



Clarity[®] Synthetic EA Hydraulic Oil

Readily biodegradable high performance hydraulic oil

Product Data Sheet

Customer benefits

Environmentally acceptable

Meets the requirements of EPA Vessel General Permit (VGP) for biodegradation, low toxicity and low bioaccumulation

Premium performance

Ashless formulation provides excellent protection against wear of hydraulic pumps, provides rust and corrosion protection, hydrolytic stability, water separability, foam inhibition, and filterability.

Long oil life

Outstanding ability of the synthetic base stock to withstand oxidation at high operating temperatures results in maximum service life for the oil relative to vegetable-based readily biodegradable products.

Excellent low temperature pumpability

Specifically developed with high viscosity index to ensure good fluidity for low operating temperatures

Zinc-free

Suited for applications involving yellow metals found in axial piston pumps.

Applications

Clarity[®] Synthetic EA Hydraulic Oil are designed to give maximum protection in hydraulic equipment used on vessels and in environmentally sensitive areas.

They are used in hydraulic systems as recommended by ISO 15380, HEPR in mobile and stationary hydraulic vane-, piston-, and gear-type pumps.

Clarity Synthetic EA Hydraulic Oil ISO 68 and 100 are recommended for use in marine stern tube applications.

Product features:

- **Clarity[®] Synthetic EA Hydraulic Oil** are readily biodegradable high performance hydraulic oils that meet EPA Vessel General Permit (VGP) requirements for environmentally acceptable lubricants. They are designed to give maximum protection in hydraulic equipment used on vessels and in environmentally sensitive areas.

- **Clarity[®] Synthetic EA Hydraulic Oil** are formulated with synthetic base stock and an ashless, zinc-free additive system that provide exceptional oxidation stability, water separability, foam suppression, and protection against wear, rust and corrosion.

- **Clarity[®] Synthetic EA Hydraulic Oil** are readily biodegradable, non-bioaccumulative, and minimally toxic. In the event of a spill, the product biodegrades by more than 60% within 28 days, minimizing the impact to the environment.

Typical key properties

CLARITY® SYNTHETIC EA HYDRAULIC OIL			
ISO Grade	46	68	100
Product Code	520395	520396	520397
Flash Point, °C	221	215	193
Pour Point, °C	-44	-48	-48
Viscosity, kinematic			
mm ² /s @ 40°C	46.0	68.0	100.0
mm ² /s @ 100°C	9.0	11.7	18.8
Viscosity Index	180	170	210
Copper Corrosion	1b	1b	1b
Rust Test, Synthetic Sea Water	Pass	Pass	Pass
FZG, Fail Load Stage	12	12	12
Elastomer Compatibility Buton-N, Viton, Polyurethane	Pass	Pass	Pass
Biodegradability, OECD 301B, % in 28 days	>60	>60	>60
Aquatic Toxicity			
Fathead minnow, OECD 203, mg/L	>10,000	>10,000	>10,000
Daphnia magna, OECD 202, mg/L	>120	>120	>120
Algae, OECD 201, mg/L	>10,000	>10,000	>10,000
Bioaccumulation	Negative	Negative	Negative

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Performance standards

Clarity Synthetic EA Hydraulic Oil meets the requirements of:

- DIN 51524-3 (ISO 46, 68)
- ISO 15380 HEPR
- Parker-Denison (ISO 46, 68)

Clarity Synthetic EA Hydraulic Oil 68 and 100 are approved for Stern tube applications by:

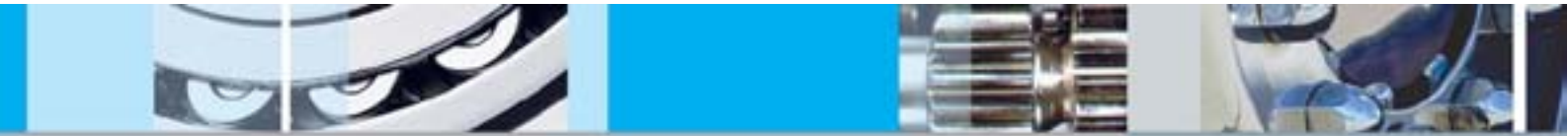
- Blohm+Voss
- KEMEL COMPANY
- Wärtsilä

ENVIRONMENT, HEALTH and SAFETY

Information is available on this product in the Material Safety Data Sheet (MSDS) and Customer Safety Guide. Customers are encouraged to review this information, follow precautions and comply with laws and regulations concerning product use and disposal. To obtain a MSDS for this product, visit: www.chevronlubricants.com.

This bulletin was prepared in good faith from the best information available at the time of issue. While the values and characteristics are considered representative, some variation, not affecting performance, can be expected. It is the responsibility of the user to ensure that the products are used in the applications for which they are intended.

Produced by:
Chevron Lubricants
– Asia Pacific



CLARITY® SYNTHETIC EA HYDRAULIC OIL

Service considerations

Clarity Synthetic EA Hydraulic oil are miscible with common mineral based hydraulic oils, however, following good practice, in-service oils should be completely drained to avoid any risk of additive incompatibility and ensure that the full performance benefits are achieved.

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