

# Printing inks for plastic containers



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# Low-migration



In addition to meeting aesthetic and commercial requirements, packaging for food, cosmetics and pharmaceuticals also has the special task to protect the 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 should be taken 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

LED screen printing inks for plastic tubes  
low-migration, silicone-free

# 955LED-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 (4-MBP) as well as formulated free from Bisphenol A
- Completely silicone-free, barium-free and low-odour
- Suitable for curing both with pure LED technology and conventional UV systems (Hg-, Fe-doped)
- Hohe Deckkraft und Farbbrillanz durch optimale Pigmentbenetzung und ideale Grundfarbenzusammenstellung
- Very high reactivity, good flow, high gloss and adhesion at high-speed screen printing machines
- More flexible ink films with optimal adhesion
- Very good overprintability and over-varnishing with all common tube varnishes
- Excellent solvent and water resistance
- Ideally suitable for combination printing with silicone-free pre-print white as well as silicone-free UV flexo printing inks

## ■ Substrates

- Pre-treated PE tubes

## ■ Product range

- 11 basic colour shades and transparent white
- Process colours for 4-colour set
- Highly opaque white and black
- Low-migration overprinting and tactile varnishes



UV flexo printing inks for plastic tubes  
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 (4-MBP) as well as formulated free from Bisphenol A
- Silicone-free, barium-free and low-odour
- Excellent printability at high speeds thanks to stable and 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 UV-printing methods, also in embossing and die-cutting
- For use on all standard UV flexo printing machines

## ■ Substrates

- Pre-treated PE tubes and PP tubes

## ■ Product range

- 12 basic colour shades and transparent white
- Process colours for 4-colour set
- Opaque white and opaque black
- Opaque white for sleeves



# UV dry offset printing inks for plastic cups low-migration



## 085UV-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 (4-MBP) as well as formulated free from Bisphenol A
- Excellent abrasion and rub resistance – no ink set-off on the inside of the cup
- Excellent ink transfer at inking unit, low mist even at high machine speeds
- Precise reproduction of fine details as well as reverse type
- Very fast curing properties at printing speeds of up to 700 pieces/minute with high process security
- High colour strength and yield as well as excellent ink transfer
- Ready-to-use inks
- Low-odour according to DIN 1230-1 (Robinson test)
- Not classified as hazardous material
- High light fastness according to Blue Wool Scale (DIN 16525)

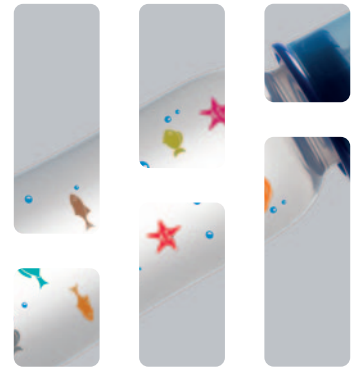
### Substrates

- PE, PP and PS

### Product range

- 13 basic colour shades and transparent white
- Process colours for 4-colour set
- Highly opaque white and black
- Pre-print white opaque

# UV screen printing inks for plastic bottles low-migration



## 945UV/MA

### ■ Your benefits

- Low-migration, barium-free, **do not** comply with the „Nestlé Guidance Note on Packaging Inks“
- Free from ITX, benzophenone, 4-methylbenzophenone (4-MBP) as well as formulated free from Bisphenol A
- Developed especially for the highly delicate field of baby bottle decoration and printing onto the outer surface of food packaging made of PET
- High gloss and excellent printability
- Very good reactivity and adhesion
- Use on all standard high-speed screen printing machines
- Dishwasher and sterilization-resistant as well as water and steam-resistant
- Excellent resistance to fill products
- No bleeding of ink through the mesh
- High yield and reduced ink waste

### ■ Substrates

- ABS, PC, PS, PVC and pre-treated PE, HDPE, PP, PA, PET, PETG

### ■ Product range

- 10 basic colour shades and transparent white
- Process colours for 4-colour set
- Highly opaque white and black
- Low-migration overprinting varnishes for UV screen printing



# Standard ink systems



Components comprising the standard ink system for the decoration of plastic containers include both UV screen printing inks and UV flexo printing inks.

