

Printing inks for **labels**



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Low-migration



In addition to meet aesthetic and commercial requirements, packaging for food, cosmetics and pharmaceutical products also has the special task to protect products against external influences. Minimising the transition of components from the packaging material to the products is crucially important in this regard. As a specialist supplier, RUCO recognised this importance early on and therefore developed low-migration (LM) printing inks to cater for the needs of the packaging industry. The formulation of these low-migration inks is such that, provided they are used correctly, they comply with the migration threshold values for the substances in question.

What exactly do the terms “migration” and “low-migration” mean?

Migration is the movement of material components from the packaging material to the product contained therein. A distinction is made between two types of migration:

- Penetration: The constituent migrates from the outer surface of the packaging through the packaging into the product.
- Set-off: The printing ink sets off to the food-contact surface when in the stack or on the reel.

“Low-migration” means that only those raw materials are used that have a minimal level of migration or do not migrate at all under normal processing, storage and conditions of use. This is particularly important for food packaging decoration.

What to take into consideration?

Personnel

- Train your employees to ensure their acceptance and awareness of the required care and attention

Consumables

- Use suitable materials exclusively (washing agents, printing inks / varnishes, substrates with barrier function, adhesives, wetting agents and other printing auxiliaries)

Machine / Production

- The cleanliness of machines and premises must take top priority; for example with regard to print rollers, blankets, printing plates, UV lamps and reflectors, exhaust facilities etc.

Documentation

- Implement a system according to 1935/2004 Art. 17 to ensure traceability

Practical recommendations:

- Use low-migration products for all printing jobs carried out for the food, cosmetics and pharmaceutical industries
- Wherever possible, use substrates with barrier effects
- Use low-migration consumables exclusively
- Use low-migration varnishes and adhesives exclusively, as well as suitable printing auxiliaries
- Avoid the risk of “contamination” by ensuring thorough cleaning of print rollers and blankets
- Use individual printing presses for low-migration printing exclusively
- Check UV emitters and reflectors at regular intervals

UV screen printing inks low-migration,
silicone-free

905UV-LM



■ Your benefits

- Low-migration comply with the "Nestlé Guidance Note on Packaging Inks" - Version 10-2018
- In accordance with positive list 1A of the EuPIA Suitability List of Photoinitiators as well as the specifications of the Swiss EDI Ordinance on Consumer Goods (SR 817.023.21) for inks applied to the non-food contact surface of food packaging
- Free from ITX, benzophenone, 4-methylbenzophenone (4MBP) as well as formulated free from Bisphenol A
- Silicone-free, barium-free and low-odour
- Low viscosity, reactive even at high machine speeds of up to 60 m/min
- Very good flow characteristics
- High opacity and colour brilliance by optimal pigment wetting and ideal basic colour shades composition
- Good solvent and water resistance as well as excellent filling resistance after 48 hours
- The inks series is suited especially for combination printing with UV flexo printing inks

■ Substrate

- Pre-treated PE and PP, top-coated PE, top-coated PP, top-coated polyester, PVC, other types of plastic as well as paper and cardboard

■ Product range

- 10 basic colour shades and transparent white
- Highly opaque white
- Overprinting varnishes for UV screen printing in low migration



UV opaque white low-migration,
silicone-free



905UV1484LM

■ Your benefits

- Low-migration comply with the "Nestlé Guidance Note on Packaging Inks" - Version 10-2018
- In accordance with positive list 1A of the EuPIA Suitability List of Photoinitiators as well as the specifications of the Swiss EDI Ordinance on Consumer Goods (SR 817.023.21) for inks applied to the non-food contact surface of food packaging
- Free from ITX, benzophenone, 4-methylbenzophenone (4MBP) as well as formulated free from Bisphenol A
- Free from CMR materials
- Silicone-free, barium-free, low-odour, highly opaque, low viscosity, suitable for stamping
- Very good flow characteristics
- Very well suited for overprinting with UV flexo, offset letterpress inks and **UV inkjet inks**
- Good solvent and water resistance as well as excellent filling resistance after 48 hours

■ Substrates

- Pre-treated PE and PP, top-coated PE, top-coated PP, top-coated polyester, PVC, other types of plastic as well as paper and cardboard



UV flexo printing inks low-migration,
silicone-free

UVFX-LM



■ Your benefits

- Low-migration comply with the "Nestlé Guidance Note on Packaging Inks" - Version 10-2018
- In accordance with positive list 1A of the EuPIA Suitability List of Photoinitiators as well as the specifications of the Swiss EDI Ordinance on Consumer Goods (SR 817.023.21) for inks applied to the non-food contact surface of food packaging
- Free from ITX, benzophenone, 4-methylbenzophenone (4MBP) as well as formulated free from Bisphenol A
- Silicone-free, barium-free and low-odour
- Excellent printability at high speeds thanks to low viscosity
- High opacity and colour brilliance by optimal pigment wetting and ideal basic colour shades composition
- Excellent in line, half-tone and full-tone printing
- Very good chemical resistance
- Optimal results in combination with other printing methods, also in stamping and die-cutting
- For use on all standard UV flexo printing machines

