Lubricants

for Refrigeration & Air Conditioning

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About BVA Oil

Before describing BVA products and services I would like to talk about BVA. BVA, Inc. was started in 1983 because of the recognition of a need for an efficient, independent and knowledgeable source of high quality specialty oil products. Over thirty years experience representing a major oil company and working with OEM and service industry users of specialty oils convinced our founder, Robert (Bob) Vincent of this. As a result, we have developed an organization that now has over 100 years of technical and sales experience.

BVA, Inc. is a specialty marketing and development company. We are small enough to be responsive to customer needs, yet large enough to guarantee on-time shipments of quality bulk and packaged products world wide. BVA products are principally directed to the refrigeration, auto a/c, mosquito control and agricultural industries. BVA also formulates products for specialized applications. BVA Inc. also offers private labeling and packaging of all of the products it manufactures.

Our BVAdvanced product division is recognized for providing high performance specialty synthetic and semisynthetic lubricants for OEM factory fill and private branding. BVAdvanced specializes in compressor lubricants including industrial refrigeration, process gas applications, air compressor lubricants, and fluids for food machinery. BVAdvanced also offers synthetic lubricants for other demanding applications that benefit from the use of highly engineered and high performance lubricants.

BVA products are available in a variety of sizes ranging from 250 ml cone top cans to bulk rail cars.

Even though we have always manufactured high quality products and had lot to lot traceability, we felt that it was in our best interest to become ISO 9001 registered.

The products described in this catalog are available for the refrigeration/air-conditioning industry and for automotive air-conditioning. In addition, BVA offers a quick response oil test service for a nominal fee.

At BVA we offer experience, quality products, and most importantly, a sincere concern that our customers needs are being satisfied. Give us a try and see for yourself.

David J. Vincent, President

RPOE SERIES OF LUBRICANTS

BVA offers one of the most complete lines of refrigeration lubricants in the world. When packaging BVA's refrigeration lubricants, a nitrogen purge and a nitrogen blanket is used in production to ensure the finished product is one of the driest in the industry.

BVA has been offering refrigeration grade polyol ester lubricants since the mid 1980's. RPOE's are a popular choice for HFC's and the interim blends. Specially formulated POE's are used with CO2 and certain hydrocarbon refrigerants.

RPOE's are most often used with HFC refrigerants because of their improved miscibility. Miscibility and solubility between the refrigerant and lubricant determines how the two will behave throughout the system. Miscibility is defined as the ability of two liquids to mix together to form a single liquid phase. Solubility is the ability of a gas to dissolve into a liquid.

There are three types of miscibility. Complete misciblity is where the refrigerant and oil mix to form a single phase over the applied temperature range. Partial misciblity is a single phase over a limited temperature range. The temperature at which the lubricant and the refrigerant separate into two phases is called the critical solution temperature (CST). Immisciblity is when the oil and refrigerant do not mix and stay in two phases.

The BVA RPOE Series offers excellent miscibility with HFC refrigerants. The BVA RPOE Series has excellent chemical and thermal stability. It also offers superior lubricity characteristics on steel and aluminum.

To ensure that BVA has the right polyol ester for your application, the BVA POE Series comes in a wide range of viscosities ranging from ISO 22 (RPOE 22) to an ISO 220 (RPOE 220).

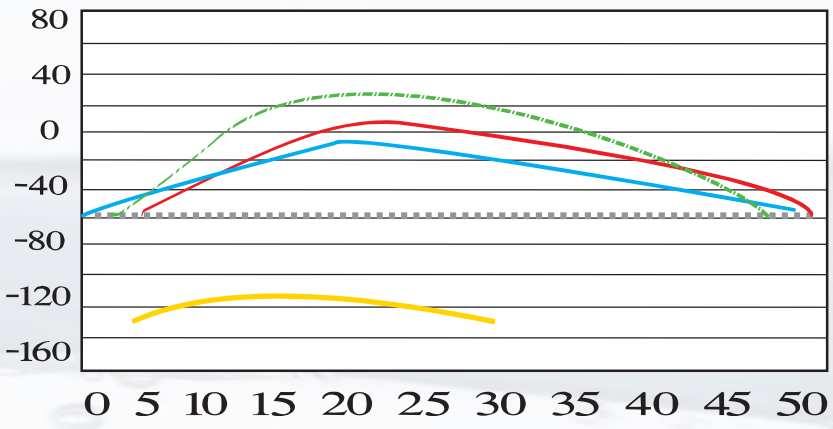
BVA RPOE Series comes with a non intrusive additive package which is suitable for most applications. BVA RPOE EP & AW is a polyol ester with a specially formulated extreme pressure additive & anti-wear package for aluminum, bronze and steel. BVA RPOE NA is a non additized version for unique applications requiring no additives.

