

Technical Specification

LL730 Lubricant is especially designed for industrial equipment requiring both lubrication and corrosion protection. With a formulation that is a combination of naturally derived ingredients, the product can be easily applied for simple and direct *in situ* use.

The ingredients in this unique grease provide multiple benefits. LL730 has natural corrosion inhibition properties resulting from woolgrease derivatives. The naturally occurring trace elements are the same found in many synthetically produced, specialty gear lubricants, specifically known for wear-protection metals: iron, zinc, magnesium, and phosphorus.

This product meets the criteria for approval for production and manufacturing environments where there may be incidental contact with food, therapeutic goods, or similar products, and that each of the ingredients is free from allergens, including pollen, nuts and grains.

The ingredients in this naturally derived grease are sourced from sustainable, agricultural resources.

Characteristic	Test Method	Unit of Measurement	Specification	Typical Result
Appearance	ASTM D4176	N/A	Opaque	Free of particulates
Colour	Visual	N/A	Light brown	Brown, translucent
Relative Density	ASTM D4052	kg/m	0.80 – 0.90	0.85
Viscosity (@ 20°C)	ASTM D1200	cSt	25.0 – 40.0	32.0
Flash Point	ASTM D93	°C	> 60	80
Total Acid Number	ASTM D974	N/A	Report	8
Metals	ICP			
Iron		ppm	Report	72
Zinc		ppm	> 100	111
Calcium		ppm	> 10	84
Magnesium		ppm	Report	22
Phosphorus		ppm	Report	10
Aluminium		ppm	Report	15
Sodium		%	Report	40
Sulfur		%	-	-
Ash		%	-	-
Water Content	Karl-Fisher	%	< 2 max.	0.30
Copper Corrosion	ASTM D130	N/A	1 max.	1a

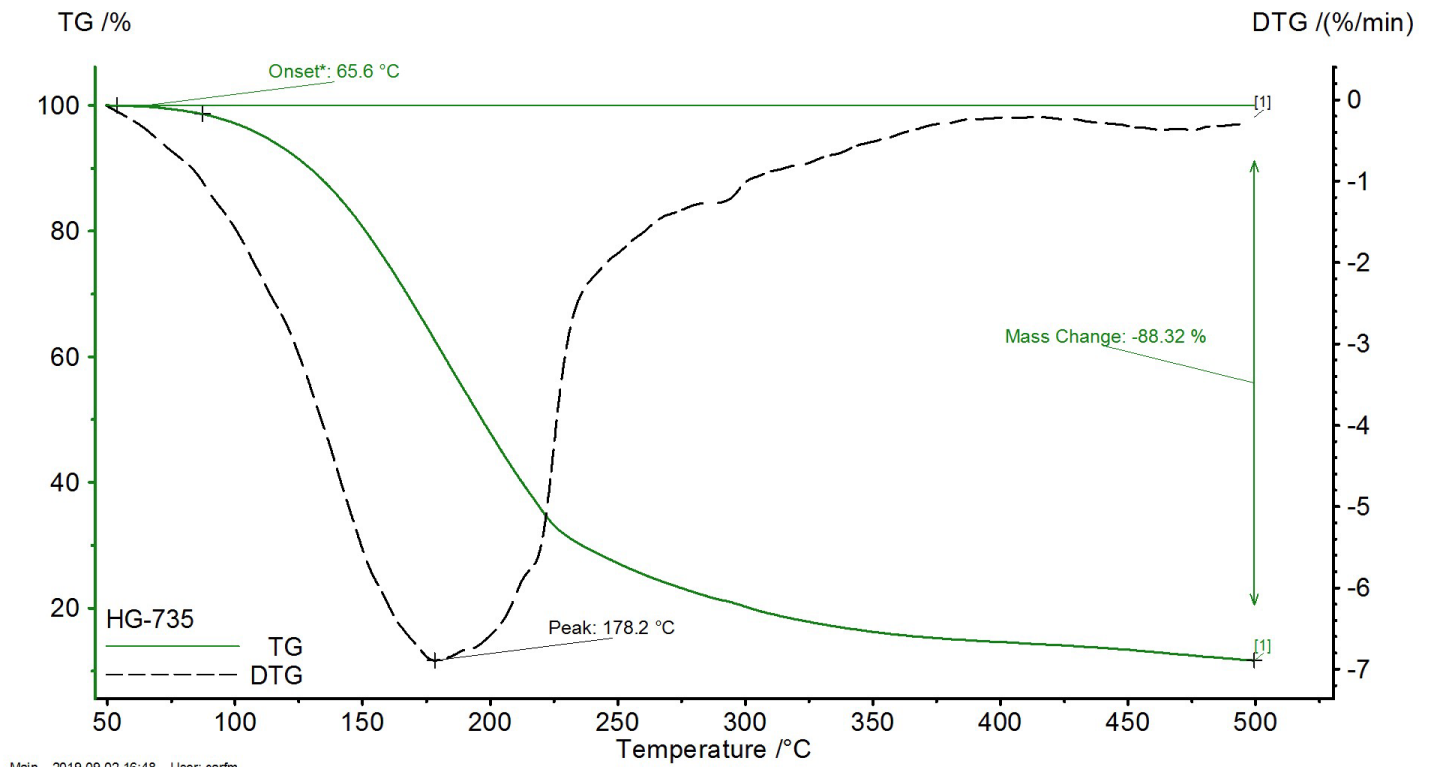
The information in this document is given in good faith and is true and accurate to the best of company knowledge. No warranty or guarantee (e.g. on suitability for a formulation) is expressed or implied. This document reflects legislative knowledge at the time of preparation, and may be subject to change in the future. It is the user's responsibility to determine the suitability for use of the information presented, and to ensure compliance, at any time. No warranty or freedom is given regarding the industrial property rights of Lanolin Technologies Pty Ltd JV Partnership or third parties. No responsibility or liability for any consequences arising from the use of this document can be accepted. This version replaces earlier versions. The information in this document cannot be reproduced in part or whole without the express permission of Lanolin Technologies Pty Ltd Copyright © 2019.



Optimum Operating Temperature: LL730 Lubricant

The oxidation behaviour of this grease has been determined by simultaneous thermal analysis: Differential Scanning Calorimetry (DSC) and Thermogravimetric Analysis (TGA), to confirm the optimum, recommended operating temperature, and determine the temperature at which the product ceases to function as an effective lubricant.

The study was conducted between temperatures 50°C and 500°C, then oxidation tests were performed to pinpoint the degradation of the grease from 100°C to 300°C, based on the information resulting from the DSC.



The heating and degradation of LL730 demonstrates that the product has a non-linear exothermic pyrolysis process, meaning that as the equipment to which the grease is applied is partially insulated from heating while the equipment is operating. In effect, the grease withstands incremental increases in temperature without degrading or oxidising and continues to protect the equipment throughout high temperature processing.

The results show that the product does not oxidise at all until around 95°C, and that sustained operation up to 130°C with this product would offer effective equipment protection at these temperatures.