All of these UV-curing ink series feature high reactivity so that good adhesion and curing is guaranteed even at high machine speeds. Moreover, they offer excellent resistance to solvents and water.

The standard ink system is characterized by high process stability on a wide variety of substrates.

# UV screen printing inks for plastic bottles



## 920UV

### ■ Your benefits

- Free from ITX, benzophenone, 4-methylbenzophenone (4-MBP) as well as formulated free from Bisphenol A
- Universal UV screen printing ink in a thixotropic formulation
- High-gloss and very reactive
- Excellent curing and adhesion even at high machine speeds
- Good solvent and water resistance after 12 hours
- Higher viscosity adjustment suited for use under extreme climatic conditions (temperature range >28°C)

### ■ Substrates

- Pre-treated PE, PP, PVC

### ■ Product range

- 12 basic colour shades and transparent white
- Process colours for 4-colour set
- Lightfast formulation
- Highly opaque white and black
- Overprinting and tactile varnishes for UV screen printing

This ink series is not suitable for printing onto food packaging



# UV screen printing inks for plastic tubes



## 950UV

### ■ Your benefits

- Free from ITX, benzophenone, 4-methylbenzophenone (4-MBP) as well as formulated free from Bisphenol A
- Formulation with special pigments
- High opacity, high colour intensity and good resistances
- High opacity even on dark coloured tubes
- Very high reactivity, good flow, high gloss and adhesion on high-speed screen printing machines
- Flexible ink films with optimal adhesion on pre-treated PE tubes
- Very good overprintability and over-varnishing with all common tube varnishes
- Very good solvent and water resistance after 12 hours
- Ideally suitable for combination printing with silicone-free pre-print white and silicone-free UV flexo printing inks

### ■ Substrates

- Pre-treated PE tubes

### ■ Product range

- 11 basic colour shades and transparent white
- Highly opaque white and black
- Overprinting and tactile varnishes for UV screen printing

This ink series is not suitable for printing onto food packaging



UV flexo printing inks for plastic tubes  
silicone-free



# UVFX-LED

## ■ 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 in line, half-tone and full-tone printing
- Very good chemical resistance
- Optimal results in combination with other printing methods, also in embossing and die-cutting
- For use on all standard LED flexo printing units

## ■ Substrates

- Pre-treated PE tubes

## ■ Product range

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

This ink series is not suitable for printing onto food packaging

UV flexo printing inks for plastic tubes silicone-free

# UVFX

## ■ Your benefits

- Free from ITX, benzophenone, 4-methylbenzophenone (4-MBP) as well as formulated free from Bisphenol A
- For use on all standard UV flexo printing units

## ■ Product range

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

This ink series is not suitable for printing onto food packaging



# UV screen printing inks for plastic bottles



# 985UV

## ■ Your benefits

- Free from ITX, benzophenone, 4-methylbenzophenone (4-MBP) as well as formulated free from Bisphenol A
- Both for flat screen printing and rotary screen printing (low-viscosity formulation – 985UV/NV)
- Excellent flow characteristics
- Very reactive inks 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 / PP, PVC

## ■ Product range

- 11 basic colour shades and transparent white
- Process colours for 4-colour set
- Lightfast formulation
- Highly opaque white and black
- Metallics
- Overprinting and tactile varnishes for UV screen printing

This ink series is not suitable for printing onto food packaging



# UV screen printing inks for plastic cartridges



## 990UV

### ■ Your benefits

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

### ■ Substrates

- Pre-treated PE / PP, PA

### ■ Product range

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



**RUCO Druckfarben, A. M. Ramp & Co. GmbH**

Lorsbacher Straße 28 • 65817 Eppstein  
Telefon: +49 61 98 30 40 • Telefax: +49 61 98 3 22 88  
info@ruco-inks.com • www.ruco-inks.com