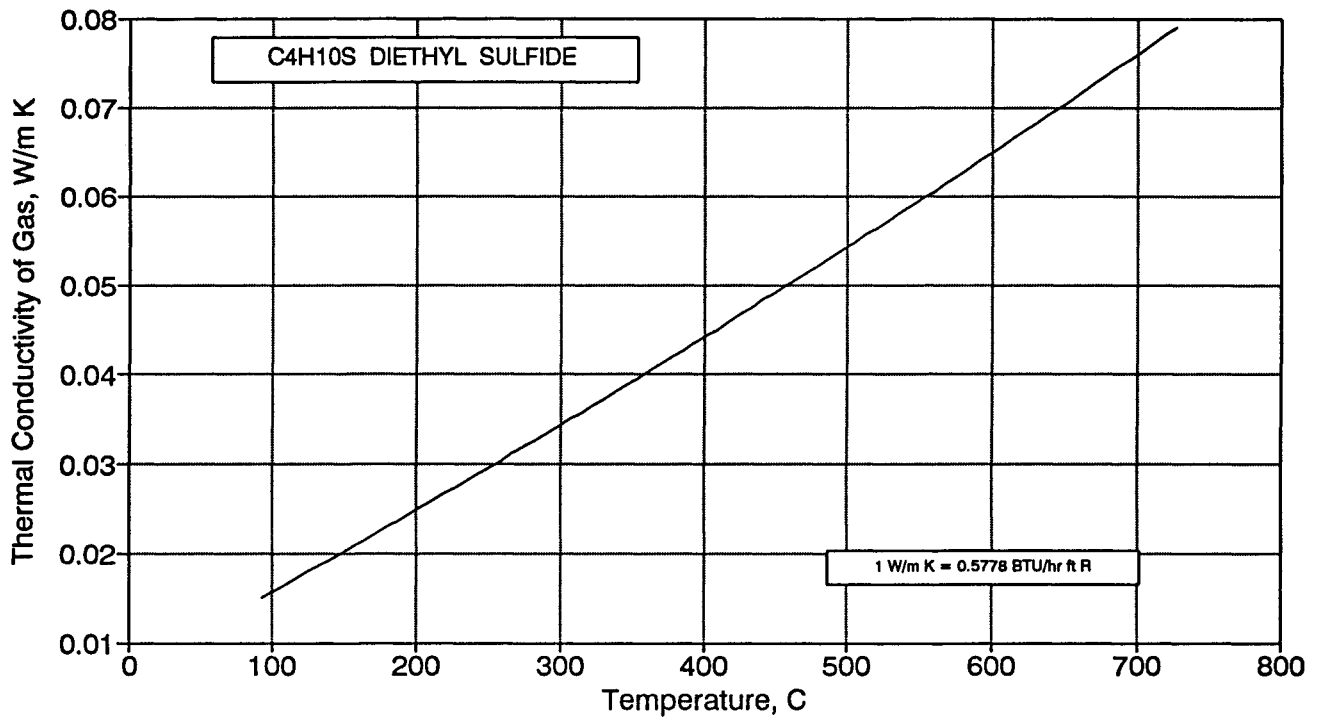


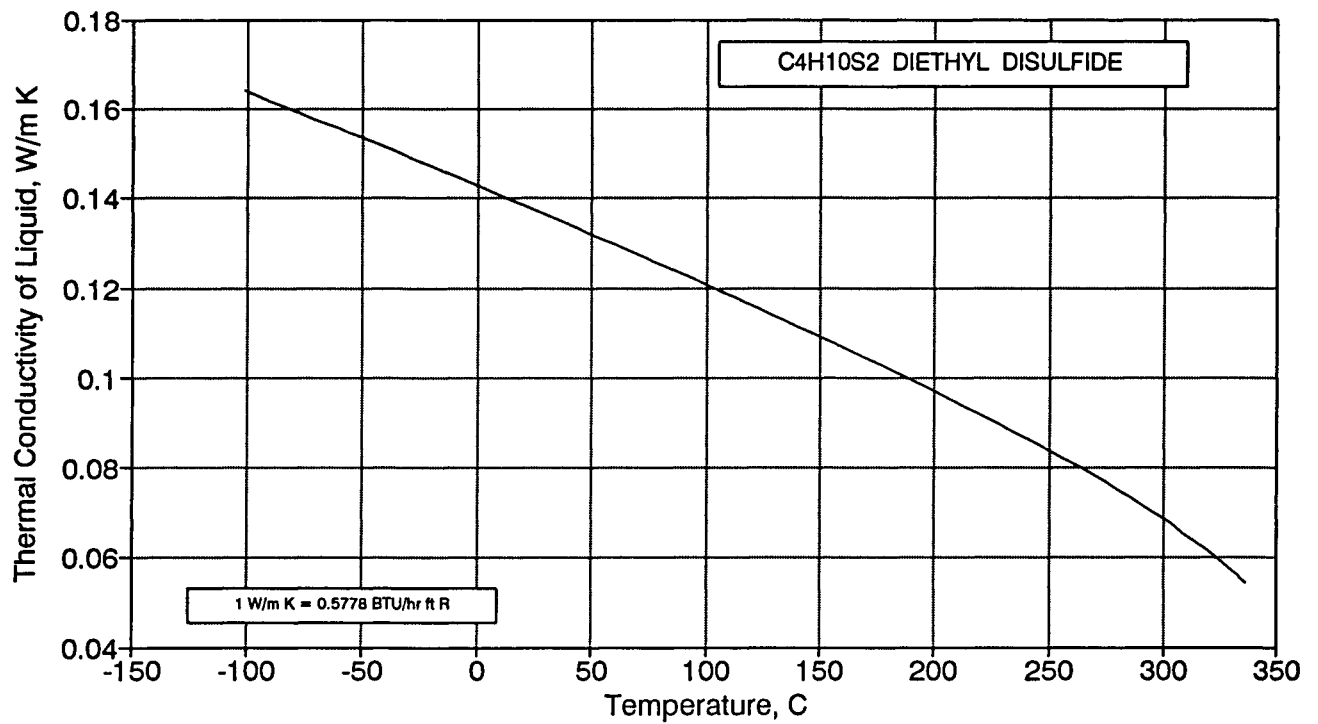
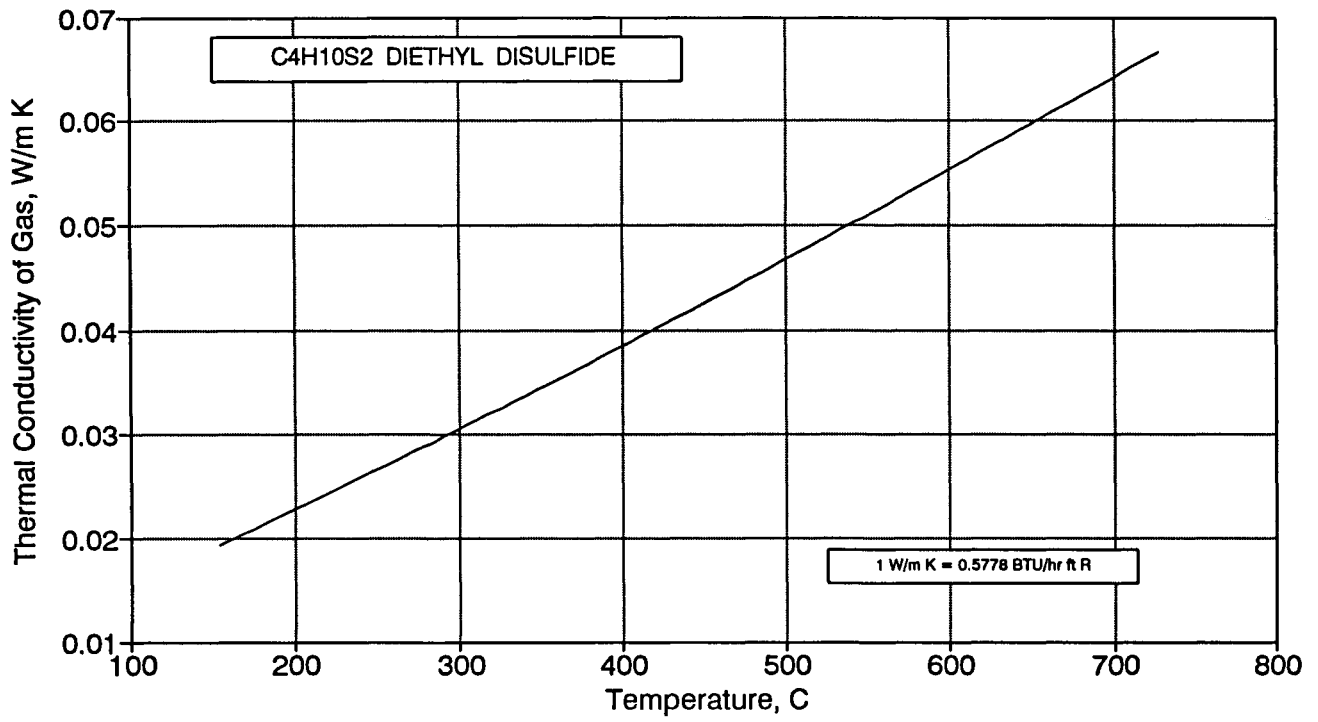


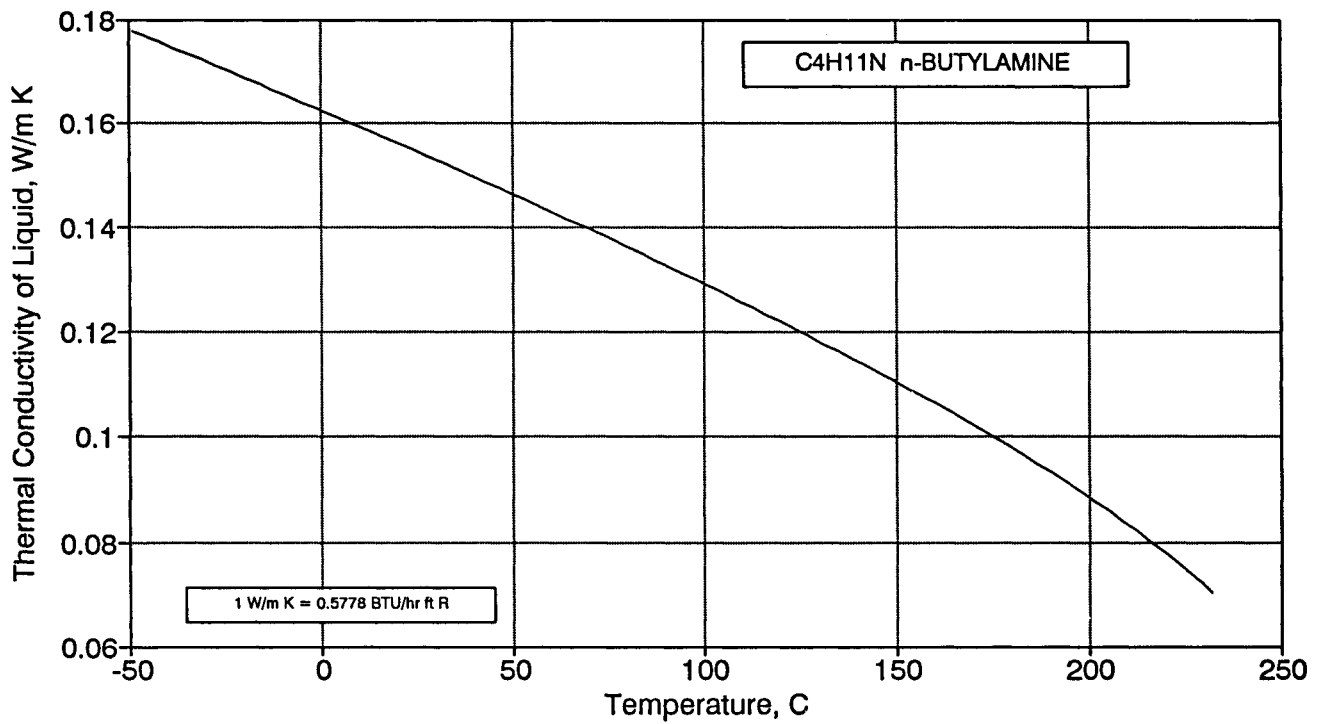
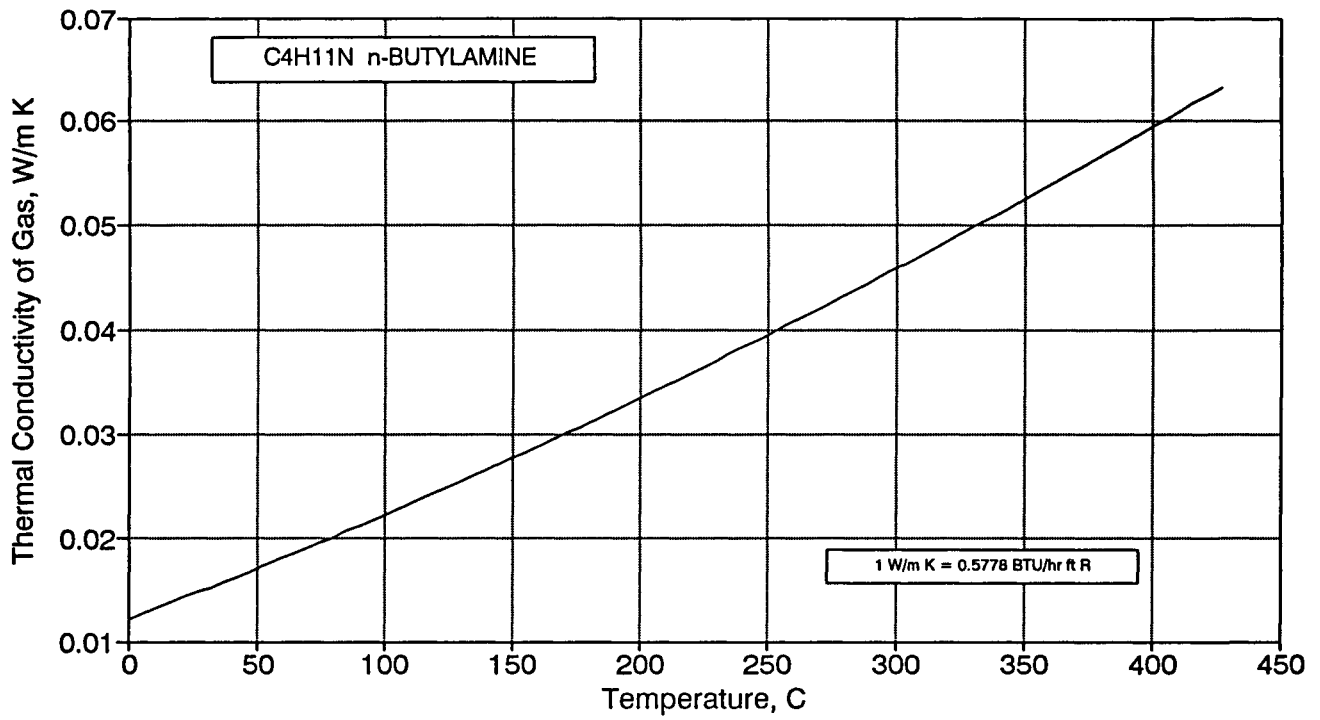


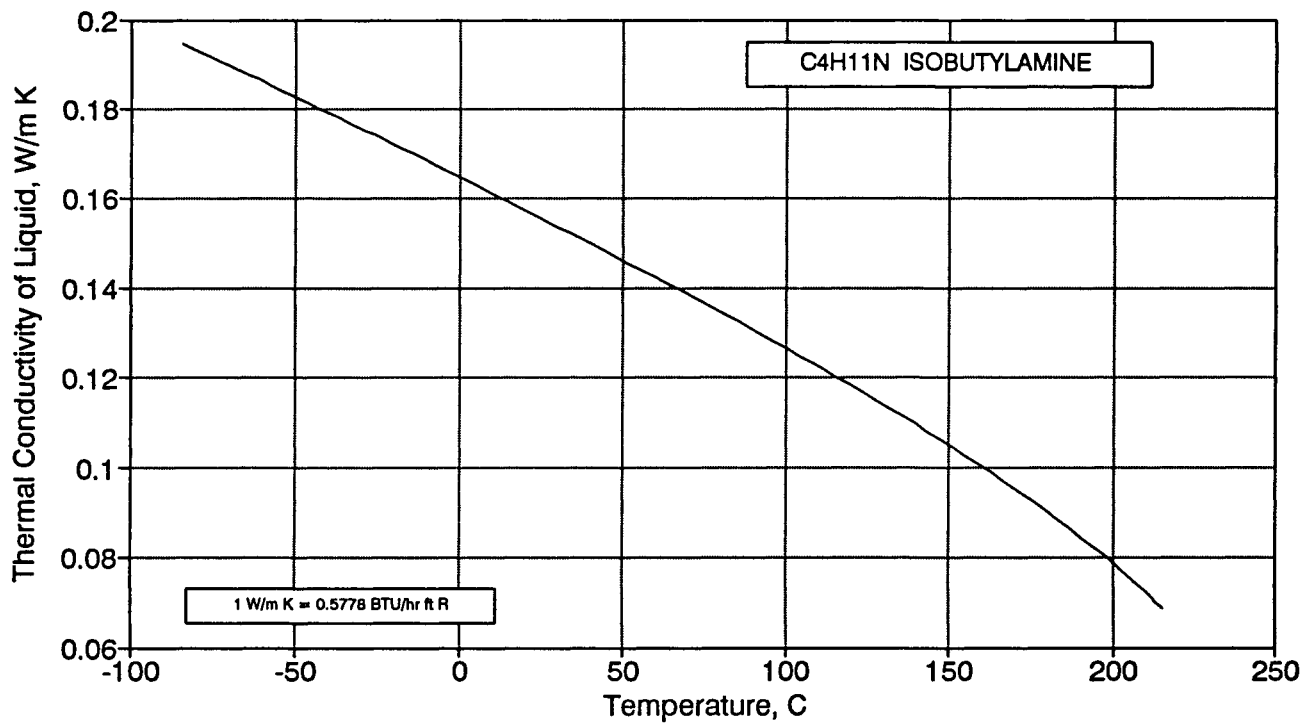
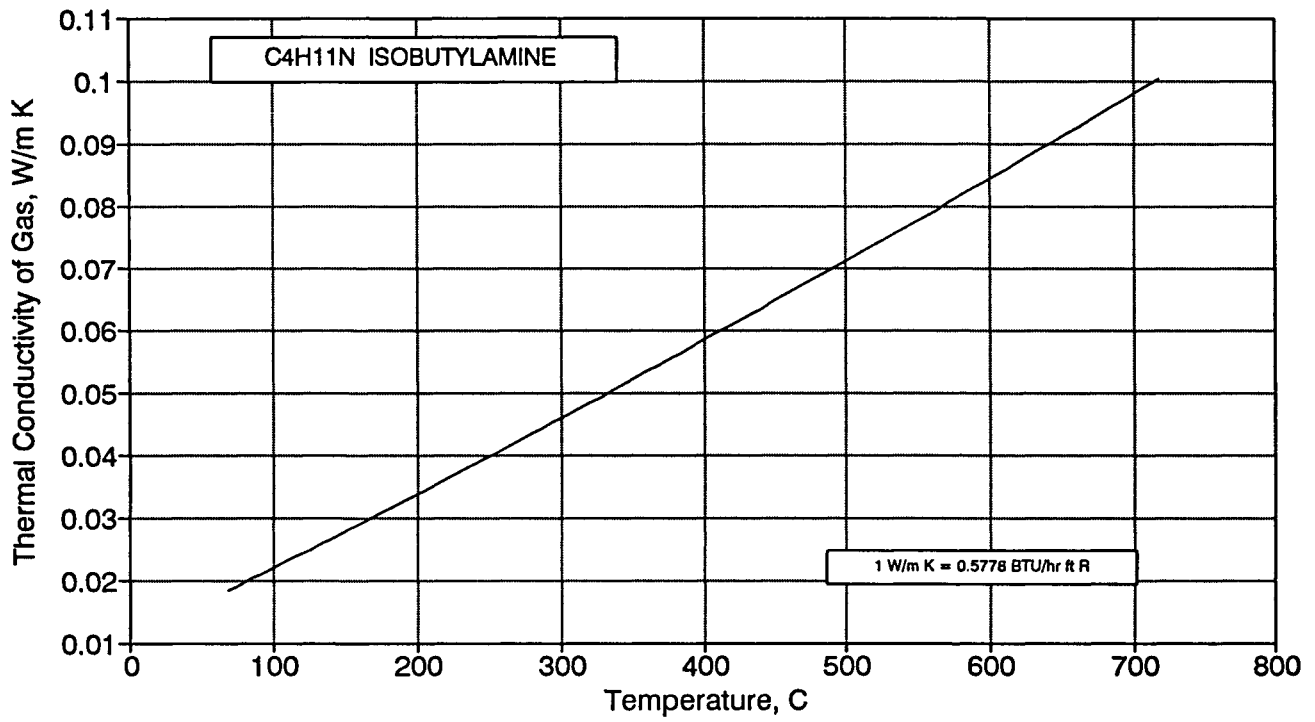


