

# DuPont™ ISCEON® 9 Series

## REFRIGERANTS

### Product Information Bulletin

## DuPont™ ISCEON® MO49

ISCEON® MO49 is an easy-to-use, non-ozone depleting HFC retrofit refrigerant for R-12 in automotive air conditioning and for R-12 and HCFC-containing refrigerant blends (e.g., MP39, MP66, and R-409A) in stationary air conditioning (AC) and direct expansion refrigeration systems. ISCEON® MO49 is compatible with traditional and new lubricants, in most cases no change of lubricant type during retrofit is required.

**Note:** ISCEON® MO49 is not available in the U.S.

**ASHRAE #:** R-413A

### Applications

- Automotive AC systems designed for R12
- Stationary AC systems designed for R12
- Refrigeration systems designed for R-12
  - Food service
  - Supermarket display cases
  - Food storage and processing
  - Domestic refrigerators/freezers

### Benefits

- Provides easy, quick cost-effective retrofits
- Non-ozone-depleting HFC
  - Not subject to phase-out under the Montreal Protocol
- Compatible with AB, MO, POE and PAG (for auto AC) lubricants
  - In most cases, no change of lubricant type is needed
- Enables continued use of existing equipment
- Can be used safely when proper storage and use guidelines are followed.
- Lower discharge temperature than R-12
- Low toxicity (similar to R-12)
- Has been in commercial use since 1994
- Can be topped off during service without removing the entire refrigerant charge

### Expected Performance After Retrofit

(Based on field experience, calorimeter testing and thermodynamic property data).

Broad field experience has shown ISCEON® MO49 provides slightly better cooling capacity and similar energy efficiency in R-12 systems. ISCEON® MO49 operates at lower discharge temperatures vs. R-12. Actual performance depends on a number of system design and operating conditions.



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## Discharge Temperature: °F (°C)

	At 40°F (4°C) evaporator temp.	At 0°F (-18°C) evaporator temp.
R-12	174 (79°C)	247 (119°C)
ISCEON® MO49	162 (72°C)	223 (106°C)

### System Conditions:

Condensing Temperature = 110°F (43.3°C)

## Discharge Pressure: psia (kPa)

R-12	161 (1110)
ISCEON® MO49	192 (1320)

### System Conditions:

Condensing Temperature = 110°F (43°C)

Evaporator Temperature = 40°F (4°C)

## Cooling Capacity vs. R-12

ISCEON® MO49	0–5% higher
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## Retrofit Considerations

In stationary AC and refrigeration systems, ISCEON® MO49 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. Refer to the ISCEON® MO49 Retrofit Guidelines for details.

For retrofit of existing R-12 automobile AC systems, minimal modifications are required and a change of lubricant type is usually not required. In some cases, the addition of a small amount of suitable PAG or POE may aid in oil return. Refer to ISCEON® MO49 Automotive AC Conversion Guidelines for details.

## Safety

This refrigerant can be used safely under normal use conditions. ISCEON® MO49 has been assigned an ASHRAE safety classification of A2. As formulated, this refrigerant is non-flammable in air at atmospheric pressure at temperatures up to 100°C (212°F). The vapor can become flammable under worst case leakage conditions at temperatures between -25°C and 10°C (-13°F and 50°F). See the Safety of DuPont Refrigerants (AS-1) bulletin and the MSDS for details.

## Product Composition

Component	Weight %
HFC-134a	88
PFC-218	9
Isobutane	3

**For Further Information: (800) 235-7882**

[www.refrigerants.dupont.com](http://www.refrigerants.dupont.com)

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