■ Substrates

- Pre-treated PE and PP, TC PE, TC PP, TC Polyester, PVC, as well as paper and cardboard

■ Product range

- 12 basic colour shades and transparent white
- Process colours for 4-colour set
- Highly opaque white
- Highly opaque white



UV-Deckweiß migrationsarm, silikonfrei

*UV Opaque white low-migration,
silicone-free*

UVFX-1059LM



Your benefits

- Low-migration comply with the "Nestlé Guidance Note on Packaging Inks" - Version 10-2018
- In accordance with positive list 1A of the EuPIA Suitability List of Photoinitiators as well as the specifications of the Swiss EDI Ordinance on Consumer Goods (SR 817.023.21) for inks applied to the non-food contact surface of food packaging
- Free from ITX, benzophenone, 4-methylbenzophenone (4MBP) as well as formulated free from Bisphenol A
- Silicone-free, barium-free and low-odour
- Excellent printability at high speeds thanks to low viscosity
- Very good chemical resistance
- Optimal results in combination with other printing methods, also in stamping and die-cutting
- For use on all standard UV flexo printing machines

Substrates

- Pre-treated PE and PP, TC PE, TC PP, TC Polyester, PVC, as well as paper and cardboard



Standard ink system



The standard ink system for printing on combination printing machines is based on the UV flexo and screen printing inks for flat bed as well as for rotary screen printing.

Printing varnishes for different application techniques ideally round off the system and enable high resistances and eye-catching advertising effects to be achieved.

Optimum crosslinking characteristics ensure the intercompatibility of these different label printing ink series.

Very good overprinting and printing characteristics with various printing techniques guarantee excellent inline production.

High process stability and very low-odour are further advantages of the standard ink system.

UV screen printing inks silicone-free

963UV-SF



■ Your benefits

- Free from ITX, benzophenone, 4-methylbenzophenone (4MBP) as well as formulated free from Bisphenol A
- Silicone-free, barium-free and low-odour
- Very reactive even at high machine speeds of up to 60 m/min
- Low viscosity and universal use
- Very good flow characteristics
- High opacity and colour brilliance by optimal pigment wetting and ideal basic colour shades composition
- Good solvent and water resistance
Excellent filling resistance after 48 hours
- The inks series is suited especially for combination printing with UV flexo printing inks

■ Substrates

- Pre-treated PE and PP, TC PE, TC PP, TC Polyester, PVC, paper and cardboard

■ Product range

- 10 basic colour shades and transparent white
- Highly opaque white
- Overprinting varnishes for UV screen



UV opaque white silicone-free
for rotary screen printing

900UV1487



■ Your benefits

- Free from ITX, benzophenone, 4-methylbenzophenone (4MBP) as well as formulated free from Bisphenol A
- Opaque white for combination printing – rotary screen printing and flexo printing
- Silicone-free and highly opaque
- Glossy and very reactive
- Low viscosity for speeds of up to 80 m/min
- Excellent printability
- Overbossing and overprinting of stamping foils possible
- Excellent suited for overprinting with UV flexo, offset, letterpress inks
- Very good solvent and water resistance after 12 hours

■ Substrates

- Pre-treated PE and PP, TC PE, TC PP, TC Polyester, PVC, other types of plastic as well as paper and cardboard



UV opaque white silicone-free
for flat bed screen printing

900UV1490



■ Your benefits

- Free from ITX, benzophenone, 4-methylbenzophenone (4MBP) as well as formulated free from Bisphenol A
- Opaque white for combination printing – flat bed screen printing and flexo printing
- Silicone-free and highly opaque
- Excellent flow characteristics
- Very good curing and adhesion even at high machine speeds
- Excellent suited for overprinting with UV flexo, offset, letterpress inks
- Very good solvent and water resistance after 12 hours

■ Substrates

- Pre-treated PE and PP, TC PE, TC PP, TC Polyester, PVC, other types of plastic as well as paper and cardboard



UV screen printing inks



985UV/985UV/NV

■ Your benefits

- Free from ITX, benzophenone, 4-methylbenzophenone (4MBP) as well as formulated free from Bisphenol A
- Universal use, both for flat screen printing and rotary screen printing (**low-viscosity formulation – 985UV/NV**)
- Excellent flow characteristics
- Very reactive ink with high opacity
- Very good curing and adhesion even at high machine speeds
- Very good solvent and water resistance after 12 hours

■ Substrates

- Pre-treated PE and PP, TC PE, TC PP, TC Polyester, PVC other types of plastic as well as paper and cardboard

■ Product range

- 11 basic colour shades and transparent white
- Process colours for 4-colour set
- Lightfast formulation
- Highly opaque white and black
- Metallic effect inks
- Overprinting varnish for UV screen printing



UV screen printing effect inks

985UV



■ Your benefits

- Free from ITX, benzophenone, 4-methylbenzophenone (4MBP) as well as formulated free from Bisphenol A
- Excellent flow characteristics
- Very reactive ink with high opacity
- Very good curing and adhesion even at high machine speeds
- Good solvent and water resistance after 12 hours