BVA can specially formulate polyol esters to meet specific requirements.

Miscibility Examples

Complete	R-12(CFC) / BVA 3 (MO) R-134a (HFC) and RPOE 68 (POE)
Partial	R-22 (HCFC) / BVA 4 (MO) R-134A (HFC) / RPOE 68 (POE).
Immiscible	R-134A (HFC) / BVA 3 (MO).

RPOE MISCIBILITY WITH 134a



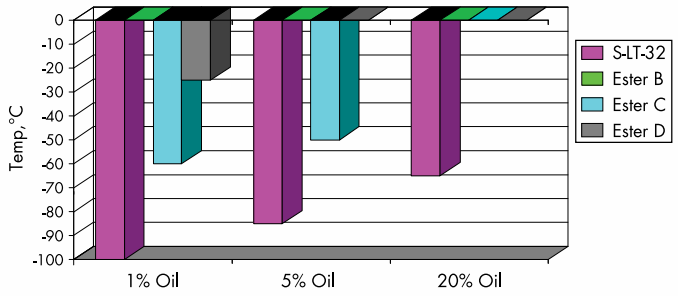
BVA RPOE Series is miscible with all HFC, HCFC, CFC and blends. The series was specifically developed for HFC refrigerants. If you plan to use BVA RPOE with a CFC for an extended period of time, please contact BVA OILS to get the correct viscosity recommendation. BVA RPOE Series is available in 16 oz., 32 oz., 1 gallon, 5 gallon and 55 gallon containers. BVA RPOE EP and NA are made to order.

BVA RPOE LT 32

THE COOL CHOICE

Different manufacturers of POEs use different building blocks and additive packages. Miscibility characteristics of the same ISO grade can range from immiscible with one manufacturer to completely miscible with another.

Miscibility Characteristics
R–23



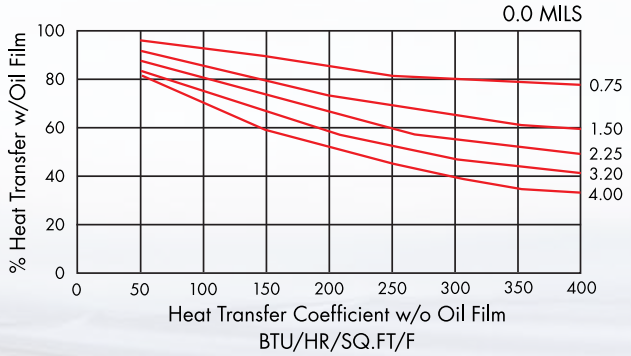
As the graph shows not all ISO 32 POEs are created equal. RPOE LT 32 offers the best low temperature properties available today. When partially miscible lubricants enter the evaporator, the lubricant and refrigerant will separate into two distinct phases, when the temperature falls below the critical solution temperature.

The lubricant, no longer diluted by the refrigerant, will have a dramatic increase in viscosity. If the temperature is low enough the oil will no longer flow.

BVA RPOE LT 32 is a polyol ester that was specifically developed for low temperature systems. It is miscible with R-23 to -115 °F.

When it comes to making a choice about lubricants for low temperature systems, BVA RPOE LT 32 should be your only choice.

Influence of Oil Film



SUMMARY OF POPULAR RPOE PRODUCTS

RPOE 22cc
Specifically designed for use in Copeland compressors using HFC refrigerants. This is equivalent to Mobil EAL 22cc

RPOE 32
An excellent all purpose ISO 32 POE developed for use in medium temperature applications.

RPOE 32MA
Specifically designed for use in Copeland compressors using HFC refrigerants. This replaces RPOE- 32LC and Copeland's 32CF formulation

RPOE LT 32
Specifically designed for low temperature applications. Excellent miscibility with R 23 and Suva® 95 (R-508B). Also good miscibility with R-404A eliminates the need to use two lubricants in a cascade system. This product is patented and has several domestic and international OEM approvals.

RPOE 68
Designed for use in refrigeration and air conditioning applications requiring an ISO 68 viscosity. This product is patented and has several domestic and international OEM approvals.

