PRINTING TLDR

FIELD REPORT · 2026

The 10 October Deadline Nobody in DTF Is Discussing

PFHxA, REACH Entry 79, and why an OEKO-TEX certificate on your ink is not evidence of compliance.

25 ppb — the PFHxA limit on clothing placed on the EU market

2,000x — looser is the fluorine screen your certificate actually ran

0 — DTF suppliers whose product pages mention any of this

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Large Format & DTF Printing Specialist · Printing TLDR · September 2026 · Version 2, October 2026
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How to read this report

This report is about a deadline, an exposure, and an absence of data. It does not claim that DTF inks breach REACH Entry 79. Nobody has published a test either way, and this report did not commission one.

What it does is trace a chain that is individually well-documented at every link and has never been connected in print: fluorosurfactants are the standard additive for jetting onto low-surface-energy film, C6 fluorotelomer chemistry degrades to PFHxA, PFHxA in clothing placed on the EU market is capped at 25 ppb from 10 October 2026, and the certificate most DTF suppliers hold measures something else entirely.

Where a link in that chain is documented, it is sourced. Where it is inference, the sentence says so. The purpose is to get the question asked now, by you, rather than later by a customer.

A note on the date

A widely-circulating summary places this deadline in January 2027. That is wrong, and the error moves it fifteen months in the safe direction. January 2027 is a California date — AB 1817's total organic fluorine threshold dropping from 100 ppm to 50 ppm. The EU restriction on clothing and accessories applies from **10 October 2026**.

About this version

Version 2, October 2026. The September edition was written before the application date. This edition is revised for tense now that the date has passed, the closing supplier-query line is updated to match, and the calculator link points to printingtldr.com. No finding, figure or source has changed.

EXECUTIVE SUMMARY

Six Findings That Matter

A restriction written for waterproof jackets now applies to decorated apparel, and the DTF supply chain has not noticed.

1 **The date was 10 October 2026, and the restriction covers articles**

REACH Annex XVII Entry 79, added by Commission Regulation (EU) 2024/2462, caps PFHxA and its salts at 25 ppb, and PFHxA-related substances at 1,000 ppb, measured in homogeneous material, in textiles and clothing accessories for the general public. **It restricts placing the article on the market, not just selling the chemical.** A decorated t-shirt is an article. Other textiles for the general public follow on 10 October 2027.

2 **Fluorosurfactants are the standard answer to the exact problem DTF has**

DTF jets water-based ink onto PET film. PET is a low-surface-energy plastic film, and fluorosurfactants are the highest-performing wetting and levelling additives for precisely that case — documented in supplier literature and in inkjet formulation patents, at roughly 0.1 to 5% by weight. **The dominant commercial fluorosurfactant chemistry is C6 fluorotelomer, which degrades to PFHxA.** That is the chain, and every link of it is public.

3 **Nobody has measured whether it matters**

No published test exists of PFHxA content in a finished DTF transfer. Not from a supplier, not from a trade body, not from a laboratory. **This report is not evidence that DTF prints breach Entry 79. It is evidence that nobody can currently say they do not** — which, now that the application date has passed, is the finding.

4 **An OEKO-TEX certificate on your ink is not Entry 79 compliance**

ECO PASSPORT carries a total fluorine limit — 100 ppm from 2024, tightening to 50 ppm from June 2026. Entry 79 caps PFHxA specifically at 25 ppb. **Those are different measurands three orders of magnitude apart.** A product can sit comfortably inside a 50 ppm total fluorine screen and be far outside a 25 ppb PFHxA limit, because total fluorine does not tell you which fluorine.

5 **The DTF category has no vocabulary for this yet**

A survey of DTF ink, film and powder product pages across the major suppliers found **not one mention of PFAS, PFHxA, total fluorine, or Entry 79.** The category's language is "non-toxic" and "eco-friendly" — terms with no standard behind them. Two suppliers cite OEKO-TEX. None cites a fluorine result. The silence is uniform, which suggests the question has not been asked rather than answered and buried.

