



Nestlé Guidance Note on Packaging Inks

Purpose

This document refers to the Nestlé Initiative on Packaging Safety and Compliance and specifically addresses the ink used for decoration on packaging materials. **This document equally applies to printing inks, lacquers, coatings and varnishes.**

As a rule, only ink ingredients that are listed in the Swiss Ordinance on Materials and Articles can be used. In addition, this document specifies the components, listed in the Swiss Ordinance¹, which must be excluded from ink formulations.

This document **must be shared with Nestlé vendors** and upwards in the packaging value chain (ink makers, coating and overprint varnish manufacturers).

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How were selected the components on the lists?

These components have been excluded from food contact packaging because of:

- (i) uncertain or adverse toxicity
- (ii) perceived risk by consumers, media, NGO, etc.
- (iii) demonstrated migration potential
- (iv) negative sensory impact on the packed food or in points of sale

¹ The Swiss Ordinance includes two parts:

- Part A which lists the substances that have been toxicologically evaluated and for which a Specific Migration Limit (SML) has been set.
- Part B which lists the non-evaluated substances for which the default SML has been set at 0.01 mg/kg.

General**Table 1: General exclusions**

- Titanium Acetyl Acetonate (TAA) must not be used as an adhesion promoter
- Phthalate plasticizers must not be used
- Nitrocellulose resins must not be used in cases where the packaging is heated with food prior to consumption (more than 30 min at 100°C)
- Vegetable oils/fatty acid esters with strong odors must not be used (offset inks)
- Cobalt-based drying systems must not be used (offset inks)

Pigments

Rhodamine-based (“Fanal”) pigments may contain residual rhodamine, which is a suspected carcinogenic substance. These pigments are generally less stable (visual aspect changes, migrations).

Table 2: Exclusion list for pigments

Pigments	Color index	CAS number	Swiss Ordinance* listing
Pigment Red 81 and Red 81 series	45160:1	12224-98-5	B
Pigment Red 169	45160:2	12224-98-5	B
Pigment Green 1	42040:1	1325-75-3	B
Pigment Blue 1	42595.2	1325-87-7	B
Pigment Blue 62	44084	57485-98-0	B
Pigment Violet 1 and 1:x	45170:2/x	1326-03-0	B
Pigment Violet 2	45175:1	1326-04-1	B
Pigment Violet 3	42535:2	1325-82-2 67989-22-4	B
Pigment Violet 27	42535:3	12237-62-6	B
Pigment Violet 39	42555:2	64070-98-0	B

* Swiss ordinance [817.023.21](#) as applied on May1st, 2011

NOTE

Many pigments may generate Poly Chloro Biphenyls (PCBs) or are manufactured from 3,3'-dichlorobenzidine with different couplers. Consequently, the use of such pigments must be strictly minimized.

Photo-initiators Nestlé recommends the use of photo-initiators mentioned in List A of the Swiss Ordinance, i.e. those for which toxicological data exist.

Table 3: Exclusion list for photo-initiators

PI Name	CAS Number	Swiss Ordinance	Reason to exclude
2-Hydroxy 2-methyl propiophenone	7473-98-5	B	Sensory impact Migration /contamination potential
2-(Dimethylamino)ethyl benzoate	2208-05-1	B	Migration /contamination potential
Benzophenone type: - Benzophenone - 2-Methyl benzophenone - 4-Methyl benzophenone - 2,4,6-trimethylbenzophenone	119-61-9 131-58-8 134-84-9 954-16-5	A A A B	Sensory impact Migration /contamination potential
1-Hydroxycyclohexyl phenylketone	947-19-3	B	Sensory impact Migration /contamination potential
2,2-Dimethoxy 2-phenyl acetophenone	24650-42-8	B	Sensory impact Migration /contamination potential
2-Methyl 4'-(methylthio) 2-morpholinopropiophenone	71868-10-5	B	Sensory impact
- 4-Isopropyl 9H-thioxanthen-9-one	83846-86-0	A	Doubtful toxicology Perceived issue
- 2-Isopropyl 9H-thioxanthen-9-one	5495-84-1	A	
2,4-Diethyl 9H-thioxanthen-9-one	82799-44-8	B	Doubtful toxicology
Diphenyl (2,4,6-trimethyl benzoyl) phosphine oxide	75980-60-8	A	Doubtful toxicology Perceived issue

Remark: This exclusion list is not valid for UV printing on metal substrates (cans, closures) with a curing process.

Acrylates**Table 4: Exclusion list for acrylates**

Chemical name	CAS number	Swiss ordinance
Butanediol Diacrylate (BDDA)	1070-70-8	B
Diethylene glycol diacrylate (DEGDA)	4074-88-8	B
2-Ethyl hexyl acrylate (2EHA)	103-11-7	A
Isodecyl acrylate (IDA)	1330-61-6	B
Octyl acrylate (ODA)	2499-59-4	A
Phenoxy ethyl acrylate	48145-04-6	B
1, 6-Hexanediol diacrylate (HDDA)	13048-33-4	B
Mixtures of pentaerythritol tri- and tetra-acrylates (PETA)	3524-68-3	B
Tetraethylene glycol diacrylate (TEGDA)	17831-71-9	B

Solvents**Table 5: Exclusion list for solvents**

Chemical name	CAS number	Swiss ordinance
2-Methoxyethanol (methyl glycol)	109-86-4	A
2-Ethoxyethanol (Ethyl glycol)	110-80-5	A
Monochlorobenzene	108-90-7	A
Toluene	108-88-3	A
1-methyl-2-pyrrolidone	872-50-4	A

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