RPOE 100
Designed for applications requiring an ISO 100. Good miscibility will ensure proper oil return in screw applications. This product is patented and has several domestic and international OEM approvals.

RPOE 120
A common choice for screw compressors where a slightly higher viscosity is required.

RPOE 170
Approved for use in Bitzer screw compressors. This product offers excellent lubricity at high temperatures and ensures good oil return.

RPOE 220
A very specialized RPOE developed for applications where high dilution is needed. Primarily used in large screw applications using R-134a.

BVA RPOE LUBRICANTS

Property	22cc	32	LT-32	32MA	46	68	100	120	170	220
Visc @ 40° C cSt	22.55	31.96	29.15	31.96	50.5	64	100	124.9	175.2	215.9
Visc @ 100° Cc St	4.95	5.63	5.91	5.63	7	8.9	12.7	13.7	16.5	20.8
Visc @ 100° F SUS	115	164	149	164	261	329	514	65.1	883	1033
Visc @ 210° F SUS	42.4	45.9	46	45.9	49.4	55.8	69.8	74	85.3	117.2
Viscosity Index	149	106	153	106	94	114	120	106	93	113
Density, lb/gal	8.23	7.79	8.04	7.79	7.71	7.88	7.83	7.83	7.85	7.92
Pour Point°C	-54	-45	-52	-45	-45	-43	-36	-27	-27	-25
Flash Point°C	232	235	243	235	248	266	254	262	271	271
Fire Point °C	260	260	260	260	260	260	260	260	260	318
Density @20°C	0.987	0.942	0.965	0.942	0.937	0.957	0.974	0.94	0.953	0.955

All products are available in gallon, 5 gallon and 55 gallon drums. RPOE LT 32, 68 & 100 are also available in 1 quart containers. RPOE 68 and RPOE 100 are also available in 250 ml containers.

BVA POE SERIES APPLICATION GUIDE

	Residential Air-Conditioning			Industrial & Commercial Refrigeration & Air-Conditioning			
	Recip.	Rotary	Scroll	Centr.	Recip.	Screw	Scroll
RPOE 22cc	✓				✓		
RPOE 32	✓	✓	✓	✓	✓		
RPOE LT 32	✓	✓	✓	✓	✓		
RPOE 32 MA	✓	✓	✓	✓	✓	✓	
RPOE 68	✓	✓	✓	✓	✓	✓	✓
RPOE 100						✓	
RPOE 120						✓	
RPOE 170						✓	
RPOE 220						✓	

MOISTURE AND PACKAGING

Polyol esters are generally 10 times more hygroscopic than mineral oil and alkylbenzene. To be "hygroscopic" describes a lubricant's tendency to absorb moisture from air. Polyol esters will absorb up to 0.2 % moisture or 2,000 PPM while mineral oils absorb up to 200 PPM. To ensure moisture is kept to a minimum, BVA has a unique way of packaging the POE Series using a nitrogen purge which leaves a nitrogen blanket over the lubricant to help ensure it remains dry. Over a period of time moisture can migrate through plastic and the lubricant will pick it up. BVA packages the POE Series in metal containers.

BVA SPECIALTY LUBRICANTS

HTP 717P SERIES

BVA 717P series are specially designed lubricants for use in ammonia refrigeration systems. They are highly stable fluids, specially formulated so the fluids do not react with ammonia.

A specialized additive formulation, blended with two stage hydrocracked base stocks, gives them excellent oxidation resistance, high viscosity, film strength at operating temperatures, fast separation from ammonia and excellent demiscibility. Their non-sludging and oxidation resistant properties are the perfect choice for ammonia systems.

BVA 717P Series type oils meet or exceed the required specifications of major refrigeration compressor manufacturers for ammonia applications such as APV Baker, Bitzer, Copeland, FES #1, Frick #3 and #9, IIKA Mafa Gram, Grasso, Howden, Sabroe, Sullair, Vilter OEM Refrigeration Oil, York C and E.

The 717P technology is often used as an OEM original factory fill or as the preferred choice for service fill. 717P is available in other viscosity grades as well as a special low temp version.

RPOE 14 SERIES

RPOE 14 series (formerly 4214 series) was one of the first POE's developed for use in refrigeration applications. RPOE 14-150 was developed in 1984 for use with R-22. It offers high miscibility and yet the viscosity is high enough that lubricity will not suffer. The RPOE 14 Series is available in ISO viscosity grades 15 - 320. The most common viscosity grades are listed below.

