Extreme Ultra

Leak Stop for Air Conditioning and Refrigeration Systems

even for ELECTRIC VEHICLE

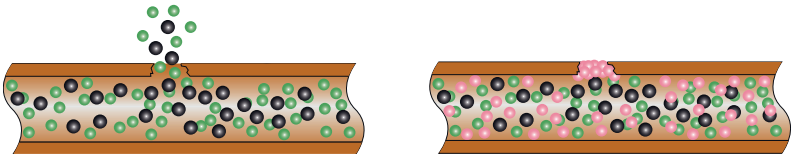
Description

The most common causes of refrigerant gas leaks are system flaws, wear, and corrosion.

- System flaws: these flaws are due to porosity in system piping or welds when the installation is not properly carried out.
- Wear: constant vibrations, for example, over a long period of time, can compromise the tightness of systems' joints.
- Corrosion: it is one of the most common causes, as it is a natural phenomenon that gets aggravated by the presence of charges, such as in spots where different metals touch each other. Acidity, resulting from the chemical reaction between humidity and refrigerant gas or refrigeration lubricant, also creates corrosion. Indeed, humidity is one of the most common natural elements in air conditioning and refrigeration systems. It is mostly removed by the filter drier, which, however, tends to reduce its efficiency over time. When humidity comes into contact with the particles generated by the natural decomposition of refrigerant gases and refrigeration lubricant, acid components are created. If not removed, acid can attack the metal structure of the system, causing corrosion that can lead to several refrigerant leaks.

Extreme Ultra is a leak stop additive that permanently repairs refrigerant gas leaks up to 0.3 mm on metal and rubber components of air conditioning and refrigeration systems.

Lubricant
Refrigerant Gas
Extreme Ultra



BEFORE AFTER

Extreme Ultra works by affinity with the materials of the system without generating any kind of chemical reaction. The product acts while the air conditioning or refrigeration system is working. The time required to completely repair the leak depends on the size and shape of the leak.

Also available the Push&Fill version for automotive applications: it facilitates the insertion of the additive through the pressure produced by a propellant compatible with R134a and R1234yf.

Field of Application

- HVAC/R
- Automotive

Features

- Repairs refrigerant gas leaks up to 0.3 mm on rubber and metal components of AC/R systems.
- Polymer-free formula: does not react with humidity and oxygen.
- Permanent action over time.
- Significantly reduces compressor noise.
- Compatible with all refrigeration lubricants.
- Compatible with all refrigerant gases, except R717 (ammonia).
- Safe for all air conditioning and refrigeration systems (commercial, industrial, domestic and automotive).
- Safe for AC/R components.
- Does not damage compressors.
- Does not clog or damage recovery stations.
- Does not settle in the filter drier.
- Does not clog the expansion valve.
- Visible when exposed to any UV lamp.
- Non-flammable.
- Non-irritating.
- Safe for the operator.

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errecom® AIR CONDITIONING & REFRIGERATION CHEMICAL SOLUTIONS

Instructions and Dosage

Notes for HVAC/R and Automotive application

- To ensure that it is a micro-leak that can be repaired with Extreme Ultra, it is recommended to perform a vacuum test for 5 minutes.
- In the case of empty systems, it is recommended to first recharge them with the correct refrigerant gas.

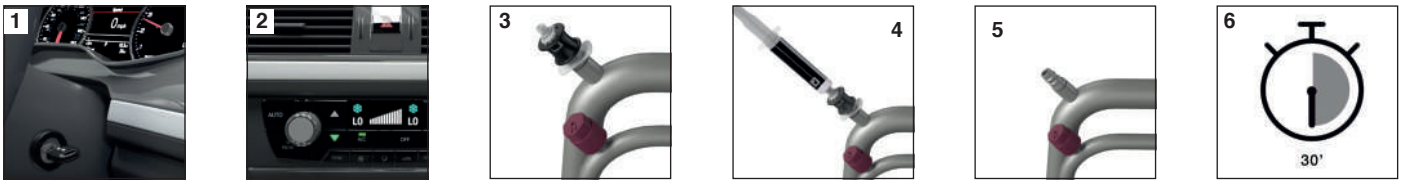
Air Conditioning and Refrigeration Systems


1. Turn the A/C system on and set it to the lowest temperature (if the system has completely run out of refrigerant gas, it must be recharged before proceeding).
2. Locate the A/C system charging port and connect the adapter.
3. Connect the cartridge to the adapter and close the valve (pump down).
4. Insert Extreme Ultra into the system.
5. Open the valve.
6. Disconnect the cartridge.
7. Let the A/C system run for at least 30 minutes.

1 cartridge (6 mL) fixes systems up to 21 kW or 700 mL of compressor oil.

Vehicle A/C Systems (6 ml cartridge)


1. Start the vehicle.
2. Turn the A/C system on and set it to the lowest temperature (if the system has completely run out of refrigerant gas, it must be recharged before proceeding).
3. Locate the A/C system low pressure charging port and connect the adapter.
4. Connect the cartridge to the adapter and insert Extreme Ultra into the system.
5. Disconnect the cartridge.
6. Let the A/C system run for at least 30 minutes.



1 cartridge (6 mL) fixes 1 vehicle.

