Heat transfer fluids

GRITENE® ICT-32

GRITENE® ICT-32: HEAT TRASNFER FLUID DESIGNED FOR LOW-TEMPERATURE SECONDARY CIRCUITS

Gritene ICT-32 is a non-flammable, non-toxic blend of various fluorinated components with low GWP, developed for secondary circuits in very low-temperature applications. The main characteristics of this fluid are its low viscosity at temperatures below -50ºC, good calorific capacity, low water content and material compatibility.

Chemical name:

N.A

Technical characteristics:

> It is not flammable and has no flammability limits.
> Non-toxic and non-corrosive.
> Good viscosity at low temperature.
> GWP < 100.
> Good thermal conductivity and specific heat.

Packaging:

• Drums

Applications:

Cold tunnels for food industry

Data centers

Secondary system where non-flammable and non-toxic solutions are required

Thermodinamic properties chart:

Temperature (°C)	Pressure absolute (bar)	Density Líq. (kg/m^3)	Density Vap. (kg/m^3)	Enthalpy Liq. (kj/kg)	Enthalpy Vap. (kj/kg)	Cp Liq. (kj/kg°C)	Cp Vap. (kj/kg°C)	Thermal conduct. Liq. (mW/m·°C)	Thermal conduct. Vap. (mW/m·°C)	Viscosity Liq. (mPa·s)	Viscosity Vap. (mPa·s)
-90	0,00031	1509,16	0,012	108,60	344,08	1,175	0,627	101,564	1,995	7,460	0,0069
-89	0,00031	1508,93	0,013	109,84	344,38	1,175	0,629	101,296	2,070	7,335	0,0069
-88	0,00031	1508,70	0,014	111,09	345,00	1,177	0,631	101,028	2,145	7,198	0,0069
-87	0,00056	1508,35	0,015	112,33	345,62	1,179	0,633	100,761	2,220	7,061	0,0070
-86	0,00080	1508,12	0,016	113,58	346,24	1,182	0,635	100,493	2,294	6,923	0,0070
-85	0,00105	1507,89	0,017	114,82	346,87	1,184	0,636	100,225	2,369	6,786	0,0071
-84	0,00130	1507,66	0,018	116,07	347,49	1,186	0,638	99,957	2,444	6,649	0,0071
-83	0,00155	1507,43	0,019	117,32	348,11	1,189	0,640	99,689	2,519	6,512	0,0071
-82	0,00180	1507,08	0,02	118,56	348,74	1,191	0,642	99,421	2,593	6,375	0,0072
-81	0,00205	1506,85	0,021	119,81	349,08	1,193	0,644	99,153	2,668	6,237	0,0072
-80	0,00230	1506,62	0,022	121,05	349,61	1,195	0,646	98,886	2,743	6,100	0,0072
-79	0,00255	1506,39	0,023	122,30	350,23	1,198	0,648	98,618	2,818	5,963	0,0073
-78	0,00280	1506,05	0,024	123,54	350,85	1,200	0,649	98,350	2,893	5,826	0,0073
-77	0,00305	1505,82	0,025	124,79	351,47	1,202	0,651	98,082	2,967	5,689	0,0074
-76	0,00330	1505,58	0,027	126,03	352,10	1,205	0,653	97,814	3,042	5,551	0,0074
-75	0,00355	1505,35	0,029	127,28	352,74	1,207	0,655	97,546	3,117	5,414	0,0074
-74	0,00379	1505,12	0,031	128,52	353,34	1,209	0,657	97,278	3,192	5,277	0,0075
-73	0,00404	1504,78	0,033	129,77	353,97	1,212	0,659	97,011	3,266	5,140	0,0075
-72	0,00429	1504,55	0,036	131,01	354,59	1,214	0,661	96,743	3,341	5,003	0,0075
-71	0,00454	1504,31	0,039	132,26	355,21	1,216	0,662	96,475	3,416	4,865	0,0076
-70	0,00479	1504,08	0,042	137,29	355,64	1,219	0,678	96,800	3,600	4,728	0,0076
-69	0,00525	1501,88	0,046	138,53	356,31	1,218	0,680	96,543	3,672	4,591	0,0076
-68	0,00575	1499,79	0,050	139,76	356,99	1,217	0,681	96,287	3,744	4,454	0,0076
-67	0,00628	1497,70	0,054	141,00	357,67	1,217	0,683	96,030	3,816	4,317	0,0077
-66	0,00686	1495,61	0,059	142,23	358,35	1,216	0,684	95,774	3,888	4,179	0,0077
-65	0,00748	1493,41	0,064	143,46	359,03	1,215	0,686	95,393	3,960	4,042	0,0077
-64	0,00816	1491,32	0,069	144,70	359,71	1,214	0,687	95,137	4,032	3,905	0,0078
-63	0,00888	1489,23	0,075	145,93	360,39	1,214	0,689	94,871	4,104	3,768	0,0078
-62	0,00966	1487,03	0,081	147,16	361,08	1,213	0,690	94,606	4,177	3,631	0,0079
-61	0,01049	1484,94	0,088	148,39	361,76	1,212	0,692	94,340	4,249	3,493	0,0079