Ordering Information:

RPOE 14-150G	or	13991	1 gallon
RPOE 14-150P	or	13992	5 gallon pail
RPOE 14-150D	or	13993	55 gallon drum
RPOE 14-320G	or	13997	1 gallon
RPOE 14-320P	or	13998	5 gallon pail
RPOE 14-320D	or	13999	55 gallon drum

TR 300

BVA TR300 was developed to meet or exceed Trane code 1 oil 15 specs. Special care is taken to ensure that the analine point exceeds 195° F. BVA TR2200 was developed to meet Trane 22 oil specs.

Ordering Information

TR300G	or	52807	1 gallon
TR300P	or	52808	5 gallon pail
TR300D	or	52809	55 gallon drum

TR 2200

Designed specifically for use in Trane centrifugal compressors. BVA TR 2200 meets or exceeds Trane 22 oils specs.

Ordering Information

TR2200G	or	52810	1 gallon
TR2200P	or	52811	5 gallon pail
TR2200D	or	52812	55 gallon drum

BVA ALKYL SERIES

At one time alkylbenzene lubricants were considered speciality lubricants. They were only used in low temperature applications where mineral oil did not have sufficient low temperature properties or in systems where oil return was a problem.

BVA ALKYL Series is truly a wax-free lubricant. It is an alkylated benzene based lubricant and does not contain paraffin chains which cause floc problems.

BVA ALKYL Series has excellent miscibility with R-22. One of the components of interim refrigerants is R-22. This makes the BVA ALKYL Series miscible with some of the new interim refrigerants, such as, MP-39, MP-52, MP-66, HP-80 and HP-81. It also makes retrofitting easier and more cost effective.

ALKYL 100E - Developed and specially formulated for use in Bitzer screws using R-22.

ALKYL 200ca - Developed and formulated with a non intrusive additive package for retrofit applications using new interim refrigerants such as MP 39. Also a direct replacement for Zerol 200TD.

BVA ALKYL SERIES

Property	Alkyl 150	Alkyl 200ca	Alkyl 300	Alkyl 500	Alkyl 100E
Visc @ 40° C cSt Visc @ 100° C cSt Visc @ 100° F SUS	28.2 4.1 150	46.0 4.92 210	53.0 5.6 280	90.0 7.35 480	98.0 8.15 500
Floc Point°C	<-73	<-73	<-73	<-73	<-73
Pour Point °C	-45	-42	-40	-30	-33
Color	1	1	<1	1	1
Flash Point °C	185	185	200	205	367
Di Electric Strength KV	40	40	40	40	40
Specific Gravity 60°F/60°F	0.87	0.87	0.87	0.87	0.87
Acid No.	0.01	0.01	0.01	0.01	0.01

VAC 235

BVA VAC 235 is a very high quality vacuum pump oil with excellent thermal stability. The base oil is refined in such a way to remove the aromatic hydrocarbons which are the unstable components and the first to breakdown. It is then formulated to perform at the highest of standards, in the industry.

Ordering Information

235PT or 11350 1 pint
235Q or 11351 1 quart
235G or 11352 1 gallon
235D or 11354 55 gallon drum

It is recommended that the oil be changed after each use to maintain the highest vacuum pump performance

COMPOIL SERIES

BVA Compoil series was developed in 1988 as an alternative to mineral oils and alkylbenzenes. BVA Compoil offers better miscibility than mineral oil and better lubricity than alkylbenzes. With the high cost of alklybenzenes, BVA Compoil series is a suitable replacement.

BVA Compoil series can also be used in place of Shell Semi Synthetic SD series and Copeland Ultra 200. BVA Compoil 200 is OEM approved by Roterex and Bristol compressors.

BVA Compoil is available in 3 viscosity grades.

Compoil 150 (ISO 32)
Compoil 200 (ISO 46)
Compoil 300 (ISO 56)

SUPER SERIES REFRIGERATION OILS

BVA SUPER SERIES refrigeration oils are made from naphthenic base crudes that are highly refined to provide proper lubrication in refrigeration and air conditioning systems.

BVA SUPER SERIES refrigeration oils are manufactured and refined by the Calumet Refining Company. Calumet's refrigeration oils are OEM approved and used by several major compressor manufacturers.

BVA SUPER SERIES refrigeration oils offers excellent chemical stability when in the presence of refrigerant and other compressor materials.

