durst

SELF DECLARATION

On the potential use of Durst Water Technology Food Ink (Durst WT Food SP and Durst WT Food MP) for primary food packaging

Primary food packaging applications
Durst Water Technology Food Ink (Durst WT Food MP and Durst WT Food SP) has been tested by an independent testing institute (Swiss Quality Testing Services; SQTS) for its suitability for printing corrugated board and cardboard materials in the primary food packaging sector. In this context, a primary packaging is understood as a carton, box or other packaging made of suitable corrugated or cardboard material to which the digital print is applied on the exterior, non-food-contact side.

The associated testing by the independent institute Swiss Quality Testing Services (SQTS) is based on Regulation (EU) No. 10/2011 and Swiss Consumer Goods Ordinance (cf. Appendix). The test results show that Durst Water Technology Food Ink (Durst WT Food SP and Durst WT Food MP) can, if applicable, potentially be used on the outside of primary food packaging made of corrugated cardboard and paperboard materials, provided that they are used as intended in the dry food sector and with an appropriate and controlled production routine. In this context, it is also confirmed that Durst Water Technology Food Ink (Durst WT Food SP and Durst WT Food SP) is manufactured under GMP-compliant production conditions (Regulation (EC) No. 2023/2006).

Regarding the composition of Durst Water Technology Food Ink (Durst WT Food SP and Durst WT Food MP; cf. Appendix), it is further confirmed that the ink (i) is not formulated on the basis of mineral oils (see SQTS test reports in the Appendix), (ii) uses heavy metal-free organic pigments, (iii) contains no substances of animal origin, (iv) complies with the requirements of the currently applicable Swiss Ordinance, (v) complies with the current valid EuPIA guidelines and (vi) takes into account the currently applicable Nestlé Guidance Note for Packaging Inks (as of October 2018). However, depending on the scope of primary food packaging (e.g., baby products), separate and independent testing by, for example, Nestlé may be required.

It has to be noted that despite the above-mentioned independent screening tests, the responsibility for complying with the legal requirements of the final packaging system remains with the final processor. It is therefore the responsibility of the final processor to have the conformity of each end packaging separately and independently verified.

GMP manufacturing
It is herewith confirmed that Durst Water Technology Food Inks are manufactured in compliance with Good Manufacturing Practices (GMP): Printing Inks for Food Contact Materials.
The GMP aims to assist in controlling food safety hazards in the design and manufacture of inks, varnishes and coatings designed to be printed onto Food Contact Materials (FCM), and formulated for use on either the non-food contact or the food contact surfaces of food packaging and articles intended to come into contact with food. Products developed and manufactured in compliance with this GMP are supporting manufacturers of food contact materials in supplying products compliant to the applicable legislation in Europe for materials and articles intended to come into contact with food such as the Framework Regulation (EC) No 1935/2004, and GMP Regulation (EC) No 2023/2006.

For more details please refer to: https://www.eupia.org/key-topics/food-contact-materials/good-manufacturing-practice-gmp.

Furthermore, it is herewith confirmed that for Durst Water Technology Food Inks the utilized ink ingredients are tracked and recorded in a material movement system with a multi-level approach (N-Link and Barcoding; cf. Figure 1). Aside from SAP data storage, manufacturing details of each product are stored on raw material batch code level as hard copies and are maintained for 3 years.

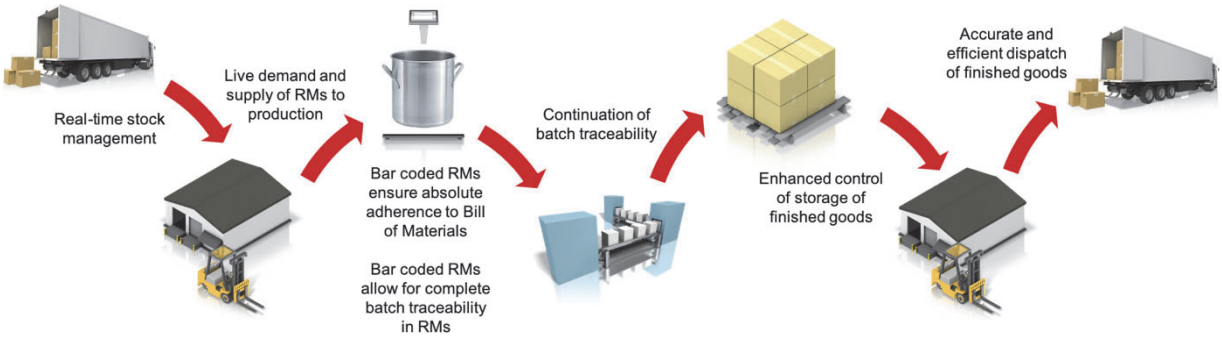

Figure 1. Raw material tracking and utilization.