-60	0,01139	1482,85	0,095	149,62	362,45	1,212	0,693	94,066	4,321	3,356	0,0079
-59	0,01235	1480,76	0,103	150,85	363,14	1,211	0,694	93,801	4,393	3,219	0,0080
-58	0,01338	1478,56	0,111	152,08	363,83	1,211	0,696	93,527	4,465	3,196	0,0080
-57	0,01449	1476,47	0,119	153,31	364,51	1,210	0,697	93,252	4,537	3,030	0,0080
-56	0,01567	1474,38	0,128	154,54	365,21	1,210	0,699	92,983	4,609	2,881	0,0081
-55	0,01693	1472,18	0,138	155,76	365,90	1,209	0,700	92,708	4,681	2,745	0,0081
-54	0,01828	1470,09	0,148	156,92	366,59	1,209	0,702	92,433	4,753	2,621	0,0082
-53	0,01972	1468,00	0,159	157,99	367,28	1,208	0,703	92,156	4,824	2,507	0,0082
-52	0,02126	1465,80	0,171	159,15	367,98	1,208	0,704	91,879	4,896	2,403	0,0082
-51	0,02289	1463,71	0,183	160,32	368,67	1,207	0,706	91,485	4,968	2,306	0,0083
-50	0,02463	1461,62	0,196	161,50	369,37	1,207	0,707	91,206	5,040	2,217	0,0083
49	0,02648	1459,42	0,210	162,67	370,07	1,206	0,709	90,926	5,112	2,134	0,0083
-48	0,02845	1457,33	0,225	163,84	370,76	1,206	0,710	90,646	5,184	2,056	0,0084
-47	0,03054	1455,15	0,240	165,00	371,46	1,206	0,712	90,365	5,256	1,984	0,0084
-46	0,03276	1453,06	0,257	166,18	372,16	1,205	0,713	90,082	5,328	1,917	0,0085
-45	0,03511	1450,86	0,274	167,35	372,86	1,205	0,714	89,800	5,400	1,853	0,0085
-44	0,03760	1448,77	0,292	168,52	373,57	1,205	0,716	89,517	5,471	1,826	0,0085
-43	0,04024	1446,57	0,312	169,69	374,27	1,204	0,717	89,233	5,543	1,794	0,0086
-42	0,04304	1444,48	0,332	170,86	374,97	1,204	0,719	88,950	5,615	1,752	0,0086
-41	0,04599	1442,30	0,353	172,02	375,67	1,204	0,720	88,665	5,687	1,720	0,0086
-40	0,04912	1440,10	0,376	173,19	376,38	1,204	0,722	88,381	5,759	1,671	0,0087
-39	0,05242	1438,01	0,399	174,37	377,08	1,203	0,723	88,097	5,831	1,624	0,0087
-38	0,05590	1435,83	0,424	175,53	377,79	1,203	0,724	87,812	5,902	1,578	0,0088
-37	0,05958	1433,63	0,450	176,71	378,49	1,203	0,726	87,411	5,974	1,535	0,0088
-36	0,06495	1431,54	0,478	177,87	379,20	1,203	0,727	87,127	6,046	1,493	0,0088
-35	0,06915	1429,36	0,506	179,04	379,91	1,203	0,729	86,841	6,118	1,453	0,0089
-34	0,07357	1427,16	0,537	180,21	380,62	1,203	0,730	86,556	6,189	1,421	0,0089
-33	0,07821	1425,07	0,568	181,37	381,32	1,202	0,732	86,271	6,261	1,384	0,0089
-32	0,08308	1422,78	0,601	182,55	382,03	1,202	0,733	85,986	6,333	1,348	0,0090
-31	0,08820	1420,69	0,636	183,72	382,74	1,202	0,735	85,701	6,405	1,313	0,0090
-30	0,09369	1418,51	0,672	184,88	383,45	1,202	0,736	85,417	6,477	1,286	0,0091
-29	0,09932	1416,31	0,710	186,05	384,16	1,202	0,738	85,132	6,548	1,254	0,0091
-28	0,105	1414,13	0,750	187,22	384,87	1,202	0,739	84,847	6,620	1,222	0,0091
-27	0,112	1411,84	0,791	188,39	385,58	1,202	0,741	84,563	6,692	1,198	0,0092
-26	0,118	1409,75	0,834	189,56	386,30	1,202	0,742	84,280	6,764	1,169	0,0092
-25	0,125	1407,58	0,880	190,74	387,01	1,202	0,744	83,996	6,836	1,146	0,0092
-24	0,132	1405,28	0,927	191,90	387,72	1,202	0,745	83,713	6,908	1,118	0,0093
-23	0,140	1403,20	0,976	193,07	388,43	1,202	0,747	83,315	6,979	1,098	0,0093
-22	0,148	1400,90	1,027	194,25	389,15	1,202	0,748	83,033	7,051	1,071	0,0093
-21	0,156	1398,73	1,080	195,41	389,86	1,202	0,750	82,751	7,123	1,052	0,0094
-20	0,164	1396,43	1,136	196,58	390,57	1,203	0,751	82,470	7,195	1,027	0,0094
-19	0,173	1394,35	1,194	197,76	391,29	1,203	0,753	82,189	7,267	1,007	0,0095
-18	0,183	1392,05	1,254	198,92	392,00	1,203	0,754	81,909	7,339	0,987	0,0095
-17	0,193	1389,88	1,317	200,09	392,72	1,204	0,756	81,630	7,411	0,967	0,0095
-16	0,203	1387,70	1,382	201,26	393,43	1,204	0,758	81,353	7,483	0,948	0,0096