BVA SUPER SERIES refrigeration oils have good thermal stability to ensure good performance at high temperatures as well as excellent low temperature properties to prevent congealing in the evaporator. The oils are also wax-free to prevent floc problems in the evaporator and expansion valve.

SUPER SERIES REFRIGERATION OIL

Product	3G Super	4G Super	5G Super
Viscosity @ 40° C cSt	29.6	60.14	96.8
Viscosity @ 100° C cSt	6.46	6.46	9
Viscosity @ 100° F SUS	154	316	515
Floc Point °F	-60	-50	-35
Pour Point °F	-50	-30	-20
Color	<1	<1.5	<2.0
Flash Point °F	345	365	400
Di Electric Strength KV	25	25	25
Specific Gravity @ 60° F	0.911	0.911	0.916
Analine Point °F	175	183	197

SUPER SERIES REFRIGERATION OIL

Product	32 oz. (Q)	1 Gallon (G)	5 Gallon (P)	55 Gallon (D)
3GSuper (3x)	✓	✓	✓	✓
4GSuper (4x)		✓	✓	✓
5GSuper (5x)	✓	✓	✓	✓

ESTER TESTER & GLYCOL TESTER

The glycol tester is used to measure the freezing point of either ethylene glycol or proplyene glycol

The BVA ESTER TESTER is a simple and safe way of determining the percentage of mineral oils in a compressor when changing over to a polyol ester.

The ESTER TESTER is accurate to within ±1%.

Chemical test kits are ester specific and do not work on all esters. The ESTER TESTER will work on all types of oils with a refractive index range of 1.355 to 1.520.

The only thing necessary to operate the ESTER TESTER is a good source of light and graph paper.

GLYCOL TESTER	BVA GT
ESTER TESTER	BVA ET
ESTER TESTER Graph Paper	BVA ETGP (Pad of 100)

AUTOMOTIVE A/C SERIES

BVA RPAG Series

BVA's premium line of PAGS are packaged in steel containers with a nitrogen purge to ensure the driest possible PAGs available. BVA RPAG 125 is Delhi approved.

Viscosity grades available: ISO 46, 62, 100, 125 & 150

BVA PRO CAP Series

Double endcap PAGs designed to compete against Apollo's double end-capped PAGs. The D-capped series offers superior miscibility, lubricity and hydrolytic stability over the double end-capped.

Viscosity grades available: ISO 46, 100 & 150

BVA PRO PAG Series

Contains the same high quality oil as the RPAG series but is packaged in plastic containers to be more competitive. BVA Pro PAG 62 is the new GM Universal PAG. BVA Pro PAG 65 is Ford approved.

Viscosity grades available: ISO 46, 62, 100, 125 & 150

BVA PRO GLO Series

Is the RPAG series but contains a florescent dye. Available in all viscosities.

Viscosity grades available: ISO 46, 100 & 150

BVA O-Ring Lube

Premium Lubricant for use in all A/C systems. Lubricates O-rings, fittings, gaskets and shaft seals.

BVA O-Ring Lube 4 oz. bottle

BVA Air Tool Lube

Lubricates all internal parts and removes moisture. Increases performance and horsepower. Use with BVA Air tool cleaner.

BVA Air Tool Lube 4 oz. bottle

BVA PRO EMV

Is an OEM approved polyester that is specially formulated for the harsh environment of an auto A/C system in hybrid vehicles.

Viscosity grades available: ISO 68

BVA PRO PAO 68

Is a non-hygroscopic lubricant that offers excellent low temperature properties. PRO PAO 68 proprietary additive package ensures excellent lubricity and high temperature stability.

Viscosity grades available: ISO 68

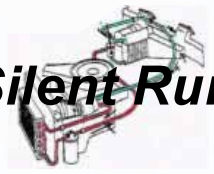
BVA PRO CO2 Series

BVA already has a series of air compressor lubricants designed to work with carbon dioxide. We have taken the same technology and designed them for automotive A/C compressors.

Viscosity grades available: ISO 46 & 68

BVA PRO Flush Fast

Is a synthetic based flush designed to evaporate quickly and remove solids.



BVA Silent Run

Silent Run is a synthetic lubricant designed for use with R-134A. Silent Run is specially formulated with unique anti-wear ingredients which extend compressor life and provide quieter, smoother operation. To be used when retrofitting an R-12 4 Fl ounces system to R-134A or when oil is required.