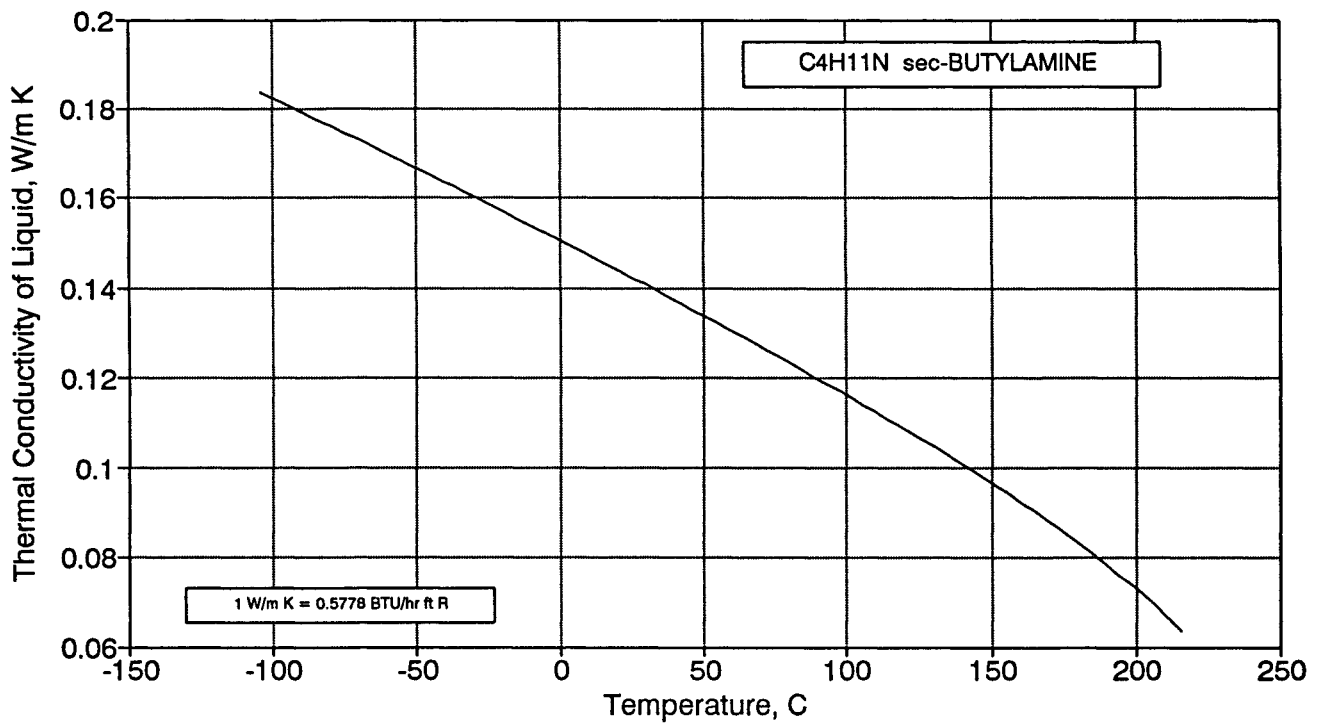
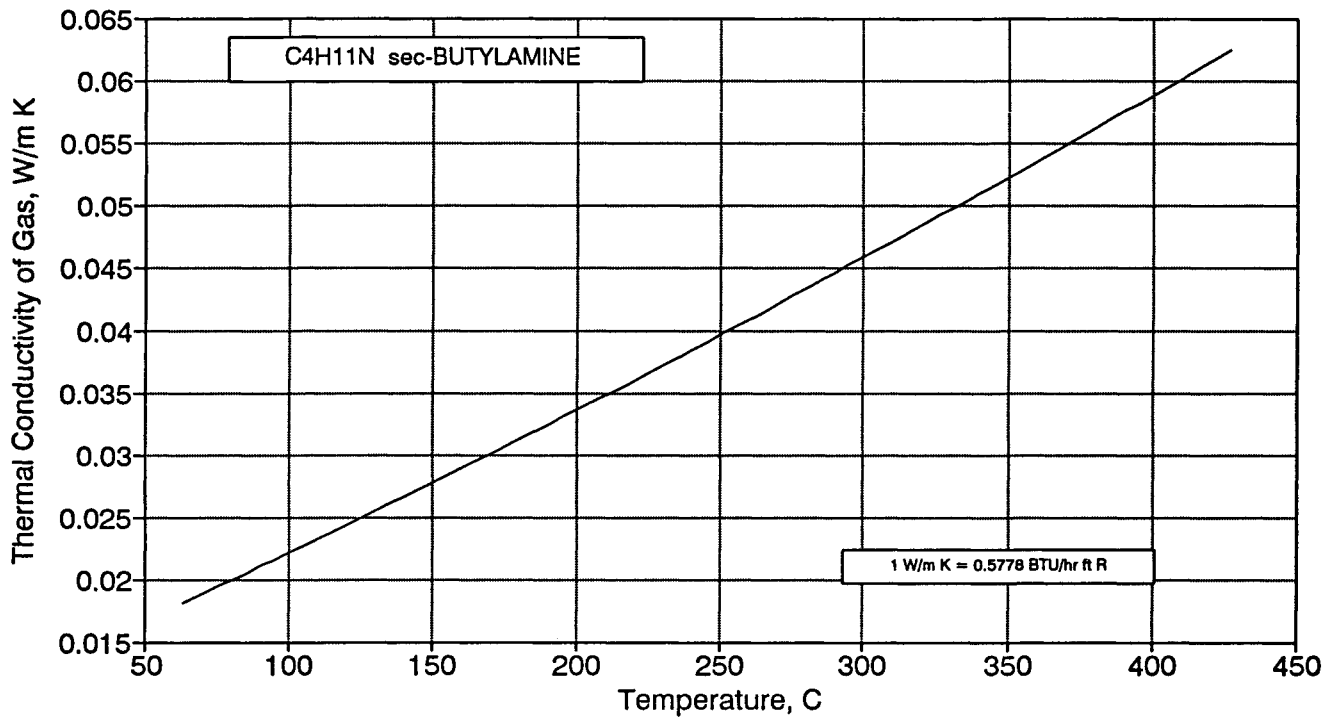


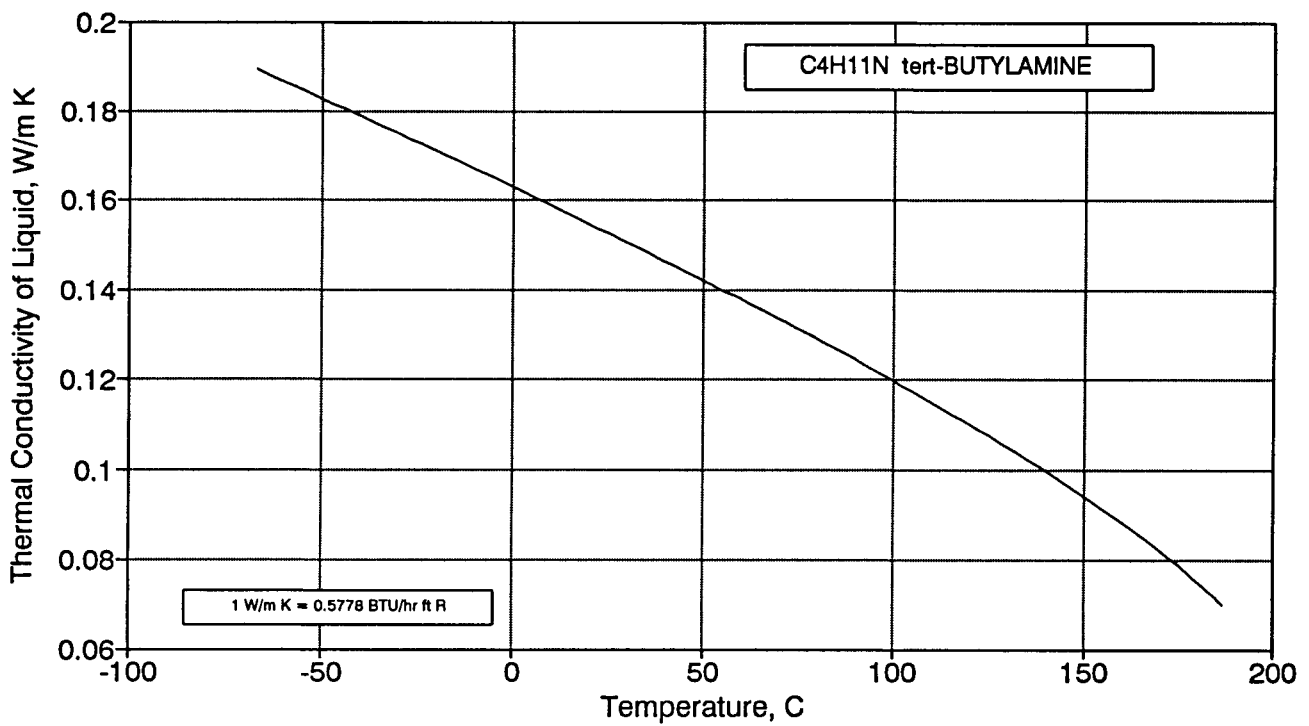
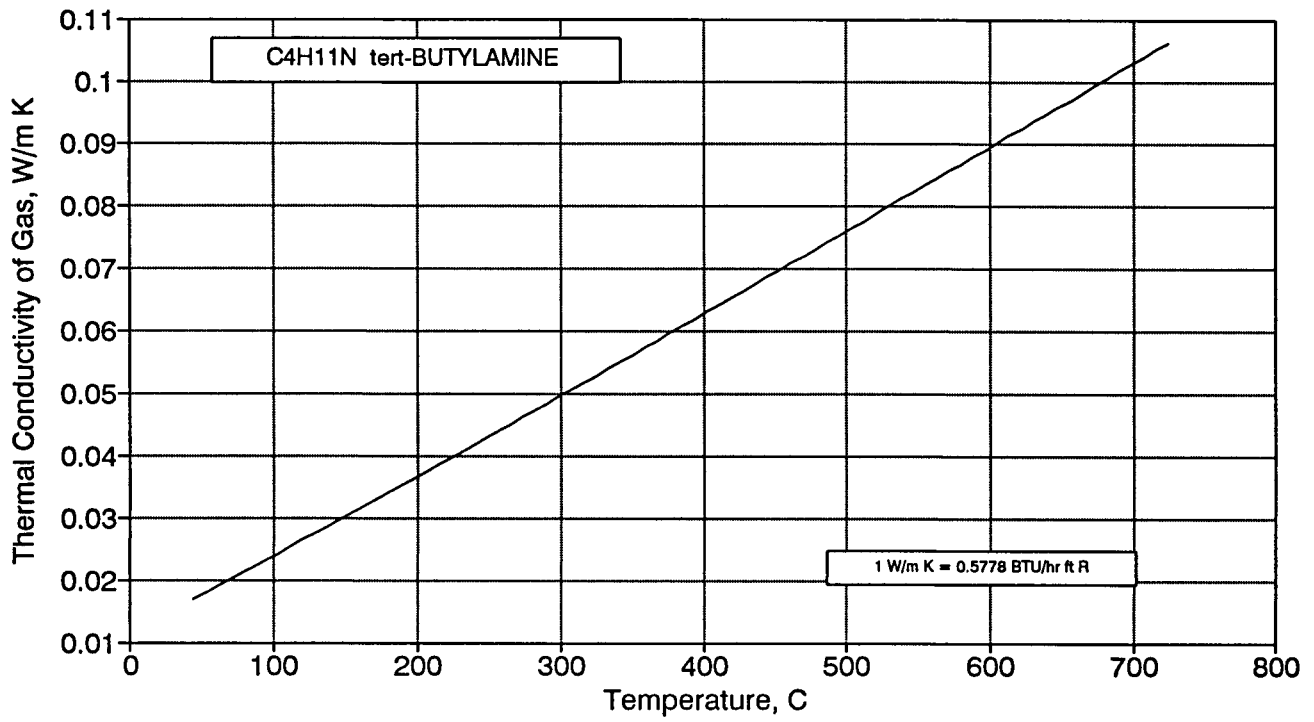


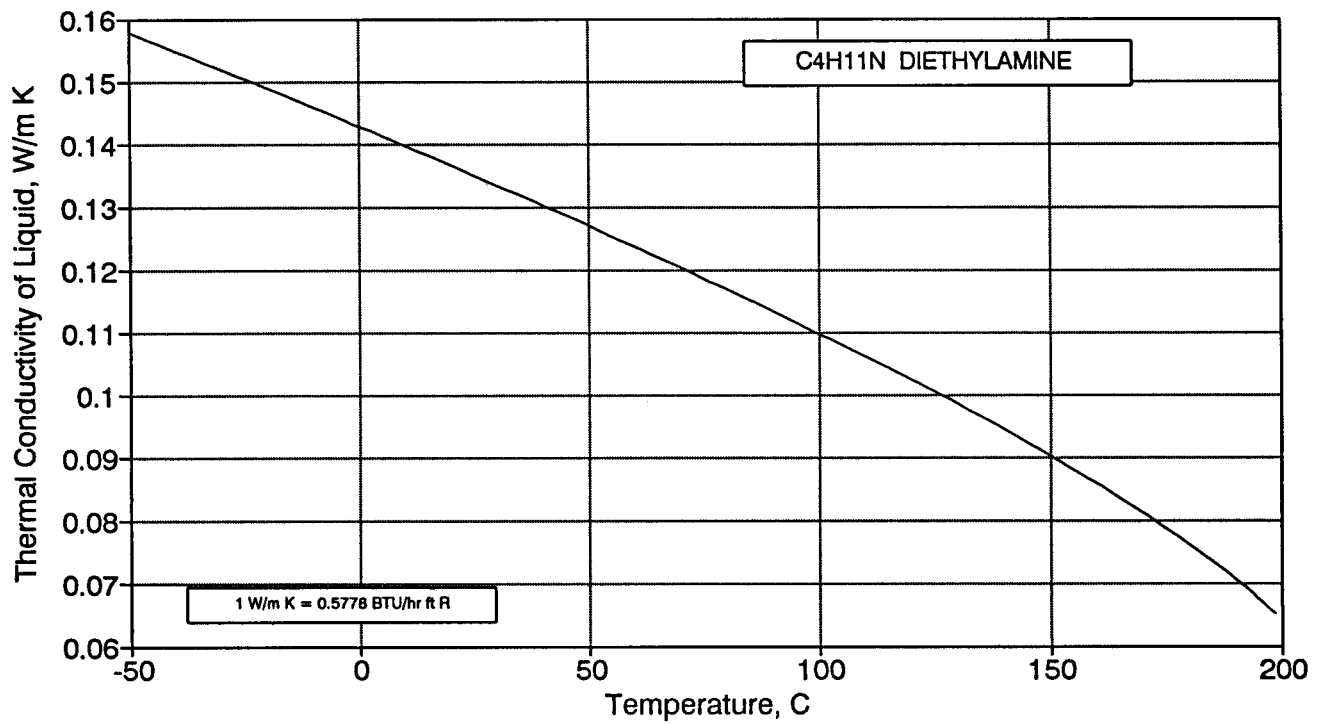
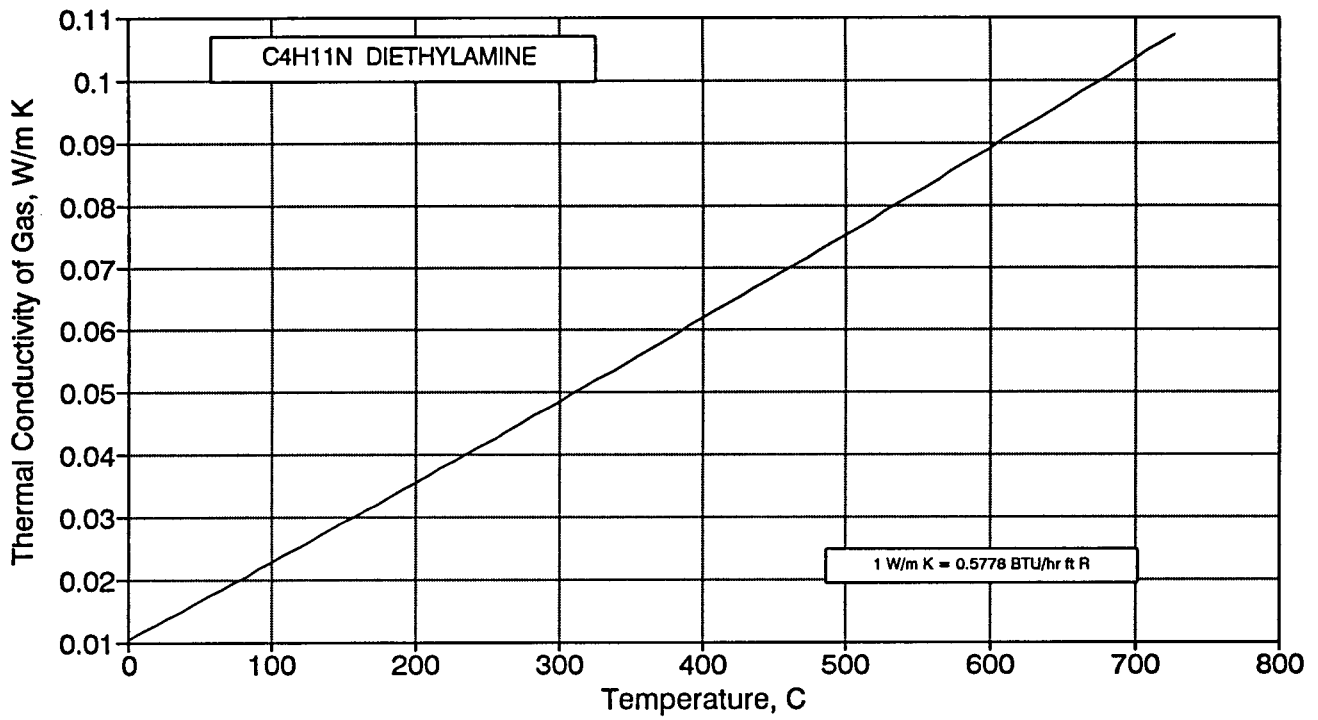




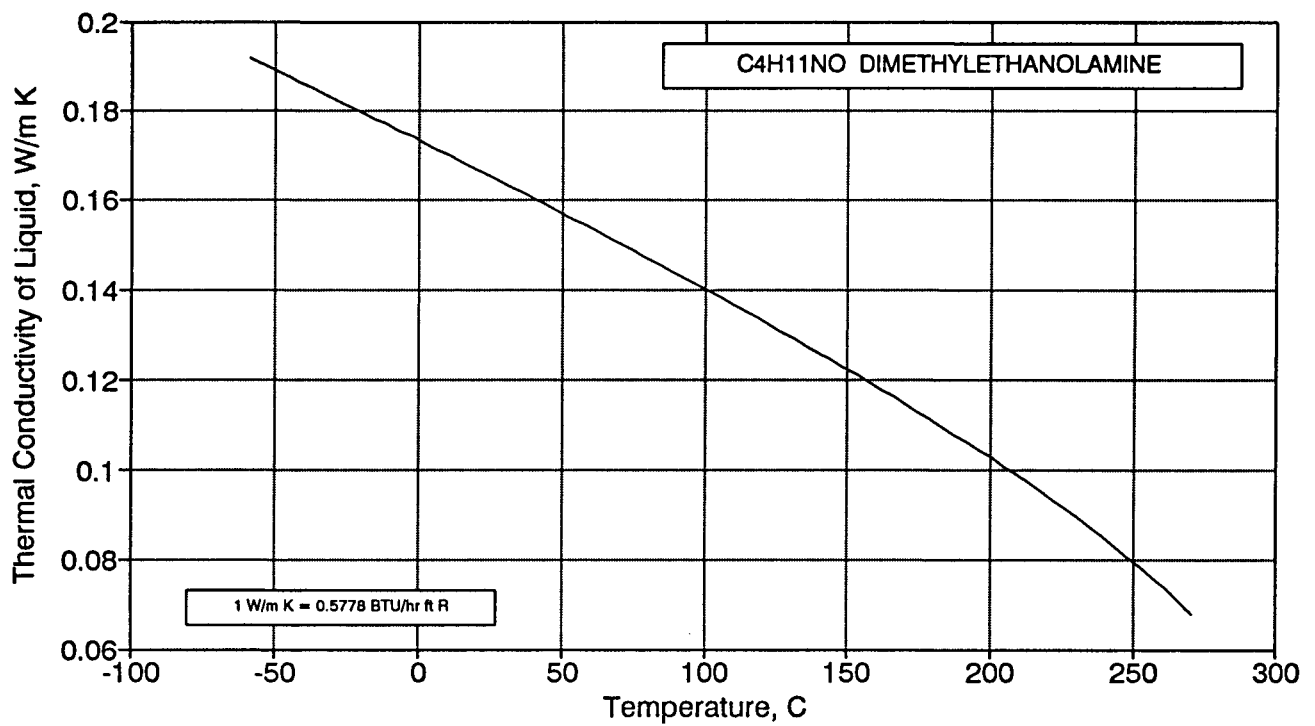
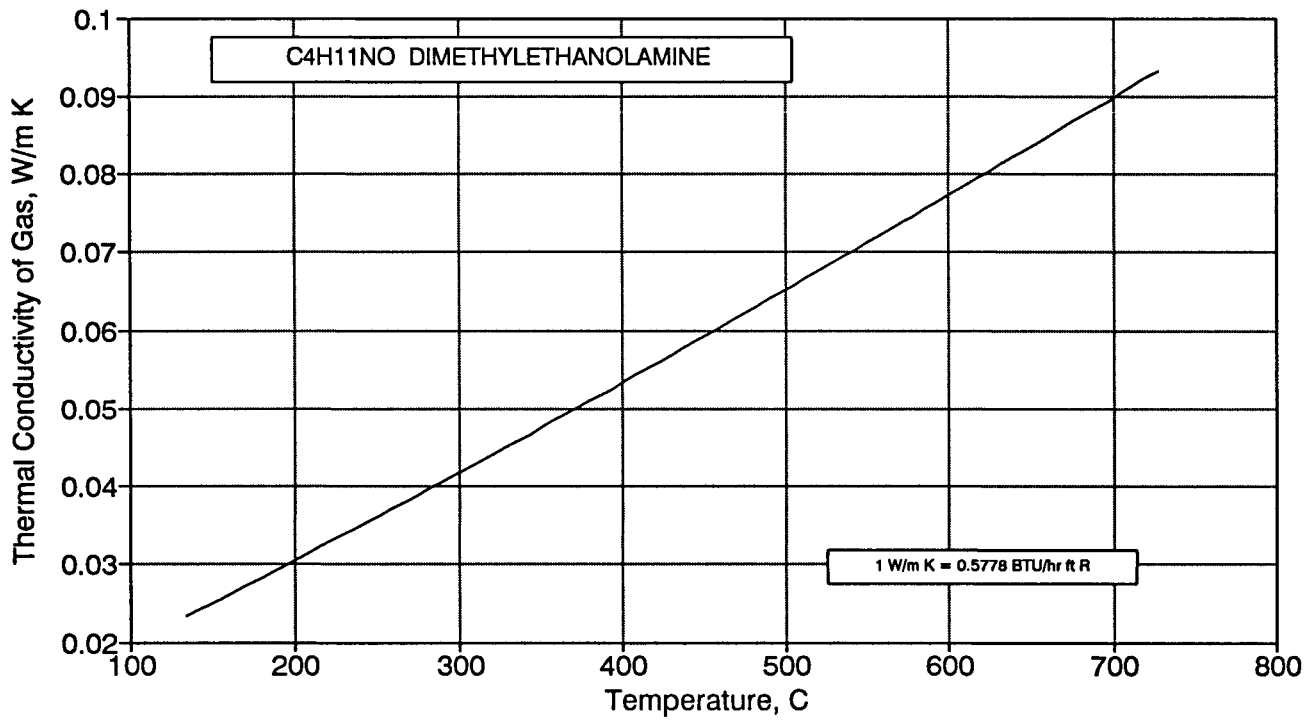










