

Report on biodegradability results

Introduction

Paryol Electra 7426® is a new generation dielectric fluid patented by A&A Fratelli Parodi Spa, exclusively constituted by a mixture of vegetable oil designed and developed with the aim of minimizing the environmental impact.

Paryol Electra 7426® is chemically describable as a fatty acids glycerol ester and as such does not fall within the compounds explicitly identified as dangerous.

It can be easily shown, by applying common analytical techniques, that the product contains no hydrocarbons ($C < 12$ and $C > 12$). Therefore the impact of the product in the event of soil and groundwater contamination would be negligible. This has been proved by real case studies.

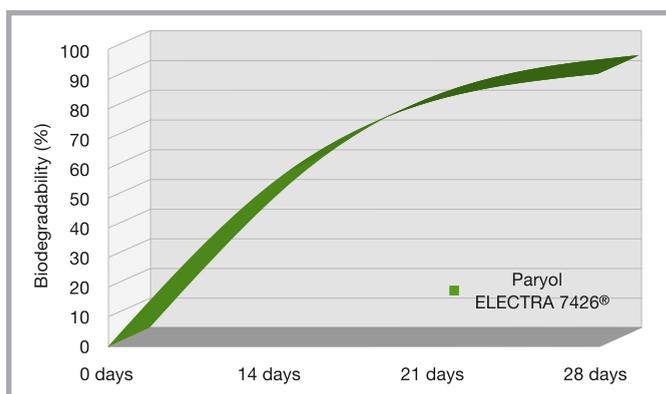


Figure 1: Ready biodegradability test conducted on Paryol Electra 7426®

Ready Biodegradability According to OECD 301 C (MITI test)

The intrinsic chemical structure of Paryol Electra 7426® determines its high biodegradability. This vegetable oil based product is constituted by triglycerides which can be easily hydrolyzed and decomposed into the corresponding fatty acids and glycerol.

These can be in turn easily degraded by common metabolic enzymes, naturally widespread and present in all microorganisms.

Biodegradability and environmental compatibility are one of the key features of the product. Thanks to this important behaviour, it is wide applicable as a replacement for commonly employed mineral-based and silicone-based dielectric fluids.

No Toxicity and less regulatory burden (exempt from REACH)

From the perspective of Regulation (EC) No. 1907/2006 (REACH) Paryol Electra 7426® is exempt from registration, since vegetable oils are considered to cause minimum risk because of their intrinsic properties, and their exemption does not prejudice the objectives of the Regulation.

It is well known indeed that vegetable oils are not toxic, being normally contained in many foods and as such commonly metabolized by animal organisms at any different trophic level. Paryol Electra 7426® is not considered, even conservatively, a significant contaminant.

No Contamination = less cost and simpler clean-up procedure

In case of contamination by mineral oil the current legislation obliges to adopt specific administrative and technical - operational procedures in order to guarantee the site's safety.

The Italian and European regulations in force asks to companies to increase their environmental awareness and to more and more focus on Green Chemistry, with the aim of producing and using environmentally friendly products.

The replacement of dielectric mineral oils with Paryol Electra 7426® allows to cancel the environmental impact and is an important advantage for electrical companies, in that the costs related to soil remediation in the event of spills are set to minimum.



Disclaimer

This document applies as a general guidance and does not convey safety informations. Refer to original manufacturer's operation and maintenance guides appropriate for each transformer before beginning any operation.

All applicable safety codes and procedures must be followed.

A&A Fratelli Parodi Spa shall not be held liable for any damage or injury resulting from incorrect performing of the procedure reported therein.



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CERTIFICATE N.25334

UNI EN ISO 9001:2008 and UNI EN ISO 14001:2004 certified

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