6 **France is already live, and California is next**

French Decree 2025-188 banned PFAS in consumer clothing from 1 January 2026 — already in force, with stock manufactured before that date sellable until 1 January 2027. California AB 1817 drops its total organic fluorine threshold from 100 ppm to 50 ppm on 1 January 2027. If you sell decorated apparel into France, this is not a future deadline. It is a current one you may already be past.

What this adds up to

Entry 79 now applies to a product you make, on a substance nobody in your supply chain has tested for, verified by a certificate that measures something else.

The action is not to stop printing. It is to send one email to every ink, film and powder supplier asking a specific, answerable question, and to keep the reply. Section 05 has the wording.

The realistic outcome is that most DTF chemistry turns out to be fine. Pigment inks are not durable water repellents, and the fluorosurfactant load is small. But "most probably fine" is not a compliance position, and it is not what you tell a brand customer who asks.

SECTION 01

What Entry 79 Actually Restricts

Commission Regulation (EU) 2024/2462 added Entry 79 to REACH Annex XVII on 20 September 2024, entering into force on 10 October 2024 with transitional periods running from 18 months to 5 years by product category. It restricts undecafluorohexanoic acid, its salts, and PFHxA-related substances.

The thresholds and the dates

FROM	APPLIES TO	LIMIT
10 April 2026	Fire-fighting foams for training, testing and public fire services	25 ppb PFHxA and salts / 1,000 ppb PFHxA-related substances
10 October 2026	**Textiles, leather, furs and hides in clothing and related accessories for the general public.** Footwear for the general public. Paper and cardboard as food contact materials. Consumer mixtures. Cosmetics.	Same
10 October 2027	Textiles, leather, furs and hides for the general public other than clothing and accessories — upholstery, curtains, outdoor furniture fabrics	Same
10 October 2029	Fire-fighting foams in civil aviation	Same

Measured in homogeneous material. Exemptions exist for certain Category III personal protective equipment, medical devices, and construction textiles.

What "PFHxA-related substances" covers

The regulation does not publish a list of banned substances. It defines them structurally: substances having a linear or branched perfluoropentyl group with the formula C5F11 directly attached to another carbon atom, or a linear or branched perfluorohexyl group with the formula C6F13, with specific structural exclusions.

That definition is why the restriction reaches further than its headline suggests. It captures anything that can degrade or transform into PFHxA, which is the point — PFHxA came into wide use as the short-chain replacement for PFOA after PFOA was restricted. Entry 79 is the regulator catching up with the substitution.

What the restriction was aimed at

Entry 79 was written with oil- and water-repellent finishes in mind. One European textile manufacturer describes it plainly as mainly restricting the circulation of products with an oil-repellent C6 finish, and notes it is not a general ban on processing C6 chemistry.

That matters for honest scoping. A DTF transfer is not a durable water repellent, and nothing here suggests DTF was the target. But Entry 79 restricts a concentration in an article, not an application. It does not ask what the fluorine was for.

SECTION 02

Why This Reaches DTF

The connection runs through a formulation problem DTF has and other textile processes do not: you are not jetting onto fabric. You are jetting onto plastic.

The wetting problem

DTF prints CMYK and white onto PET carrier film before any fabric is involved. PET is a low-surface-energy substrate, and getting a water-based ink to wet, spread and level evenly on it — without dot gain, without beading, without drying in the nozzle — is the central formulation challenge of the process.

Fluorosurfactants are the standard high-performance answer. Supplier technical literature for the category is explicit: they are the most effective additives at reducing surface tension, can take water-based ink formulations to roughly 18 dynes/cm at very low use rates, and are specifically recommended as wetters for printing on low-energy surfaces such as plastic films. Hydrocarbon surfactants reach about 30 dynes/cm and silicone surfactants about 25 — neither gets close.

Inkjet formulation patents put typical fluorosurfactant loading between roughly 0.1% and 5% by weight. This is not an exotic additive. It is a normal one, chosen because it solves the exact problem DTF has.

From fluorosurfactant to PFHxA

The dominant commercial fluorosurfactant chemistry since the PFOA restrictions is short-chain C6 fluorotelomer. C6 fluorotelomer substances degrade to PFHxA, which is precisely why Entry 79 was written the way it was — structurally, to catch precursors rather than only the acid itself.

