



# Product Bulletin



## GULF HARMONY<sup>®</sup> R&O OIL

**Gulf Harmony<sup>®</sup> R&O Oils** are industrial rust and oxidation (R&O) inhibited multipurpose lubricants formulated with premium base oils and a proven additive system. These high performance turbine grade lubricants can be used as compressor oils, non-EP gear oils, general purpose circulating or bearing oils and as non-antiwear hydraulic oils in appropriate applications.

### FEATURES AND BENEFITS:

**Gulf Harmony<sup>®</sup> R&O Oils** provide outstanding demulsibility, minimizing emulsions when coming in contact with water and other contaminants. They prevent oxidation to minimize sludge and varnish formations and have good anti-foam characteristics. These products insure rust and corrosion protection in severe operating conditions while promoting fluid life to help reduce system maintenance.

### APPLICATIONS:

**Gulf Harmony<sup>®</sup> R&O Oils** are used in a wide variety of industrial applications including steam turbines, air compressors, electric motors, gear reducers, spindle bearings, machine tools, sleeve bearings, heat transfer operations and hydraulic circulating systems where EP or anti-wear type product are not required. These products meet the applicable requirements of Denison HF-1; DIN 51524 Part 1; General Electric GEK-32568, Solar Turbines ES9-224, Cincinnati Machine (formerly Cincinnati Milacron) P-38, P-54, P-55, P57; ASTM D 4304 Type I (ISO 32, 46, 68 & 100) and MIL-L 17672D. ***See typical properties chart on reverse side identifying the appropriate viscosity for these specifications.***

### SELECTION:

**Gulf Harmony<sup>®</sup> R&O Oils** are available in eleven viscosity grades – **10, 22, 32, 46, 68, 100, 115, 150, 220, 320, and 460**. See the Typical Properties chart on the reverse side for information on each viscosity grade. Follow equipment manufacturer recommendations for appropriate viscosity grade.

### AVAILABILITY:

**Gulf Harmony<sup>®</sup> R&O Oils** are available throughout Gulf's marketing area. Your Gulf representative can provide specific information. Need additional information? Call Gulf @ 1-800-566-GULF (4853) or visit [Nu-Tierbrands.com](http://Nu-Tierbrands.com).

**Gulf Harmony<sup>®</sup> R&O Oils – Typical Properties**

ISO Viscosity Grade		10	22	32	46	68	100	115*	150	220	320	460
Product Code	ASTM	334199	334201	334202	334204	334206	334208	334211	334214	334217	334221	334223
Viscosity, cSt @ 40°C	D-445	10.1	20.6	32	45	65.9	97.0	113	145	215	316	455
Viscosity, cSt @ 100°C	D-445	2.6	4.4	5.5	7.0	8.7	11.4	12.4	14.7	18.8	24.1	30.2
Viscosity Index	D-2270	102	110	110	110	100	100	100	95	95	95	95
Color	D-1500	0.5	0.5	L1.0	1.5	2.0	2.5	2.5	3.0	3.5	L4.0	L4.0
Foam Test	D-892	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Pour Point, °F	D-5949	-40	-24	-24	-24	-18	-10	-10	-10	0	10	20
Flash Point, COC, °F (°C)	D-92	365 (185)	385 (196)	410 (210)	430( 218)	455 (235)	490( 254)	500(260)	505 (263)	530 (276)	535 (279)	580 (304)
Rust Test, A & B	D-665	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Oxidation Stability, hrs.	D-943	+5,000	4,000	4,000	3,500	3,500	2,000	2,000	1,500	1,000	1,000	1,000
AGMA Grade	D-664	--	--	--	1	2	3	--	4	5	6	7
Gravity, Specific		0.849	0.851	0.852	0.860	0.871	0.879	0.879	0.890	0.890	0.891	0.891
<b>U.S. &amp; European R&amp;O Spec's:</b>												
Denison HF-1		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DIN 51524 Part 1		--	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes	Yes
Cincinnati Machine		N/A	N/A	P-38	P-55	P-54	N/A	N/A	P-57	N/A	N/A	N/A
MIL-L-17672D		N/A	N/A	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A
General Electric GEK-32568		N/A	N/A	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Solar Turbines ES9-224		N/A	N/A	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Note: These characteristics are typical of current production. While future production will conform to Gulf specifications, variation in these characteristics may occur without notification.*

N/A – specification not applicable to this viscosity grade

\*115 is not recognized as an ISO viscosity grade