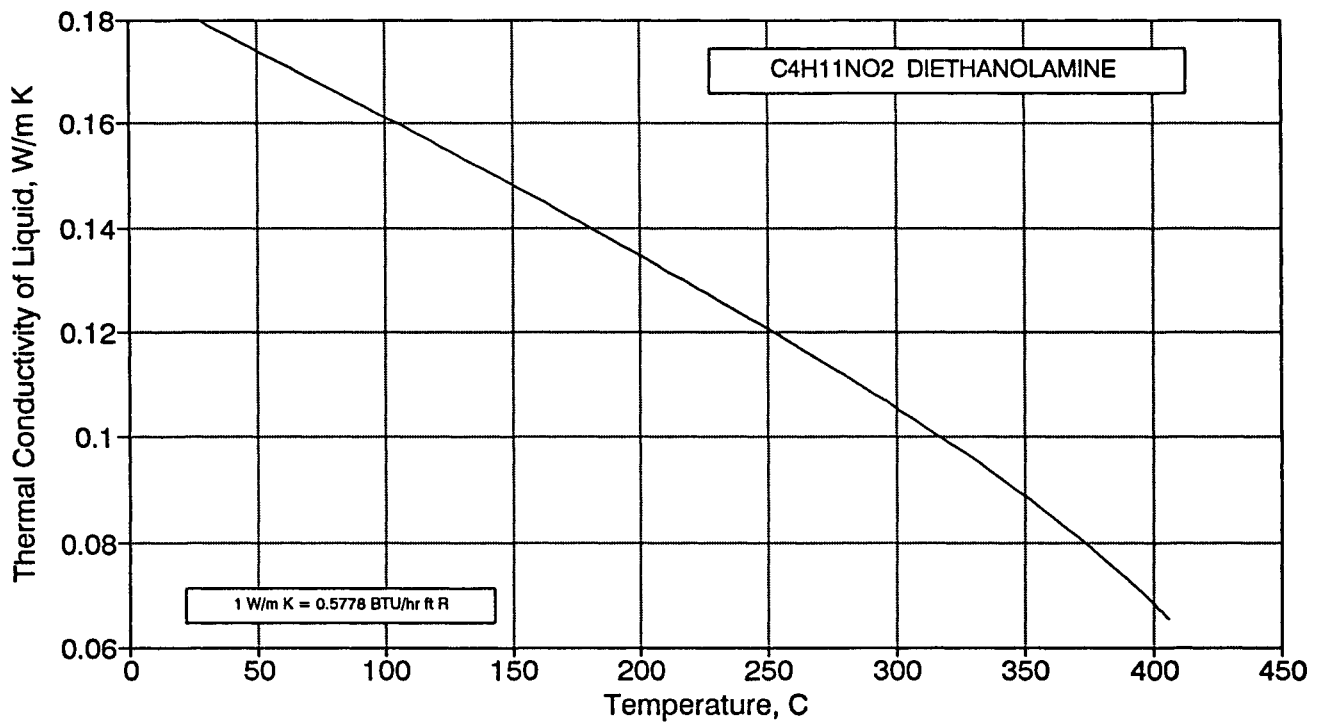


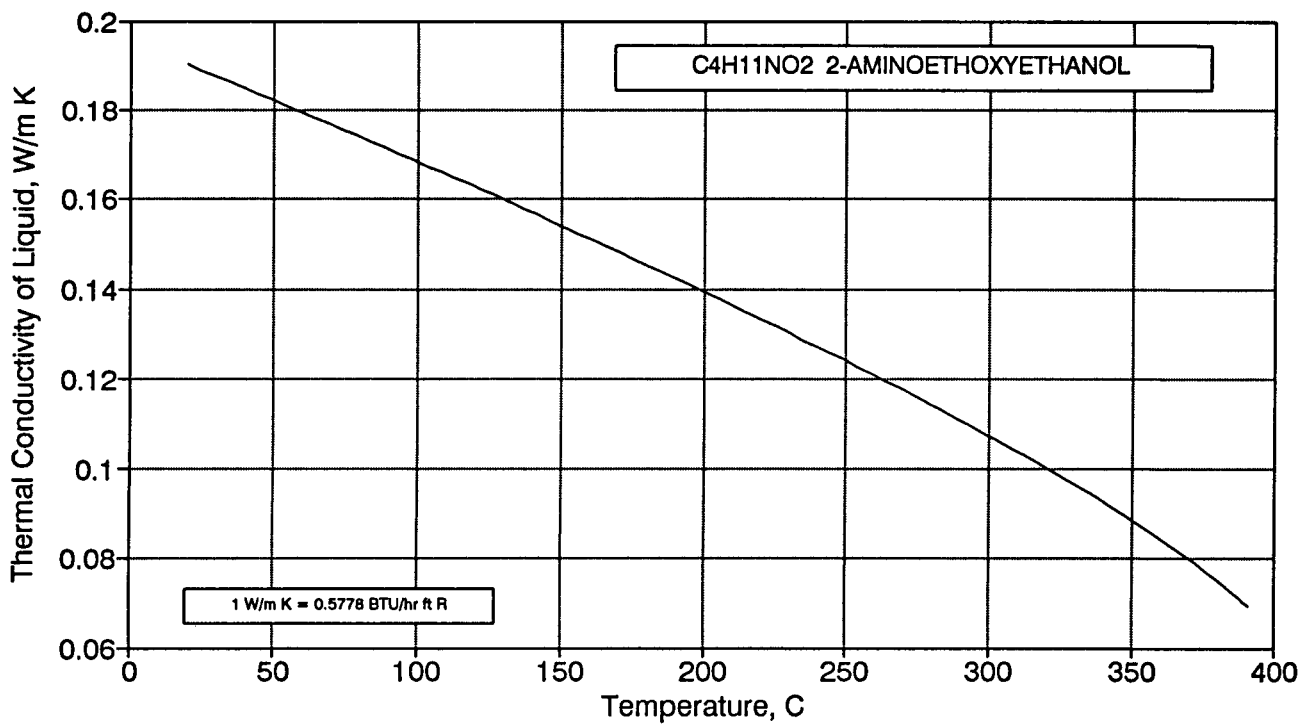
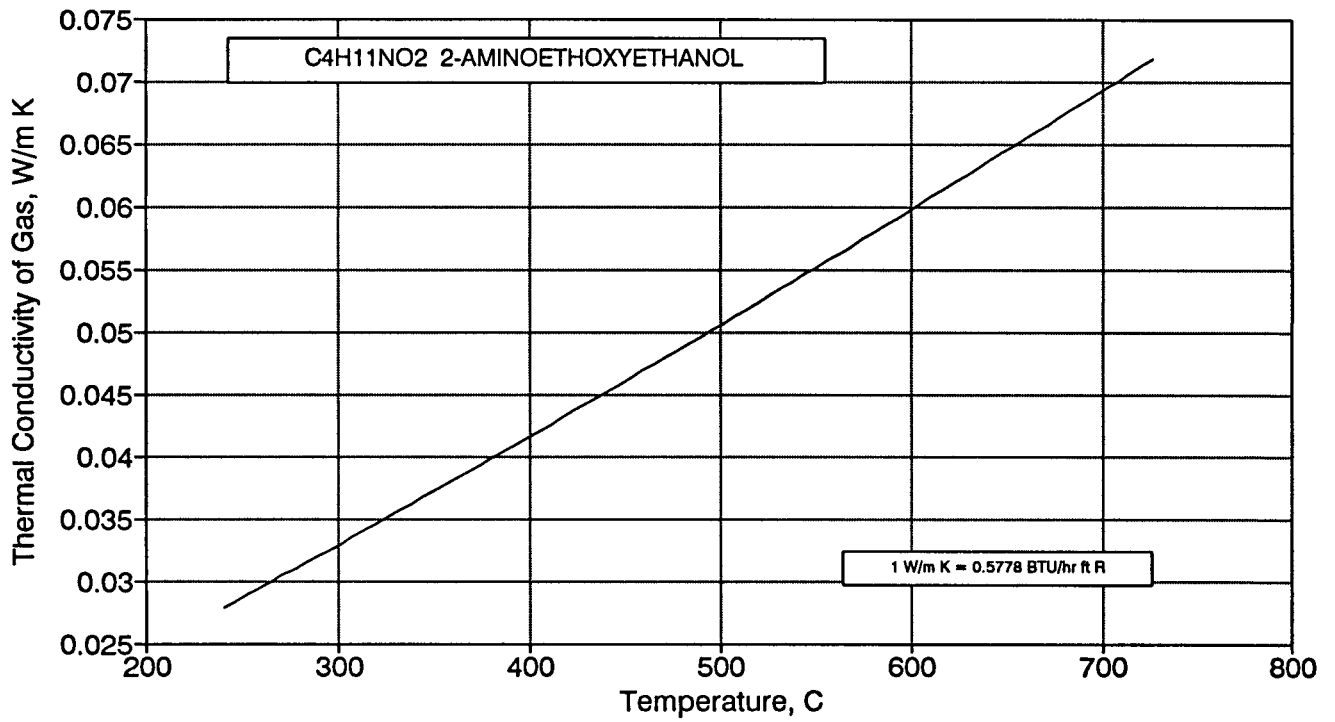
C4H11NO2 DIETHANOLAMINE

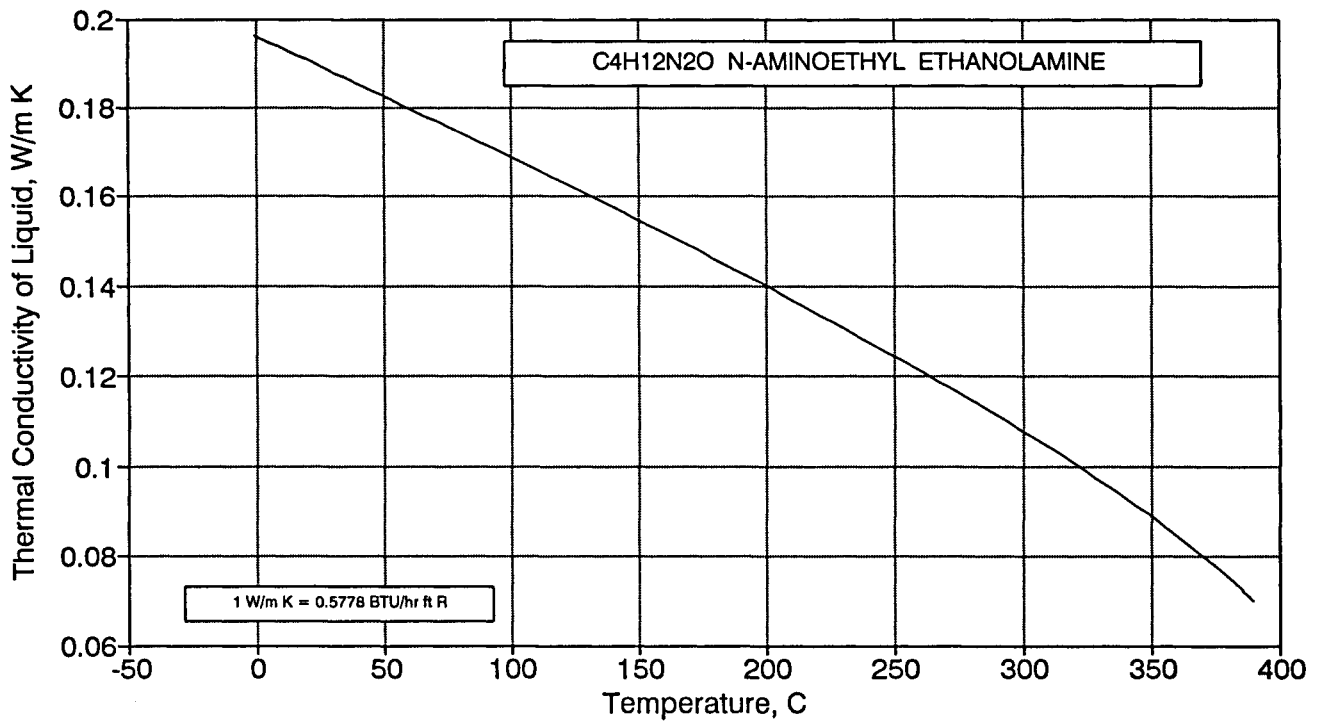
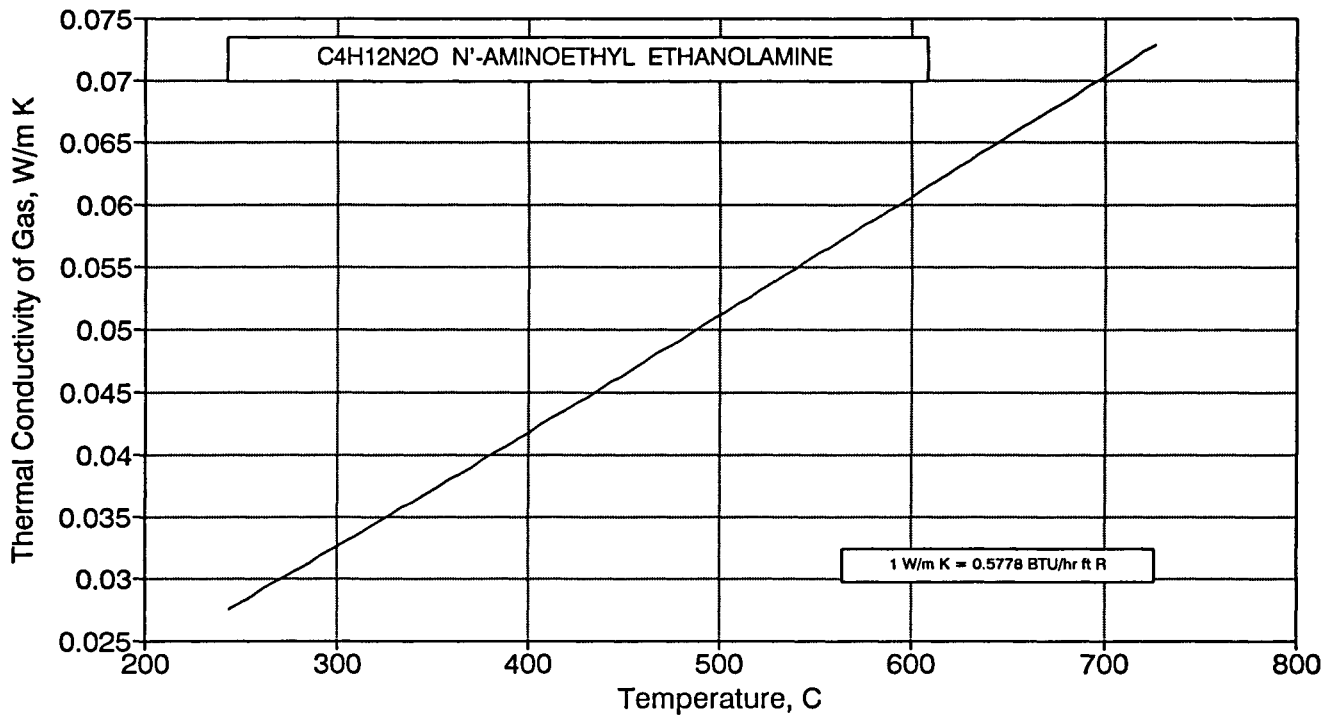
Gas thermal conductivity data are not available .

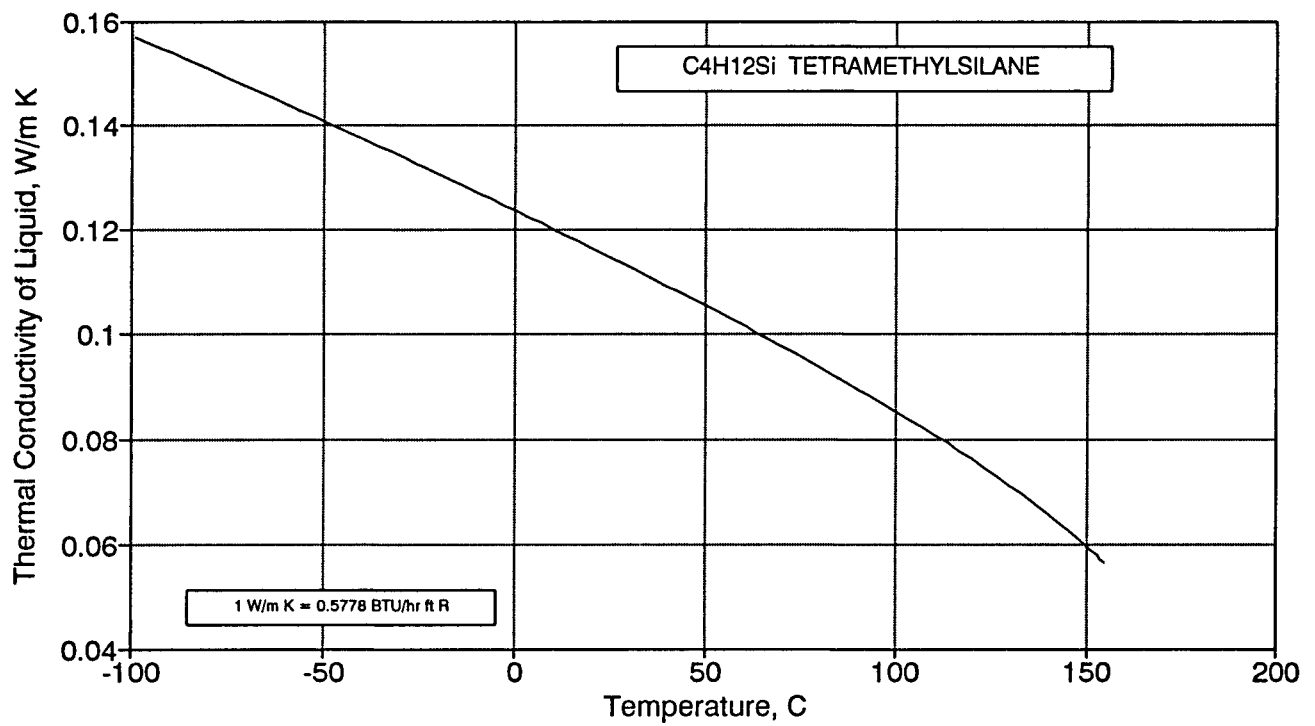
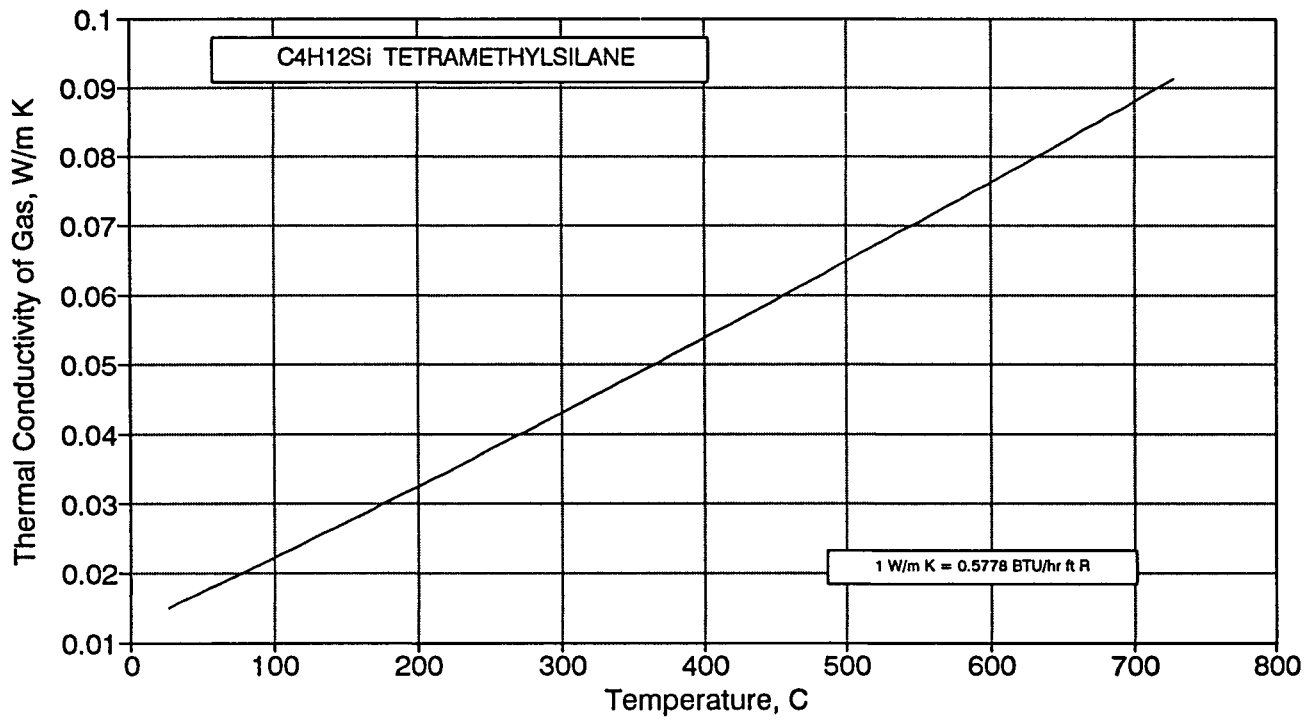
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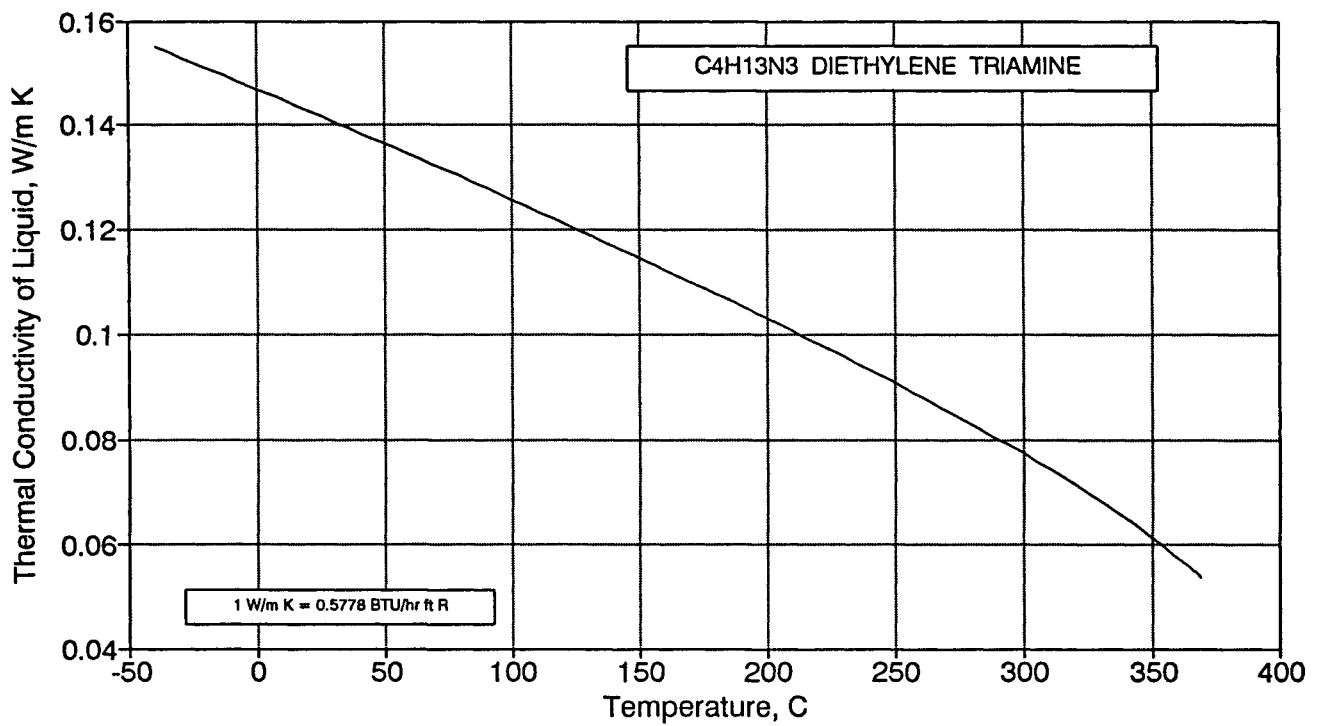
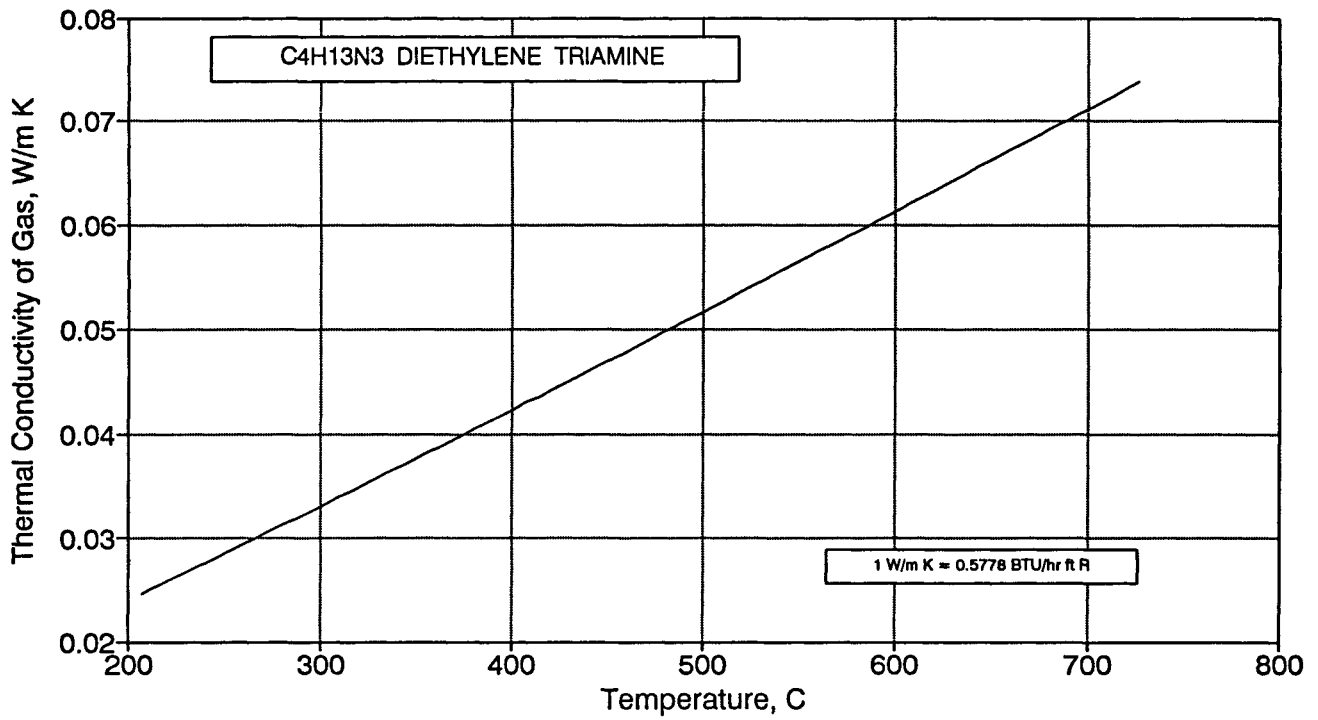
TB , K = 542.04