-15	0,214	1385,41	1,449	202,44	394,14	1,204	0,759	81,076	7,555	0,930	0,0096
-14	0,225	1383,23	1,520	203,60	394,86	1,204	0,761	80,800	7,627	0,912	0,0096
-13	0,236	1380,94	1,592	204,78	395,57	1,205	0,762	80,524	7,699	0,895	0,0097
-12	0,248	1378,76	1,668	205,95	396,29	1,205	0,764	80,249	7,771	0,878	0,0097
-11	0,261	1376,38	1,747	207,12	397,00	1,205	0,766	79,973	7,844	0,862	0,0098
-10	0,274	1374,20	1,828	208,29	397,72	1,206	0,767	79,700	7,916	0,846	0,0098
-9	0,288	1371,91	1,913	209,47	398,43	1,206	0,769	79,311	7,988	0,831	0,0098
-8	0,302	1369,73	2,000	210,63	399,15	1,207	0,771	79,039	8,060	0,816	0,0099
-7	0,317	1367,35	2,091	211,81	399,87	1,207	0,772	78,766	8,133	0,801	0,0099
-6	0,332	1365,18	2,185	212,99	400,58	1,208	0,774	78,496	8,205	0,787	0,0099
-5	0,348	1362,90	2,282	214,16	401,30	1,209	0,776	78,225	8,278	0,773	0,0100
-4	0,364	1360,57	2,382	215,33	402,01	1,209	0,777	77,956	8,350	0,761	0,0100
-3	0,381	1358,33	2,486	216,51	402,73	1,210	0,779	77,687	8,423	0,747	0,0100
-2	0,399	1356,00	2,594	217,69	403,44	1,210	0,781	77,420	8,496	0,734	0,0101
-1	0,418	1353,68	2,705	218,85	404,16	1,211	0,782	77,153	8,568	0,722	0,0101
0	0,437	1351,43	2,820	220,03	404,87	1,211	0,784	76,888	8,641	0,711	0,0102
1	0,457	1349,11	2,939	221,21	405,58	1,212	0,786	76,622	8,714	0,698	0,0102
2	0,477	1346,78	3,062	222,39	406,30	1,213	0,788	76,359	8,787	0,687	0,0102
3	0,498	1344,53	3,189	223,56	407,01	1,214	0,790	76,095	8,860	0,676	0,0103
4	0,520	1342,21	3,320	224,74	407,73	1,214	0,791	75,718	8,933	0,666	0,0103
5	0,543	1339,87	3,455	225,92	408,44	1,215	0,793	75,456	9,007	0,655	0,0103
6	0,567	1337,54	3,594	227,10	409,15	1,215	0,795	75,196	9,080	0,645	0,0104
7	0,590	1335,20	3,738	228,27	409,87	1,216	0,797	74,937	9,153	0,635	0,0104
8	0,616	1332,88	3,886	229,46	410,58	1,217	0,799	74,678	9,227	0,625	0,0104
9	0,642	1330,54	4,039	230,64	411,29	1,218	0,801	74,420	9,301	0,615	0,0105
10	0,669	1328,12	4,196	231,83	412,01	1,219	0,802	74,164	9,374	0,605	0,0105
11	0,697	1325,79	4,359	233,00	412,72	1,219	0,804	73,909	9,448	0,597	0,0106
12	0,725	1323,44	4,526	234,18	413,43	1,220	0,806	73,654	9,522	0,588	0,0106
13	0,755	1321,02	4,698	235,37	414,14	1,221	0,808	73,400	9,597	0,578	0,0106
14	0,786	1318,68	4,875	236,55	414,85	1,222	0,810	73,148	9,671	0,570	0,0107
15	0,817	1316,35	5,058	237,73	415,56	1,223	0,812	72,896	9,745	0,562	0,0107
16	0,849	1313,91	5,245	238,91	416,27	1,223	0,814	72,646	9,820	0,554	0,0107
17	0,883	1311,49	5,439	240,10	416,98	1,224	0,816	72,281	9,895	0,545	0,0108
18	0,917	1309,14	5,637	241,29	417,69	1,225	0,818	72,032	9,969	0,538	0,0108
19	0,952	1306,72	5,842	242,47	418,40	1,226	0,820	71,784	10,044	0,530	0,0108
20	0,990	1304,29	6,052	243,66	419,10	1,227	0,822	71,538	10,120	0,523	0,0109
21	1,027	1301,86	6,267	244,85	419,81	1,228	0,824	71,293	10,195	0,515	0,0109
22	1,065	1299,43	6,489	246,04	420,52	1,229	0,826	71,048	10,271	0,508	0,0110
23	1,106	1296,99	6,717	247,22	421,22	1,230	0,828	70,804	10,346	0,501	0,0110
24	1,147	1294,56	6,952	248,42	421,93	1,231	0,830	70,562	10,422	0,494	0,0110
25	1,188	1292,13	7,192	249,61	422,63	1,232	0,832	70,320	10,498	0,487	0,0111
