SHELL CASSIDA® FLUIDS WG

Synthetic food grade gear lubricant for worm gear boxes

Product Description
Shell Cassida® Fluids WG are high performance, anti-wear gear oils for the lubrication of worm gears, highly loaded gears and applications where high resistance to micropitting is needed in food and beverage processing machinery. They are based on a careful blend of synthetic fluids and additives chosen for their ability to meet the stringent requirements of the food industry.

Shell Cassida® Fluids WG are registered by NSF (Class H1) for use where there is potential for incidental contact. These products contain only substances permitted under US 21 CFR 178.3570, 178.3620, and 182 for use in lubricants with incidental food contact. They also meet the former guidelines (1998) of the US Department of Agriculture for Food Safety and Inspection Service (USDA) for H1.

Shell Cassida® Fluids WG do not contain any natural products derived from animals, nuts or genetically modified organisms. They are suitable for use where vegetarian and nut-free food is prepared. They do not promote the growth of bacteria or fungal organisms.

Shell Cassida® Fluids WG do not mix with mineral oils or PAO type fluids.

Applications
- worm gears or applications where excellent thermal stability is required
- lubrication of gear sets in enclosed gear boxes
- high load carrying capability, for extreme pressure applications

Features/Benefits
- high resistance to micropitting
- neutral odor and taste
- high viscosity index resulting in minimum variation of viscosity with change in temperature
- excellent thermal stability
- effective protection against corrosion of metal surfaces
- resistant to formation of harmful oxidation products
- low friction helping to provide efficient power transmission
- water soluble for easy cleaning

Seal and Paint Compatibility

Compatible with most of the elastomers, gaskets and seals normally used in food machinery lubrication systems. Nitrile rubber (NBR), Fluoro-Silicone or Vinyl-Methyl Polysiloxane (Q) is recommended especially where high temperatures are involved. Polyurethane based elastomers, leather, cork, asbestos paper and board should be avoided. Note: see warning about seal shrinkage in section on change over procedures. Some ordinary industrial paints soften in the presence of **Shell Cassida® Fluid WG**. Internal gearbox surfaces should ideally be unpainted or coated with resistant material such as two-part epoxy formulations.

Specifications and Certificates
- NSF H1

April, 2005

- Kosher
- Halal
- DIN 51517 CLP
- ISO 6743/6

Approvals and Recommendations

- David Brown
- Flender
- ZAE-AntriebsSysteme GmbH & Co
- Bonfiglioli
- Lenze

Change over Procedure

When changing from a lubricant based on mineral oil or PAO, the following procedure **must** be followed:

- With equipment at normal operating temperature, drain the oil off as completely as possible. Special attention should be paid to reservoirs, lines etc. where oil may be trapped.
- The system **must be flushed with the new lubricant**, which should then be drained before refilling with fresh, new lubricant. Do **not** use **Shell Cassida® Flushing Fluid** for flushing a system prior to filling with **Shell Cassida® Fluid WG**.
- Note: Seals previously exposed to mineral oils may shrink when exposed to **Shell Cassida® Fluid WG**. This can result in oil leaks. It may be necessary to replace these seals.

Incidental Food Contact

Registered by NSF (Class H1) and meet the former USDA H1 guidelines (1998) for lubricants where there is a potential for incidental food contact. Made only from substances permitted under the US FDA Title 21 CFR 178.3570, 178.3620 and/or those generally regarded as safe (US 21 CFR 182) for use in food lubricants. To comply with the requirements of US 21 CRF 178.3570, contact with food should be avoided where possible. In the case of incidental food contact, the concentration of this product in the food must not exceed 10 parts per million (10 mg/kg of foodstuff). In locations and/or applications where local legislation does not specify maximum concentration limits, this same 10 ppm limit should be observed, as up to this concentration **Shell Cassida® Fluid WG** will not impart undesirable taste, odor, or color to food. Consistent with good manufacturing practice, use only the amount necessary to achieve correct lubrication and take appropriate corrective action should excessive incidental contact with food be detected.

Handling and Storage

All food grade lubricants, such as Shell Cassida® Fluids WG**, should be stored separately, out of direct sunlight or other heat sources, from other lubricants, chemical substances and foodstuffs. Store between 0 and 40 deg. C. Provided that the product has been stored under these conditions, the recommended shelf life of the product unopened, is 5 years from date of manufacture. Accept for use new** Shell Cassida® **products only if the manufacturer's seal is intact, and then record the date the seal was broken. Before opening the pack ensure the area around the closure is clean. It is recommended that it be cleaned with** Shell Cassida® Fluid WG **and/or potable water. Record the date the seal was broken. To prevent product contamination, always close the package after use. Use the product within 2 years of opening.**

Typical Properties of Shell Cassida® Fluids WG					
	Test Method	220	320	460	680
Product code		5058383	5058382	5058390	5058381
NSF Registration No.		133399	133400	133401	133402
Color	(Visual)	Clear, amber	Clear, amber	Clear, amber	Clear, amber
Density at 15ºC, kg/m³	ISO 12185	1.057	1.062	1.067	1.072
Viscosity @ 40 C (cSt) Viscosity @ 100 C (cSt)	ISO 3104 ISO 3104	227 41.9	339 60.6	477 83.0	725 122
Viscosity Index	D2270	240	250	260	272
Flash Point COC, °F	ISO 2592	480	480	485	495
Pour Point , °F	ISO 3016	-40	-35	-30	-25
FZG Gear Test, Fail Stage	DIN 51354	> 12	> 12	> 12	>12

Produced according to Shell Quality Standards, in facilities where HACCP audit and Good Manufacturing Practice have been implemented and form part of the ISO 9001 quality system. The characteristics given above are typical of current production and slight batch to batch variations may occur. However, all production will conform to Shell's specifications.

Handling & Safety Information

As for all oils, prolonged or repeated contact with the skin should be avoided. For information on the safe handling and use of this product, refer to its Material Safety Data Sheet at **http://www.shell-lubricants.com/msds/.** If you are a Shell Distributor, please call **1+800-468-6457** for all of your service needs. All other customers, please **call 1+800-840-5737** for all of your service needs. Information is also available on the World Wide Web: **http://www.shell-lubricants.com/.**

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