Vehicle A/C Systems (Push&Fill)

1. Start the A/C system (if the system has completely run out of refrigerant gas, it must be recharged before proceeding).
2. Connect the adapter R134a or R1234yf to the Push&Fill.
3. Connect the adapter to the low pressure charging port.
4. Dispense the product in the system.
5. Let the system running.
6. Remove the adapter.

Adapters for inserting Extreme Ultra into AC/R Systems

FLEX HOSE ADAPTER
(included)

Flexible adapter that eases the insertion of the additive into the system if the low-pressure charging port is difficult to reach (always included).

Adapters for Air Conditioning and Refrigeration Systems

1/4 SAE

1/4 SAE adapter (black O-ring) with safety system to prevent refrigerant gas leakage, to be connected to the low-pressure charging port of AC/R systems.

5/16 SAE

5/16 SAE adapter (green O-ring) with safety system to prevent refrigerant gas leakage, to be connected to the low-pressure charging port of AC/R systems operating with R410a and R32.

Adapters for Vehicle A/C Systems

R134a

Black adapter with quick coupler and safety system to prevent refrigerant gas leakage, to be connected to the low-pressure charging port of vehicle A/C systems operating with R134a.

R1234yf

Green adapter with quick coupler and safety system to prevent refrigerant gas leakage, to be connected to the low-pressure charging port of vehicle A/C systems operating with R1234yf.

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Physical and Chemical Properties

Property	Value
Aspect	Clear liquid
Colour	Purple
Odour	Characteristic
Density	0,86 – 0,94 g/cm³ (at T = 20°C)
Oil solubility	Total
UV fluorescence	Yes

Refrigerant Gas Compatibility

Extreme Ultra is compatible with the following refrigerant gases: CFC, HFC, HCFC, HC, HFO, except ammonia (R717).

Test Results

HVAC/R

Extreme Ultra successfully passed the test performed by Intertek according to the ANSI/ASHRAE 97-2007 standard: sealed glass tube method to test the chemical stability of materials for use within refrigerant systems. This standard is primarily used as a quick screening tool that can provide valuable information on the stability and chemical compatibility of materials of hermetic and non-hermetic HVAC/R systems.

AUTOMOTIVE

As far as it concerns the automotive sector, it's recommended to use only additives with the following features:
- dielectric strength ≥ 75 kV – the ideal value for all hybrid and electric vehicles.
- electrical conductivity close to zero - it is an essential feature in the presence of electric current.

Electrical conductivity (pS/m) is the inverse of resistivity (Ω × mm²/m), thus:
- conductors = have low resistivity (10^{-2}) and high conductivity.
- semiconductors = intermediate values between conductors and insulators in both resistivity (10^{3}) and conductivity.
- insulators = have high resistivity (10^{38}) and low conductivity.

Extreme Ultra has brilliantly passed the test for the insulation properties as shown in the table below:

Analytical method	Physical quantity	Unit of measurement	Value
IEC 60156	dielectric strength (average)	kV	68,9
ASTM D2624 DIN 51412-2	electrical conductivity (at 25°C)	pS/m	0,21

Categorisation and Labelling

This technical specification is only applicable when it comes with the current Safety Data Sheet. In accordance with legal requirements, only the Safety Data Sheet contains current safety information. The MSDS is available on request.

Safety Instructions

Avoid contact with skin and eyes, inhalation of vapours and mists.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Storage Instructions

Store between +15°C and +35°C.
Store in a dry and well ventilated place.
Keep away from direct sunlight.

Transport Conditions

This product is not regulated for transport according to ADR/RID, IMDG, ICAO/IATA.

Shelf Life

7 years from the production date (6 mL cartridge). 3 years from the production date (Push&Fill).

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Packaging

Art.-Nr.	Description			
TR1163.AL.01.S2	Cartridge without adapters	30	5400	5400
TR1163.AL.H4.S2	Cartridge with 1/4 SAE adapter	30	5400	5400
TR1163.AL.H8.S2	Cartridge with 5/16 SAE adapter	30	5400	5400
TR1163.AL.H3.S2	Cartridge with 1/4 and 5/16 SAE adapters	30	5400	5400
TR1163.AL.H1.S2	Cartridge with R134a adapter	30	5400	5400
TR1163.AL.H7.S2	Cartridge with R1234yf adapter	30	5400	5400
TR1163.AL.H2.S2	Cartridge with R134a and R1234yf adapters	30	5400	5400
PF1163.Y.01.S2	Push&Fill without adapters	25	3150	3600
PF1163.Y.H1.S2	Push&Fill with R134a adapter	25	3150	3600
PF1163.Y.H7.S2	Push&Fill with R1234yf adapter	25	3150	3600
PF1163.Y.H2.S2	Push&Fill with R134a and R1234yf adapters	25	3150	3600

Pieces per standard pallet Pieces per container pallet

Cartridges and adapters are made of 100% recyclable plastic.
Cases and counter displays are made of 100% recyclable cardboard.

Hazard Statements (6 mL cartridge)

Hazard statements: None
Precautionary statements: None

Hazard Statements (Push&Fill)

Hazard statements: H229 Pressurized container: may burst if heated.
Precautionary statements: P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P251 Do not pierce or burn, even after use. P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.