26	1,232	1289,69	7,439	250,81	423,34	1,233	0,835	70,080	10,575	0,481	0,0111
27	1,278	1287,17	7,693	252,00	424,04	1,234	0,837	69,840	10,651	0,474	0,0111
28	1,323	1284,73	7,953	253,18	424,74	1,235	0,839	69,601	10,728	0,468	0,0112
29	1,370	1282,30	8,220	254,38	425,44	1,236	0,841	69,364	10,805	0,461	0,0112
30	1,419	1279,76	8,495	255,58	426,14	1,238	0,843	69,012	10,882	0,455	0,0112
31	1,468	1277,24	8,776	256,78	426,84	1,239	0,845	68,776	10,959	0,449	0,0113
32	1,520	1274,79	9,064	257,98	427,54	1,240	0,848	68,542	11,037	0,443	0,0113
33	1,572	1272,27	9,360	259,16	428,24	1,241	0,850	68,308	11,115	0,437	0,0114
34	1,627	1269,74	9,664	260,37	428,94	1,242	0,852	68,075	11,193	0,432	0,0114
35	1,682	1267,21	9,975	261,57	429,63	1,244	0,854	67,843	11,271	0,426	0,0114
36	1,739	1264,68	10,294	262,77	430,33	1,245	0,857	67,612	11,350	0,421	0,0115
37	1,798	1262,14	10,621	263,97	431,02	1,246	0,859	67,383	11,429	0,415	0,0115
38	1,858	1259,61	10,956	265,16	431,72	1,247	0,861	67,154	11,508	0,410	0,0115
39	1,919	1257,08	11,299	266,37	432,41	1,249	0,864	66,926	11,587	0,405	0,0116
40	1,981	1254,45	11,650	267,58	433,10	1,250	0,866	66,699	11,667	0,399	0,0116
41	2,046	1251,92	12,011	268,79	433,79	1,251	0,869	66,473	11,747	0,394	0,0116
42	2,112	1249,29	12,379	270,00	434,48	1,253	0,871	66,133	11,828	0,389	0,0117
43	2,180	1246,67	12,757	271,21	435,17	1,254	0,874	65,908	11,908	0,385	0,0117
44	2,250	1244,13	13,144	272,41	435,86	1,256	0,876	65,685	11,989	0,380	0,0118
45	2,320	1241,50	13,540	273,62	436,54	1,257	0,879	65,462	12,071	0,375	0,0118
46	2,393	1238,87	13,945	274,83	437,23	1,259	0,881	65,241	12,153	0,370	0,0118
47	2,468	1236,23	14,360	276,05	437,91	1,260	0,884	65,020	12,235	0,366	0,0119
48	2,544	1233,61	14,785	277,26	438,59	1,262	0,886	64,801	12,317	0,361	0,0119
49	2,622	1230,98	15,219	278,48	439,27	1,263	0,889	64,582	12,400	0,357	0,0119
50	2,702	1228,25	15,664	279,68	439,95	1,265	0,891	64,364	12,483	0,352	0,0120
51	2,783	1225,62	16,119	280,91	440,63	1,266	0,894	64,147	12,567	0,348	0,0120
52	2,868	1222,89	16,584	282,13	441,31	1,268	0,897	63,930	12,651	0,344	0,0121
53	2,953	1220,17	17,060	283,35	441,98	1,270	0,899	63,715	12,735	0,340	0,0121
54	3,041	1217,53	17,547	284,57	442,65	1,271	0,902	63,385	12,820	0,336	0,0121
55	3,130	1214,80	18,044	285,79	443,33	1,273	0,905	63,171	12,906	0,332	0,0122
56	3,222	1212,08	18,553	287,02	444,00	1,275	0,908	62,958	12,991	0,328	0,0122
57	3,314	1209,34	19,074	288,24	444,67	1,276	0,911	62,746	13,078	0,324	0,0122
58	3,410	1206,52	19,606	289,46	445,33	1,278	0,913	62,535	13,164	0,320	0,0123
59	3,507	1203,80	20,150	290,69	446,00	1,280	0,916	62,324	13,252	0,316	0,0123
60	3,607	1200,98	20,706	291,92	446,66	1,282	0,919	62,114	13,339	0,312	0,0124
61	3,708	1198,28	21,274	293,16	447,32	1,284	0,922	61,905	13,428	0,309	0,0124
62	3,813	1195,45	21,855	294,39	447,98	1,286	0,925	61,696	13,517	0,305	0,0124
63	3,919	1192,63	22,449	295,63	448,64	1,288	0,928	61,489	13,606	0,301	0,0125
64	4,028	1189,81	23,056	296,86	449,30	1,289	0,931	61,282	13,696	0,298	0,0125
65	4,138	1186,98	23,676	298,10	449,95	1,292	0,935	60,961	13,786	0,294	0,0126
66	4,251	1184,16	24,309	299,34	450,61	1,294	0,938	60,755	13,877	0,291	0,0126