So a C6 fluorosurfactant in a DTF ink is, on the face of the definition, a PFHxA-related substance. The 1,000 ppb limit for PFHxA-related substances is the one that would apply, with 25 ppb for PFHxA and its salts if any has formed.

Where the chain stops being documented

Everything above is sourced. What follows is not, and the distinction matters.

- Which DTF inks actually contain fluorosurfactants is not disclosed. Safety data sheets in this category typically name hazardous constituents only, and a surfactant at sub-1% frequently does not trigger disclosure.
- Whether residue survives into the finished garment at measurable concentration is untested. The ink layer transfers, so anything in it goes with it — but concentration in the homogeneous material of a printed transfer is an empirical question nobody has answered publicly.
- How “homogeneous material” applies to a printed layer on a garment is unsettled. If the transfer is assessed as its own homogeneous material, the concentration is calculated across a thin layer rather than the whole shirt, which is the less forgiving reading.

> **The honest position, stated once**
>
> This report does not claim DTF prints breach Entry 79. It claims the mechanism is plausible, the regulation clearly covers the product, the restriction now applies, and nobody in the supply chain has published anything either way.
>
> If your ink uses a hydrocarbon or silicone surfactant — entirely possible, and common in lower-cost formulations — none of this touches you. You do not know which you have, and that is the actual problem.

SECTION 03

Why Your Certificate Is Not Compliance

If your ink holds OEKO-TEX ECO PASSPORT, the reasonable assumption is that PFAS has been handled. The assumption is half right, and the half that is wrong is the half that matters from 10 October.

What OEKO-TEX actually tests

OEKO-TEX replaced its extractable organic fluorine method with a **total fluorine** limit of 100 mg/kg from 1 January 2024, applying across STANDARD 100, ECO PASSPORT, LEATHER STANDARD and ORGANIC COTTON. Driven by California legislation, that limit tightens to **50 mg/kg from June 2026**. Intentional use of PFAS is banned under the scheme, and textile finishing using C4 fluorotelomer alcohols or higher no longer meets requirements.

That is a real control and it is getting stricter. It is also a screen, not a substance-specific test, and OEKO-TEX is open about why: PFAS comprises several thousand substances and identifying every compound is not technically feasible, so testing covers the textile-relevant PFAS defined in EN 17681-1:2025.

The arithmetic nobody puts side by side

	OEKO-TEX TOTAL FLUORINE	REACH ENTRY 79
What is measured	Total fluorine — all fluorine present, whatever its origin	PFHxA and its salts specifically; PFHxA-related substances separately
Limit	50 mg/kg from June 2026 (was 100)	25 ppb PFHxA and salts; 1,000 ppb PFHxA-related
Same units	50 mg/kg = 50 ppm = **50,000 ppb**	**25 ppb**
Ratio	—	The screen is **2,000× looser** than the substance limit
What passing proves	Total fluorine is low. Says nothing about which fluorine.	That specific substance is below the restricted concentration

Total fluorine and substance-specific analysis are different measurements. Neither substitutes for the other.

Read that third row again. A material can return a total fluorine result well inside the 50 ppm screen and still contain PFHxA at many multiples of 25 ppb, because 25 ppb is 0.05% of the screening threshold. Passing one is not evidence about the other, and the gap is wide enough that the intuition — low fluorine means low PFHxA — simply does not hold at these limits.

The scope problem, again

There is a second layer to this, and it is the same distinction that runs through DTF powder certification. Since October 2025 the French PFAS requirements have been integrated into STANDARD 100, and from 1 January 2026 certified products must meet a limit of 25 ppb for each regulated PFAS substance. That is substance-specific and at the right order of magnitude.

STANDARD 100 certifies the finished article. ECO PASSPORT certifies the chemical input. Your ink supplier holds ECO PASSPORT, because that is the correct certification for an ink. Which means **the substance-specific 25 ppb testing sits on a certification your supplier does not hold, for an article they do not make.**

The article is the decorated garment. You make that. And if you are printing onto blanks you bought, the blank's STANDARD 100 certificate was issued before your ink was on it.