■ Substrates

- Pre-treated PE and PP, TC PE, TC PP, TC Polyester, PVC, other types of plastic as well as paper and cardboard

■ Product range

- Fluorescent inks (yellow, orange, magenta, cyan)



UV screen printing ink - brilliant silver

900UV4374



■ Your benefits

- Free from ITX, benzophenone, 4-methylbenzophenone (4MBP) as well as formulated free from Bisphenol A
- Excellent brilliance with mirror effect
- Low viscosity and very reactive
- Very good opacity and flow characteristics
- Optimal results in combination with our screen and flexographic inks as well as appropriate varnishes

■ Substrates

- Pre-treated PE/PP, OPP, PET, as well as PVC, paper and cardboard



UV screen printing - tactile varnishes



960UV298

Your benefits

- Free from ITX, benzophenone, 4-methylbenzophenone (4MBP) as well as formulated free from Bisphenol A
- High-tactile varnish 150 - 250 µm for rotary screen printing
- Glossy and reactive
- Immediate further processing possible
- Good solvent and water resistance

Substrates

- Pre-treated PE/PP, PET as well as paper and cardboard

960UV451

Your benefits

- Free from ITX, benzophenone, 4-methylbenzophenone (4-MBP) as well as formulated free from Bisphenol A
- Low-tactile varnish 50 -100 µm, glossy, transparent, flexible and silicone-free
- Good solvent and water resistance
- Immediate further processing possible

Substrates

- Pre-treated PE/PP, PET as well as paper and cardboard



UV flexo printing inks silicone-free

UVFX



■ Your benefits

- Free from ITX, benzophenone, 4-methylbenzophenone (4-MBP) as well as formulated free from Bisphenol A
- Silicone-free, barium-free and low-odour
- Excellent printability at high speeds thanks to low viscosity
- High opacity and colour brilliance by optimal pigment wetting and ideal basic colour shades composition
- Excellent in line, half-tone and full-tone printing
- Very good chemical resistance
- Optimal results in combination with other printing methods
- For use on all standard UV flexo printing machines

■ Substrate

- Pre-treated PE and PP, OPP, PET, PVC, as well as paper and cardboard

■ Product range

- 13 basic colour shades and transparent white
- Process colours for 4-colour set
- Highly opaque white and black (very reactive)
- Silver and gold



UV flexo opaque white silicone-free



UVFX-1044

Your benefits

- Free from ITX, benzophenone, 4-methylbenzophenone (4-MBP) as well as formulated free from Bisphenol A
- Silicone-free, barium-free and low-odour
- Low viscosity with excellent printing properties at high machine speeds

Substrates

- Pre-treated PE and PP, OPP, PET, PVC, as well as paper and cardboard

UV flexo opaque white for sleeves

UVFX-1045

Your benefits

- Free from ITX, benzophenone, 4-methylbenzophenone (4-MBP) as well as formulated free from Bisphenol A
- Opaque white with low COF
- Barium-free and low-odour
- Suitable for high machine speeds
- Excellent scratch resistance

Substrates

- Pre-treated OPP and PET



UV VARNISHES

	Low-migration varnishes				
Technical information	UV overprinting varnishes			UV tactile varnishes	
960UV	480LM	481LM	488LM	494LM	503LM
Application	high gloss	matt	satin matt	gloss low tactile	gloss low tactile
pre-treated plastic films - PE, PP, PET	●	●	●	●	
printed plastic films	●	●	●	●	
paper, carboard	●	●	●		●
printed paper, printed carboard	●	●	●		●
Printing process					
flad bed screen printing					
rotary screen printing				●	●
flexo printing	●	●	●		
offset varnish unit	●	●	●		
roller coater / chamber blade	●				
inline	●	●		●	●
approx. speed of machine (m/min)	80	25	35	50	50
OPV properties					
ITX-, benzophenone-, 4-Methylbenzophenone-free	●	●	●	●	●
free from Bisphenol A	●	●	●	●	●
low-migration	●	●	●	●	●
current "Nestlé Guidance Note on Packaging Inks"	●	●	●	●	●
silicone-free	●	●	●		
reactive	●	●	●	●	●
no penetration into substrate (paper/carboard)					●
high-gloss	●				
gloss					
matt		●			
satin matt			●		
tactile 50 - 100 µm				●	●
braille 150 - 250 µm					
Properties, cured OPV					
high-slip					
gluing	●		* limited suitability	●	
hotfoil stamping/ foil blocking	●		* limited suitability	●	
thermotransfer printable					
inkjet printable					
high degree of finishing				●	●
high scuff resistance				●	●
high chemical resistance	●	●	●	●	●
high water resistance					
immediate further processing	●	●	●	●	●

Note: RUCO UV varnishes are not suitable for direct food contact



Standard varnishes

UV overprinting varnishes					UV tactile varnishes					
161	362	407	417	435	290	298	393	438	451	487
high gloss	gloss	gloss	matt	matt	high tactile	high tactile	high tactile	low tactile	low tactile	low tactile
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60	80	50	50	50	20	25	40	40	60	60
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