67	4,367	1181,13	24,956	300,58	451,26	1,296	0,941	60,550	13,969	0,288	0,0126
68	4,489	1178,31	25,618	301,82	451,91	1,298	0,944	60,347	14,061	0,284	0,0127
69	4,603	1175,40	26,293	303,06	452,55	1,300	0,947	60,143	14,154	0,281	0,0127
70	4,731	1172,49	26,983	304,31	453,20	1,303	0,951	59,941	14,248	0,278	0,0128
71	4,850	1169,58	27,688	305,55	453,84	1,305	0,954	59,738	14,342	0,274	0,0128
72	4,982	1166,66	28,409	306,80	454,48	1,307	0,958	59,537	14,437	0,271	0,0128
73	5,105	1163,75	29,144	308,05	455,11	1,309	0,961	59,337	14,533	0,268	0,0129
74	5,243	1160,75	29,895	309,30	455,75	1,312	0,965	59,136	14,630	0,265	0,0129
75	5,371	1157,84	30,663	310,56	456,38	1,314	0,968	58,821	14,727	0,262	0,0130
76	5,513	1154,73	31,447	311,81	457,01	1,317	0,972	58,622	14,825	0,259	0,0130
77	5,646	1151,73	32,247	313,07	457,64	1,319	0,975	58,424	14,924	0,256	0,0130
78	5,793	1148,73	33,064	314,33	458,27	1,322	0,979	58,226	15,023	0,253	0,0131
79	5,943	1145,73	33,899	315,59	458,89	1,324	0,983	58,029	15,124	0,250	0,0131
80	6,084	1142,64	34,752	316,86	459,51	1,327	0,987	57,832	15,225	0,247	0,0132
81	6,239	1139,43	35,623	318,12	460,12	1,329	0,991	57,636	15,328	0,244	0,0132
82	6,396	1136,43	36,512	319,39	460,74	1,332	0,995	57,440	15,431	0,242	0,0133
83	6,545	1133,34	37,420	320,66	461,35	1,335	0,999	57,246	15,535	0,239	0,0133
84	6,708	1130,17	38,347	321,93	461,96	1,338	1,003	57,051	15,640	0,236	0,0134
85	6,873	1126,96	39,294	323,21	462,56	1,341	1,007	56,857	15,746	0,233	0,0134
86	7,041	1123,79	40,261	324,48	463,16	1,344	1,012	56,547	15,853	0,231	0,0135
87	7,201	1120,70	41,000	325,76	463,76	1,347	1,016	56,355	15,961	0,228	0,0135
88	7,375	1117,41	41,049	327,04	464,36	1,350	1,020	56,162	16,071	0,225	0,0135
89	7,552	1114,14	42,202	328,32	464,95	1,353	1,025	55,970	16,181	0,223	0,0136
90	7,731	1110,85	43,133	329,61	465,54	1,356	1,030	55,778	16,293	0,220	0,0136
91	7,902	1107,58	44,083	330,90	466,12	1,359	1,034	55,587	16,406	0,218	0,0137
92	8,088	1104,32	45,054	332,19	466,71	1,363	1,039	55,396	16,520	0,215	0,0137
93	8,276	1100,94	46,045	333,48	467,28	1,366	1,044	55,205	16,635	0,213	0,0138
94	8,468	1097,67	47,058	334,77	467,86	1,370	1,049	55,015	16,752	0,210	0,0138
95	8,663	1094,20	48,093	336,07	468,43	1,373	1,054	54,709	16,870	0,208	0,0139
96	8,860	1090,85	49,250	337,36	468,99	1,377	1,060	54,520	16,989	0,205	0,0140
97	9,050	1087,38	50,433	338,67	469,55	1,381	1,065	54,330	17,110	0,203	0,0140
98	9,254	1084,03	51,643	339,97	470,11	1,385	1,071	54,142	17,233	0,201	0,0141
99	9,460	1080,47	52,877	341,28	470,67	1,389	1,076	53,953	17,357	0,198	0,0141
100	9,671	1077,03	54,138	342,58	471,21	1,393	1,082	53,765	17,482	0,196	0,0142
101	9,885	1073,47	55,429	343,90	471,76	1,397	1,088	53,577	17,609	0,194	0,0142
102	10,102	1069,94	56,742	345,22	472,30	1,401	1,094	53,389	17,738	0,191	0,0143
103	10,322	1066,38	58,098	346,53	472,83	1,406	1,101	53,202	17,869	0,189	0,0143
104	10,546	1062,64	59,469	347,86	473,36	1,410	1,107	53,014	18,002	0,187	0,0144
105	10,773	1059,11	60,880	349,19	473,89	1,415	1,114	52,712	18,136	0,185	0,0145
106	11,004	1055,38	62,320	350,52	474,41	1,420	1,121	52,525	18,273	0,183	0,0145
107	11,237	1051,64	63,789	351,84	474,92	1,425	1,128	52,339	18,412	0,180	0,0146
