



“NO PHENOLS ADDED” THERMAL PAPER CERTIFICATION



Supply chain substitution workshop on alternatives to bisphenol A in thermal paper

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26 March 2019



maîtriser le risque |
pour un développement durable |

The French competence center for industrial safety and environmental protection

Public establishment of an industrial and commercial nature under the tutelage of the French Ministry of the Environment

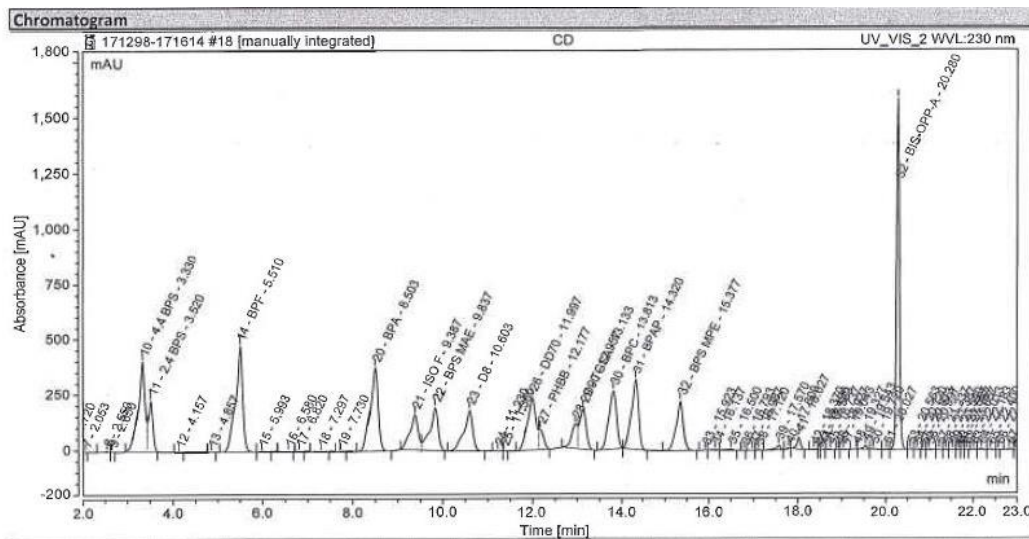


Our mission is to contribute to the evaluation and prevention of the risks that economic activities induce for the environment, health and safety of people and goods.

Story of the “BPA free” and “No phenols added certification”

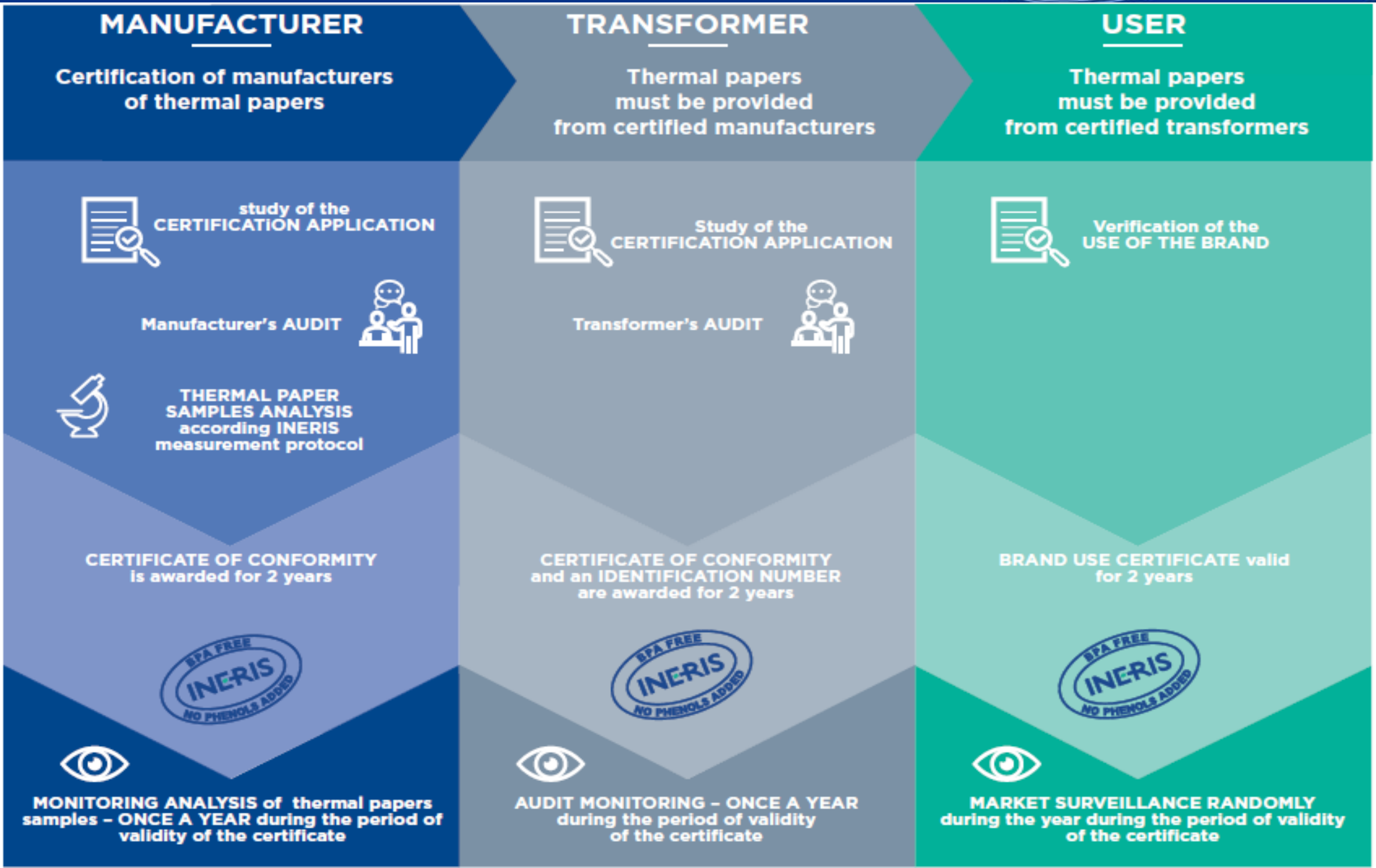
INERIS developed the certification “BPA Free” and “No phenols added” in 2017 in response to the French National Strategic Plan against Endocrine Disruptor.