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## Appendix A

# COEFFICIENTS FOR LIQUID THERMAL CONDUCTIVITY EQUATION\*

Carl L. Yaws, Xiaoyan Lin, Li Bu and Sachin Nijhawan  
Lamar University, Beaumont, Texas

$$\log_{10} \lambda_{liq} = A + B [1-T/C]^{2/7} \quad (\lambda_{liq} - W/m K, T - K)$$

NO	FORMULA	NAME	A	B	C	TMIN	TMAX	$\lambda_{liq}$ @ 25 C
1	CBrClF2	BROMOCHLORODIFLUOROMETHANE	-1.1059	0.2320	426.15	114	405	0.1145
2	CBrCl3	BROMOTRICHLOROMETHANE	-1.8873	1.0168	606.00	252	576	0.0892
3	CBrF3	BROMOTRIFLUOROMETHANE	-2.0074	1.1951	340.15	105	323	0.0447
4	CBr2F2	DIBROMODIFLUOROMETHANE	-1.6881	0.9967	478.00	163	454	0.1163
5	CClF3	CHLOROTRIFLUOROMETHANE	-1.6922	0.9350	301.96	92	287	---
6	CClN	CYANOGEN CHLORIDE	-1.5416	1.0380	449.00	267	427	0.1654
7	CCl2F2	DICHLORODIFLUOROMETHANE	-1.8990	1.1855	384.95	115	366	0.0751
8	CCl2O	PHOSGENE	-1.4013	0.7045	455.00	145	432	0.1313
9	CCl3F	TRICHLOROFUOROMETHANE	-1.9663	1.2354	471.20	162	448	0.0916
10	CCl4	CARBON TETRACHLORIDE	-1.8791	1.0875	556.35	250	529	0.0987
11	CF2O	CARBONYL FLUORIDE	-1.4494	1.0257	297.00	162	282	---
12	CF4	CARBON TETRAFLUORIDE	-1.7559	0.9890	227.50	90	216	---
13	CHBr3	TRIBROMOMETHANE	-1.9473	1.1088	696.00	281	661	0.0995
14	CHClF2	CHLORODIFLUOROMETHANE	-1.6896	1.0163	369.30	116	351	0.0882
15	CHCl2F	DICHLOROFUOROMETHANE	-1.8416	1.1592	451.58	138	429	0.1023
16	CHCl3	CHLOROFORM	-1.5271	0.7577	536.40	210	510	0.1185
17	CHF3	TRIFLUOROMETHANE	-1.6073	0.9937	298.89	118	284	---
18	CHN	HYDROGEN CYANIDE	-1.4117	1.0351	456.65	260	434	0.2256
19	CH2BrCl	BROMOCHLOROMETHANE	-1.7805	0.9975	557.00	185	529	0.1049
20	CH2Br2	DIBROMOMETHANE	-1.9470	1.1902	611.00	221	580	0.1086
21	CH2Cl2	DICHLOROMETHANE	-1.8069	1.2216	510.00	178	485	0.1392
22	CH2F2	DIFLUOROMETHANE	-1.5190	1.0688	351.60	137	334	0.1274
23	CH2I2	DIIODOMETHANE	-2.3257	1.5226	747.00	279	710	0.0979
24	CH2O	FORMALDEHYDE	---	---	---	---	---	---
25	CH2O2	FORMIC ACID	-0.8626	0.3692	580.00	282	551	0.2741
26	CH3Br	METHYL BROMIDE	-1.7379	1.0082	467.00	180	444	0.1038
27	CH3Cl	METHYL CHLORIDE	-1.7528	1.3686	416.25	175	395	0.1592
28	CH3Cl3Si	METHYL TRICHLOROSILANE	-1.6182	0.9960	517.00	195	491	0.1448
29	CH3F	METHYL FLUORIDE	-1.2953	0.9173	317.70	131	302	0.1313
30	CH3I	METHYL IODIDE	-1.8201	0.9896	528.00	207	502	0.0912
31	CH3NO	FORMAMIDE	-0.6492	0.2262	771.00	276	732	0.3528
32	CH3NO2	NITROMETHANE	-1.5364	1.0441	588.15	245	559	0.2073
33	CH4	METHANE	-1.0976	0.5387	190.58	91	181	---
34	CH4Cl2Si	METHYL DICHLOROSILANE	-1.6664	0.9997	483.00	183	459	0.1240
35	CH4O	METHANOL	-1.1793	0.6191	512.58	175	487	0.2011
36	CH4O3S	METHANESULFONIC ACID	---	---	---	---	---	---
37	CH4S	METHYL MERCAPTAN	---	---	---	---	---	---
38	CH5ClSi	METHYL CHLOROSILANE	-1.6000	0.9860	442.00	139	420	0.1305
39	CH5N	METHYLAMINE	-1.0947	0.5539	430.05	180	409	0.1997
40	CH6Si	METHYL SILANE	-1.5494	0.9862	352.50	116	335	0.1068
41	CN4O8	TETRANITROMETHANE	-1.7461	1.0399	540.00	287	513	0.1204
42	CO	CARBON MONOXIDE	-1.7115	1.1359	132.92	68	126	---
43	COS	CARBONYL SULFIDE	-1.5784	0.9882	378.80	134	360	0.1140
44	CO2	CARBON DIOXIDE	-1.3679	0.8092	304.19	217	289	---
45	CS2	CARBON DISULFIDE	-1.2917	0.5809	552.00	162	524	0.1491
46	C2BrF3	BROMOTRIFLUOROETHYLENE	-1.8388	0.9861	432.00	162	410	0.0736
47	C2Br2F4	1,2-DIBROMOTETRAFLUOROETHANE	-1.9334	0.9638	487.80	163	463	0.0635
48	C2ClF3	CHLOROTRIFLUOROETHYLENE	-1.3362	0.5001	379.15	115	360	0.0967
49	C2ClF5	CHLOROPENTAFLUOROETHANE	-1.8980	1.0488	353.15	174	335	0.0523
50	C2Cl2F4	1,2-DICHLOROTETRAFLUOROETHANE	-1.7806	0.8820	418.85	179	398	0.0688
51	C2Cl3F3	1,1,2-TRICHLOROTRIFLUOROETHANE	-1.9265	1.0580	487.25	238	463	0.0760
52	C2Cl4	TETRACHLOROETHYLENE	-2.0968	1.3739	620.00	251	589	0.1102
53	C2Cl4F2	1,1,2,2-TETRACHLORODIFLUOROETHANE	-1.6650	0.7165	551.00	299	523	---
54	C2Cl4O	TRICHLOROACETYL CHLORIDE	-1.7653	1.0299	590.00	273	561	0.1194
55	C2Cl6	HEXACHLOROETHANE	---	---	---	---	---	---
56	C2F4	TETRAFLUROETHYLENE	---	---	---	---	---	---
57	C2F6	HEXAFLUROETHANE	-1.7571	0.9052	292.80	172	278	---

\* A computer program, containing coefficients for all compounds, is available for a nominal fee. The computer program is in ASCII which can be accessed by other software.

$$\log_{10} \lambda_{\text{liq}} = A + B [1-T/C]^{2/7} \quad (\lambda_{\text{liq}} - W/m K, T - K)$$

NO	FORMULA	NAME	A	B	C	TMIN	TMAX	$\lambda_{\text{liq}}$ @ 25 C
58	C2HBrClF3	HALOTHANE	-1.8115	1.0047	521.00	223	495	0.0948
59	C2HClF2	2-CHLORO-1,1-DIFLUOROETHYLENE	-1.7408	0.9926	400.55	135	381	0.0854
60	C2HCl3	TRICHLOROETHYLENE	-2.1042	1.4428	571.00	188	542	0.1159
61	C2HCl3O	DICHLOROACETYL CHLORIDE	-1.7322	1.0211	579.00	298	550	0.1254
62	C2HCl3O	TRICHLOROACETALDEHYDE	-1.7155	0.9989	565.00	216	537	0.1232
63	C2HCl5	PENTACHLOROETHANE	-1.8582	0.9887	665.00	244	632	0.0946
64	C2HF3O2	TRIFLUOROACETIC ACID	-1.5757	1.0271	491.25	258	467	0.1625
65	C2HF5	PENTAFLUROETHANE	-1.7216	0.9650	342.00	170	325	0.0653
66	C2H2	ACETYLENE	---	---	---	---	---	---
67	C2H2Br4	1,1,2,2-TETRABROMOETHANE	-1.5070	0.4990	824.00	273	783	0.0855
68	C2H2Cl2	1,1-DICHLOROETHYLENE	-1.7266	0.9964	482.00	151	458	0.1072
69	C2H2Cl2	cis-1,2-DICHLOROETHYLENE	-1.7165	0.9901	527.00	193	501	0.1158
70	C2H2Cl2	trans-1,2-DICHLOROETHYLENE	-1.7117	0.9782	508.00	223	483	0.1117
71	C2H2Cl2O	CHLOROACETYL CHLORIDE	-1.6852	1.0377	581.00	251	552	0.1444
72	C2H2Cl2O	DICHLOROACETALDEHYDE	-1.6851	0.9984	555.00	223	527	0.1306
73	C2H2Cl2O2	DICHLOROACETIC ACID	-1.5872	1.0111	686.00	287	652	0.1870
74	C2H2Cl3F	1,1,1-TRICHLOROFLUROETHANE	-1.8131	0.9980	565.00	220	537	0.0983
75	C2H2Cl4	1,1,1,2-TETRACHLOROETHANE	-1.9394	1.1331	624.00	203	593	0.1004
76	C2H2Cl4	1,1,2,2-TETRACHLOROETHANE	-1.7916	1.0073	645.00	229	613	0.1127
77	C2H2F2	1,1-DIFLUOROETHYLENE	-1.6721	0.9990	302.80	129	288	---
78	C2H2F4	1,1,1,2-TETRAFLUROETHANE	-1.7425	0.9769	380.00	172	361	0.0772
79	C2H2O	KETENE	-1.5301	0.9860	370.00	122	352	0.1222
80	C2H2O4	OXALIC ACID	---	---	---	---	---	---
81	C2H3Br	VINYL BROMIDE	-1.7532	1.0010	473.00	135	449	0.1000
82	C2H3Cl	VINYL CHLORIDE	-1.7110	0.9777	432.00	119	410	0.0974
83	C2H3ClF2	1-CHLORO-1,1-DIFLUOROETHANE	-1.7037	0.9591	410.20	142	390	0.0908
84	C2H3ClO	ACETYL CHLORIDE	-1.6413	0.9858	508.00	160	483	0.1332
85	C2H3ClO	CHLOROACETALDEHYDE	-1.6434	1.0212	555.00	293	527	0.1500
86	C2H3ClO2	CHLOROACETIC ACID	-1.3157	0.5349	686.00	333	652	---
87	C2H3ClO2	METHYL CHLOROFORMATE	-1.6454	0.9973	525.00	192	499	0.1378
88	C2H3Cl3	1,1,1-TRICHLOROETHANE	-1.7352	0.9286	545.00	243	518	0.1013
89	C2H3Cl3	1,1,2-TRICHLOROETHANE	-2.6567	2.1686	602.00	237	572	0.1340
90	C2H3F	VINYL FLUORIDE	-1.1468	0.4921	327.80	113	311	0.1261
91	C2H3F3	1,1,1-TRIFLUOROETHANE	-1.7049	0.9726	346.25	162	329	0.0705
92	C2H3N	ACETONITRILE	-1.5248	1.0023	545.50	229	518	0.1883
93	C2H3NO	METHYL ISOCYANATE	-1.6639	1.0134	505.00	256	480	0.1323
94	C2H4	ETHYLENE	-1.3314	0.8527	282.36	104	268	---
95	C2H4Br2	1,1-DIBROMOETHANE	-1.8696	1.0151	628.00	210	597	0.0944
96	C2H4Br2	1,2-DIBROMOETHANE	-1.5732	0.6869	650.15	283	618	0.1007
97	C2H4Cl2	1,1-DICHLOROETHANE	-1.7265	0.9930	523.00	176	497	0.1132
98	C2H4Cl2	1,2-DICHLOROETHANE	-1.6509	0.9701	561.00	237	533	0.1350
99	C2H4Cl2O	BIS(CHLOROMETHYL)ETHER	-1.7290	0.9999	579.00	232	550	0.1214
100	C2H4F2	1,1-DIFLUOROETHANE	-1.6971	1.0889	386.60	156	367	0.1041
101	C2H4F2	1,2-DIFLUOROETHANE	-1.6318	0.9762	476.00	215	452	0.1274
102	C2H4O	ACETALDEHYDE	-1.4826	0.9821	461.00	150	438	0.1766
103	C2H4O	ETHYLENE OXIDE	-1.4656	0.8777	469.15	161	446	0.1557
104	C2H4O2	ACETIC ACID	-1.2836	0.5893	592.71	290	563	0.1581
105	C2H4O2	METHYL FORMATE	-1.4729	0.9778	487.20	174	463	0.1876
106	C2H5Br	BROMOETHANE	-1.7584	1.0024	503.80	155	479	0.1041
107	C2H5Cl	ETHYL CHLORIDE	-2.0001	1.4496	460.35	137	437	0.1191
108	C2H5ClO	2-CHLOROETHANOL	-1.6860	0.9969	585.00	206	556	0.1341
109	C2H5F	ETHYL FLUORIDE	-1.5942	0.9970	375.31	130	357	0.1097
110	C2H5I	ETHYL IODIDE	-1.8611	1.0025	561.00	162	533	0.0884
111	C2H5N	ETHYLENEIMINE	-1.5062	0.9900	537.00	195	510	0.1902
112	C2H5NO	ACETAMIDE	-2.1785	1.9059	761.00	354	723	---
113	C2H5NO	N-METHYLFORMAMIDE	-0.9309	0.2775	721.00	269	685	0.2029
114	C2H5NO2	NITROETHANE	-1.5543	0.9394	593.00	184	563	0.1641
115	C2H6	ETHANE	-1.3474	0.7003	305.42	90	290	---
116	C2H6AlCl	DIMETHYLALUMINUM CHLORIDE	-1.6842	0.9995	619.00	252	588	0.1394
117	C2H6O	DIMETHYL ETHER	-1.5099	0.9936	400.10	132	380	0.1453
118	C2H6O	ETHANOL	-1.3172	0.6987	516.25	159	490	0.1695
119	C2H6OS	DIMETHYL SULFOXIDE	-2.3306	1.7746	726.00	292	690	0.1567
120	C2H6O2	ETHYLENE GLYCOL	-0.5918	0.0000	645.00	260	613	0.2560
121	C2H6O4S	DIMETHYL SULFATE	-1.6460	0.9860	758.00	241	720	0.1617
122	C2H6S	DIMETHYL SULFIDE	-1.6145	0.9868	503.04	175	478	0.1409
123	C2H6S	ETHYL MERCAPTAN	---	---	---	---	---	---
124	C2H6S2	DIMETHYL DISULFIDE	-1.6601	0.9837	606.00	188	576	0.1414
125	C2H7N	DIMETHYLAMINE	-1.2557	0.6069	437.65	181	416	0.1521

\* A computer program, containing coefficients for all compounds, is available for a nominal fee. The computer program is in ASCII which can be accessed by other software.

$$\log_{10} \lambda_{liq} = A + B [1-T/C]^{2/7} \quad (\lambda_{liq} - W/m K, T - K)$$