108	11,487	1048,03	65,289	353,18	475,43	1,430	1,135	52,152	18,552	0,178	0,0147
109	11,727	1044,20	66,831	354,51	475,93	1,435	1,142	51,966	18,695	0,176	0,0147
110	11,972	1040,38	68,405	355,86	476,43	1,440	1,150	51,780	18,841	0,174	0,0148
111	12,220	1036,47	70,013	357,21	476,92	1,446	1,158	51,594	18,988	0,172	0,0149
112	12,472	1032,56	71,655	358,56	477,40	1,452	1,166	51,408	19,139	0,170	0,0149
113	12,728	1028,76	73,343	359,91	477,88	1,458	1,175	51,107	19,292	0,168	0,0150
114	13,000	1024,77	75,068	361,27	478,35	1,463	1,184	50,922	19,447	0,166	0,0151
115	13,262	1020,76	76,829	362,62	478,82	1,470	1,193	50,736	19,606	0,164	0,0152
116	13,530	1016,71	78,629	363,99	479,27	1,476	1,202	50,551	19,767	0,162	0,0152
117	13,800	1012,61	80,481	365,36	479,72	1,483	1,212	50,366	19,932	0,159	0,0153
118	14,087	1008,48	82,374	366,73	480,17	1,490	1,222	50,181	20,100	0,157	0,0154
119	14,366	1004,29	84,321	368,11	480,60	1,497	1,233	49,996	20,271	0,156	0,0155
120	14,649	1000,07	86,301	369,49	481,03	1,505	1,244	49,810	20,446	0,154	0,0156
121	14,948	995,80	88,338	370,88	481,44	1,513	1,255	49,625	20,624	0,152	0,0156
122	15,239	991,49	90,434	372,28	481,85	1,521	1,267	49,325	20,807	0,150	0,0157
123	15,545	987,00	92,579	373,67	482,25	1,529	1,280	49,140	20,994	0,148	0,0158
124	15,845	982,58	94,775	375,07	482,64	1,538	1,293	48,955	21,185	0,146	0,0159
125	16,148	978,11	97,020	376,48	483,02	1,547	1,306	48,771	21,380	0,144	0,0160
126	16,468	973,58	99,339	377,89	483,39	1,557	1,321	48,586	21,581	0,142	0,0161
127	16,780	968,88	101,712	379,31	483,75	1,567	1,336	48,401	21,786	0,140	0,0162
128	17,108	964,23	104,157	380,74	484,10	1,578	1,352	48,217	21,997	0,138	0,0163
129	17,441	959,51	106,665	382,16	484,44	1,589	1,368	48,033	22,214	0,136	0,0164
130	17,768	954,62	109,243	383,60	484,76	1,600	1,386	47,732	22,437	0,134	0,0165
131	18,109	949,78	111,895	385,05	485,08	1,612	1,405	47,548	22,666	0,133	0,0167
132	18,443	944,74	114,618	386,49	485,38	1,625	1,424	47,363	22,902	0,131	0,0168
133	18,795	939,74	117,432	387,96	485,66	1,639	1,445	47,179	23,146	0,129	0,0169
134	19,150	934,55	120,316	389,42	485,93	1,653	1,467	46,995	23,397	0,127	0,0170
135	19,500	929,39	123,301	390,90	486,19	1,668	1,491	46,811	23,656	0,125	0,0172
136	19,865	924,02	126,374	392,37	486,43	1,685	1,516	46,628	23,925	0,123	0,0173
137	20,235	918,56	129,547	393,86	486,65	1,702	1,543	46,445	24,203	0,122	0,0175
138	20,610	913,00	132,826	395,36	486,85	1,720	1,572	46,297	24,491	0,120	0,0176
139	20,991	907,45	136,214	396,87	487,04	1,740	1,603	46,092	24,791	0,118	0,0178
140	21,365	901,68	139,720	398,38	487,20	1,760	1,637	45,886	25,102	0,116	0,0179
141	21,755	895,78	143,350	399,92	487,35	1,783	1,673	45,682	25,427	0,114	0,0181
142	22,151	889,76	147,103	401,46	487,47	1,807	1,712	45,479	25,766	0,112	0,0183
143	22,552	883,61	151,001	403,01	487,57	1,834	1,755	45,277	26,120	0,111	0,0185
144	22,958	877,19	155,051	404,57	487,64	1,862	1,802	45,077	26,492	0,109	0,0187
145	23,371	870,73	159,264	406,16	487,68	1,893	1,853	44,879	26,882	0,107	0,0189
146	23,787	864,10	163,645	407,75	487,70	1,928	1,910	44,684	27,293	0,105	0,0191
147	24,211	857,29	168,234	409,35	487,68	1,965	1,973	44,492	27,726	0,103	0,0193
148	24,640	850,17	172,998	410,98	487,63	2,007	2,044	44,303	28,185	0,101	0,0196

