



Lubrication

High performance Biodegradable lubricant for enclosed industrial gearboxes.

APPLICATIONS

Industrial gearboxes

- **CARTER BIO** is a new generation high performance biodegradable lubricant developed for industrial gears and bearing lubrication.
- **CARTER BIO** is designed to replace mineral gear oils for gearboxes operating in environmentally sensitive areas.

SPECIFICATIONS

International standards

- **CARTER BIO** can be used when CKC/CKD (ISO 12925-1) or CLP (DIN 51517-3) mineral lubricants performance levels are requested.

ADVANTAGES

- **CARTER BIO** has very good extreme pressure properties and a high scuffing load capacity ensuring good protection of gears operating under high load.
- The synthetic base oils used combine good lubrication properties and a high oxidation stability. These base oils are fulfilling the European Ecolabel criterias for the Biodegradability, the Renewable carbon content and for the Ecotoxicity.
- The Biodegradability of **CARTER BIO** is over 60% after 28 days (OECD 301B testing procedure).
- **CARTER BIO** provides lubrication advantages at both high and low temperatures compared to mineral oils.
 - The very high viscosity index and shear stability of **CARTER BIO** ensures a high lubricating film thickness at high temperatures (see table page 2).
 - The lower pour point and the low temperature viscosity will ensure a better start up in cold operating environments.
- **CARTER BIO** is ensuring a high corrosion protection , confirmed with sea water contamination.



TOTAL

TYPICAL CHARACTERISTICS	METHODS	UNITES	CARTER BIO					
			68	100	150	220	320	460
Density at 15°C	ISO 3675	kg/m ³	950	967	987	1003	1016	994
Viscosity at 40°C	ISO 3104	mm ² /s	68	100	150	220	320	460
Viscosity at 100°C	ISO 3104	mm ² /s	11	14	19	26	33	43
Viscosity index	ISO 2909	-	153	148	144	150	144	145
Flash point (open cup)	ISO 2952	°C	266	246	248	244	240	246
Pour point	ISO 3016	°C	-42	-42	-30	-24	-21	-33
Foaming Séq. 1 à 24°C	ISO 6247	ml/ml	0/0	0/0	0/0	0/0	0/0	0/0
FZG A/8,3/90 failure stage	DIN 51354-2	-	>14	>14	>14	>14	>14	>14

Above characteristics are mean values given as an information

SPECIAL ADVICES

- For any Health and Safety issues MSDS can be found on www.quickfds.com.
- Biodegradable fluid disposal in the environment is prohibited.
- **CARTER BIO** is miscible with mineral oils.
For gearboxes containing mineral oils deposits, filters will have to be checked. It is recommended to change the filters after the first 50 hours operation with **CARTER BIO**.
- **CARTER BIO** is formulated with synthetic esters type base oils. The compatibility of the different components (Paintings, coatings, sealing and filter elements) with an ester based fluid must be checked with the supplier.
Elastomers compatibility: NBR swelling is higher in esters than in mineral oils. FPM or HNBR sealings should be preferred, only FPM for high operating temperatures.
- For any advice to replace mineral oil, please contact our local sales organization.