NO	FORMULA	NAME	A	B	C	TMIN	TMAX	$\lambda_{liq}$ @ 25 C
126	C2H7N	ETHYLAMINE	-0.7418	0.0838	456.15	192	433	0.2090
127	C2H7NO	MONOETHANOLAMINE	-1.3743	1.0185	638.00	284	606	0.2996
128	C2H8N2	ETHYLENEDIAMINE	-1.4651	1.0149	593.00	284	563	0.2324
129	C2H8Si	DIMETHYL SILANE	-1.5839	0.9852	402.00	123	382	0.1217
130	C2N2	CYANOGEN	-1.3833	1.0380	400.15	245	380	0.2085
131	C3F6	HEXAFLUOROPROPYLENE	-1.8426	0.9978	368.00	117	350	0.0600
132	C3F6O	HEXAFLUOROACETONE	-1.8604	0.9867	357.14	151	339	0.0536
133	C3F8	OCTAFLUOROPROPANE	-1.8913	0.9905	345.05	125	328	0.0466
134	C3H2N2	MALONONITRILE	-0.9680	0.4645	715.00	305	679	---
135	C3H3Cl	PROPARGYL CHLORIDE	-1.6852	1.0209	541.00	293	514	0.1339
136	C3H3N	ACRYLONITRILE	-2.1221	1.7052	535.00	190	508	0.1694
137	C3H3NO	OXAZOLE	-1.7525	0.9870	554.00	200	526	0.1094
138	C3H4	METHYLACETYLENE	-1.6189	1.0028	402.39	170	382	0.1156
139	C3H4	PROPADIENE	-1.6287	0.9897	393.15	137	373	0.1074
140	C3H4Cl2	2,3-DICHLOROPROPENE	-1.7388	0.9897	577.00	192	548	0.1162
141	C3H4O	ACROLEIN	-1.5489	0.9977	506.00	185	481	0.1678
142	C3H4O	PROPARGYL ALCOHOL	-1.5717	0.9908	580.00	221	551	0.1716
143	C3H4O2	ACRYLIC ACID	-1.6101	0.9742	615.00	287	584	0.1570
144	C3H4O2	BETA-PROPIOLACTONE	-1.5242	0.9924	686.00	240	652	0.2085
145	C3H4O2	VINYL FORMATE	-1.5429	0.9761	498.00	200	473	0.1618
146	C3H4O3	ETHYLENE CARBONATE	---	---	---	---	---	---
147	C3H4O3	PYRUVIC ACID	-1.6684	1.0168	634.52	287	603	0.1513
148	C3H5Cl	2-CHLOROPROPENE	-1.6818	1.0038	478.00	136	454	0.1195
149	C3H5Cl	3-CHLOROPROPENE	-1.6775	1.0055	514.15	139	488	0.1280
150	C3H5ClO	ALPHA-EPICHLOROHYDRIN	-1.7020	0.9936	610.00	216	580	0.1313
151	C3H5ClO2	METHYL CHLOROACETATE	-1.6783	1.0052	600.00	241	570	0.1405
152	C3H5ClO2	ETHYL CHLOROFORMATE	-1.5969	1.0052	508.15	192	483	0.1528
153	C3H5Cl3	1,2,3-TRICHLOROPROPANE	-1.7903	0.9867	652.00	258	619	0.1092
154	C3H5N	PROPIONITRILE	-1.5733	0.9918	564.40	180	536	0.1686
155	C3H5NO	ACRYLAMIDE	-1.7139	1.0196	710.00	358	675	---
156	C3H5NO	HYDRACRYLONITRILE	-1.3772	0.9962	690.00	227	656	0.2953
157	C3H5NO	LACTONITRILE	-1.4913	1.0030	643.00	233	611	0.2229
158	C3H5N3O9	NITROGLYCERINE	---	---	---	---	---	---
159	C3H6	CYCLOPROPANE	-1.5958	0.9876	397.91	146	378	0.1173
160	C3H6	PROPYLENE	-1.4376	0.7718	364.76	88	347	0.1089
161	C3H6Cl2	1,1-DICHLOROPROPANE	-1.7409	0.9837	560.00	200	532	0.1124
162	C3H6Cl2	1,2-DICHLOROPROPANE	-2.3301	1.7507	572.00	173	543	0.1226
163	C3H6Cl2	1,3-DICHLOROPROPANE	-1.7461	1.0000	603.00	174	573	0.1194
164	C3H6O	ACETONE	-1.3857	0.7643	508.20	178	483	0.1615
165	C3H6O	ALLYL ALCOHOL	-1.5961	0.9943	545.05	144	518	0.1574
166	C3H6O	METHYL VINYL ETHER	-1.5601	0.9963	437.00	151	415	0.1439
167	C3H6O	n-PROPIONALDEHYDE	-1.5067	0.9267	496.00	193	471	0.1607
168	C3H6O	1,2-PROPYLENE OXIDE	-1.5287	1.0014	482.25	161	458	0.1705
169	C3H6O	1,3-PROPYLENE OXIDE	-1.6834	1.0446	520.00	255	494	0.1366
170	C3H6O2	ETHYL FORMATE	-1.4474	0.8436	508.40	194	483	0.1614
171	C3H6O2	METHYL ACETATE	-1.6616	1.0979	506.80	175	481	0.1550
172	C3H6O2	PROPIONIC ACID	-1.2207	0.4764	604.00	252	574	0.1485
173	C3H6O2S	3-MERCAPTOPROPIONIC ACID	-1.5614	1.0081	729.00	291	693	0.2023
174	C3H6O3	LACTIC ACID	-0.3904	0.0057	616.00	291	585	0.4114
175	C3H6O3	METHOXYACETIC ACID	-1.5621	1.0070	691.00	281	656	0.1972
176	C3H6O3	TRIOXANE	-1.6457	1.0284	604.00	335	574	---
177	C3H7Br	1-BROMOPROPANE	-1.6989	0.8779	544.00	163	517	0.1002
178	C3H7Br	2-BROMOPROPANE	-1.8087	0.9932	532.00	184	505	0.0948
179	C3H7Cl	ISOPROPYL CHLORIDE	-1.6811	0.9975	489.00	156	465	0.1206
180	C3H7Cl	n-PROPYL CHLORIDE	-1.4818	0.7346	503.15	150	478	0.1221
181	C3H7I	ISOPROPYL IODIDE	-1.8432	0.9338	578.00	183	549	0.0824
182	C3H7I	n-PROPYL IODIDE	-1.8930	1.0239	593.00	172	563	0.0882
183	C3H7N	ALLYLAMINE	-1.1389	0.5366	505.00	185	480	0.1892
184	C3H7N	PROPYLENIMINE	-1.6207	1.0022	529.00	229	503	0.1480
185	C3H7NO	N,N-DIMETHYLFORMAMIDE	-1.4326	0.8321	647.00	213	615	0.1840
186	C3H7NO	N-METHYLACETAMIDE	-1.6399	1.0055	718.00	301	682	---
187	C3H7NO2	1-NITROPROPANE	-1.5785	0.9348	605.00	169	575	0.1554
188	C3H7NO2	2-NITROPROPANE	-1.5223	0.8227	594.00	182	564	0.1418
189	C3H8	PROPANE	-1.2127	0.6611	369.82	85	351	0.1589
190	C3H8O	ISOPROPANOL	-1.3721	0.6580	508.31	185	483	0.1378
191	C3H8O	METHYL ETHYL ETHER	-1.5603	0.9786	437.80	160	416	0.1399
192	C3H8O	n-PROPANOL	-1.2131	0.5097	536.71	147	510	0.1553
193	C3H8O2	2-METHOXYETHANOL	-1.0528	0.4122	564.00	188	536	0.1904

\* A computer program, containing coefficients for all compounds, is available for a nominal fee. The computer program is in ASCII which can be accessed by other software.

$$\log_{10} \lambda_{\text{liq}} = A + B [1-T/C]^{2.77} \quad (\lambda_{\text{liq}} - W/m \text{ K}, T - K)$$

NO	FORMULA	NAME	A	B	C	TMIN	TMAX	$\lambda_{\text{liq}}$ @ 25 C
194	C3H8O2	METHYLAL	-1.5966	0.9909	480.60	168	457	0.1428
195	C3H8O2	1,2-PROPYLENE GLYCOL	-0.8118	0.1372	626.00	213	595	0.2006
196	C3H8O2	1,3-PROPYLENE GLYCOL	-0.4653	-0.2405	658.00	250	390	0.2150
197	C3H8O3	GLYCEROL	-0.3550	-0.2097	723.00	293	550	0.2916
198	C3H8S	n-PROPYLMERCAPTAN	-1.6489	0.9858	536.00	160	509	0.1357
199	C3H8S	ISOPROPYL MERCAPTAN	-1.6600	0.9791	517.00	143	491	0.1276
200	C3H9N	n-PROPYLAMINE	-1.1416	0.4932	496.95	190	472	0.1730
201	C3H9N	ISOPROPYLAMINE	-1.5363	0.9005	471.85	178	448	0.1382
202	C3H9N	TRIMETHYLAMINE	-1.6174	0.9865	433.25	156	412	0.1230
203	C3H9NO	1-AMINO-2-PROPANOL	-1.5902	1.0148	614.00	275	583	0.1775
204	C3H9NO	3-AMINO-1-PROPANOL	-1.5366	1.0157	649.00	284	617	0.2067
205	C3H9NO	METHYLETHANOLAMINE	-1.5791	1.0121	630.00	269	599	0.1835
206	C3H9O4P	TRIMETHYL PHOSPHATE	---	---	---	---	---	---
207	C3H10N2	1,2-PROPANEDIAMINE	-1.5008	1.0033	587.00	237	558	0.2082
208	C3H10Si	TRIMETHYL SILANE	-1.6641	0.9872	432.00	137	410	0.1102
209	C4Cl4S	TETRACHLOROTHIOPHENE	---	---	---	---	---	---
210	C4Cl6	HEXACHLORO-1,3-BUTADIENE	-1.9958	0.9923	741.00	252	704	0.0726
211	C4F8	OCTAFLUORO-2-BUTENE	-1.8993	0.9952	392.00	138	372	0.0578
212	C4F8	OCTAFLUOROCYCLOBUTANE	-1.9271	1.1242	388.37	233	369	0.0651
213	C4F10	DECAFLUOROBUTANE	-1.9336	0.9892	386.35	145	367	0.0519
214	C4H2O3	MALEIC ANHYDRIDE	-1.6158	1.0110	721.00	326	685	---
215	C4H4	VINYLACETYLENE	---	---	---	---	---	---
216	C4H4N2	SUCCINONITRILE	-1.4849	1.0114	770.00	331	732	---
217	C4H4O	FURAN	-1.6602	0.9948	490.15	188	466	0.1262
218	C4H4O2	DIKETENE	-1.6106	1.0085	616.00	267	585	0.1676
219	C4H4O3	SUCCINIC ANHYDRIDE	-1.5742	1.0180	811.00	393	770	---
220	C4H4O4	FUMARIC ACID	-1.6471	0.8844	771.00	560	732	---
221	C4H4O4	MALEIC ACID	-1.5672	0.9720	773.00	403	734	---
222	C4H4S	THIOPHENE	-1.4069	0.7030	579.35	235	550	0.1462
223	C4H5Cl	CHLOROPRENE	-2.5064	2.0553	525.00	143	499	0.1291
224	C4H5N	trans-CROTONITRILE	-1.6587	1.0017	586.00	222	557	0.1442
225	C4H5N	cis-CROTONITRILE	-1.6238	1.0033	568.00	201	540	0.1539
226	C4H5N	METHACRYLONITRILE	-1.5773	1.0053	554.00	237	526	0.1694
227	C4H5N	PYRROLE	-1.6178	0.9977	639.75	250	608	0.1645
228	C4H5N	VINYLACETONITRILE	-1.6149	0.9895	584.00	186	555	0.1555
229	C4H5NO2	METHYL CYANOACETATE	-1.5042	0.9878	687.00	260	653	0.2164
230	C4H6	1,2-BUTADIENE	-1.6517	0.9876	444.00	137	422	0.1166
231	C4H6	1,3-BUTADIENE	-1.6512	0.9899	425.37	164	404	0.1122
232	C4H6	DIMETHYLACETYLENE	-1.6900	1.0114	488.15	241	464	0.1209
233	C4H6	ETHYLACETYLENE	-1.6463	0.9884	443.20	147	421	0.1181
234	C4H6Cl2	1,3-DICHLORO-trans-2-BUTENE	-1.7525	0.9775	618.00	276	587	0.1141
235	C4H6Cl2	1,4-DICHLORO-cis-2-BUTENE	-1.7539	0.9849	640.00	225	608	0.1174
236	C4H6Cl2	1,4-DICHLORO-trans-2-BUTENE	-1.7509	0.9805	646.00	274	614	0.1177
237	C4H6Cl2	3,4-DICHLORO-1-BUTENE	-1.7639	0.9906	589.00	212	560	0.1111
238	C4H6O	trans-CRONTALDEHYDE	-1.9879	1.6110	571.00	197	542	0.2073
239	C4H6O	2,5-DIHYDROFURAN	-1.6927	1.0187	542.00	273	515	0.1313
240	C4H6O	DIVINYL ETHER	-1.5983	0.9879	463.00	172	440	0.1372
241	C4H6O	METHACROLEIN	-1.6470	0.9896	530.00	192	504	0.1363
242	C4H6O2	2-BUTYNE-1,4-DIOL	-1.5373	1.0296	695.00	331	660	---
243	C4H6O2	gamma-BUTYROLACTONE	-1.6401	0.9843	739.00	230	702	0.1619
244	C4H6O2	cis-CROTONIC ACID	-1.6538	1.0211	647.00	289	615	0.1593
245	C4H6O2	trans-CROTONIC ACID	-1.5922	0.9597	666.00	345	633	---
246	C4H6O2	METHACRYLIC ACID	-1.6272	0.9747	643.00	288	611	0.1544
247	C4H6O2	METHYL ACRYLATE	-1.5867	0.9925	536.00	196	509	0.1585
248	C4H6O2	VINYL ACETATE	-1.7519	1.1895	524.00	180	498	0.1525
249	C4H6O3	ACETIC ANHYDRIDE	-1.3593	0.7106	569.15	200	541	0.1642
250	C4H6O4	SUCCINIC ACID	-1.5555	0.9783	806.00	461	766	---
251	C4H6O5	DIGLYCOLIC ACID	-1.5871	1.0334	820.00	421	779	---
252	C4H6O5	MALIC ACID	-1.5921	1.0366	781.00	403	742	---
253	C4H6O6	TARTARIC ACID	-1.5788	1.0606	828.00	479	787	---
254	C4H7N	n-BUTYRONITRILE	-1.5713	0.9796	582.25	161	553	0.1685
255	C4H7N	ISOBUTYRONITRILE	-1.5949	0.9952	565.00	202	537	0.1616
256	C4H7NO	ACETONE CYANOHYDRIN	-1.4284	0.9965	647.00	253	615	0.2552
257	C4H7NO	2-METHACRYLAMIDE	-1.6405	1.0253	741.00	384	704	---
258	C4H7NO	3-METHOXYPROPIONITRILE	-1.6418	0.9917	638.00	210	606	0.1537
259	C4H7NO	2-PYRROLIDONE	-1.5852	1.0000	792.00	298	752	0.1943
260	C4H8	1-BUTENE	-1.6539	0.9786	419.59	88	399	0.1078
261	C4H8	cis-2-BUTENE	-1.6584	0.9867	435.58	134	414	0.1125

\* A computer program, containing coefficients for all compounds, is available for a nominal fee. The computer program is in ASCII which can be accessed by other software.

$$\log_{10} \lambda_{\text{liq}} = A + B [1-T/C]^{2/7} \quad (\lambda_{\text{liq}} - W/m K, T - K)$$

NO	FORMULA	NAME	$\lambda_{\text{liq}}$					
			A	B	C	TMIN	TMAX	@ 25 C
262	C4H8	trans-2-BUTENE	-1.6736	0.9990	428.63	168	407	0.1090
263	C4H8	CYCLOBUTANE	-1.6584	0.9979	459.93	182	437	0.1208
264	C4H8	ISOBUTENE	-1.4902	0.8491	417.90	133	397	0.1270
265	C4H8C12	1,4-DICHLOROBUTANE	-1.7598	0.9887	641.00	236	609	0.1167
266	C4H8O	n-BUTYRALDEHYDE	-1.4504	0.7790	525.00	177	499	0.1454
267	C4H8O	ISOBUTYRALDEHYDE	-2.4296	2.0609	507.00	208	482	0.1479
268	C4H8O	1,2-EPOXYBUTANE	-1.5694	0.9987	526.00	123	500	0.1648
269	C4H8O	METHYL ETHYL KETONE	-1.4647	0.7938	535.50	186	509	0.1460
270	C4H8O	ETHYL VINYL ETHER	-1.6073	0.9976	475.15	157	451	0.1397
271	C4H8O	TETRAHYDROFURAN	-1.7003	0.9827	540.15	165	513	0.1205
272	C4H8O2	cis-2-BUTENE-1,4-DIOL	-1.5334	0.9829	677.88	284	644	0.1993
273	C4H8O2	trans-2-BUTENE-1,4-DIOL	-1.5265	0.9756	681.00	300	647	---
274	C4H8O2	ISOBUTYRIC ACID	-1.6358	0.9707	609.15	227	579	0.1463
275	C4H8O2	n-BUTYRIC ACID	-1.3420	0.6161	628.00	268	597	0.1481
276	C4H8O2	1,4-DIOXANE	-2.1607	1.6668	587.00	285	558	0.1586
277	C4H8O2	ETHYL ACETATE	-1.6938	1.0862	523.30	190	497	0.1445
278	C4H8O2	METHYL PROPIONATE	-1.4504	0.7831	530.60	186	504	0.1473
279	C4H8O2	n-PROPYL FORMATE	-1.4604	0.7949	538.00	180	511	0.1481
280	C4H8O2S	SULFOLANE	-1.4179	0.8122	849.00	301	807	---
281	C4H8S	TETRAHYDROTHIOPHENE	-1.6093	0.9128	631.95	177	600	0.1417
282	C4H9Br	1-BROMOBUTANE	-1.7651	0.9645	577.00	161	548	0.1044
283	C4H9Br	2-BROMOBUTANE	-1.7934	1.0012	567.00	161	539	0.1037
284	C4H9Cl	n-BUTYL CHLORIDE	-1.7147	1.0040	537.00	150	510	0.1207
285	C4H9Cl	sec-BUTYL CHLORIDE	-1.7136	1.0008	520.60	142	495	0.1179
286	C4H9Cl	tert-BUTYL CHLORIDE	-1.6946	0.9670	507.00	248	482	0.1137
287	C4H9N	PYRROLIDINE	-1.2920	0.6432	568.55	215	540	0.1691
288	C4H9NO	N,N-DIMETHYLACETAMIDE	-2.1127	1.5857	658.00	253	625	0.1667
289	C4H9NO	MORPHOLINE	-1.6196	1.0089	618.00	270	587	0.1645
290	C4H10	n-BUTANE	-1.8929	1.2885	425.18	135	404	0.1046
291	C4H10	ISOBUTANE	-1.6862	0.9802	408.14	114	388	0.0972
292	C4H10N2	PIPERAZINE	-1.7185	1.0393	638.00	379	606	---
293	C4H10O	n-BUTANOL	-1.3120	0.6190	562.93	184	535	0.1538
294	C4H10O	sec-BUTANOL	-1.4633	0.7473	536.01	158	509	0.1346
295	C4H10O	tert-BUTANOL	-1.2018	0.3521	506.20	299	481	---
296	C4H10O	DIETHYL ETHER	-1.5629	0.9357	466.70	157	443	0.1369
297	C4H10O	METHYL ISOPROPYL ETHER	-1.6271	1.0013	464.50	128	441	0.1317
298	C4H10O	ISOBUTANOL	-1.3936	0.6487	547.73	165	520	0.1332
299	C4H10O2	1,3-BUTANEDIOL	-1.5828	1.0140	643.00	196	611	0.1844
300	C4H10O2	1,4-BUTANEDIOL	-0.7958	0.1404	667.00	293	634	0.2103
301	C4H10O2	2,3-BUTANEDIOL	-1.5826	0.9730	611.00	281	580	0.1664
302	C4H10O2	t-BUTYL HYDROPEROXIDE	-1.7927	1.0205	576.00	277	547	0.1086
303	C4H10O2	1,2-DIMETHOXYETHANE	-1.6301	0.9871	536.15	215	509	0.1421
304	C4H10O2	2-ETHOXYETHANOL	-1.2079	0.5565	569.00	210	541	0.1747
305	C4H10O3	DIETHYLENE GLYCOL	-0.4818	-0.2372	744.60	263	400	0.2057
306	C4H10O4S	DIETHYL SULFATE	---	---	---	---	---	---
307	C4H10S	n-BUTYL MERCAPTAN	-1.6638	0.9832	569.00	157	541	0.1354
308	C4H10S	ISOBUTYL MERCAPTAN	-1.6629	0.9755	559.00	128	531	0.1323
309	C4H10S	sec-BUTYL MERCAPTAN	-1.6637	0.9747	554.00	133	526	0.1312
310	C4H10S	tert-BUTYL MERCAPTAN	-1.7045	1.0228	530.00	274	504	0.1268
311	C4H10S	DIETHYL SULFIDE	-1.6613	0.9782	557.15	169	529	0.1332
312	C4H10S2	DIETHYL DISULFIDE	-1.6821	0.9805	642.00	172	610	0.1375
313	C4H11N	n-BUTYLAMINE	-1.5519	0.9377	531.90	224	505	0.1547
314	C4H11N	ISOBUTYLAMINE	-1.5874	0.9991	513.73	189	488	0.1557
315	C4H11N	sec-BUTYLAMINE	-1.6162	0.9862	514.30	169	489	0.1425
316	C4H11N	tert-BUTYLAMINE	-1.5830	1.0085	483.90	206	460	0.1528
317	C4H11N	DIETHYLAMINE	-1.5768	0.9190	496.60	223	472	0.1350
318	C4H11NO	DIMETHYLETHANOLAMINE	-1.5964	1.0056	571.82	214	543	0.1653
319	C4H11NO2	DIETHANOLAMINE	-1.6192	1.0212	715.00	301	679	---
320	C4H11NO2	2-AMINOETHOXYETHANOL	-1.5931	1.0189	699.00	293	664	0.1889
321	C4H12N2O	N-AMINOETHYL ETHANOLAMINE	-1.5861	1.0126	698.00	273	663	0.1894
322	C4H12Si	TETRAMETHYLSILANE	-1.6714	0.9974	450.40	174	428	0.1149
323	C4H13N3	DIETHYLENE TRIAMINE	-1.6950	0.9997	676.00	234	642	0.1418

\* A computer program, containing coefficients for all compounds, is available for a nominal fee. The computer program is in ASCII which can be accessed by other software.

