Natural Refrigerants

R-170 (Ethane)

R-170: Natural refrigerant for very low temperature applications (-75ºC).

R-170 is a hydrocarbon refrigerant for applications that require very low operating temperatures.

Being a hydrocarbon, it has a low environmental impact both in terms of protection of the ozone layer and of the greenhouse effect and is classified as a refrigerant of safety group A3.

Chemical name:	ASHRAE Name:
Ethane (C_2H_6)	R-170

Technical specifications:

0	6	A3	Mineral, Alkylbenzene
ODP	GWP	Safety classification	Compatible lubricants

Boiling point: -88.5ºC.

Temperature range: Very low (between -40ºC and -75ºC).

Replacement: R-23 in new equipment; it is not a drop-in replacement product.

Applications:

- Very Low Temperature Storage
- Processes that require very low temperatures
- Freeze-Drying

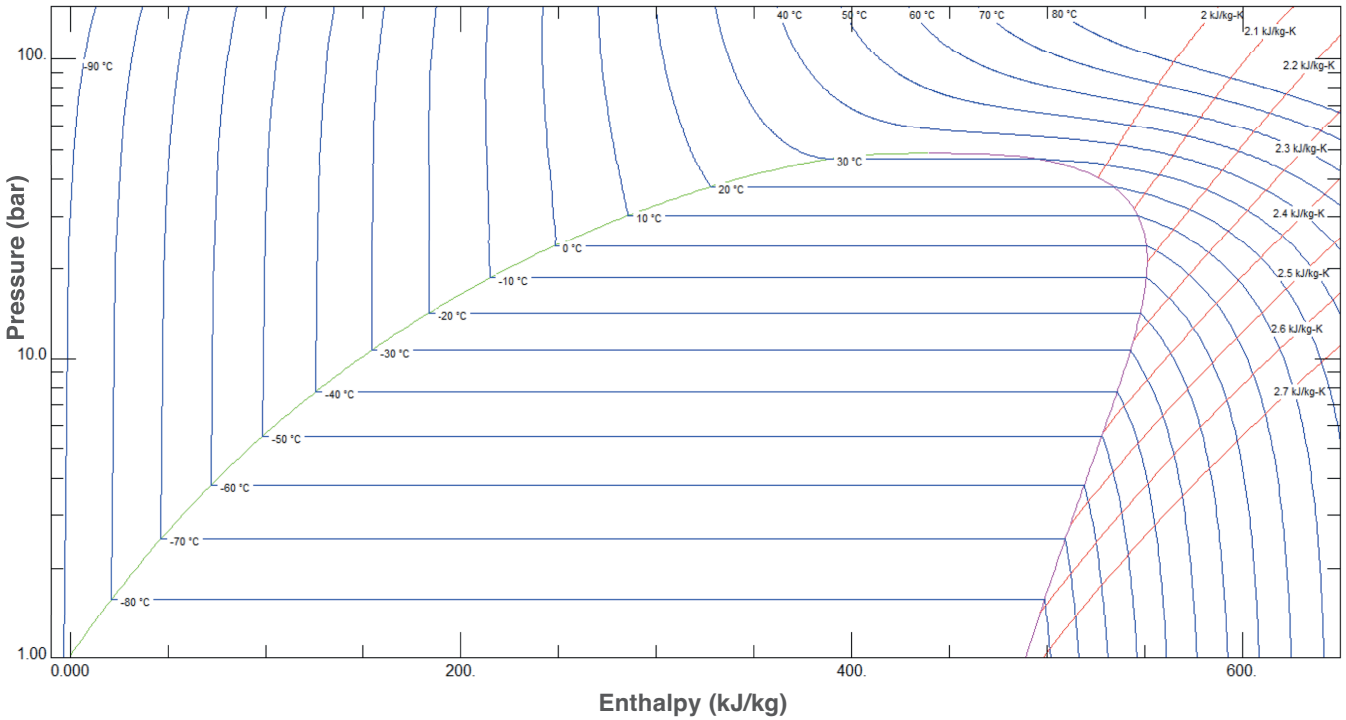
Packaging sizes for R-170 (Ethane):

- Cylinders

Thermodinamic properties chart:

Temperature (ºC)	Absolute pressure (bar)	Liquid density (kg/l)	Gas density (kg/l)	Liquid enthalpy (kJ/kg K)	Gas enthalpy (kJ/kg K)
-85	1,2243	0,53932	0,0024476	8,7857	493,42
-80	1,5741	0,53293	0,0030901	21,151	498,91
-75	1,9961	0,52642	0,0038541	33,641	504,25
-70	2,4993	0,51978	0,0047544	46,269	509,43
-65	3,0933	0,513	0,0058073	59,045	514,43
-60	3,7877	0,50606	0,0070303	71,986	519,23
-55	4,5926	0,49895	0,0084426	85,105	523,83
-50	5,5183	0,49165	0,010066	98,419	528,2
-45	6,5753	0,48413	0,011924	111,95	532,32
-40	7,7744	0,47638	0,014044	125,71	536,16
-35	9,1265	0,46835	0,016459	139,73	539,68
-30	10,643	0,46003	0,019206	154,04	542,85
-25	12,335	0,45135	0,022329	168,68	545,62
-20	14,215	0,44228	0,025884	183,67	547,93
-15	16,295	0,43274	0,029936	199,07	549,73
-10	18,588	0,42265	0,034574	214,94	550,91
-5	21,108	0,41189	0,039909	231,35	551,37
0	23,867	0,40032	0,046097	248,41	550,96
5	26,883	0,38772	0,053356	266,27	549,46
10	30,172	0,37374	0,062017	285,14	546,55
15	33,755	0,35785	0,072621	305,36	541,71
20	37,655	0,33904	0,086176	327,57	533,99
25	41,903	0,31495	0,10501	353,26	521,2
30	46,551	0,27632	0,13833	388,24	494,95

Pressure diagram chart:



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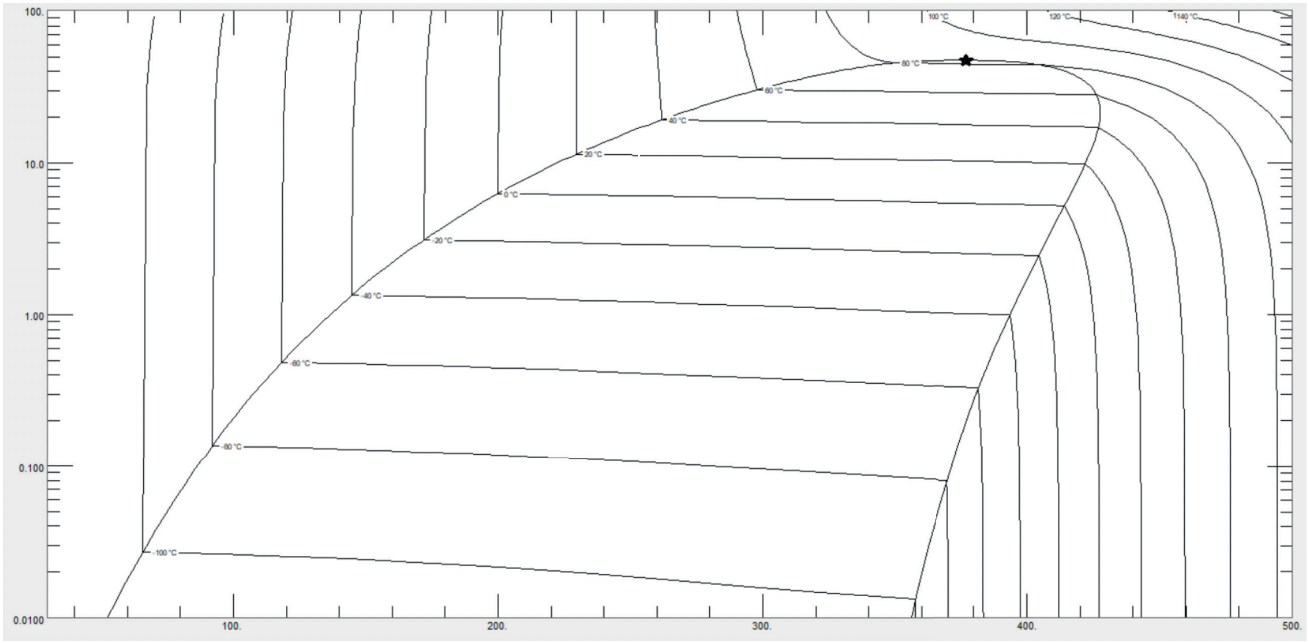

Normative:

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.

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