

## Complete Lubrication

A complete family of products that address all of the lubrication needs for the HVACR market.



C-3s, C-4s, C-5s  
Mineral Oils



Zerol®  
Alkylbenzene Oils



Emkarate®  
Polyol Ester Lubricants



PVE Lubricants



Vacuum Pump Oil



Rx-Acid  
Scavenger®



Phase III® Refrigeration Oil  
Acid Test Kit



Oil Refractometer and  
Refrigeration Oil Charging Pump

Reach for Nu-Calgon's lubricant products  
or accessories with confidence.

## Refrigeration Oil Solutions

The lubrication requirements for today's air conditioning and refrigeration compressors are quite varied. From mineral oils and alkylbenzene lubricants for existing CFC and HCFC systems to POE and PVE lubricants for HFC, HFC-HFO blends, and CO<sub>2</sub> systems to vacuum pump oils and accessories... the requirements are significant. So are the many needs for technical back-up and support. Nu-Calgon addresses all these needs with a premier product line of lubricants, accessories and unmatched technical back-up.

The lubricants meet the industry's expectations for the highest quality in formulation and packaging, and they are approved by all the leading OEM's for specific air conditioning, refrigeration duty applications. The ancillary products like vacuum pump oil and accessories are of equal quality as well.

### C-3s, C-4s, C-5s Refrigeration Oil

These are mineral naphthenic lubricants manufactured by Calumet Lubricant Company and are available in three viscosities.

They are specifically designed for today's high performance air conditioning and refrigeration compressors with CFC refrigerants. These modern compressors run at higher speeds and generate higher temperatures. As a result, they require better lubrication. Use of these oils will insure continued efficient operation, providing the important properties required from an efficient refrigeration oil:

- Good lubrication
- Good stability
- Good low temperature performance

OEM Approvals: These Calumet Lubricants have been approved by many compressor manufacturers, including: Copeland (Emerson), Dunham Bush, Tecumseh, Trane, Carlyle (Carrier), etc.



Part numbers for Cal-Lube® Refrigeration Oil

Nu-Calgon	Viscosity	1 Gallon	5 Gallon	55 Gallon
C-3s	150 SUS	4303-07	4303-05	4303-01
C-4s	300 SUS	4304-07	4304-05	4304-01
C-5s	500 SUS	4305-07		4305-01

### Zerol® Alkylbenzene Refrigeration Oil

The original alkylbenzene, Zerol is a high quality, synthetic alkylbenzene refrigeration oil. It is similar in many ways to natural mineral oils but has superior properties that make it particularly valuable in refrigeration and air conditioning applications, particularly those using R-22 or other HCFC service blend refrigerants.

Zerol Refrigeration Oil is recommended for use in all refrigeration and air conditioning applications using CFC and HCFC refrigerants. It is highly recommended by refrigerant and compressor manufacturers for use with the HCFC blends such as R401A & B, R402A & B, R403B, R408A, and R409A as it provides many distinct advantages: excellent miscibility, excellent thermal stability, compatibility with mineral oils. It is the oil of choice for R-22 and R-502. It is also an excellent clean-up/flushing oil.

OEM Approvals: Copeland (Zerol 200TD), Danfoss, Tecumseh, Carrier (Carlyle), Bristol and many others.



Part numbers for Zerol Refrigeration Oil

Zerol	Viscosity	1 Gallon	55 Gallon
150	150 SUS	4310-07	4310-01
200TD	200 SUS	4308-07	4308-01
300	300 SUS	4311-07	4311-01

## Emkarate Lubricant

Emkarate is a wide range of polyol ester refrigeration lubricants designed specifically for use with HFC and HFO/HFC blend refrigerants and select types for CO<sub>2</sub> applications. They meet the performance demands of the refrigeration industry achieved as a direct result of their formulation approach. The base fluids are specifically formulated for optimum performance, and with minimal additive levels.

The Emkarate lubricants are available in a range of viscosities to suit most refrigeration applications. The higher viscosity index (VI) of these lubricants minimizes energy consumption at low temperatures and maximizes lubrication at elevated temperatures. They have excellent thermal and chemical stability, and are compatible with a range of elastomers, polymeric materials and other materials of construction. They are fully miscible and compatible with mineral oils and alkylbenzene lubricants as well as with CFCs, HCFCs, HFCs, HFO, and CO<sub>2</sub> refrigerants. As a result they are an excellent choice for retrofitting existing equipment.

OEM Approvals: Bitzer, Copeland (Emerson), Carlyle (Carrier), Tecumseh, McQuay and many others.