The exception route, and what it tells you

OEKO-TEX's 2026 rules add a process worth knowing about: if total fluorine exceeds the limit but the applicant can demonstrate the fluorine comes from a non-PFAS source, an exception can be granted — on submission of production documentation naming the specific substance responsible.

That mechanism exists because fluorine turns up in materials for reasons that are not PFAS. It is also a reminder that the burden is documentary. When someone asks what is in your transfer, the answer that works is a named substance from a supplier, not a logo.

What a compliant answer would look like

For an ink, film or powder supplier, three things would settle this and none of them are onerous:

- A statement that the formulation contains no intentionally added PFHxA, PFHxA salts or PFHxA-related substances, naming the surfactant class actually used — fluorosurfactant, hydrocarbon, silicone or acetylenic diol.
- A total fluorine result for the product with the test date, plus the method.
- Where fluorine is present, a substance-specific PFHxA analysis against the Entry 79 thresholds, by EN 17681-1:2025 or equivalent.

The first costs a supplier nothing but a look at their own formulation sheet. If a supplier cannot or will not answer the first one, that is the informative outcome and it arrives free.

SECTION 04

Who Is Liable, and the Other Deadlines

Entry 79 restricts placing on the market and use. In a DTF workflow that phrase reaches further down the chain than most shops assume.

The print shop is a placer on the market

When you print a transfer, press it onto a blank, and sell the decorated garment in the EU, you have placed a textile article in clothing for the general public on the market. The restriction attaches to that act.

This is different from PPWR, which is worth stating clearly because the two get conflated. PPWR Article 5 applies to food-contact packaging from 12 August 2026 and does not touch a decorated t-shirt. If your work is apparel, PPWR is industry news and Entry 79 is an action item. A great deal of the compliance content circulating this year has that the wrong way round.

Your practical exposure depends on who you sell to. A shop doing club kit and event tees for local customers carries a theoretical risk that nobody is likely to test. A shop supplying a retail brand, a workwear contract, or anything sold into a chain with a compliance department carries a real one — because that customer will eventually send a restricted substances questionnaire, and "our ink is OEKO-TEX" is not going to close it.

The other deadlines on the same chemistry

JURISDICTION	REQUIREMENT	STATUS
France Decree 2025-188	PFAS banned in consumer clothing, footwear and waterproofing agents. Extends to all textiles by 2030.	In force since 1 January 2026. Stock manufactured before that date sellable until 1 January 2027.
EU REACH Entry 79	PFHxA 25 ppb / PFHxA-related 1,000 ppb in clothing and accessories	Applies from 10 October 2026. Other textiles 10 October 2027.
California AB 1817	No intentionally added PFAS in textile articles; total organic fluorine cap	In force since 1 January 2025 at 100 ppm. Drops to 50 ppm on 1 January 2027.
New York ECL §37-0121	No intentionally added PFAS in apparel	In force since 1 January 2025. Severe-wet-conditions outerwear restricted from 2028.
EU Universal PFAS restriction	Proposed restriction across the whole PFAS group	Not law. ECHA opinions expected end 2026, Commission vote anticipated 2027.

The pattern is worth naming. Four jurisdictions, four different measurement bases — intentional addition, total organic fluorine, total fluorine, substance-specific ppb — and no two thresholds expressed in the same units. A supplier can truthfully claim compliance with one while saying nothing about the others, and most compliance language in this category is doing exactly that without meaning to deceive.

SECTION 05

What To Do Now

This costs one afternoon and some emails. The point is not to achieve certainty — that is not available. It is to have asked, in writing, and to know where you stand.