## Appendix B

### COEFFICIENTS FOR GAS THERMAL CONDUCTIVITY EQUATION\*

Carl L. Yaws, Xiaoyan Lin and Li Bu  
Lamar University, Beaumont, Texas

			$\lambda_{gas} = A + B T + C T^2$			( $\lambda_{gas}$ - W/m K, T - K)		
NO	FORMULA	NAME	A	B	C	TMIN	TMAX	$\lambda_{gas}$ @ 25 C
1	CBrClF2	BROMOCHLORODIFLUOROMETHANE	-0.00408	3.4053E-05	2.1046E-08	173	1000	0.00794
2	CBrCl3	BROMOTRICHLOROMETHANE	-0.00407	2.3399E-05	2.0915E-08	378	1000	---
3	CBrF3	BROMOTRIFLUOROMETHANE	-0.00528	4.7159E-05	1.1929E-08	215	1000	0.00984
4	CBr2F2	DIBROMODIFLUOROMETHANE	-0.00507	3.3401E-05	2.0218E-08	296	996	0.00668
5	CClF3	CHLOROTRIFLUOROMETHANE	-0.00381	4.8679E-05	1.7208E-08	192	600	0.01223
6	CClN	CYANOGEN CHLORIDE	-0.00239	3.3400E-05	-3.7346E-09	286	1000	0.00724
7	CCl2F2	DICHLORODIFLUOROMETHANE	-0.00079	2.1035E-05	4.6311E-08	115	385	0.00960
8	CCl2O	PHOSGENE	-0.00442	3.8294E-05	1.9223E-08	250	800	0.00871
9	CCl3F	TRICHLOROFLUOROMETHANE	-0.00252	3.1158E-05	1.2304E-08	250	500	0.00786
10	CCl4	CARBON TETRACHLORIDE	-0.00070	2.2065E-05	6.7913E-09	255	556	0.00649
11	CF2O	CARBONYL FLUORIDE	-0.00560	6.4614E-05	-1.0689E-08	189	1000	0.01271
12	CF4	CARBON TETRAFLUORIDE	-0.00406	6.3276E-05	2.5435E-09	145	750	0.01503
13	CHBr3	TRIBROMOMETHANE	-0.00169	1.2862E-05	1.7430E-08	422	1000	---
14	CHClF2	CHLORODIFLUOROMETHANE	-0.00011	1.6709E-05	6.3391E-08	232	500	0.01051
15	CHCl2F	DICHLOROFUOROMETHANE	-0.00123	1.8714E-05	4.7235E-08	250	450	0.00855
16	CHCl3	CHLOROFORM	-0.00019	2.2269E-05	1.2257E-09	273	573	0.00656
17	CHF3	TRIFLUOROMETHANE	-0.00431	5.5962E-05	-1.0820E-09	191	1000	0.01227
18	CHN	HYDROGEN CYANIDE	-0.00136	3.7886E-05	2.6807E-08	260	360	0.01232
19	CH2BrCl	BROMOCHLOROMETHANE	-0.00391	2.8128E-05	1.8518E-08	341	1000	---
20	CH2Br2	DIBROMOMETHANE	-0.00373	2.3061E-05	1.4326E-08	370	1000	---
21	CH2Cl2	DICHLOROMETHANE	-0.00122	1.8440E-05	3.5385E-08	250	500	0.00742
22	CH2F2	DIFLUOROMETHANE	-0.00413	5.0088E-05	2.0672E-09	222	1000	0.01098
23	CH2I2	DIIODOMETHANE	-0.00311	1.9559E-05	-5.0194E-10	455	1000	---
24	CH2O	FORMALDEHYDE	0.00171	1.9431E-05	9.5287E-08	254	994	0.01598
25	CH2O2	FORMIC ACID	---	---	---	---	---	---
26	CH3Br	METHYL BROMIDE	-0.00421	2.7182E-05	3.9758E-08	273	825	0.00743
27	CH3Cl	METHYL CHLORIDE	-0.00185	2.0296E-05	7.3234E-08	213	750	0.01071
28	CH3Cl3Si	METHYL TRICHLOROSILANE	-0.00439	4.2665E-05	-1.3646E-10	340	1000	---
29	CH3F	METHYL FLUORIDE	-0.00436	6.3911E-05	-3.4987E-09	195	1000	0.01438
30	CH3I	METHYL IODIDE	-0.00774	4.3432E-05	4.6420E-10	220	1500	0.00525
31	CH3NO	FORMAMIDE	---	---	---	---	---	---
32	CH3NO2	NITROMETHANE	-0.00377	3.4946E-05	2.8700E-08	374	994	---
33	CH4	METHANE	-0.00935	1.4028E-04	3.3180E-08	97	1400	0.03542
34	CH4Cl2Si	METHYL DICHLOROSILANE	-0.00554	5.1703E-05	2.0656E-09	315	1000	---
35	CH4O	METHANOL	0.00234	5.4340E-06	1.3154E-07	273	684	0.01566
36	CH4O3S	METHANESULFONIC ACID	---	---	---	---	---	---
37	CH4S	METHYL MERCAPTAN	-0.00561	5.3048E-05	2.7049E-08	279	639	0.01261
38	CH5ClSi	METHYL CHLOROSILANE	-0.00716	6.3113E-05	7.8172E-09	282	1000	0.01235
39	CH5N	METHYLAMINE	-0.01136	8.0400E-05	5.8607E-08	267	800	0.01782
40	CH6Si	METHYL SILANE	-0.01097	9.1895E-05	1.6306E-08	216	1000	0.01788
41	CN4O8	TETRANITROMETHANE	-0.01219	6.7062E-05	-1.1177E-08	399	1000	---
42	CO	CARBON MONOXIDE	0.00158	8.2511E-05	-1.9081E-08	70	1250	0.02449
43	COS	CARBONYL SULFIDE	-0.00452	6.3569E-05	-5.6376E-09	223	1000	0.01393
44	CO2	CARBON DIOXIDE	-0.01200	1.0208E-04	-2.2403E-08	195	1500	0.01645
45	CS2	CARBON DISULFIDE	-0.00239	3.2574E-05	2.1193E-10	273	999	0.00734
46	C2BrF3	BROMOTRIFLUOROETHYLENE	-0.00515	4.5808E-05	-7.4219E-09	271	1000	0.00785
47	C2Br2F4	1,2-DIBROMOTETRAFLUROETHANE	-0.00462	2.7959E-05	1.9955E-08	320	1000	---
48	C2ClF3	CHLOROTRIFLUOROETHYLENE	-0.00987	6.5826E-05	1.8776E-08	245	1000	0.01143
49	C2ClF5	CHLOROPENTAFLUROETHANE	-0.00591	5.9903E-05	6.0256E-09	234	1000	0.01248
50	C2Cl2F4	1,2-DICHLOROTETRAFLUROETHANE	0.01638	-7.7593E-05	2.0028E-07	277	500	0.01105
51	C2Cl3F3	1,1,2-TRICHLOROTRIFLUOROETHANE	---	---	---	---	---	---
52	C2Cl4	TETRACHLOROETHYLENE	-0.00129	1.2069E-05	3.4803E-08	277	825	0.00541
53	C2Cl4F2	1,1,2,2-TETRACHLORODIFLUOROETHANE	-0.00566	3.0538E-05	2.7170E-08	366	1000	---
54	C2Cl4O	TRICHLOROACETYL CHLORIDE	-0.00313	3.2817E-05	-1.8896E-09	391	991	---
55	C2Cl6	HEXACHLOROETHANE	-0.00379	3.1150E-05	-3.7944E-09	460	1000	---
56	C2F4	TETRAFLUROETHYLENE	-0.00736	8.0682E-05	-1.4513E-08	198	1000	0.01540
57	C2F6	HEXAFLUROETHANE	-0.01821	1.4585E-04	1.1582E-07	195	700	0.03558

\* A computer program, containing coefficients for all compounds, is available for a nominal fee. The computer program is in ASCII which can be accessed by other software.

			$\lambda_{gas} = A + B T + C T^2$		$(\lambda_{gas} - W/m K, T - K)$			
NO	FORMULA	NAME	A	B	C	TMIN	TMAX	$\lambda_{gas}$ @ 25 C
58	C2HBrClF3	HALOTHANE	-0.00605	4.7638E-05	-5.6613E-09	323	1000	---
59	C2HClF2	2-CHLORO-1,1-DIFLUOROETHYLENE	-0.00820	5.7024E-05	1.9550E-08	255	1000	0.01054
60	C2HCl3	TRICHLOROETHYLENE	-0.00142	1.5596E-05	3.3673E-08	250	800	0.00622
61	C2HCl3O	DICHLOROACETYL CHLORIDE	-0.00377	3.6287E-05	-7.8238E-10	382	1000	---
62	C2HCl3O	TRICHLOROACETALDEHYDE	-0.00463	4.3971E-05	-4.6342E-10	371	1000	0.00844
63	C2HCl5	PENTACHLOROETHANE	-0.00244	1.7034E-05	3.4894E-08	433	1000	---
64	C2HF3O2	TRIFLUOROACETIC ACID	-0.01011	7.3715E-05	-8.4874E-09	345	1000	---
65	C2HF5	PENTAFLUROETHANE	-0.00926	6.4844E-05	8.6106E-09	225	1000	0.01083
66	C2H2	ACETYLENE	-0.00358	6.2542E-05	7.0646E-08	200	600	0.02135
67	C2H2Br4	1,1,2,2-TETRABROMOETHANE	-0.00255	2.1836E-05	-5.8239E-10	517	1000	---
68	C2H2Cl2	1,1-DICHLOROETHYLENE	-0.00331	2.9439E-05	2.8676E-08	273	673	0.00801
69	C2H2Cl2	cis-1,2-DICHLOROETHYLENE	-0.00438	3.2220E-05	3.6668E-08	334	700	---
70	C2H2Cl2	trans-1,2-DICHLOROETHYLENE	-0.00473	3.4990E-05	3.8396E-08	321	700	---
71	C2H2Cl2O	CHLOROACETYL CHLORIDE	-0.00582	4.7691E-05	3.3316E-09	379	1000	---
72	C2H2Cl2O	DICHLOROACETALDEHYDE	-0.00485	4.3837E-05	8.9786E-10	362	1000	---
73	C2H2Cl2O2	DICHLOROACETIC ACID	-0.00519	4.2625E-05	4.2170E-10	467	1000	---
74	C2H2Cl3F	1,1,1-TRICHLOROFLUOROETHANE	-0.00628	3.4037E-05	3.0005E-08	366	1000	---
75	C2H2Cl4	1,1,1,2-TETRACHLOROETHANE	-0.00279	2.0578E-05	3.6861E-08	404	1000	---
76	C2H2Cl4	1,1,2,2-TETRACHLOROETHANE	-0.00268	1.9386E-05	3.5334E-08	418	998	---
77	C2H2F2	1,1-DIFLUOROETHYLENE	-0.00591	7.1299E-05	1.1278E-09	188	1000	0.01545
78	C2H2F4	1,1,1,2-TETRAFLUROETHANE	-0.00668	4.8544E-05	1.2108E-08	247	1000	0.00887
79	C2H2O	KETENE	-0.00652	7.2924E-05	3.6631E-09	200	1000	0.01554
80	C2H2O4	OXALIC ACID	-0.00204	2.3825E-05	3.5957E-09	569	1000	---
81	C2H3Br	VINYL BROMIDE	-0.00682	4.6167E-05	6.3199E-10	289	1000	0.00700
82	C2H3Cl	VINYL CHLORIDE	-0.00764	5.8427E-05	2.4051E-08	260	1000	0.01192
83	C2H3ClF2	1-CHLORO-1,1-DIFLUOROETHANE	-0.00972	6.2984E-05	2.5156E-08	263	1000	0.01129
84	C2H3ClO	ACETYL CHLORIDE	-0.00302	3.6914E-05	1.8003E-08	324	994	---
85	C2H3ClO	CHLOROACETALDEHYDE	-0.00688	5.4997E-05	6.1014E-09	358	1000	---
86	C2H3ClO2	CHLOROACETIC ACID	-0.00684	4.7752E-05	5.6251E-09	463	1000	---
87	C2H3ClO2	METHYL CHLOROFORMATE	-0.00878	6.3484E-05	-2.5154E-09	344	1000	---
88	C2H3Cl3	1,1,1-TRICHLOROETHANE	-0.00070	3.9347E-06	3.3648E-09	347	997	---
89	C2H3Cl3	1,1,2-TRICHLOROETHANE	-0.00609	3.2555E-05	3.0529E-08	387	997	---
90	C2H3F	VINYL FLUORIDE	-0.00758	7.3243E-05	2.3394E-09	201	1000	0.01446
91	C2H3F3	1,1,1-TRIFLUOROETHANE	-0.00666	5.8603E-05	1.4415E-08	226	1000	0.01209
92	C2H3N	ACETONITRILE	0.01203	-4.4320E-05	1.3710E-07	355	995	---
93	C2H3NO	METHYL ISOCYANATE	-0.00947	5.7305E-05	1.9060E-08	312	1000	---
94	C2H4	ETHYLENE	-0.00123	3.6219E-05	1.2459E-07	150	750	0.02064
95	C2H4Br2	1,1-DIBROMOETHANE	-0.00438	3.4738E-05	3.2113E-09	381	1000	---
96	C2H4Br2	1,2-DIBROMOETHANE	-0.00433	3.0693E-05	5.2748E-09	405	995	---
97	C2H4Cl2	1,1-DICHLOROETHANE	-0.00739	4.4752E-05	3.3174E-08	330	990	---
98	C2H4Cl2	1,2-DICHLOROETHANE	-0.00682	4.0081E-05	3.1925E-08	357	997	---
99	C2H4Cl2O	BIS(CHLOROMETHYL)ETHER	-0.00626	4.9757E-05	4.6350E-09	378	1000	---
100	C2H4F2	1,1-DIFLUOROETHANE	-0.00315	4.2328E-05	2.2875E-08	247	1000	0.01150
101	C2H4F2	1,2-DIFLUOROETHANE	-0.00461	3.5650E-05	1.6149E-08	304	1000	---
102	C2H4O	ACETALDEHYDE	-0.00181	2.1187E-05	8.0192E-08	200	700	0.01164
103	C2H4O	ETHYLENE OXIDE	0.01612	-7.3460E-05	2.1215E-07	273	673	0.01308
104	C2H4O2	ACETIC ACID	0.00234	-6.5956E-06	1.1569E-07	295	687	0.01066
105	C2H4O2	METHYL FORMATE	0.00085	6.0228E-06	1.2439E-07	300	1000	---
106	C2H5Br	BROMOETHANE	-0.00565	4.1720E-05	1.2067E-08	312	992	---
107	C2H5Cl	ETHYL CHLORIDE	-0.00291	3.1284E-05	5.5316E-08	273	773	0.01134
108	C2H5ClO	2-CHLOROETHANOL	-0.00305	2.0681E-05	7.5149E-08	402	1000	---
109	C2H5F	ETHYL FLUORIDE	-0.00772	6.7262E-05	1.6128E-08	235	1000	0.01376
110	C2H5I	ETHYL IODIDE	-0.00468	3.0149E-05	2.7090E-08	273	1000	0.00671
111	C2H5N	ETHYLENIMINE	-0.02282	1.0564E-04	1.7972E-08	329	999	---
112	C2H5NO	ACETAMIDE	-0.00804	4.5522E-05	1.5108E-08	494	994	---
113	C2H5NO	N-METHYLFORMAMIDE	-0.00827	4.8526E-05	3.0067E-08	473	993	---
114	C2H5NO2	NITROETHANE	-0.00830	5.0042E-05	2.2752E-08	387	997	---
115	C2H6	ETHANE	-0.01936	1.2547E-04	3.8298E-08	225	825	0.02145
116	C2H6AlCl	DIMETHYLALUMINUM CHLORIDE	-0.00734	5.0132E-05	1.0924E-08	399	1000	---
117	C2H6O	DIMETHYL ETHER	-0.03150	1.5032E-04	1.3879E-09	273	1500	0.01344
118	C2H6O	ETHANOL	-0.00556	4.3620E-05	8.5033E-08	351	991	---
119	C2H6OS	DIMETHYL SULFOXIDE	-0.01136	6.3395E-05	1.1846E-08	462	1000	---
120	C2H6O2	ETHYLENE GLYCOL	-0.01076	7.9631E-05	5.7243E-09	470	990	---
121	C2H6O4S	DIMETHYL SULFATE	---	---	---	---	---	---
122	C2H6S	DIMETHYL SULFIDE	-0.00827	6.0624E-05	1.8376E-08	310	990	---
123	C2H6S	ETHYL MERCAPTAN	-0.00817	6.0155E-05	1.7688E-08	308	998	---
124	C2H6S2	DIMETHYL DISULFIDE	-0.00779	5.1893E-05	1.4514E-08	383	1000	---
125	C2H7N	DIMETHYLAMINE	-0.01559	8.3374E-05	6.3822E-08	273	990	0.01494

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		$\lambda_{\text{gas}} = A + B T + C T^2$		$(\lambda_{\text{gas}} - W/m K, T - K)$		
NO	FORMULA	NAME	A	B	C	TMIN TMAX $\lambda_{\text{gas}}$ @ 25 C
126	C2H7N	ETHYLAMINE	-0.01204	7.8124E-05	5.6706E-08	274 800 0.01629
127	C2H7NO	MONOETHANOLAMINE	0.00878	-2.9523E-05	8.6097E-08	400 1000 ---
128	C2H8N2	ETHYLENEDIAMINE	-0.01120	7.2328E-05	2.2662E-08	390 1000 ---
129	C2H8Si	DIMETHYL SILANE	-0.00965	8.0952E-05	2.2082E-08	254 1000 0.01645
130	C2N2	CYANOGEN	-0.00399	5.4443E-05	6.4633E-09	252 1000 0.01282
131	C3F6	HEXAFLUOROPROPYLENE	-0.00978	6.2257E-05	1.5800E-08	244 1000 0.01019
132	C3F6O	HEXAFLUOROACETONE	-0.00916	6.9596E-05	3.0262E-08	246 1000 0.01428
133	C3F8	OCTAFLUOROPROPANE	-0.01201	7.4793E-05	1.1958E-08	236 1000 0.01135
134	C3H2N2	MALONONITRILE	0.01003	-3.4680E-05	9.0857E-08	492 1000 ---
135	C3H3Cl	PROPARGYL CHLORIDE	-0.00708	6.2447E-05	3.9000E-09	331 1000 ---
136	C3H3N	ACRYLONITRILE	0.01204	-4.9047E-05	1.4193E-07	298 1000 0.01004
137	C3H3NO	OXAZOLE	-0.00671	2.8038E-05	9.5600E-08	343 1000 ---
138	C3H4	METHYLACETYLENE	-0.01650	1.0715E-04	6.5108E-09	250 1000 0.01602
139	C3H4	PROPADIENE	-0.01973	1.1713E-04	9.5083E-10	315 999 ---
140	C3H4Cl2	2,3-DICHLOROPROPENE	-0.00682	3.7519E-05	3.3414E-08	366 1000 ---
141	C3H4O	ACROLEIN	-0.00827	4.9529E-05	3.5739E-08	326 996 ---
142	C3H4O	PROPARGYL ALCOHOL	-0.01123	8.0885E-05	1.4120E-08	387 1000 ---
143	C3H4O2	ACRYLIC ACID	-0.00889	6.0453E-05	1.2049E-08	414 1000 ---
144	C3H4O2	beta-PROPIOLACTONE	-0.01833	8.8775E-05	6.6444E-09	435 1000 ---
145	C3H4O2	VINYL FORMATE	0.00182	-4.4946E-07	1.2522E-07	320 1000 ---
146	C3H4O3	ETHYLENE CARBONATE	---	---	---	---
147	C3H4O3	PYRUVIC ACID	-0.00799	5.7126E-05	6.8910E-09	438 1000 ---
148	C3H5Cl	2-CHLOROPROPENE	-0.00925	5.9051E-05	4.0074E-08	296 996 0.01192
149	C3H5Cl	3-CHLOROPROPENE	-0.00787	4.8625E-05	3.4407E-08	318 1000 ---
150	C3H5ClO	alpha-EPICHLOROHYDRIN	-0.00785	5.1666E-05	1.4771E-08	389 999 ---
151	C3H5ClO2	METHYL CHLOROACETATE	-0.00761	5.6206E-05	7.3097E-09	403 1000 ---
152	C3H5ClO2	ETHYL CHLOROFORMATE	-0.00720	5.3967E-05	8.7189E-09	366 1000 ---
153	C3H5Cl3	1,2,3-TRICHLOROPROPANE	-0.00278	1.9819E-05	3.6275E-08	430 1000 ---
154	C3H5N	PROPIONITRILE	0.00997	-4.5594E-05	1.5030E-07	273 1000 0.00974
155	C3H5NO	ACRYLAMIDE	-0.01602	7.7591E-05	5.0142E-09	466 1000 ---
156	C3H5NO	HYDRACRYLONITRILE	---	---	---	---
157	C3H5NO	LACTONITRILE	-0.00989	6.4376E-05	1.2371E-08	457 1000 ---
158	C3H5N3O9	NITROGLYCERINE	---	---	---	---
159	C3H6	CYCLOPROPANE	-0.00430	3.7668E-05	1.0953E-07	240 1000 0.01667
160	C3H6	PROPYLENE	-0.01116	7.5155E-05	6.5558E-08	250 1000 0.01708
161	C3H6Cl2	1,1-DICHLOROPROPANE	-0.00746	4.0892E-05	3.5593E-08	361 1000 ---
162	C3H6Cl2	1,2-DICHLOROPROPANE	-0.00567	3.2384E-05	2.6457E-08	370 1000 ---
163	C3H6Cl2	1,3-DICHLOROPROPANE	-0.00649	3.4301E-05	3.2037E-08	394 1000 ---
164	C3H6O	ACETONE	-0.00084	8.7475E-06	1.0678E-07	273 572 0.01126
165	C3H6O	ALLYL ALCOHOL	0.00014	1.4038E-05	9.2237E-08	370 1000 ---
166	C3H6O	METHYL VINYL ETHER	-0.00648	5.8563E-05	3.7240E-08	279 650 0.01429
167	C3H6O	n-PROPIONALDEHYDE	0.00155	2.5422E-06	1.0588E-07	321 991 ---
168	C3H6O	1,2-PROPYLENE OXIDE	-0.01000	6.9207E-05	2.8343E-08	307 997 ---
169	C3H6O	1,3-PROPYLENE OXIDE	-0.00675	3.1581E-05	9.5229E-08	321 991 ---
170	C3H6O2	ETHYL FORMATE	-0.00184	1.1677E-05	1.1060E-07	273 768 0.01147
171	C3H6O2	METHYL ACETATE	-0.00524	4.0236E-05	5.7371E-08	277 771 0.01185
172	C3H6O2	PROPIONIC ACID	0.08924	-2.5339E-04	2.9793E-07	559 722 ---
173	C3H6O2S	3-MERCAPTOPROPIONIC ACID	-0.00982	5.9243E-05	1.3336E-08	501 1000 ---
174	C3H6O3	LACTIC ACID	-0.00909	6.0750E-05	1.0657E-08	447 1000 ---
175	C3H6O3	METHOXYACETIC ACID	-0.01052	6.6126E-05	1.3535E-08	478 1000 ---
176	C3H6O3	TRIOXANE	-0.00645	1.9795E-05	1.1199E-07	388 998 ---
177	C3H7Br	1-BROMOPROPANE	-0.00984	5.4683E-05	6.3166E-09	344 1000 ---
178	C3H7Br	2-BROMOPROPANE	-0.01411	7.9402E-05	6.6943E-09	333 1000 ---
179	C3H7Cl	ISOPROPYL CHLORIDE	-0.00888	5.5302E-05	3.7804E-08	309 1000 ---
180	C3H7Cl	n-PROPYL CHLORIDE	-0.00865	5.2286E-05	3.7301E-08	320 1000 ---
181	C3H7I	ISOPROPYL IODIDE	-0.00546	3.5717E-05	1.2961E-08	363 993 ---
182	C3H7I	n-PROPYL IODIDE	-0.00552	3.5041E-05	1.3485E-08	376 996 ---
183	C3H7N	ALLYLAMINE	0.02130	-9.5355E-05	2.5635E-07	326 1000 ---
184	C3H7N	PROPYLENEIMINE	-0.02813	1.5217E-04	1.1791E-08	334 1000 ---
185	C3H7NO	N,N-DIMETHYLFORMAMIDE	-0.00906	5.4289E-05	1.9961E-08	426 996 ---
186	C3H7NO	N-METHYLACETAMIDE	-0.01740	8.0569E-05	1.5950E-08	478 1000 ---
187	C3H7NO2	1-NITROPROPANE	-0.00895	5.3414E-05	2.3131E-08	404 994 ---
188	C3H7NO2	2-NITROPROPANE	-0.01667	7.7246E-05	7.9691E-09	393 1000 ---
189	C3H8	PROPANE	-0.00869	6.6409E-05	7.8760E-08	233 773 0.01811
190	C3H8O	ISOPROPRANOL	0.07775	-3.6017E-04	5.7593E-07	355 450 ---
191	C3H8O	METHYL ETHYL ETHER	-0.00108	7.9704E-06	1.5933E-07	273 1000 0.01546
192	C3H8O	n-PROPANOL	-0.00333	2.8691E-05	1.0222E-07	372 720 ---
193	C3H8O2	2-METHOXYETHANOL	-0.01071	6.8951E-05	2.0904E-08	398 1000 ---

\* A computer program, containing coefficients for all compounds, is available for a nominal fee. The computer program is in ASCII which can be accessed by other software.



