

DuPont™ ISCEON® 9 Series

REFRIGERANTS

Product Information Bulletin

DuPont™ ISCEON® MO89

ISCEON® MO89 is a non-ozone depleting HFC retrofit refrigerant for R-13B1 in very low temperature, direct expansion refrigeration systems. It is compatible with traditional and new lubricants, in most cases no change of lubricant type during retrofit is required.

Note: ISCEON® MO89 is not available in the U.S.

ASHRAE #: None assigned

Applications:

- Very low temperature refrigeration (below –40°F to –100°F)/(below –40°C to –70°C). including:
 - freeze dryers
 - medical freezers
 - environmental chambers

Benefits

- Provides easy, quick, cost-effective retrofits
- Non-ozone-depleting HFC/PFC
- In most cases no change of lubricant type during retrofit is needed – compatible with traditional and new lubricants
- In commercial use since 1994
- Can be topped off during service without removing the entire refrigerant charge

Expected Performance After Retrofit

(based on thermodynamic property data)

ISCEON® MO89 provides lower cooling capacity and slightly lower energy efficiency in existing R-13B1 systems. ISCEON®MO89 operates at lower discharge temperature than R-13B1. Actual performance depends on system design and operating conditions.



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Discharge Temperature:	°F (°C)
R-13B1	263 (128)
ISCEON® MO89	209 (98)

Discharge Pressure:	psia (kPa)
R-13B1	314 (2160)
ISCEON® MO89	304 (2110)

System Conditions:

Condensing Temperature = 100°F (38°C)

Evaporator Temperature = -60°F (-51°C)

Cooling Capacity vs. R-13B1

ISCEON® MO89	20–30% lower
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Retrofit Considerations

ISCEON® MO89 is compatible with traditional and new lubricants – mineral oil, alkylbenzene and polyol ester – in most cases no change of lubricant type during retrofit is needed. Increasing the condenser sub-cooling will help reduce some of the loss in cooling capacity.

Safety

ISCEON® MO89 has not yet been submitted to ASHRAE for safety classification. Independent testing has determined that as formulated ISCEON MO89 is non-flammable at atmospheric pressure in air at temperatures up to 100°C (212°F). The vapor can become flammable under leakage conditions at normal use and handling temperatures. See the Safety of DuPont Refrigerants (AS-1) bulletin and the MSDS for details.

Product Composition

Component	Weight %
HFC-125	86
PFC-218	9
Propane	5

For Further Information: (800) 235-7882

www.refrigerants.dupont.com

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