Manufacturing principles and corporate policies
It is herewith confirmed that Durst Water Technology Food Inks are manufactured in compliance with the below mentioned principles:

- **Prohibition of forced or compulsory labor**
  Forced or compulsory labor, and any involvement therewith, is prohibited. Forced or compulsory Labor is defined as all work and services that are extracted from any person under the threat of penalty and for which the said person has not offered himself/herself. The most extreme examples are slave labor, prison labor, and bonded labor, but debts can also be used as a means of maintaining workers in a state of forced labor. Withholding identity papers, requiring compulsory deposits, or compelling workers, under threat of firing, to work extra hours to which they have not previously agreed, are all examples of forced labor.
- **Prohibition of child labor**
  Child labor, and any involvement therewith, is prohibited. “Child Labor” shall be defined in accordance with the International Labour Organization Minimum Age Convention, 1973 (No. 138), or the local legal minimum age for labor, whichever is higher.
- **Trade restrictions**
  From time to time, the U.S. government and the EU and its member states have economic embargoes against countries they consider to be “enemies of the state.” These are typically countries that practice or support terrorism, violate human rights standards, or engage in other unacceptable acts. As a good corporate citizen, strict compliance with these embargoes is given.

MSDS, REACH and SVHC
The Material Safety Data Sheets (MSDS) provided by Durst meet the requirements of Regulation (EC) No 1907/2006 – REACH, annex II, requirements for the compilation of safety data sheets and its further

amendments. The product labelling of Durst Water Technology Inks meets the requirements of the Regulation (EC) No 1272/2008 – CLP.

All Durst inks are not formulated to contain any Substances of Very High Concern (SVHC) as currently specified by the Registration, Evaluation and Authorisation of Chemicals legislation (REACH). This is referring to the current SVHC list as dated from January 2020. After each new update, a SVHC review is executed.

These statements apply to all Durst inks including the corresponding cleaning and storage fluids.

Further detailed information and general compliance statements
We hereby confirm that all Durst Water Technology Inks comply with the following specifications relating to human and environmental health and safety.

- **General Exclusion List for Printing Inks and Related Products of CEPE (European Council of Paint, Printing Ink and Artists´ Colours Industry)**
  The above specified inks supplied by Durst will not contain those materials excluded by the criteria or by specific description on this List. In particular, this excludes from use all materials classified according to the EC Dangerous Substances Directive (67/548/EEC) as toxic or very toxic (including carcinogenic, mutagenic and toxic for reproduction). Note that this Exclusion List has equivalent effect to the British Coatings Federation (BCF, formerly the Society of British Printing Ink Manufacturers or SBPIM) General Exclusion List for Printing Inks and related products.
- **Heavy metals**
  None of the raw materials used in the above specified inks will intentionally contain the heavy metals listed below in their molecular structure:
  - Antimony (Sb)
  - Arsenic (AS)
  - Cadmium (Cd)
  - Chromium (Cr IV)
  - Lead (Pb)
  - Mercury (Hg)
  - Selenium (Se)

  The total content of lead, mercury, chromium (VI) and cadmium combined is, therefore, less than 100 ppm. Consequently, we can confirm that the above specified printing inks supplied by Durst will comply with all current and future foreseeable provisions of the European Directive on Packaging and Packaging Waste (94/62/EC), and with the provisions of the Regulations of the Coalition of North Eastern Governors (CONEG).
  Nota bene: a random analysis according to DIN EN71-3 can be found in the Appendix.
- **Restriction of Hazardous Substances (RoHS 3) Directive 2015/863/EU and Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC**
  All inks supplied by Durst comply with the above directive. The substances excluded under RoHS 3 are lead (Pb), mercury (Hg), cadmium (Cd), hexavalent chromium (Cr VI), polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs) and specific phthalate plasticizers (BBP, DBP and DIBP). None of the products supplied by Durst are based on these materials.
- **Polychlorinated biphenyls**
  Extractable polychlorinated biphenyls (PCB) are not intentionally added to Durst Water Technology Inks.

- **Polyvinyl chloride and polyvinylidene chloride monomers**
  Residues of PVC and PVdC monomers are not intentionally added to Durst Water Technology Inks.
- **Pesticide residues**
  Pesticides are not intentionally added to the above mentioned ink products.
- **Phthalates**
  Phthalates are not intentionally added to Durst Water Technology Inks. Phthalates were formerly in common use as plasticizers in solvent-based inks for flexographic and gravure printing, but not in inkjet inks.
- **Isocyanates**
  Isocyanates are not intentionally added to Durst Water Technology Inks.
- **Brominated flame retardants**
  The products specified earlier do not contain brominated flame retardants.
- **VOCs**
  It is herewith confirmed that Durst Water Technology Inks contain the below mentioned levels of humectants, which have to be referred to as VOCs because of their boiling points:

1605554 Durst WT Food MP Ink - Black	15,00%
1605555 Durst WT Food MP Ink - Cyan	15,00%
1605556 Durst WT Food MP Ink - Magenta	15,00%
1605557 Durst WT Food MP Ink - Yellow	15,00%
1605558 Durst WT Food MP Ink - Light Magenta	15,00%
1605559 Durst WT Food MP Ink - Light Cyan	15,00%

- **Substances of specific concern**
  The below mentioned substances are not intentionally added to Durst Water Technology Inks:
  - 4,4'diaminodiphenylmethane (MDA)
  - 4-diethylaminobenzaldehyde (DEAB)
  - 5-chloro-2-(2,4-dichlorophenoxy)phenol (Triclosan)
  - Acrylamide
  - Acrylonitrile
  - Additives for vulcanization of natural and synthetic rubber
  - Alkyl Phenols (incl. ethoxylated types)
  - All types of Bisphenol
  - Azodicarbonamide, Semicarbazide & Derivatives
  - Chlorinated Paraffins
  - Chlorobenzotrifluorides
  - Di-2-Ethylhexyl Maleate (DEHM)
  - Dimethylfumarate (DMF)
  - Dioxins and Furans
  - Formaldehyde and formaldehyde donors
  - Fragrances and Essential Oils
  - Genetically modified organisms (GMO)
  - Glycol ethers classified as toxic to reproduction
  - Halogenated Solvents
  - Mineral Oils (MOSH & MOAH; cf. Appendix)
  - Perfluorocarbons (PFCs) and Ozone Depleting Substances
  - Pesticides
  - Pharmaceutical and Biological Substances
  - Phthalates

- Poly Alpha Olefins (POA)
- Polychloro Biphenyls (PCBs) and Polychloro Terphenyls (PCTs)
- Polycyclic Aromatic Hydrocarbons (PAHs)
- Polyolefin Oligomeric Saturated Hydrocarbons (POSH)
- Radioactive Substances
- Silane Coupling Agents
- Styrene
- Tin and its compounds
- Titanium Acetyl Acetonate (TAA) and 2,4-pentanedione

Independent screening tests
In case of additional screening tests required by the customer, Durst is willing to disclose under a complete Non-Disclosure Agreement (NDA) the ink recipes to selected certified, independent laboratories for compliance verification activities. The certified, independent laboratories are allowed to assess the inks/recipes accordingly, however, are not allowed to discuss or share compositional details with any other party than Durst.

General note
The above specified products as supplied by Durst will comply with this self-declaration. However, this declaration will not apply to inks which have been added to or mixed with components not supplied by Durst.

We stay at your disposal for any further question.

Best regards,

Dr. Stefan Kappaun, MBA
Executive Vice President Inks and Fluids
Durst Group

Appendix following:
Test results from independent test laboratories

sqts swiss quality testing services

CH-8953 Dietikon
Grünaustrasse 23
T +41 (0) 58 577 10 00

CH-1784 Courtepin
Rte de l'industrie 61
T +41 (0) 58 577 11 11

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Report 2021L13490 / 1

Date of report	09. June 2021 / 11:25
Invoice reference	45277214
Type of order	General tests
Client	Durst Austria GmbH, Mr. Lorenz Steidl
Sender	Durst Austria GmbH

Report	Sample
2021L13490 / 1	**Durst WT Food SP Ink 6C on test sheet E-flute, outer-liner 185g kraftliner white coated, corrugated fabric 100g, inner-liner 185g kraftliner white coated**

Sample characteristics	Sample 1	Received on	4/12/2021
Packing	bag		

This report replaces all former versions.(1)
This report is a translation of the original version.

Assessment

Based on the assumed surface-to-volume ratio, the results of the analytics as described are in compliance with:
- Commission Regulation (EU) No 10/2011
- Swiss Regulation on Food Contact Materials [CH / EU]

References

EU 10/2011	Commission Regulation (EU) No 10/2011 of 14.01.2011, as amended by No 321/2011 (01.04.2011), No 1282/2011 (28.11.2011), No 1183/2012 (30.11.2012), No 202/2014 (03.03.2014), No 865/2014 (08.08.2014), No 2015/174 (05.02.2015), No 2016/1416 (24.08.2016), No 2017/752 (28.04.2017), No 2018/79 (18.01.2018), No 2018/213 (12.02.2018), No 2018/831 (05.06.2018), No 2019/37 (10.01.2019), No 2019/988 (17.06.2019), No 2019/1338 (08.08.2019) and No 2020/1245 (02.09.2020)
EN 14338	EN 14338:2004-3: Paper and board intended to come into contact with foodstuffs - Conditions for determination of migration from paper and board using modified polyphenylene oxide (MPPO) as a simulant, March 2004
CH / EU	For the European Union, regulations from individual EU countries, the DNEL from ECHA, or the TTC concept can be used when the substance has not been evaluated. Substances on Part B of the Swiss Regulation have not been evaluated by the Swiss Authorities and should not migrate >10 µg/kg food. Assuming that the substances are non-intentionally added, according to SR 817.023.21 article 11, paragraph 3, their risk can be assessed analogous to the EU requirements.
CH BedGeg VO	SR 817.023.21: Swiss Regulation on Food Contact Materials of 16.12.2016, updated 01.12.2020

LOD: limit of detection
LOQ: limit of quantification
na: not in the accredited range
nd: not detectable

Chemical Analysis

Sample Preparation
To simulate the set-off, the sample material was stored for 10 d at 40°C under pressure (1 kg/dm²).