BVA Silent Run 4 oz. bottle

TEL-SPOUT OILER

BVA TEL-SPOUT OILER is a new way to get at hard to reach locations not easily reached with conventional oiling devices.

BVA TEL-SPOUT OILER's spout extends to a total length of nine inches to deliver a premium quality non-detergent rust and oxidation inhibited oil where it is needed.

BVA TEL-SPOUT OILER can be used to lubricate electric motors, pumps, bicycle chains, oil lubricated bearings and a myriad of other mechanical devices.

BVA TEL-SPOUT OILER easily fits into a tool box.

The specially patented spout prevents leaks when on its side.

BVA TSO 4 oz. bottle

RUST BUSTER

BVA RUST BUSTER is a chemical designed to penetrate and break-free the bond to enable you to loosen a nut that was once rusted tight.

BVA RUST BUSTER also comes with a telescoping spout. The spout extends to a total length of nine inches enabling you to reach an area that might not have been readily accessible. This is a product that sells itself where rust is a problem.

BVA BUSTER 4 oz. bottle

BVA MAX-XL

BVA MAX XL is an excellent lubricant and corrosion preventative. It is superior to other water displacing fluids because it is developed from a lubricant base stock which enhances its lubricating qualities.

BVA MAX XL lubricant base has inherent low volatility relative to other fluids. This allows it to stay in place longer, as well as lubricate and give rust protection.

BVA MAX XL's low viscosity makes it an excellent solvent and will serve as a degreaser for cleaning parts, and then protecting them against rust and corrosion.

BVA MAX XL can be used in a variety of applications.

One unique application, it is an excellent gun cleaning lubricant. Its pleasant citrus odor enables you to use it indoors.

