PRODUCT INFORMATION

A PRODUCT OF AMERICAN CHEMICAL TECHNOLOGIES, INC.

Neptune® Gear Lubricants

'NO SHEEN', BIODEGRADABLE, HIGH PERFORMANCE GEAR LUBRICANTS

DESCRIPTION:

Neptune® Gear Lubricants are fully formulated high performance gear lubricants for enclosed industrial gears. Neptune® Gear Lubricants are formulated to provide excellent lubrication, stability, and extended service life while eliminating many of the problems commonly encountered with petroleum gear lubricants. These gear lubricants are designed for demanding industrial applications with a special emphasis on applications where spills into the water require an environmentally appropriate lubricant. They are anhydrous, do not hydrolyze in the presence of water, and do not break down to form sludge or varnish. Neptune® Gear Lubricants are ideal for use in applications such as dockside and marine mobile equipment, forestry, coal handling, amusement, cooling towers, wind turbines, worm gears and industrial operations.

TYPICAL PHYSICAL PROPERTIES:

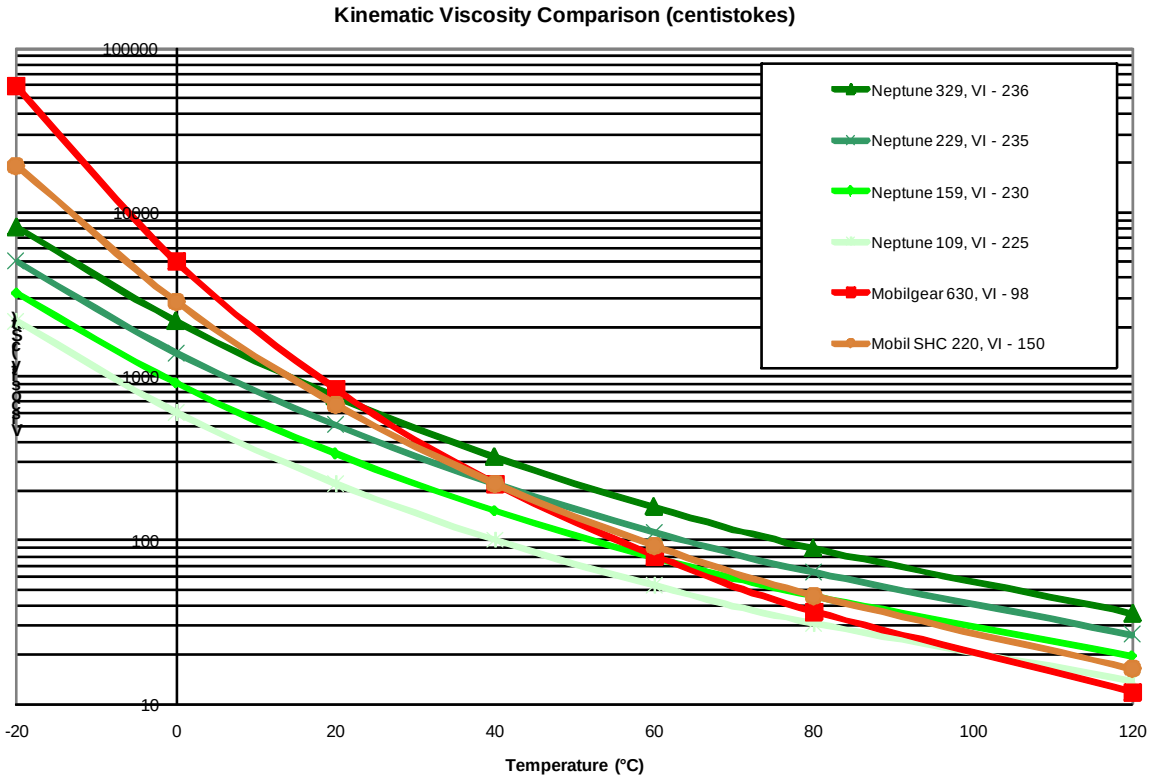
	Neptune® Gear Lubricants							
	109	159	229	329	469	689	759	1009
Viscosity, ASTM D-445								
cSt @40°C	100	150	220	320	460	680	780	1020
cSt @100°C	20	29	40	54	74	115	130	164
Viscosity Index	225	230	235	235	240	270	273	281
Pour Point, °F	-43	-42	-40	-38	-34	-22	-20	-20
Flash Point, ASTM D92, °F	462	444	443	441	441	445	447	450
Water Content, % by wt	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Ash Content, %	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pounds Per Gallon, @68°F	8.69	8.73	8.75	8.77	8.80	8.81	8.82	8.85
Timken OK load, lb ASTM D-2509	70 min	70 min	70 min	70 min	70 min	70 min	70 min	70 min
4-Ball EP Weld Load ASTM D-2783	200 kg	200 kg	200 kg	200 kg	200 kg	200 kg	200 kg	200 kg
4-Ball EP load Wear Index	65	65	65	65	65	65	65	65
Copper Strip Corrosion Test, ASTM D-130	1a	1a	1a	1a	1a	1a	1a	1a