EU - Migration
The analysis was set-up according to EU Regulations and customer instructions.
The sample material was exposed to the simulants as follows:

Migration preparation:
- one-sided from the unprinted side

Overall Migration:
- simulant E: Tenax, 10 d / 60°C

Specific Migration:
- simulant E: Tenax, 10 d / 60°C

GC-QTOF-MS/FID Screening
Using the GC-QTOF-MS/FID screening method (PTV injection, DB-5 column and electron impact ionization), all relevant substances were compared with the NIST library and our internal library. The concentrations were calculated via the average of the added internal standards IS 1: heptadecane (CAS 629-78-7), IS 3: benzylbutyl phthalate-D4 (CAS 93951-88-3), IS 4: di-n-nonyl phthalate-3,4,5,6-D4 (CAS 1202865-43-7).

Basis of Calculation

The conversion of the measured values to foodstuff is based on the following surface-to-volume ratio (S/V).
For any other S/V the resulting migration values are different which might lead to another general assessment of the sample.

Standard S/V:	6 dm² / 1 kg food (EU cube)

Results

EU - Overall Migration
The limits are 10 mg/dm² and 60 mg/kg food according to Regulation (EU) No 10/2011 and the Swiss Regulation on Food Contact Materials. The following deviations are tolerated:
For all simulants except D2: 10 ± 2 mg/dm² and 60 ± 12 mg/kg food
For simulant D2: 10 ± 3 mg/dm² and 60 ± 20 mg/kg food

The overall migration values obtained with the tested simulants are below the limit.

GC-QTOF-MS/FID Screening

	Tenax		**Conc.**	**Standard S/V**	**SML**
RRT	**Substance**	**CAS No.**	**[mg/dm2]**	**[mg/kg food]**	**[mg/kg food]**
	limit of quantification		0.0017	0.010	
0.84	fatty acid ester		0.036	0.22	
1.11	fatty acid ester		0.0070	0.042	
----	----	sum	0.043	0.26	60
0.92	saturated hydrocarbon	C22	0.0057	0.034	
0.98	saturated hydrocarbon	C23	0.0097	0.058	
1.05	saturated hydrocarbon	C24	0.015	0.087	
1.12	saturated hydrocarbon	C25	0.021	0.13	
1.18	saturated hydrocarbon	C27	0.015	0.093	
1.25	saturated hydrocarbon	C28	0.010	0.062	
----	----	sum	0.076	0.46	e
	internal standards				
0.63	*IS 1: heptadecane*	*629-78-7*			
1.00	*IS 3: benzylbutyl phthalate-D4*	*93951-88-3*			
1.38	*IS 4: di-n-nonyl phthalate-3,4,5,6-D4*	*1202865-43-7*			
RRT	*relative retention time*				

[e] specific analysis recommended

Migration / Extraction

Parameter *Method (location)*	Result	Units		
Set-Off, 10 d / 40°C *LMPMET0705 Gravimetry (Dietikon)*	**done**			
10 d / 60°C				
Migrate Tenax *MIGMET003 (Dietikon)*	**done**			
Overall migration Tenax *LMPMET0705 Gravimetry (Dietikon)*	**1**	mg/dm²	10 limit (EU 10/2011) 10 limit (CH BedGeg VO)	LOQ: 1
Overall migration Tenax *LMPMET0705 Gravimetry (Dietikon)*	**6**	mg/kg food	60 limit (EU 10/2011) 60 limit (CH BedGeg VO)	LOQ: 6

Specific substances

Parameter *Method (location)*	Result	value / Legal Basis of assessment
Tenax		
Screening GC-QTOF-MS/FID *FCMMET03SCR GC-QTOF-MS/FID (Dietikon)*	**done**	

(1) Report correction on customer request.
Correction: Parameter/parameter groups / Assessment

Report released by: Anja Billeter, Technical Manager
This report is signed electronically and therefore valid.

For further inquiries you can contact your customer consultant:
Mr Dr. Thomas Gude phone number (direct) +41 58 577 10 80

LOD: limit of detection
LOQ: limit of quantification
na: not in the accredited range
nd: not detectable