PRODUCT SPEC SHEET

Product Line: 77 SERIES PRINTING INKS

INTRODUCTION

Zeller+Gmelin's The 77 SERIES is a premium high performance UV Dry Offset system formulated for high speed printing of cups, tubes, lids, pails and other preformed containers. The ink film exhibits a high degree of cure which allows for excellent adhesion, durability and resistance properties. Among the desirable printing characteristics are the intense color shade, low dot-gain and superior print graphics. Please see Fastness Data below.

BENEFITS

• Low odor
• High speeds
• Enhanced adhesion
• Benzophenone/4-Methyl Benzophenone free
• Bisphenol A free
• High intensity pigmentation
• Free radical chemistry
• High press stability
• High transparency/ high gloss
• Low VOC content
• Not overprintable

RECOMMENDED SUBSTRATES

Note: 40+ Dyne Level Recommended

- Polypropylene (PP)
- Polyethylene (HDPE & LDPE)
- Polyethylene Terephthalate (PET, APET)
- Acrylonitrile-Butadiene Stryrene Copolymer (ABS)
- Polystyrene (PS)
- Polyvinyl Chloride (PVC)
- Suitable for injection or thermoformed plastic containers

BLUE WOOL SCALE

Blue Wool Scale ratings range from 1-8, with 8 being the highest possible score. Zeller+Gmelin supplies this information in order to better assist our customers in the determination of lightfastness requirements.

CHARACTERISTICS

Viscosity range	75 - 140 Pa.s
Tack range	16 - 27
Gloss (60°)	35 - 70

PRINTING TIPS

• For color matches on clear or colored plastics please contact your sales representative or call your local Zeller+Gmelin branch for technical help.

• For best adhesion we recommend dyne levels between 40 – 44. To ensure best water resistance do not over treat plastic surface to a higher dyne than is necessary for adhesion.

PRODUCT COMPLIANCE

CONEG	+
PROP 65	+
TSCA	+
DSL/NDSL	+
ASTM F963	+
EN71-3	+
HMIS RATING	2-1-2
VOC	<0.1% Residual

Zeller+Gmelin Corporation complies with voluntary heavy metal limits for toys as defined in ASTM F 963, as well as CONEG regulations concerning lead, mercury, cadmium and hexavalent chromium. Zeller+Gmelin Corporation's inks also comply with the EN 71-3 toy standard limits for heavy metals. These products are not approved for direct food contact applications.

STORAGE

Store in cool dark place in an enclosed container. Do not expose to direct light for long periods of time. Temperature range for storage should range from 20°C - 35°C. Protect from freezing.

If inks are stored properly we warrant this product is usable for six months past date of delivery.

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PIGMENT FASTNESS DATA　　　　　　　　　　　　　　　**77 SERIES PRINTING INKS**

Product Description	Codes	FADE Blue Wool	20°Water	120° Process Sterilization	Lactic Acid	Alkalai	Grease, Fats and Oils
PANTONE BASE COLORS							
Yellow	7710	4	+	+	+	+	+
Warm Red	7720	4	+	+	+	+	+
Rubine Red	7730	4	+	+	-/+	-	+
Rhodamine Red	7740	3	+	+	+	-/+	-/+
Purple	7750	3	+	+	+	-/+	-/+
Violet	7755	6	+	-/+	+	+	+
Reflex Blue	7760	7	+	+	+	+	+
Process Blue	7770	8	+	+	+	+	+
Green	7780	8	+	+	+	+	+
Mixing Black	7790	8	+	+	+	+	+
Transparent White	7795	N/D	+	+	+	+	+
012 Yellow	77012	4	+	+	+	+	+
021 Orange	77021	3	+	+	+	+	+
032 Red	77032	4	+	-/+	-/+	-	+
072 Blue	77072	6	+	-/+	+	+	+
ADDITIONAL COLORS							
Opaque White	7705	8	+	+	+	+	+
Ultra Opaque White	7706	8	+	+	+	+	+
Ultra Dense Black	7707	4	-/+	-	+	-/+	+
FADE RESISTANT COLORS							
F/R Yellow	7711	5	+	-/+	+	+	+
F/R Warm Red	7721	6	+	+	+	+	+
HP F/R Rubine	7731	5	+	+	+	+	+
F/R Rhodamine	7741	5	+	+	+	+	+
F/R Purple	7751	6	+	+	+	+	+
F/R Dense Black	RH7734998	8	+	+	+	+	+

Suitable +, Testing Recommended -/+, Unsuitable -, No Data ND

* Test method reference: NPIRI Raw Materials Data Handbook
* Blue Wool scale range 1-8, where 8 is the best fade value