Send this to every ink, film and powder supplier

Copy it as-is. It is deliberately narrow, answerable from a formulation sheet, and does not ask anyone to commission testing:

> **Supplier query**
>
> *Regarding [product name and code]:*
>
> *1. Does the formulation contain any intentionally added PFHxA, PFHxA salts, or PFHxA-related substances as defined in REACH Annex XVII Entry 79, added by Commission Regulation (EU) 2024/2462?*
>
> *2. Which surfactant class does the formulation use — fluorosurfactant, hydrocarbon, silicone, or acetylenic diol? If fluorinated, is it C6 fluorotelomer chemistry?*
>
> *3. Do you hold a total fluorine result for this product? If so, please supply it with the test date and method.*
>
> *4. Do you hold substance-specific PFHxA analysis against the 25 ppb and 1,000 ppb thresholds?*
>
> *5. If you hold OEKO-TEX certification, is it ECO PASSPORT or STANDARD 100, and what is the certificate number?*
>
> *We sell decorated apparel into the EU and are documenting our position now that the 10 October 2026 application date has passed.*

Then do these four things

1. **File every reply, including the non-replies.** A dated record showing you asked is worth considerably more than a certificate you cannot interpret. Note who did not answer.
2. **Check which OEKO-TEX programme each certificate is.** ECO PASSPORT on the ink is correct and expected. It is not article-level PFAS testing, and you should not represent it as such to a customer.
3. **Ask your blank supplier separately.** Their STANDARD 100 certificate was issued for an undecorated garment. Whatever you print onto it is not covered by it.
4. **Prepare one paragraph for customer questionnaires.** When a brand's compliance team asks, you want a considered answer on file rather than one written under time pressure. State what you asked, what you were told, and what remains unverified. That is a defensible position. An overclaim is not.

What not to do

Do not tell customers your prints are PFAS-free unless a supplier has put that in writing for the specific product code. It is the one move here that converts an uncertain position into a false statement.

Do not switch inks in a panic. You have no data showing your current ink is a problem, and no data showing a replacement is better. Changing a validated ink in a rush trades a documentation gap for a production one.

Do not pay for testing yet. Substance-specific PFAS analysis is expensive and the burden sits more naturally with the formulator than with you. Ask first. Test only if a customer contract requires it or a supplier refuses to answer.

If you supply DTF chemistry, read this part

There is a commercial opportunity here that closes the moment somebody takes it. The DTF consumables market is crowded, undifferentiated, and competes on price and delivery. Nobody in it has published a fluorine position.

The first ink, film or powder supplier to publish a total fluorine result and a plain statement about surfactant chemistry gets to own the compliance conversation in this category for as long as the others stay quiet. It is a test and a paragraph. Set against the cost of a trade show stand, it is nothing, and it is the only claim in this market that a brand customer's compliance department would actually care about.

The alternative is a customer questionnaire your distributors cannot answer, about a product you have already reformulated.

The one thing to take from this report

A restriction written for waterproof jackets applies to decorated apparel from 10 October 2026, on a substance class that is the standard solution to DTF's central formulation problem, and the certificate your supplier holds screens for total fluorine at a threshold two thousand times looser than the substance limit.

Nobody has tested this. Send the email in Section 05, keep the replies, and do not claim more than you can show. The likely answer is that your chemistry is fine. You still need to be able to say so.

METHODOLOGY

Sources, Method, and What We Corrected

Method

This analysis synthesises regulatory texts, certification scheme documentation, chemical supplier technical literature, inkjet formulation patents, and DTF supplier product documentation, current to September 2026. It is editorial analysis, not primary research. No testing was commissioned, no laboratory work underlies it, and no supplier reviewed, sponsored, or was given advance sight of any part of it.

Regulatory thresholds and dates are taken from Commission Regulation (EU) 2024/2462 as reported by accredited testing bodies, and cross-checked across four independent compliance summaries. Certification limits are from OEKO-TEX and Hohenstein published documentation. The fluorosurfactant chain in Section 02 is documented at each link and labelled where it becomes inference.

The product page survey

The claim that no DTF supplier addresses this rests on a review of publicly accessible product and category pages across major DTF ink, film and powder suppliers serving the US and European markets in September 2026. None mentioned PFAS, PFHxA, total fluorine, or REACH Entry 79. Two referenced OEKO-TEX certification without specifying the programme or a fluorine result.

This is a survey of marketing pages, not of technical documentation held behind sales conversations. It establishes that the topic is absent from public-facing material. It does not establish that suppliers hold no data.