149	25,075	842,95	178,006	412,63	487,54	2,054	2,123	44,120	28,673	0,099	0,0198
150	25,527	835,37	183,265	414,29	487,41	2,106	2,212	43,943	29,193	0,097	0,0201
151	25,974	827,53	188,780	415,97	487,23	2,165	2,314	43,774	29,750	0,096	0,0204
152	26,427	819,39	194,621	417,68	487,00	2,233	2,431	43,614	30,348	0,094	0,0207
153	26,886	811,05	200,735	419,42	486,71	2,310	2,567	43,468	30,996	0,092	0,0211
154	27,363	802,22	207,344	421,19	486,37	2,402	2,727	43,338	31,700	0,089	0,0214
155	27,834	792,84	214,245	423,00	485,94	2,510	2,917	43,231	32,472	0,087	0,0218
156	28,314	783,09	221,757	424,85	485,44	2,640	3,148	43,153	33,327	0,085	0,0223
157	28,810	772,75	229,844	426,74	484,84	2,801	3,434	43,117	34,281	0,083	0,0228
158	29,303	761,61	238,612	428,70	484,12	3,005	3,796	43,137	35,363	0,081	0,0233
159	29,804	749,73	248,229	430,71	483,26	3,271	4,271	43,240	36,611	0,078	0,0239
160	30,345	736,66	258,899	432,81	482,22	3,635	4,918	43,464	38,085	0,076	0,0246