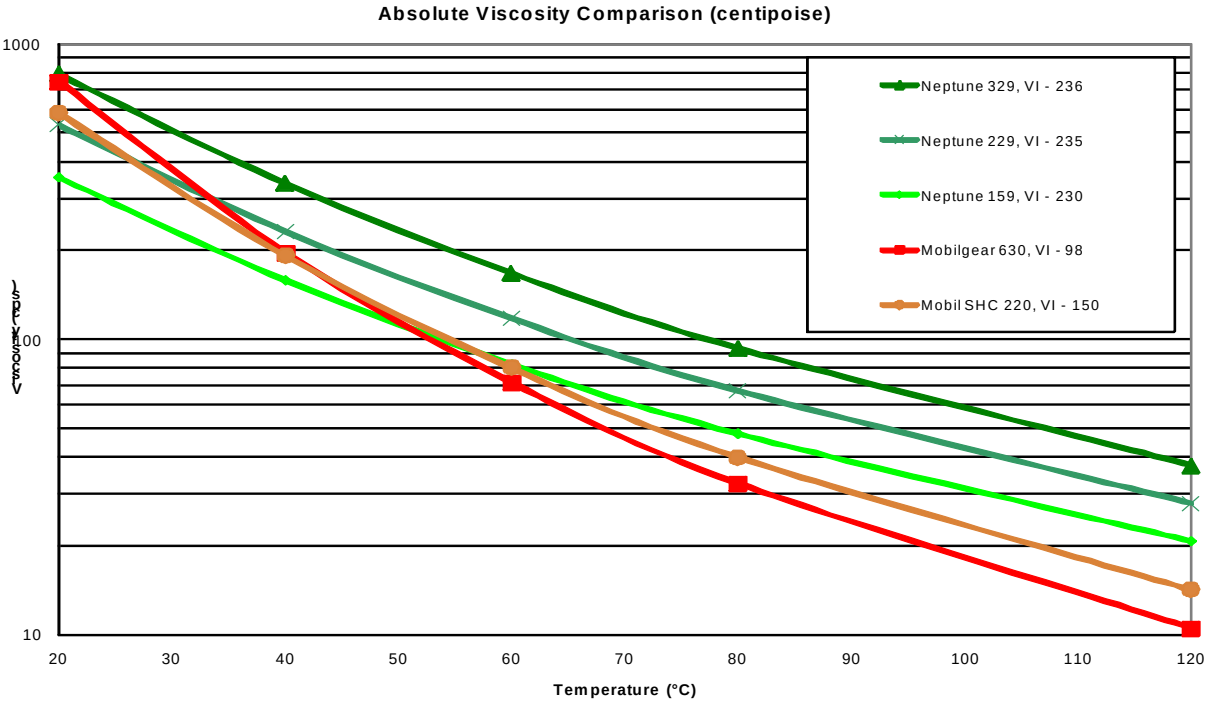
BENEFITS:

- Heavier than water - They do not form a sheen when exposed to water.
- Water soluble – No bioaccumulation.
- Elimination of sludge and carbonaceous residues common with mineral oils.
- Biodegradable.
- Reduced energy consumption.
- Extended service life.
- Reduced lubricant and maintenance costs.

- Reduced wear rates.
- High viscosity index:
    - Eliminates seasonal oil changeovers.
    - Facilitates cold-weather startups.
    - Eliminates motor overloading during startup.

VISCOSITY COMPARISON:





AGMA VISCOSITY GRADES:

Due to the high viscosity index exhibited by Neptune® Gear Lubricants (200-270 vs. 90-100 for most petroleum gear lubricants); they are not classified by one AGMA viscosity rating. Neptune® Gear Lubricants will effectively span 2 or 3 AGMA petroleum lubricants over the operating range of most gear boxes. By knowing either the viscosity required at the operating temperature or the AGMA rating of the current lubricant, an appropriately performing Neptune® Gear Lubricant can easily be chosen.

SELECTION GUIDE FOR NEPTUNE® LUBRICANTS:

	AGMA Grades Usually Replaced
Neptune® 109	2-4
Neptune® 159	3-6
Neptune® 229	4-7
Neptune® 329	5-7
Neptune® 469	6-8
Neptune® 689	7-8A

ELASTOMER COMPATIBILITY:

Neptune® gear lubricants are suitable for use with most elastomeric materials used in seals and gaskets. Below is a partial list of elastomers compatible with Neptune® Gear Lubricants:

"VITON"	Butyl Rubber	Natural Red Rubber
"KALREZ"	Buna S	Natural Gum Rubber
Silicone	Buna N	Neoprene
Polysulfide	"HYCAR"	"HYPALON"
EPR	"FLUORAZ"	"AFLAS"
EPDM	Natural Black Rubber	

MONITORING NEPTUNE® GEAR LUBRICANTS:

Although Neptune® Gear Lubricants will show a greatly extended service life under most conditions, one should not neglect to perform periodic maintenance and inspection. Periodic inspection of the lubricant will help insure continued trouble-free operations. American Chemical Technologies offers analytical testing for Neptune® Gear Lubricants.

CHANGEOVER PROCEDURE:

Installation of Neptune® Gear Lubricants into gear boxes which previously contained petroleum oils should follow the flush procedure below:

1. Drain previous lubricant from the gear box.
2. Replace oil filters.
3. Fill the gear box with the Neptune® Gear Lubricant to be used. Run under normal operating conditions for 24 hours. Neptune® Gear Lubricants will generally clean varnish and sludge build-up formed from petroleum oils.
4. Thoroughly drain the Neptune® Gear Lubricant from the box while warm.
5. Inspect the oil filters and replace as needed.
6. Fill the box with fresh Neptune® Gear Lubricant and begin normal operation.
7. Inspect and change filters as required.

This procedure should be followed for best results. However, residual petroleum lubricant can usually be tolerated in the Neptune® Gear Lubricant.

PRODUCT SAFETY:

When considering the use of Neptune® Gear Lubricants for an application, you should review our latest Material Safety Data Sheets and ensure that the use you intend can be accomplished safely.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Avoid contact with eyes.
Wash thoroughly after handling.