What we corrected

CLAIM AS RECEIVED	CORRECTION
A new REACH PFAS textile cap takes effect January 2027	Wrong regulation and wrong date. January 2027 is California AB 1817's total organic fluorine threshold dropping to 50 ppm. The EU REACH Entry 79 restriction on clothing and accessories applies from 10 October 2026 — fifteen months earlier.
PPWR is the compliance story for this audience	PPWR Article 5 governs food-contact packaging from 12 August 2026. It does not apply to decorated apparel. For a DTF or garment decoration audience, Entry 79 is the relevant instrument and PPWR is not.

What we left out, and why

Any estimate of PFHxA concentration in a DTF print. No published figure exists and no defensible method for estimating one from first principles is available. Producing a number would have meant inventing it, and a fabricated concentration in a compliance report is worse than no report.

A named list of which inks contain fluorosurfactants. Formulations are not disclosed and sub-1% surfactants frequently fall below safety data sheet reporting thresholds. Assembling a list from inference would have produced accusations rather than analysis.

Testing cost estimates. Quotes for substance-specific PFAS analysis vary widely by laboratory, matrix and turnaround, and no representative range could be established from public sources.

Principal sources

Regulation: Commission Regulation (EU) 2024/2462 amending Annex XVII to Regulation (EC) No 1907/2006 as regards undecafluorohexanoic acid (PFHxA), its salts and PFHxA-related substances, as summarised by UL Solutions, TÜV Rheinland, TÜV SÜD, Bureau Veritas CPS, SATRA and Trace One.

Certification: OEKO-TEX Association annual regulation updates 2024 and 2026; Hohenstein, Total Fluorine and PFAS Compliance for U.S. and EU Markets; Hohenstein OEKO-TEX General Ban on PFAS; Testex and Exponent analyses of the total fluorine limit change; EN 17681-1:2025 as referenced in OEKO-TEX testing documentation.

Fluorosurfactant chemistry and inkjet formulation: ChemPoint technical documentation on fluorosurfactants for inkjet inks; SpecialChem fluorosurfactant product documentation; US Patents 7696262, 8778074 and 9957401 on wetting agent combinations and solvent-based inkjet formulations; Surfactants in Ink-Jet Inks (review literature).

Other jurisdictions: French Decree 2025-188 of 27 February 2025 as reported by Fieldfisher and Première Vision; California AB 1817 as reported by California DTSC, Eurofins and bluesign; New York Environmental Conservation Law §37-0121.

DTF supplier documentation: Public product and category pages from Lawson Screen & Digital, STS, Roland, DTF PRO, AA Print Supply, GPI Supplies, McLogan and others, reviewed September 2026.

Prior Printing TLDR analysis: Black DTF Powder (September 2026) for the ECO PASSPORT versus STANDARD 100 scope distinction; Wide Format Market Landscape 2026 (July 2026) for PPWR scope and the reformulation context.

About the author

Kjell Karlsson has spent 30+ years in large format printing and 10+ years specialising in DTF, including early DTF ink experimentation at Marabu in 2012 — predating commercial DTF printers. His background is ink chemistry and manufacturing, which is the part of this report he is best placed to write and the reason the fluorosurfactant chain in Section 02 is traceable at all. He is not a regulatory lawyer, and nothing here is legal advice. Where a claim depends on legal interpretation rather than published text, it is flagged as unsettled.

He writes Printing TLDR, a vendor-neutral intelligence brand for large format and DTF printing professionals.

A standing offer

If you find an error in this report, tell me and I will correct it and say so. If you are a supplier and you hold a total fluorine or PFHxA result for a DTF product, I will publish it — credited, and without commentary if you prefer. This category needs one supplier to go first. hello@printingtldr.com

Run the numbers on your own floor

Compliance tells you what you can sell. It does not tell you whether the job clears its cost.

Free calculators for DTF consumable cost and margin, cost per square foot, DTF printer payback, and latex versus eco-solvent TCO: **printingtldr.com/dtf-printing-tools/**

The DTF Printing Profit Blueprint — 122 pages and 8 Excel templates covering costing, pricing and capacity planning: **printingtldr.com/dtf-printing-profit-blueprint/**

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