*¡ WARNING!. Pressure data is absolute, to get gauge pressure apply -1 to the absolute data pressure. Data in cursive are estimated.

Normal Melting Temperature:	-103,5 °C
Critical Temperature:	169,44 °C
Critical Pressure:	32,77 bars
Critical Density:	572,17 kg/m^3
Critical Enthalpye:	440,22 kg/m^3
Molar Mass:	144,3 gr/mol

Compatibility with plastics:

Acrylic (PMMA)	Polypropylene	PVC
Epoxy	Polyethylene (HDPE)	Nylon
Fibreglass	Polyethylene (LDPE)	PTFE
Polyester	Polycarbonate	

Elastomer compatibility:

Viton	Neoprene
Butyl rubber	Natural rubber

Normative:

GRIT (Gases Research Innovation & Technology) is committed to the continuous improvement of our inbuilt Quality Control, Environment and Major Accident Prevention Systems as well as close collaboration with our product and service providers. The scope of the system includes the packaging, commercialisation, storage and innovation of technical gases and the management of residual fluorinated gas and halogenated solvents.

All this work is reflected in our certificates ISO 9001 & ISO 14001. GRIT also meets AHRI 700 standard for new and recycled refrigerants.

More information:

If you want more information about our products, contact us.

EUROPE — GRIT, Gases Research Innovation & Technology

BARCELONA

Our plant:
P. I. "El Punsic", parcela 8.3,
08279 Avinyó, Barcelona. Spain.

Our office:
C/ Consell de Cent 419, Pral 1ª y 2ª,
08009, Barcelona. Spain.

Phone: (+34) 932 721 400
E-mail: grit@grit.es
Website: www.gasesgrit.com

USA — Summit Refrigerants

HOUSTON

8541 East North Belt
Humble, Texas 77396

Phone: (+1) 281-540-2653
Toll-Free: (+1) 866-971-2653
Fax: (+1) 281-540-0385

DALLAS

2080 McDaniel Drive
Suite 200
Carrollton, Texas 75006

Phone: (+1) 469-458-3195
Fax: (+1) 469-458-3085

BATON ROUGE

10080 Industriplex Avenue
Gonzales, LA 70737

Phone: (+1) 225-744-2653
Fax: (+1) 225-677-6106