Part numbers for Emkarate Lubricant

Emkarate	Viscosity	1 Quart	1 Gallon	5 Gallon	53 Gallon
RL22H	100 SUS		4313-46		
RL32H	150 SUS	4314-44	4314-46	4314-45	4314-41
RL32-3MAF	150 SUS	4314-64	4314-66	4314-65	4314-67
RL32HB	150 SUS			4314-62	
RL46H	200 SUS		4315-46		4315-41
RL46HB	200 SUS			4315-62	
NXG 5020	200 SUS		4315-75		
RL68H	300 SUS	4316-44	4316-46	4316-45	4316-41
RL68HB	300 SUS		4316-86	4316-85	
RL68HP	300 SUS		4316-76		4316-71
RL85HB	425 SUS		4316-91		
RL100H	500 SUS		4317-46		
RL170H	850 SUS		4318-26	4318-25	4318-21
RL220H+	1100 SUS		4318-66	4318-65	4318-61
RL220XL	1100 SUS			4318-75	
Solest 120	600 SUS		4317-77		

## Polyvinyl ether (PVE) Lubricant

PVE or polyvinyl ether lubricants are finding increased application in the HVAC/R trade, driven by manufacturer's approvals. They exhibit excellent performance characteristics in air conditioning and refrigeration applications, and they are particularly well suited for use with HFC refrigerants such as R-134a, R-404, R-407C, R507, R-410A, and others.

In addition to its solubility and miscibility characteristics, the PVE lubricant provides for increased stability and lubrication. In particular, PVE lubricants do not hydrolyze in the presence of moisture, a very important feature in application. Additionally, they are compatible with other refrigeration oils and process fluids. PVE lubricants also exhibit compatibility and performance with frequently used anti-wear additives.

OEM Approvals: Danfoss Scroll Technologies, Bitzer, Tecumseh, Daikin, Hitachi, Mitsubishi, Sanyo, LG and others.



Part numbers for PVE Lubricant

PVE	Viscosity	1 Quart
PVE-FVC32	150 SUS	4319-14
PVE-FV50S	250 SUS	4319-20
PVE-FVC68	300 SUS	4319-24



## Refrigeration Oil Solutions



### Vacuum Pump Oil

Use of a quality vacuum pump oil is recognized as one of the more important elements in maintaining the vacuum pump's designed performance on every service call. Nu-Calgon Vacuum Pump Oil is a quality, high-grade lubricant that performs at the deepest vacuum. It has a very low vapor pressure and it has excellent lubricity for complete surface protection. It contains no additives or detergents. In addition, its broad package line guarantees the right package size for all levels of service activity from performing an occasional evacuation to conducting several every day.

1 pint bottle	4383-34
1 quart bottle	4383-24
1 gallon bottle	4383-07

### Rx-Acid Scavenger®

A better, more convenient way to neutralize or "scavenge" acid in refrigeration, air conditioning systems... after burnouts or during normal on-going system maintenance. Normal dosage rate is 2 fl. oz. of Rx-Acid Scavenger for every gallon of system oil... 50% less than other acid neutralizing products. This "low treat" feature means far less material has to be added to the system. In addition, Rx-Acid Scavenger can be used with all lubricants... mineral, alkylbenzene and polyol ester. This means only one product in the tool box or on the truck.

2 oz. bottle	4301-02
3.8 oz. pressurized can	4301-05



### Phase III® Refrigeration Oil Acid Test Kit

Formulated for use with POE's as well as mineral oils and alkylbenzene. An inexpensive, disposable test kit that provides proof-positive that acid level in refrigeration oil is safe or unsafe. Phase separation makes it easy to see change in color of acid indicator (even if a leak detection dye has been added to the oil). Just two bottles to work with. No glass to break open. Simple. Safe. Accurate. And small enough so you can carry several in your tool box.

1 each	4320-W8
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### Total Lube Refrigeration Oil Test Kit

Analysis provides information on the lubricant's moisture, total acid number, viscosity, color, and spectrochemical analysis on 20 plus metals and compounds.

1 each	4996-0
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### Refrigeration Oil Charging Pump

A new addition to our offering of refrigeration oil products - an oil pump for charging refrigeration oil into a system, even while it's running.

1 each	4814-40
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### Oil Refractometer

A precision optical instrument that allows for the rapid and accurate determination of the refractive index of liquid solutions. It will specifically assist in determining the percent residual of oil remaining in a refrigeration system when converting it to a new refrigeration oil. Such retrofits require converting the mineral oil to a polyol ester (POE), polyvinyl ether (PVE), or polyalkylene glycol (PAG), an alkylbenzene lubricant (Zerol®) to a POE.

1 each	4815-0
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