BVA MAX XL

	MAX XL (MAXx)
12 oz. AEROSOL (C)	✓
32 oz. (Q)	✓
1 GALLON (G)	✓
5 GALLON (P)	✓
55 GALLON (D)	✓

ASHRAE #	Trade Name	Replaces	Application	Recommended Lubricant
R-22	R-22		Low and Medium Temperature Refrigeration and Air-Conditioning	**MO: BVA 3, 4, & 5** AB: ALKYL 150, 200ca & 300 POE: BVA 14-320 Series
R-123	R-123	R-11	Centrifugal Chillers	**MO: BVA 3, 4, & 5, TR300 & TR2200** AB: ALKYL 150, 200ca & 300
R-124	R-124	R-114	Medium Temperature Industrial Refrigeration & Air-Conditioning; High Ambient	AB: ALKYL 150, 200ca & 300
R-134A	R-134A	R-12	Retrofits and New Equipment Medium & High Temperature Commercial Refrigeration, Chillers & Appliances. Automotive A/C	**POE: RPOE Series** **PAGS: BVA RPAG Series (Auto)** POE: BVA Auto 100
R-236fa	R-236fa	R-114	Medium Temperature Centrifugal Chillers	POE: RPOE Series
R-401A	MP-39	R-12	Retrofit Low & Medium Temperature Commercial DX Refrigeration	**AB: ALKYL 150, 200ca & 300** MO: BVA 3, 4, & 5
R-401B	MP-66	R-12	Retrofit Low & Medium Temperature Commercial DX & Transport Refrigeration	**AB: ALKYL 150, 200ca & 300** MO: BVA 3, 4, & 5
R-402A	HP-80	R-22, R-502	Low & Medium Temperature Commercial DX Refrigeration (Service Ref)	**AB: ALKYL 150, 200ca & 300** POE: RPOE 22 – 32
R-402B	HP-81	R-22, R-502	Low & Medium Temperature Service Refrigerant for Ice Machines	**AB: ALKYL 150, 200ca & 300** POE: RPOE Series
R-403A	69S	R-22, R-502	Retrofit – Low & Medium Temperature Commercial Refrigeration	**AB: ALKYL 150, 200ca & 300** POE: RPOE Series
R-404A	HP 62, FX 70, R-404A	R-12	New Equipment Low & Medium Temperature Commercial & Industrial Refrigeration	POE: RPOE 22 – 68
R-405A	GreenCool 2015	R-12	Retrofits	**AB: ALKYL 150, 200ca & 300** POE: RPOE Series
R-406A	GHG	R-12	Retrofits	MO: BVA 3, 4, & 5
R-407A	R-407A	R-22, R-502	Low & Medium Temperature Commercial Refrigeration New Equipment & Retrofits	POE: RPOE Series
R-407B	R-407B	R-22, R-502	Low & Medium Temperature Commercial Refrigeration New Equipment & Retrofits	POE: RPOE Series
R-407C	R-407C SUVA 9000	R-22, R-502	Medium & High Temperature Residential & Commercial A/C & Heat Pumps	**AB: ALKYL 150, 200ca & 300** MO: BVA 3, 4, & 5
R-408A	FX-10	R-22, R-502	Low & Medium Temperature Commercial DX Refrigeration (Service Equipment)	**AB: ALKYL 150, 200ca & 300** MO: BVA 3, 4, & 5
R-409A	R-409A, FX-56	R-12	Retrofit Low & Medium Temperature Commercial DX & Walk In Coolers	**AB: ALKYL 150, 200ca & 300** MO: BVA 3, 4, & 5
R-410A	AZ-20; Puron	R-22	New Equipment	POE: RPOE Series
R-413A	ISCEON 49	R-22	New Equipment. Medium & High Temperature Residential & Commercial A/C & Heat Pumps	POE: RPOE 32-68
R-414A	Appliance Care	R-12, R-500	New Equipment. Medium & High Temperature Residential & Commercial A/C & Heat Pumps	**MO: BVA 3, 4, & 5** AB: ALKYL 150, 200ca & 300 POE: RPOE 32-68
R-417A	ISCEON MO59 NU-22	R-22	Medium & High Temperature Commercial & Industrial Refrigeration & A/C	**MO: BVA 3, 4, & 5** AB: ALKYL 150, 200ca & 300
R-422A	ISCEON MO79 One Shot	R-22	Low, Medium & High Temperature Commercial & Industrial DX Refrigeration	**MO: BVA 3, 4, & 5** AB: ALKYL 150, 200ca & 300
R-422D	ISCEON MO29	R-22	Low & Medium Temperature Commercial & Industrial	**MO: BVA 3, 4, & 5** AB: ALKYL 150, 200ca & 300
R-423A	ISCEON 39TC	R-12	Medium & High Temperature Chillers & Centrifugal	**MO: BVA 3, 4, & 5** AB: ALKYL 150, 200ca & 300
R-424A	Comstar RS-44	R-22, R-502	Commercial & Industrail A/C Commercial Refrigeration	**MO: BVA 3, 4, & 5** AB: ALKYL 150, 200ca & 300
R-426A	Comstar RS-24	R-12	Medium & High Temperature Chillers & Centrifugal	**MO: BVA 3, 4, & 5** AB: ALKYL 150, 200ca & 300
R-428A	Comstar RS-52	R-22	Commercial & Industrial Refrigeration	**MO: BVA 3, 4, & 5** AB: ALKYL 150, 200ca & 300
R-434A	Comstar RS-45	R-22, R-410A R-404A, R-502	Commercial & Industrial Refrigeration Residential & Commercial Refrigeration	**MO: BVA 3, 4, & 5** AB: ALKYL SERIES & RPOE SERIES
R-437A	ISCEON MO 49 PLUS	MP39, MP66 R-404A, R-502	Automotive Air Conditioning Stationary Refrigeration Systems	**MO: BVA 3, 4, & 5** AB: ALKYL SERIES & RPOE SERIES
R-438A	Comstar RS-45	R-22, R-410A R404A, R-502	Commercial & Industrial Refrigeration Residential & Commercial Refrigeration	**MO: BVA 3, 4, & 5** AB: ALKYL 150, 200ca & 300
R-507A	AZ-50	R-22, R-502	New Equipment Low & Medium Temperature Commercial & Industrail Refrigeration	POE: RPOE 32-68
R-508B	SUVA 95	R-503, R-13	Very Low Temperature – Cascade Refrigeration System	POE: RPOE LT 32
	ISCEON MO89	R-13B1	Very Low Temperature Refrigeration (Below -40°F to -100°F)	**MO: BVA 3, 4, & 5** AB: ALKYL SERIES & RPOE SERIES
	ISCEON MO99	R-22	Very Low Temperature Refrigeration (Below -40°F to -100°F)	**MO: BVA 3, 4, & 5** AB: ALKYL SERIES & RPOE SERIES

MO = mineral oil / AB = Alkylbenze / POE = Polyolester. **Bold** is recommend lubricant when more than one choice. Check with the manufacturer for recommended viscosity grade.

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