			$\lambda_{\text{gas}} = A + B T + C T^2$		$(\lambda_{\text{gas}} - W/m K, T - K)$			
NO	FORMULA	NAME	A	B	C	TMIN	TMAX	$\lambda_{\text{gas}}$ @ 25 C
194	C3H8O2	METHYLAL	-0.01773	9.8899E-05	2.9645E-09	315	1000	---
195	C3H8O2	1,2-PROPYLENE GLYCOL	-0.01227	7.2936E-05	2.2476E-08	461	1000	---
196	C3H8O2	1,3-PROPYLENE GLYCOL	0.00040	1.0202E-05	8.9545E-08	450	1000	---
197	C3H8O3	GLYCEROL	-0.00842	4.4977E-05	2.4839E-08	563	993	---
198	C3H8S	n-PROPYLMERCAPTAN	-0.00019	6.8622E-06	-9.5609E-10	341	1000	---
199	C3H8S	ISOPROPYL MERCAPTAN	-0.01039	7.2423E-05	2.4480E-08	326	1000	---
200	C3H9N	n-PROPYLAMINE	-0.01367	8.0487E-05	4.6285E-08	322	750	---
201	C3H9N	ISOPROPYLAMINE	-0.01430	8.9570E-05	3.6544E-08	306	750	---
202	C3H9N	TRIMETHYLAMINE	-0.02411	1.2442E-04	1.6155E-08	273	996	0.01442
203	C3H9NO	1-AMINO-2-PROPANOL	-0.01161	7.3773E-05	1.8971E-08	433	1000	---
204	C3H9NO	3-AMINO-1-PROPANOL	-0.01163	7.0354E-05	1.9736E-08	461	1000	---
205	C3H9NO	METHYLETHANOLAMINE	-0.01313	8.3075E-05	2.2122E-08	431	1000	---
206	C3H9O4P	TRIMETHYL PHOSPHATE	---	---	---	---	---	---
207	C3H10N2	1,2-PROPANEDIAMINE	0.02083	-8.7351E-05	2.2027E-07	392	1000	---
208	C3H10Si	TRIMETHYL SILANE	-0.01166	8.1852E-05	2.0546E-08	280	1000	0.01457
209	C4Cl4S	TETRACHLOROTHIOPHENE	---	---	---	---	---	---
210	C4Cl6	HEXACHLORO-1,3-BUTADIENE	-0.00197	1.2558E-05	3.3506E-08	488	998	---
211	C4F8	OCTAFLUORO-2-BUTENE	-0.01057	6.1000E-05	2.1327E-08	270	1000	0.00951
212	C4F8	OCTAFLUOROCYCLOBUTANE	-0.00180	3.8498E-05	3.2808E-09	267	600	0.00997
213	C4F10	DECAFLUOROBUTANE	-0.01123	6.3948E-05	2.0767E-08	271	1000	0.00969
214	C4H2O3	MALEIC ANHYDRIDE	-0.01006	6.7349E-05	9.6585E-09	475	1000	---
215	C4H4	VINYLACETYLENE	---	---	---	---	---	---
216	C4H4N2	SUCCINONITRILE	-0.00768	4.4693E-05	1.0167E-08	540	990	---
217	C4H4O	FURAN	-0.00805	3.6512E-05	1.0838E-07	305	995	---
218	C4H4O2	DIKETENE	-0.01127	6.9980E-05	2.6027E-08	399	1000	---
219	C4H4O3	SUCCINIC ANHYDRIDE	-0.01000	5.8323E-05	1.2919E-08	537	1000	---
220	C4H4O4	FUMARIC ACID	-0.00846	6.0688E-05	2.0178E-09	563	1000	---
221	C4H4O4	MALEIC ACID	-0.00889	5.7067E-05	-7.6083E-10	565	1000	---
222	C4H4S	THIOPHENE	-0.00640	2.2517E-05	1.0225E-07	357	997	---
223	C4H5Cl	CHLOROPRENE	-0.00442	4.0609E-05	4.1938E-08	333	1000	---
224	C4H5N	trans-CROTONITRILE	0.01323	-5.2954E-05	1.3968E-07	394	1000	---
225	C4H5N	cis-CROTONITRILE	0.01472	-6.0739E-05	1.5873E-07	381	1000	---
226	C4H5N	METHACRYLONITRILE	0.01165	-4.7234E-05	1.3161E-07	363	1000	---
227	C4H5N	PYRROLE	-0.00905	5.3595E-05	2.4407E-08	403	993	---
228	C4H5N	VINYLACETONITRILE	0.00816	-3.7331E-05	1.3829E-07	392	800	---
229	C4H5NO2	METHYL CYANOACETATE	-0.00774	4.8250E-05	1.0354E-08	478	1000	---
230	C4H6	1,2-BUTADIENE	-0.01059	7.7710E-05	2.9026E-08	284	994	0.01516
231	C4H6	1,3-BUTADIENE	-0.00085	7.1537E-06	1.6202E-07	250	850	0.01569
232	C4H6	DIMETHYLACETYLENE	-0.01032	7.0697E-05	3.3110E-08	300	990	---
233	C4H6	ETHYLACETYLENE	-0.01990	1.1278E-04	7.8857E-09	281	1000	0.01443
234	C4H6Cl2	1,3-DICHLORO-trans-2-BUTENE	-0.00689	5.0851E-05	6.6399E-09	402	1000	---
235	C4H6Cl2	1,4-DICHLORO-cis-2-BUTENE	-0.00314	2.2503E-05	4.1277E-08	426	1000	---
236	C4H6Cl2	1,4-DICHLORO-trans-2-BUTENE	-0.00823	5.7352E-05	8.8581E-09	429	1000	---
237	C4H6Cl2	3,4-DICHLORO-1-BUTENE	-0.00705	5.0428E-05	9.1966E-09	388	1000	---
238	C4H6O	trans-CRONTALDEHYDE	0.00146	-4.7110E-07	9.5147E-08	377	1000	---
239	C4H6O	2,5-DIHYDROFURAN	-0.01873	9.8507E-05	1.0017E-08	339	1000	---
240	C4H6O	DIVINYL ETHER	-0.00093	6.6325E-06	1.3838E-07	301	1000	---
241	C4H6O	METHACROLEIN	-0.01809	8.1438E-05	1.3203E-08	341	1000	---
242	C4H6O2	2-BUTYNE-1,4-DIOL	-0.01163	6.5134E-05	7.8504E-09	511	1000	---
243	C4H6O2	gamma-BUTYROLACTONE	-0.01761	7.1605E-05	1.0108E-08	477	1000	---
244	C4H6O2	cis-CROTONIC ACID	-0.01022	6.9486E-05	1.1123E-08	445	1000	---
245	C4H6O2	trans-CROTONIC ACID	-0.00945	5.8963E-05	1.4303E-08	458	1000	---
246	C4H6O2	METHACRYLIC ACID	-0.00951	5.8900E-05	1.7241E-08	434	1000	---
247	C4H6O2	METHYL ACRYLATE	-0.00757	5.7245E-05	1.0008E-08	353	993	---
248	C4H6O2	VINYL ACETATE	-0.00846	5.8704E-05	1.7678E-08	346	996	---
249	C4H6O3	ACETIC ANHYDRIDE	-0.00846	5.2818E-05	1.7355E-08	413	993	---
250	C4H6O4	SUCCINIC ACID	-0.00891	5.7738E-05	4.6079E-09	591	1000	---
251	C4H6O5	DIGLYCOLIC ACID	-0.00866	5.4393E-05	4.8789E-09	610	1000	---
252	C4H6O5	MALIC ACID	-0.00845	5.4754E-05	4.0264E-09	602	1000	---
253	C4H6O6	TARTARIC ACID	-0.00852	5.3276E-05	3.4807E-09	660	1000	---
254	C4H7N	n-BUTYRONITRILE	-0.01638	8.3032E-05	9.6206E-09	273	1000	0.00923
255	C4H7N	ISOBUTYRONITRILE	-0.01418	8.0980E-05	5.8675E-09	377	1000	---
256	C4H7NO	ACETONE CYANOHYDRIN	-0.00990	6.6596E-05	1.0078E-08	463	1000	---
257	C4H7NO	2-METHACRYLAMIDE	-0.00533	4.8497E-05	2.6917E-08	488	1000	---
258	C4H7NO	3-METHOXYPROPIONITRILE	0.01433	-5.6999E-05	1.4063E-07	439	1000	---
259	C4H7NO	2-PYRROLIDONE	-0.00961	4.9586E-05	2.2637E-08	518	998	---
260	C4H8	1-BUTENE	-0.00293	3.0205E-05	1.0192E-07	225	800	0.01514
261	C4H8	cis-2-BUTENE	-0.02545	1.2682E-04	2.2968E-09	273	1273	0.01257

\* A computer program, containing coefficients for all compounds, is available for a nominal fee. The computer program is in ASCII which can be accessed by other software.

			$\lambda_{gas} = A + B T + C T^2$			$(\lambda_{gas} - W/m K, T - K)$		
NO	FORMULA	NAME	A	B	C	TMIN	TMAX	$\lambda_{gas}$ @ 25 C
262	C4H8	trans-2-BUTENE	-0.02331	1.2197E-04	4.7243E-09	285	1257	0.01347
263	C4H8	CYCLOBUTANE	-0.00569	2.7532E-05	1.3399E-07	286	1000	0.01443
264	C4H8	ISOBUTENE	-0.00327	3.0146E-05	1.2529E-07	250	850	0.01686
265	C4H8Cl2	1,4-DICHLOROBUTANE	-0.00306	2.1837E-05	4.0406E-08	427	1000	---
266	C4H8O	n-BUTYRALDEHYDE	-0.00088	5.9120E-06	1.0642E-07	348	998	---
267	C4H8O	ISOBUTYRALDEHYDE	0.00200	-2.0700E-06	1.2185E-07	300	1000	---
268	C4H8O	1,2-EPOXYBUTANE	-0.01132	7.7341E-05	2.6647E-08	337	1000	---
269	C4H8O	METHYL ETHYL KETONE	0.00169	-2.1055E-06	1.1764E-07	353	993	---
270	C4H8O	ETHYL VINYL ETHER	0.00250	-6.1279E-06	1.6422E-07	309	1000	---
271	C4H8O	TETRAHYDROFURAN	-0.00752	2.8645E-05	1.1344E-07	338	998	---
272	C4H8O2	cis-2-BUTENE-1,4-DIOL	-0.01089	6.2735E-05	1.7348E-08	508	1000	---
273	C4H8O2	trans-2-BUTENE-1,4-DIOL	-0.01103	6.4484E-05	1.6323E-08	510	1000	---
274	C4H8O2	ISOBUTYRIC ACID	-0.01589	7.9419E-05	6.6228E-09	428	1000	---
275	C4H8O2	n-BUTYRIC ACID	0.12421	-3.6238E-04	3.7750E-07	523	707	---
276	C4H8O2	1,4-DIOXANE	-0.01642	8.0095E-05	1.7582E-08	285	1000	0.00902
277	C4H8O2	ETHYL ACETATE	0.00207	-4.8558E-06	1.1222E-07	273	1000	0.01059
278	C4H8O2	METHYL PROPIONATE	0.00133	-1.5412E-06	1.0895E-07	350	1000	---
279	C4H8O2	n-PROPYL FORMATE	0.00137	-1.7055E-06	1.0998E-07	350	1000	---
280	C4H8O2S	SULFOLANE	-0.00950	4.8342E-05	1.9246E-08	558	1000	---
281	C4H8S	TETRAHYDROTHIOPHENE	-0.00872	5.4337E-05	1.9864E-08	394	1000	---
282	C4H9Br	1-BROMOBUTANE	-0.00683	4.5241E-05	1.4105E-08	375	995	---
283	C4H9Br	2-BROMOBUTANE	-0.00759	5.2507E-05	1.3669E-08	364	1000	---
284	C4H9Cl	n-BUTYL CHLORIDE	-0.00720	4.3604E-05	4.4541E-08	273	1000	0.00976
285	C4H9Cl	sec-BUTYL CHLORIDE	-0.00920	5.2142E-05	4.3379E-08	341	1000	---
286	C4H9Cl	tert-BUTYL CHLORIDE	-0.00934	5.4477E-05	4.4848E-08	324	1000	---
287	C4H9N	PYRROLIDINE	-0.00761	2.6565E-05	1.2103E-07	360	1000	---
288	C4H9NO	N,N-DIMETHYLACETAMIDE	-0.01632	7.1845E-05	1.7748E-08	439	1000	---
289	C4H9NO	MORPHOLINE	-0.00627	1.7533E-05	1.1623E-07	401	1000	---
290	C4H10	n-BUTANE	-0.00182	1.9396E-05	1.3818E-07	225	675	0.01625
291	C4H10	ISOBUTANE	-0.00115	1.4943E-05	1.4921E-07	261	673	0.01656
292	C4H10N2	PIPERAZINE	-0.03129	1.4026E-04	-1.4536E-08	419	1000	---
293	C4H10O	n-BUTANOL	0.01783	-4.8291E-05	1.6334E-07	371	713	---
294	C4H10O	sec-BUTANOL	-0.01103	7.0807E-05	2.6401E-08	373	993	---
295	C4H10O	tert-BUTANOL	0.01023	-1.3515E-05	1.2679E-07	356	1000	---
296	C4H10O	DIETHYL ETHER	-0.00032	1.6530E-05	1.1709E-07	200	600	0.01502
297	C4H10O	METHYL ISOPROPYL ETHER	0.00225	-4.9306E-06	1.5452E-07	304	1000	---
298	C4H10O	ISOBUTANOL	-0.00278	1.8899E-05	9.5375E-08	381	991	---
299	C4H10O2	1,3-BUTANEDIOL	-0.01033	6.4637E-05	1.3921E-08	480	990	---
300	C4H10O2	1,4-BUTANEDIOL	-0.00319	1.6128E-05	8.4206E-08	500	1000	---
301	C4H10O2	2,3-BUTANEDIOL	-0.01215	7.9859E-05	1.4777E-08	454	1000	---
302	C4H10O2	t-BUTYL HYDROPEROXIDE	-0.01208	8.4197E-05	1.5494E-08	406	1000	---
303	C4H10O2	1,2-DIMETHOXYETHANE	-0.00452	4.7532E-05	2.8883E-08	357	1000	---
304	C4H10O2	2-ETHOXYETHANOL	-0.01043	6.6755E-05	1.9427E-08	408	1000	---
305	C4H10O3	DIETHYLENE GLYCOL	0.00003	6.4926E-06	7.7523E-08	518	1000	---
306	C4H10O4S	DIETHYL SULFATE	---	---	---	---	---	---
307	C4H10S	n-BUTYL MERCAPTAN	-0.01008	5.9889E-05	3.2200E-08	372	1000	---
308	C4H10S	ISOBUTYL MERCAPTAN	-0.01070	7.0253E-05	2.4641E-08	362	1000	---
309	C4H10S	sec-BUTYL MERCAPTAN	-0.01462	8.1642E-05	1.8126E-08	358	1000	---
310	C4H10S	tert-BUTYL MERCAPTAN	-0.01599	8.5348E-05	1.2343E-08	337	1000	---
311	C4H10S	DIETHYL SULFIDE	-0.01485	7.5068E-05	1.8733E-08	365	1000	---
312	C4H10S2	DIETHYL DISULFIDE	-0.00948	6.0975E-05	1.5211E-08	427	1000	---
313	C4H11N	n-BUTYLAMINE	-0.00898	6.0958E-05	6.0534E-08	273	700	0.01457
314	C4H11N	ISOBUTYLAMINE	-0.01865	1.0231E-04	1.7910E-08	341	991	---
315	C4H11N	sec-BUTYLAMINE	-0.01375	8.1713E-05	3.8756E-08	336	700	---
316	C4H11N	tert-BUTYLAMINE	-0.02218	1.2023E-04	8.5934E-09	318	998	---
317	C4H11N	DIETHYLAMINE	-0.02191	1.1401E-04	1.5079E-08	273	1000	0.01342
318	C4H11NO	DIMETHYLETHANOLAMINE	-0.01852	9.6357E-05	1.5390E-08	407	1000	---
319	C4H11NO2	DIETHANOLAMINE	---	---	---	---	---	---
320	C4H11NO2	2-AMINOETHOXYETHANOL	-0.01141	6.9314E-05	1.3928E-08	514	1000	---
321	C4H12N2O	N-AMINOETHYL ETHANOLAMINE	-0.01666	8.1012E-05	8.5233E-09	517	1000	---
322	C4H12Si	TETRAMETHYLSILANE	-0.01305	8.9038E-05	1.5212E-08	300	1000	---
323	C4H13N3	DIETHYLENE TRIAMINE	-0.01657	8.1317E-05	9.0637E-09	480	1000	---

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## Appendix C

## DATA CODE FOR COMPOUNDS

NO	FORMULA	NAME	LIQUID THERMAL COND.	GAS THERMAL COND.
1	CBrClF2	BROMOCHLORODIFLUOROMETHANE	experimental/estimate	estimate
2	CBrCl3	BROMOTRICHLOROMETHANE	estimate	estimate
3	CBrF3	BROMOTRIFLUOROMETHANE	experimental/estimate	estimate
4	CBr2F2	DIBROMODIFLUOROMETHANE	estimate	estimate
5	CCLF3	CHLOROTRIFLUOROMETHANE	experimental/estimate	experimental
6	CClN	CYANOGEN CHLORIDE	estimate	estimate
7	CCl2F2	DICHLORODIFLUOROMETHANE	experimental/estimate	experimental
8	CCl2O	PHOSGENE	experimental/estimate	experimental
9	CCl3F	TRICHLOROFLUOROMETHANE	experimental/estimate	experimental
10	CCl4	CARBON TETRACHLORIDE	experimental/estimate	experimental
11	CF2O	CARBONYL FLUORIDE	estimate	estimate
12	CF4	CARBON TETRAFLUORIDE	estimate	estimate
13	CHBr3	TRIBROMOMETHANE	experimental/estimate	estimate
14	CHClF2	CHLORODIFLUOROMETHANE	experimental/estimate	experimental
15	CHCl2F	DICHLOROFLUOROMETHANE	experimental/estimate	experimental
16	CHCl3	CHLOROFORM	experimental/estimate	experimental
17	CHF3	TRIFLUOROMETHANE	estimate	estimate
18	CHN	HYDROGEN CYANIDE	estimate	experimental
19	CH2BrCl	BROMOCHLOROMETHANE	estimate	estimate
20	CH2Br2	DIBROMOMETHANE	experimental/estimate	estimate
21	CH2Cl2	DICHLOROMETHANE	experimental/estimate	experimental
22	CH2F2	DIFLUOROMETHANE	experimental/estimate	estimate
23	CH2I2	DIIODOMETHANE	experimental/estimate	estimate
24	CH2O	FORMALDEHYDE	---	estimate
25	CH2O2	FORMIC ACID	experimental/estimate	---
26	CH3Br	METHYL BROMIDE	estimate	experimental
27	CH3Cl	METHYL CHLORIDE	experimental/estimate	experimental
28	CH3Cl3Si	METHYL TRICHLOROSILANE	estimate	estimate
29	CH3F	METHYL FLUORIDE	experimental/estimate	estimate
30	CH3I	METHYL IODIDE	estimate	experimental
31	CH3NO	FORMAMIDE	experimental/estimate	---
32	CH3NO2	NITROMETHANE	experimental/estimate	estimate
33	CH4	METHANE	experimental/estimate	experimental
34	CH4Cl2Si	METHYL DICHLOROSILANE	estimate	estimate
35	CH4O	METHANOL	experimental/estimate	experimental
36	CH4O3S	METHANESULFONIC ACID	---	---
37	CH4S	METHYL MERCAPTAN	---	estimate
38	CH5ClSi	METHYL CHLOROSILANE	estimate	estimate
39	CH5N	METHYLAMINE	experimental/estimate	estimate
40	CH6Si	METHYL SILANE	estimate	estimate
41	CN4O8	TETRANITROMETHANE	estimate	estimate
42	CO	CARBON MONOXIDE	experimental/estimate	experimental
43	COS	CARBONYL SULFIDE	estimate	estimate
44	CO2	CARBON DIOXIDE	experimental/estimate	experimental
45	CS2	CARBON DISULFIDE	experimental/estimate	estimate
46	C2BrF3	BROMOTRIFLUOROETHYLENE	estimate	estimate
47	C2Br2F4	1,2-DIBROMOTETRAFLUOROETHANE	experimental/estimate	estimate
48	C2ClF3	CHLOROTRIFLUOROETHYLENE	estimate	estimate
49	C2ClF5	CHLOROPENTAFLUROETHANE	experimental/estimate	experimental
50	C2Cl2F4	1,2-DICHLOROTETRAFLUROETHANE	experimental/estimate	experimental
51	C2Cl3F3	1,1,2-TRICHLOROTRIFLUOROETHANE	experimental/estimate	experimental
52	C2Cl4	TETRACHLOROETHYLENE	experimental/estimate	experimental
53	C2Cl4F2	1,1,2,2-TETRACHLORODIFLUOROETHANE	experimental/estimate	estimate
54	C2Cl4O	TRICHLOROACETYL CHLORIDE	estimate	estimate
55	C2Cl6	HEXACHLOROETHANE	---	estimate
56	C2F4	TETRAFLUROETHYLENE	experimental/estimate	estimate
57	C2F6	HEXAFLUROETHANE	experimental/estimate	estimate
58	C2HBrClF3	HALOTHANE	estimate	estimate
59	C2HClF2	2-CHLORO-1,1-DIFLUOROETHYLENE	estimate	estimate
60	C2HCl3	TRICHLOROETHYLENE	experimental/estimate	experimental
61	C2HCl3O	DICHLOROACETYL CHLORIDE	estimate	estimate
62	C2HCl3O	TRICHLOROACETALDEHYDE	estimate	estimate
63	C2HCl5	PENTACHLOROETHANE	estimate	estimate
64	C2HF3O2	TRIFLUOROACETIC ACID	estimate	estimate
65	C2HF5	PENTAFLUROETHANE	estimate	estimate
66	C2H2	ACETYLENE	---	experimental
67	C2H2Br4	1,1,2,2-TETRABROMOETHANE	experimental/estimate	estimate

