



IOI OLEOCHEMICAL

PHARMA

Excipients for Veterinary Application



IOI Oleo GmbH

Hamburg, Germany
+49 40 28 00 31-0
pharma@ioioleo.de
www.ioioleo.de



Lipid-based excipients for veterinary formulations

Our specialties for veterinary applications are used for companion as well as for farm animals in

- Injectables - SC and IM
- Infusions - IV
- Oral (e.g. paste, drench)
- Pour-on / Spot-on formulations
- Tick and flea collars

DOSAGE FORM	RELEVANT PRODUCTS	DESCRIPTION	QUALITY & REGULATORY STATUS				APPLICATION INFORMATION
			PH. EUR.	USP	CH.P.	EU GMP	
Injectables & Infusions	MIGLYOL® 810 N	Medium-Chain Triglycerides, 70:30	X	X	X	X	Carrier oils for e.g. Amoxicillin, Cephalosporins, Ceftiofur, Cephalexin
	MIGLYOL® 812 N	Medium-Chain Triglycerides, 60:40	X	X	X	X	
	MIGLYOL® 840	Propylene Glycol Dicaprylocaprate	X	X		X	
	MIGLYOL® 829	Caprylic/Capric/Succinic Triglyceride				X	Antibiotic treatments of e.g. mastitis in dairy cows with Cefuroxime
Oral	MIGLYOL® 810 N	Medium-Chain Triglycerides, 70:30	X	X	X	X	Oral drench for treatment of gastro intestinal round worms
	MIGLYOL® 812 N	Medium-Chain Triglycerides, 60:40	X	X	X	X	
	WITARIX® MCT 60/40		X				
	MIGLYOL® 840	Propylene Glycol Dicaprylocaprate	X	X		X	
	WITARIX® PPG 810 EP		X				
Pour-On/ Spot-on/ Transdermal	MIGLYOL® 812 N	Medium-Chain Triglycerides, 60:40	X	X	X	X	Well spreading carrier oil and penetration enhancer
	WITARIX® MCT 60/40		X				
	MIGLYOL® 840	Propylene Glycol Dicaprylocaprate	X	X		X	Low viscosity and excellent spreading properties for e.g. highly effective antiparasitic formulations, Ivermectin, Imidacloprid, Permethrin
	WITARIX® PPG 810 EP		X				
	IMWITOR® 988	Glycerol Monocaprylate, Type I	X	X			Solvent and penetration enhancer for treatment of fever, pain and acute inflammation in e.g. cattle: Flunixin & Meglumine
Tick and Flea Collars	MIGLYOL® 840	Propylene Glycol Dicaprylocaprate	X	X		X	Companion animals e.g. Imidacloprid, Permethrin, Moxidectin, Flumethrin
	WITARIX® PPG 810 EP		X				

With a strong commitment to quality and regulatory leadership in pharmaceutical oleochemicals.

“Made in Germany”, since decades produced in our site in Witten, our specialties are repeatedly EU GMP-certified as well as US FDA cGMP inspected.

Leading global expert and innovator of functionalised ester-based lipids with added value for pharma solutions.



A Reliable Choice – Our MIGLYOL® and IMWITOR® Range

Particularly pour-on products can enter the environment through routine livestock treatment and subsequent contact with soil, plants, and water. As a result, the biodegradability of formulation ingredients has become an increasingly important consideration.

IOI Oleo's MIGLYOL® and IMWITOR® excipients combine proven performance with rapid biodegradability. Widely established in veterinary formulations and across multiple routes of administration, these ingredients are derived from renewable plant-based feedstocks.

As glycerides and propylene glycol diesters of edible fatty acids, MIGLYOL® and IMWITOR® materials help to minimize the risk of environmental persistence and bioaccumulation due to their efficient breakdown mechanisms in environmental compartments.

MICROBIAL BREAKDOWN & METABOLIZATION:

- **Soil:** Microorganisms in soil secrete lipases that hydrolyse glycerides and propylene glycol-based diesters into glycerol, propylene glycol and free fatty acids. These intermediates are further metabolised through β -oxidation, leading to complete mineralisation into carbon dioxide and water.
- **Water:** Similar microbial processes occur in aquatic environments. Lipases hydrolyse the esters, and aquatic microbes metabolise the resulting compounds, ensuring rapid biodegradation and minimal accumulation. This supports the use of these ingredients in products that may enter water systems.

NON-MICROBIAL BREAKDOWN & METABOLIZATION

- **Uptake, Accumulation & Metabolism:** Carboxylesterases play a significant role in the metabolism of ester compounds in vertebrates and invertebrates. Rapid enzymatic hydrolysis and metabolism prevent significant uptake and bioaccumulation in organisms.
- **Hydrolysis Products:** Glycerides and propylene glycol-based diesters are hydrolysed into fatty acids, glycerol and propylene glycol upon ingestion. Fatty acids are metabolised similarly to any other plant or animal fat from regular diet, while glycerol and propylene glycol do not bioaccumulate due to their low log Kow values.

VOLATILITY:

These substances have negligible volatility and undergo rapid photochemical degradation in the atmosphere.

AQUATIC TOXICITY:

No adverse effects on fish, invertebrates, algae and microorganisms at tested concentrations.

SUPPORTING DATA:

Calculated BCF/BAF values confirm the low bioaccumulation potential of these substances, supporting their use in veterinary products.

CONCLUSION:

MIGLYOL® and IMWITOR® products are not expected to bioaccumulate. Their rapid biodegradability ensures extensive degradation across all compartments results in low environmental release. Further biodegradation minimises their presence in the environment, making them a reliable choice for veterinary product formulations.

Please do not hesitate to contact us
in case of any questions relating to the use
and safety of IOI Oleo products.

*Statements made represent the current state of knowledge. IOI Oleo GmbH shall not be held liable and shall not replace risk assessments and scientific safety reviews.

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