NO	FORMULA	NAME	LIQUID THERMAL COND.	GAS THERMAL COND.
68	C2H2Cl2	1,1-DICHLOROETHYLENE	estimate	experimental
69	C2H2Cl2	cis-1,2-DICHLOROETHYLENE	estimate	estimate
70	C2H2Cl2	trans-1,2-DICHLOROETHYLENE	estimate	estimate
71	C2H2Cl2O	CHLOROACETYL CHLORIDE	estimate	estimate
72	C2H2Cl2O	DICHLOROACETALDEHYDE	estimate	estimate
73	C2H2Cl2O2	DICHLOROACETIC ACID	estimate	estimate
74	C2H2Cl3F	1,1,1-TRICHLOROFLUOROETHANE	estimate	estimate
75	C2H2Cl4	1,1,1,2-TETRACHLOROETHANE	experimental/estimate	estimate
76	C2H2Cl4	1,1,2,2-TETRACHLOROETHANE	experimental/estimate	estimate
77	C2H2F2	1,1-DIFLUOROETHYLENE	estimate	estimate
78	C2H2F4	1,1,1,2-TETRAFLUOROETHANE	estimate	estimate
79	C2H2O	KETENE	estimate	estimate
80	C2H2O4	OXALIC ACID	---	estimate
81	C2H3Br	VINYL BROMIDE	estimate	estimate
82	C2H3Cl	VINYL CHLORIDE	estimate	estimate
83	C2H3ClF2	1-CHLORO-1,1-DIFLUOROETHANE	experimental/estimate	estimate
84	C2H3ClO	ACETYL CHLORIDE	estimate	estimate
85	C2H3ClO	CHLOROACETALDEHYDE	estimate	estimate
86	C2H3ClO2	CHLOROACETIC ACID	estimate	estimate
87	C2H3ClO2	METHYL CHLOROFORMATE	estimate	estimate
88	C2H3Cl3	1,1,1-TRICHLOROETHANE	experimental/estimate	estimate
89	C3H3Cl3	1,1,2-TRICHLOROETHANE	experimental/estimate	estimate
90	C2H3F	VINYL FLUORIDE	estimate	estimate
91	C2H3F3	1,1,1-TRIFLUOROETHANE	estimate	estimate
92	C2H3N	ACETONITRILE	estimate	estimate
93	C2H3NO	METHYL ISOCYANATE	estimate	estimate
94	C2H4	ETHYLENE	experimental/estimate	experimental
95	C2H4Br2	1,1-DIBROMOETHANE	estimate	estimate
96	C2H4Br2	1,2-DIBROMOETHANE	experimental/estimate	estimate
97	C2H4Cl2	1,1-DICHLOROETHANE	estimate	estimate
98	C2H4Cl2	1,2-DICHLOROETHANE	experimental/estimate	estimate
99	C2H4Cl2O	BIS(CHLOROMETHYL)ETHER	estimate	estimate
100	C2H4F2	1,1-DIFLUOROETHANE	experimental/estimate	estimate
101	C2H4F2	1,2-DIFLUOROETHANE	estimate	estimate
102	C2H4O	ACETALDEHYDE	experimental/estimate	experimental
103	C2H4O	ETHYLENE OXIDE	estimate	experimental
104	C2H4O2	ACETIC ACID	experimental/estimate	estimate
105	C2H4O2	METHYL FORMATE	estimate	estimate
106	C2H5Br	BROMOETHANE	estimate	estimate
107	C2H5Cl	ETHYL CHLORIDE	experimental/estimate	experimental
108	C2H5ClO	2-CHLOROETHANOL	estimate	estimate
109	C2H5F	ETHYL FLUORIDE	estimate	estimate
110	C2H5I	ETHYL IODIDE	experimental/estimate	estimate
111	C2H5N	ETHYLENEIMINE	estimate	estimate
112	C2H5NO	ACETAMIDE	estimate	estimate
113	C2H5NO	N-METHYLFORMAMIDE	estimate	estimate
114	C2H5NO2	NITROETHANE	estimate	estimate
115	C2H6	ETHANE	experimental/estimate	experimental
116	C2H6AlCl	DIMETHYLALUMINUM CHLORIDE	estimate	estimate
117	C2H6O	DIMETHYL ETHER	estimate	experimental
118	C2H6O	ETHANOL	experimental/estimate	estimate
119	C2H6OS	DIMETHYL SULFOXIDE	estimate	estimate
120	C2H6O2	ETHYLENE GLYCOL	experimental/estimate	estimate
121	C2H6O4S	DIMETHYL SULFATE	estimate	---
122	C2H6S	DIMETHYL SULFIDE	estimate	estimate
123	C2H6S	ETHYL MERCAPTAN	---	estimate
124	C2H6S2	DIMETHYL DISULFIDE	estimate	estimate
125	C2H7N	DIMETHYLAMINE	experimental/estimate	estimate
126	C4H7N	ETHYLAMINE	experimental/estimate	estimate
127	C2H7NO	MONOETHANOLAMINE	estimate	estimate
128	C2H8N2	ETHYLENEDIAMINE	estimate	estimate
129	C2H8Si	DIMETHYL SILANE	estimate	estimate
130	C2N2	CYANOGEN	estimate	estimate
131	C3F6	HEXAFLUOROPROPYLENE	estimate	estimate
132	C3F6O	HEXAFLUOROACETONE	estimate	estimate
133	C3F8	OCTAFLUOROPROPANE	estimate	estimate
134	C3H2N2	MALONONITRILE	experimental/estimate	estimate
135	C3H3Cl	PROPARGYL CHLORIDE	estimate	estimate
136	C3H3N	ACRYLONITRILE	experimental/estimate	estimate
137	C3H3NO	OXAZOLE	estimate	estimate
138	C3H4	METHYLACETYLENE	estimate	estimate
139	C3H4	PROPADIENE	estimate	estimate
140	C3H4Cl2	2,3-DICHLOROPROPENE	estimate	estimate
141	C3H4O	ACROLEIN	estimate	estimate
142	C3H4O	PROPARGYL ALCOHOL	estimate	estimate

NO	FORMULA	NAME	LIQUID THERMAL COND.	GAS THERMAL COND.
143	C3H4O2	ACRYLIC ACID	estimate	estimate
144	C3H4O2	beta-PROPIOLACTONE	estimate	estimate
145	C3H4O2	VINYL FORMATE	estimate	estimate
146	C3H4O3	ETHYLENE CARBONATE	estimate	---
147	C3H4O3	PYRUVIC ACID	estimate	estimate
148	C3H5Cl	2-CHLOROPROPENE	estimate	estimate
149	C3H5Cl	3-CHLOROPROPENE	estimate	estimate
150	C3H5ClO	alpha-EPICHLOROHYDRIN	estimate	estimate
151	C3H5ClO2	METHYL CHLOROACETATE	estimate	estimate
152	C3H5ClO2	ETHYL CHLOROFORMATE	estimate	estimate
153	C3H5Cl3	1,2,3-TRICHLOROPROPANE	estimate	estimate
154	C3H5N	PROPIONITRILE	estimate	estimate
155	C3H5NO	ACRYLAMIDE	estimate	estimate
156	C3H5NO	HYDRACRYLONITRILE	estimate	---
157	C3H5NO	LACTONITRILE	estimate	estimate
158	C3H5N3O9	NITROGLYCERINE	---	---
159	C3H6	CYCLOPROPANE	estimate	estimate
160	C3H6	PROPYLENE	estimate	experimental
161	C3H6Cl2	1,1-DICHLOROPROPANE	estimate	estimate
162	C3H6Cl2	1,2-DICHLOROPROPANE	experimental/estimate	estimate
163	C2H6Cl2	1,3-DICHLOROPROPANE	estimate	estimate
164	C3H6O	ACETONE	experimental/estimate	experimental
165	C3H6O	ALLYL ALCOHOL	estimate	estimate
166	C3H6O	METHYL VINYL ETHER	estimate	estimate
167	C3H6O	n-PROPIONALDEHYDE	experimental/estimate	estimate
168	C3H6O	1,2-PROPYLENE OXIDE	experimental/estimate	estimate
169	C3H6O	1,3-PROPYLENE OXIDE	estimate	estimate
170	C3H6O2	ETHYL FORMATE	experimental/estimate	estimate
171	C3H6O2	METHYL ACETATE	experimental/estimate	experimental
172	C3H6O2	PROPIONIC ACID	experimental/estimate	estimate
173	C3H6O2S	3-MERCAPTOPROPIONIC ACID	estimate	estimate
174	C3H6O3	LACTIC ACID	estimate	estimate
175	C3H6O3	METHOXYACETIC ACID	estimate	estimate
176	C3H6O3	TRIOXANE	estimate	estimate
177	C3H7Br	1-BROMOPROPANE	experimental/estimate	estimate
178	C3H7Br	2-BROMOPROPANE	estimate	estimate
179	C3H7Cl	ISOPROPYL CHLORIDE	estimate	estimate
180	C3H7Cl	n-PROPYL CHLORIDE	experimental/estimate	estimate
181	C3H7I	ISOPROPYL IODIDE	experimental/estimate	estimate
182	C3H7I	n-PROPYL IODIDE	estimate	estimate
183	C3H7N	ALLYAMINE	experimental/estimate	estimate
184	C3H7N	PROPYLENEIMINE	estimate	estimate
185	C3H7NO	N,N-DIMETHYLFORMAMIDE	experimental/estimate	estimate
186	C3H7NO	N-METHYLACETAMIDE	estimate	estimate
187	C3H7NO2	1-NITROPROPANE	estimate	estimate
188	C3H7NO2	2-NITROPROPANE	experimental/estimate	estimate
189	C3H8	PROPANE	experimental/estimate	experimental
190	C3H8O	ISOPROPANOL	experimental/estimate	experimental
191	C3H8O	METHYL ETHYL ETHER	estimate	estimate
192	C3H8O	n-PROPANOL	experimental/estimate	experimental
193	C3H8O2	2-METHOXYETHANOL	experimental/estimate	estimate
194	C3H8O2	METHYLAL	estimate	estimate
195	C3H8O2	1,2-PROPYLENE GLYCOL	experimental/estimate	estimate
196	C3H8O2	1,3-PROPYLENE GLYCOL	experimental/estimate	estimate
197	C3H8O3	GLYCEROL	experimental/estimate	estimate
198	C3H8S	n-PROPYLMERCAPTAN	estimate	estimate
199	C3H8S	ISOPROPYL MERCAPTAN	estimate	estimate
200	C3H9N	n-PROPYLAMINE	experimental/estimate	estimate
201	C3H9N	ISOPROPYLAMINE	experimental/estimate	estimate
202	C3H9N	TRIMETHYLAMINE	estimate	estimate
203	C3H9NO	1-AMINO-2-PROPANOL	estimate	estimate
204	C3H9NO	3-AMINO-1-PROPANOL	estimate	estimate
205	C3H9NO	METHYLETHANOLAMINE	estimate	estimate
206	C3H9O4P	TRIMETHYL PHOSPHATE	---	---
207	C3H10O2	1,2-PROPANEDIAMINE	estimate	estimate
208	C3H10Si	TRIMETHYL SILANE	estimate	estimate
209	C4Cl4S	TETRACHLOROTHIOPHENE	---	---
210	C4Cl6	HEXACHLORO-1,3-BUTADIENE	estimate	estimate
211	C4F8	OCTAFLUORO-2-BUTENE	estimate	estimate
212	C4F8	OCTAFLUOROCYCLOBUTANE	experimental/estimate	experimental
213	C4F10	DECAFLUOROBUTANE	estimate	estimate
214	C4H2O3	MALEIC ANHYDRIDE	estimate	estimate
215	C4H4	VINYLACETYLENE	estimate	---
216	C4H4N2	SUCCINONITRILE	estimate	estimate
217	C4H4O	FURAN	estimate	estimate

NO	FORMULA	NAME	LIQUID THERMAL COND.	GAS THERMAL COND.
218	C4H4O2	DIKETENE	estimate	estimate
219	C4H4O3	SUCCINIC ANHYDRIDE	estimate	estimate
220	C4H4O4	FUMARIC ACID	estimate	estimate
221	C4H4O4	MALEIC ACID	estimate	estimate
222	C4H4S	THIOPHENE	experimental/estimate	estimate
223	C4H5Cl	CHLOROPRENE	experimental/estimate	experimental
224	C4H5N	trans-CROTONITRILE	estimate	estimate
225	C4H5N	cis-CROTONITRILE	estimate	estimate
226	C4H5N	METHACRYLONITRILE	estimate	estimate
227	C4H5N	PYRROLE	estimate	estimate
228	C4H5N	VINYLACETONITRILE	estimate	estimate
229	C4H5NO2	METHYL CYANOACETATE	estimate	estimate
230	C4H6	1,2-BUTADIENE	estimate	estimate
231	C4H6	1,3-BUTADIENE	estimate	experimental
232	C4H6	DIMETHYLACETYLENE	estimate	estimate
233	C4H6	ETHYLACETYLENE	estimate	estimate
234	C4H6Cl2	1,3-DICHLORO-trans-2-BUTENE	estimate	estimate
235	C4H6Cl2	1,4-DICHLORO-cis-2-BUTENE	estimate	estimate
236	C4H6Cl2	1,4-DICHLORO-trans-2-BUTENE	estimate	estimate
237	C4H6Cl2	3,4-DICHLORO-1-BUTENE	estimate	estimate
238	C4H6O	trans-CROTONALDEHYDE	experimental/estimate	estimate
239	C4H6O	2,5-DIHYDROFURAN	estimate	estimate
240	C4H6O	DIVINYL ETHER	estimate	estimate
241	C4H6O	METHACROLEIN	estimate	estimate
242	C4H6O2	2-BUTYNE-1,4-DIOL	estimate	estimate
243	C4H6O2	gamma-BUTYROLACTONE	estimate	estimate
244	C4H6O2	cis-CROTONIC ACID	estimate	estimate
245	C4H6O2	trans-CROTONIC ACID	estimate	estimate
246	C4H6O2	METHACRYLIC ACID	estimate	estimate
247	C4H6O2	METHYL ACRYLATE	estimate	estimate
248	C4H6O2	VINYL ACETATE	experimental/estimate	estimate
249	C4H6O3	ACETIC ANHYDRIDE	experimental/estimate	estimate
250	C4H6O4	SUCCINIC ACID	estimate	estimate
251	C4H6O5	DIGLYCOLIC ACID	estimate	estimate
252	C4H6O5	MALIC ACID	estimate	estimate
253	C4H6O6	TARTARIC ACID	estimate	estimate
254	C4H7N	n-BUTYRONITRILE	estimate	estimate
255	C4H7N	ISOBUTYRONITRILE	estimate	estimate
256	C4H7NO	ACETONE CYANOHYDRIN	estimate	estimate
257	C4H7NO	2-METHACRYLAMIDE	estimate	estimate
258	C4H7NO	3-METHOXYPROPIONITRILE	estimate	estimate
259	C4H7NO	2-PYRROLIDONE	estimate	estimate
260	C4H8	1-BUTENE	estimate	experimental
261	C4H8	cis-2-BUTENE	estimate	experimental
262	C4H8	trans-2-BUTENE	estimate	experimental
263	C4H8	CYCLOBUTANE	estimate	estimate
264	C4H8	ISOBUTENE	experimental/estimate	experimental
265	C4H8Cl2	1,4-DICHLOROBUTANE	estimate	estimate
266	C4H8O	n-BUTYRALDEHYDE	experimental/estimate	estimate
267	C4H8O	ISOBUTYRALDEHYDE	estimate	estimate
268	C4H8O	1,2-EPOXYBUTANE	estimate	estimate
269	C4H8O	METHYL ETHYL KETONE	experimental/estimate	estimate
270	C4H8O	ETHYL VINYL ETHER	estimate	estimate
271	C4H8O	TETRAHYDROFURAN	estimate	estimate
272	C4H8O2	cis-2-BUTENE-1,4-DIOL	estimate	estimate
273	C4H8O2	trans-2-BUTENE-1,4-DIOL	estimate	estimate
274	C4H8O2	ISOBUTYRIC ACID	estimate	estimate
275	C4H8O2	n-BUTYRIC ACID	experimental/estimate	estimate
276	C4H8O2	1,4-DIOXANE	experimental/estimate	estimate
277	C4H8O2	ETHYL ACETATE	experimental/estimate	estimate
278	C4H8O2	METHYL PROPIONATE	experimental/estimate	estimate
279	C4H8O2	n-PROPYL FORMATE	experimental/estimate	estimate
280	C4H8O2S	SULFOLANE	experimental/estimate	estimate
281	C4H8S	TETRAHYDROTHIOPHENE	experimental/estimate	estimate
282	C4H9Br	1-BROMOBUTANE	experimental/estimate	estimate
283	C4H9Br	2-BROMOBUTANE	estimate	estimate
284	C4H9Cl	n-BUTYL CHLORIDE	estimate	estimate
285	C4H9Cl	sec-BUTYL CHLORIDE	estimate	estimate
286	C4H9Cl	tert-BUTYL CHLORIDE	estimate	estimate
287	C4H9N	PYRROLIDINE	experimental/estimate	estimate
288	C4H9NO	N,N-DIMETHYLACETAMIDE	experimental/estimate	estimate
289	C4H9NO	MORPHOLINE	estimate	estimate
290	C4H10	n-BUTANE	experimental/estimate	experimental
291	C4H10	ISOBUTANE	estimate	experimental
292	C4H10N2	PIPERAZINE	estimate	estimate

NO	FORMULA	NAME	LIQUID THERMAL COND.	GAS THERMAL COND.
293	C4H10O	n-BUTANOL	experimental/estimate	experimental
294	C4H10O	sec-BUTANOL	experimental/estimate	estimate
295	C4H10O	tert-BUTANOL	experimental/estimate	experimental
296	C4H10O	DIETHYL ETHER	experimental/estimate	experimental
297	C4H10O	METHYL ISOPROPYL ETHER	estimate	estimate
298	C4H10O	ISOBUTANOL	experimental/estimate	estimate
299	C4H10O2	1,3-BUTANEDIOL	estimate	estimate
300	C4H10O2	1,4-BUTANEDIOL	experimental/estimate	estimate
301	C4H10O2	2,3-BUTANEDIOL	estimate	estimate
302	C4H10O2	t-BUTYL HYDROPEROXIDE	estimate	estimate
303	C4H10O2	1,2-DIMETHOXYETHANE	estimate	estimate
304	C4H10O2	2-ETHOXYETHANOL	experimental/estimate	estimate
305	C4H10O3	DIETHYLENE GLYCOL	experimental/estimate	estimate
306	C4H10O4S	DIETHYL SULFATE	---	---
307	C4H10S	n-BUTYL MERCAPTAN	estimate	estimate
308	C4H10S	ISOBUTYL MERCAPTAN	estimate	estimate
309	C4H10S	sec-BUTYL MERCAPTAN	estimate	estimate
310	C4H10S	tert-BUTYL MERCAPTAN	estimate	estimate
311	C4H10S	DIETHYL SULFIDE	estimate	estimate
312	C4H10S2	DIETHYL DISULFIDE	estimate	estimate
313	C4H11N	n-BUTYLAMINE	estimate	estimate
314	C4H11N	ISOBUTYLAMINE	estimate	estimate
315	C4H11N	sec-BUTYLAMINE	estimate	estimate
316	C4H11N	tert-BUTYLAMINE	estimate	estimate
317	C4H11N	DIETHYLAMINE	experimental/estimate	estimate
318	C4H11NO	DIMETHYLETHANOLAMINE	estimate	estimate
319	C4H11NO2	DIETHANOLAMINE	estimate	---
320	C4H11NO2	2-AMINOETHOXYETHANOL	estimate	estimate
321	C4H12N2O	N-AMINOETHYL ETHANOLAMINE	estimate	estimate
322	C4H12Si	TETRAMETHYLSILANE	estimate	estimate
323	C4H13N3	DIETHYLENE TRIAMINE	estimate	estimate

## Appendix D

### COMPOUND LIST BY FORMULA

CBrClF2	BROMOCHLORODIFLUOROMETHANE.....	1(Vol 1)	C2H2Cl2	trans-1,2-DICHLOROETHYLENE.....	70(Vol 1)
CBrCl3	BROMOTRICHLOROMETHANE.....	2(Vol 1)	C2H2Cl2O	CHLOROACETYL CHLORIDE.....	71(Vol 1)
CBrF3	BROMOTRIFLUOROMETHANE.....	3(Vol 1)	C2H2Cl2O	DICHLOROACETALDEHYDE.....	72(Vol 1)
CBr2F2	DIBROMODIFLUOROMETHANE.....	4(Vol 1)	C2H2Cl2O2	DICHLOROACETIC ACID.....	73(Vol 1)
CClF3	CHLOROTRIFLUOROMETHANE.....	5(Vol 1)	C2H2Cl3F	1,1,1-TRICHLOROFLUOROETHANE.....	74(Vol 1)
CClN	CYANOGEN CHLORIDE.....	6(Vol 1)	C2H2Cl4	1,1,1,2-TETRACHLOROETHANE.....	75(Vol 1)
CCl2F2	DICHLORODIFLUOROMETHANE.....	7(Vol 1)	C2H2Cl4	1,1,2,2-TETRACHLOROETHANE.....	76(Vol 1)
CCl2O	PHOSGENE.....	8(Vol 1)	C2H2F2	1,1-DIFLUOROETHYLENE.....	77(Vol 1)
CCl3F	TRICHLOROFLUOROMETHANE.....	9(Vol 1)	C2H2F4	1,1,1,2-TETRAFLUOROETHANE.....	78(Vol 1)
CCl4	CARBON TETRACHLORIDE.....	10(Vol 1)	C2H2O	KETENE.....	79(Vol 1)
CF2O	CARBONYL FLUORIDE.....	11(Vol 1)	C2H2O4	OXALIC ACID.....	80(Vol 1)
CF4	CARBON TETRAFLUORIDE.....	12(Vol 1)	C2H3Br	VINYL BROMIDE.....	81(Vol 1)
CHBr3	TRIBROMOMETHANE.....	13(Vol 1)	C2H3Cl	VINYL CHLORIDE.....	82(Vol 1)
CHClF2	CHLORODIFLUOROMETHANE.....	14(Vol 1)	C2H3ClF2	1-CHLORO-1,1-DIFLUOROETHANE.....	83(Vol 1)
CHCl2F	DICHLOROFLUOROMETHANE.....	15(Vol 1)	C2H3ClO	ACETYL CHLORIDE.....	84(Vol 1)
CHCl3	CHLOROFORM.....	16(Vol 1)	C2H3ClO	CHLOROACETALDEHYDE.....	85(Vol 1)
CHF3	TRIFLUOROMETHANE.....	17(Vol 1)	C2H3ClO2	CHLOROACETIC ACID.....	86(Vol 1)
CHN	HYDROGEN CYANIDE.....	18(Vol 1)	C2H3ClO2	METHYL CHLOROFORMATE.....	87(Vol 1)
CH2BrCl	BROMOCHLOROMETHANE.....	19(Vol 1)	C2H3Cl3	1,1,1-TRICHLOROETHANE.....	88(Vol 1)
CH2Br2	DIBROMOMETHANE.....	20(Vol 1)	C2H3Cl3	1,1,2-TRICHLOROETHANE.....	89(Vol 1)
CH2Cl2	DICHLOROMETHANE.....	21(Vol 1)	C2H3F	VINYL FLUORIDE.....	90(Vol 1)
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CH2O2	FORMIC ACID.....	25(Vol 1)	C2H4	ETHYLENE.....	94(Vol 1)
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CH3F	METHYL FLUORIDE.....	29(Vol 1)	C2H4Cl2	1,2-DICHLOROETHANE.....	98(Vol 1)
CH3I	METHYL IODIDE.....	30(Vol 1)	C2H4Cl2O	BIS(CHLOROMETHYL)ETHER.....	99(Vol 1)
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CH3NO2	NITROMETHANE.....	32(Vol 1)	C2H4F2	1,2-DIFLUOROETHANE.....	101(Vol 1)
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CH4Cl2Si	METHYL DICHLOROSILANE.....	34(Vol 1)	C2H4O	ETHYLENE OXIDE.....	103(Vol 1)
CH4O	METHANOL.....	35(Vol 1)	C2H4O2	ACETIC ACID.....	104(Vol 1)
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CH4S	METHYL MERCAPTAN.....	37(Vol 1)	C2H5Br	BROMOETHANE.....	106(Vol 1)
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