These certifications guarantee that there is no Bisphenol A and other fifteen phenolic compounds in thermal papers



Nom ou formule	Nom commercial	CAS	Formule chimique
2,2-Bis(4-hydroxyphenyl)propane	BPA	80-05-7	
Bis(4-hydroxyphenyl)sulfone	4,4'-Bisphenol S ou Bisphenol S ou BPS	80-09-1	
4,4'-di(hydroxydiphényl)méthane	Bisphénol F ou BPF	620-92-8	
BIS(2-HYDROXYPHENYL)METHANE	ISO F	2467-02-9	
2,4'-Dihydroxydiphényl sulfone	2,4'-Bisphenol S	5397-34-2	
2,2-bis(2-hydroxy-5-biphényl)propane	BisOPP-A	24038-68-4	
bis-(3-allyl-4-hydroxyphényl) sulfone (TGSA)(2,2')-diallyl-4,4'-sulfonyldiphénol)	TGSA	41481-66-7	
1,7-bis(4-Hydroxyphénylthio)-3,5-dioxaheptane	DD 70	93589-69-6	
4-Hydroxy-4'-isopropoxydiphénylsulfone (D8)	D8	95235-30-6	
4,4'-(α-Méthylbenzylidène)diphénol	Bisphénol AP ou BPAP ou BAISTER ou P-1	1571-75-1	
4,4'-(1-méthylethylidène)bis(2-méthylphénol)	Bisphénol C ou BPC	79-97-0	
Benzyl 4-hydroxybenzoate; Benzylparaben (BzP)	PHBB	94-18-8	
4-[[4-(2-propen-1-yloxy)phényl]sulfonyl]phénol	BPS-MAE	97042-18-7	
4-[[4-Benzyloxyphényl]sulfonyl]phénol	BPS-MPE	63134-33-8	
4-[4'-[[1'-méthylethoxy]phényl]sulfonyl]phénol	D90	191680-83-8	

Certification Rules





Certification of "BPA FREE" and "NO PHENOL Added" Thermal Papers

Daily handling of thermal paper containing BPA presents a risk for users¹. To protect users' health, INERIS has developed voluntary certification of BPA-free products.

Bisphenol A, an endocrine disruptor

BPA, used as a monomer in polycarbonate-type plastic manufacturing and epoxy resin, is present in different everyday objects such as kitchen utensils, CDs and DVDs, glasses, toys, food containers...

It is also part of the composition of thermal papers, used primarily as cash register and credit card receipts.

BPA is an endocrine disruptor that can alter the functions of hormonal systems and be harmful to the health of living organisms.

Creation of INERIS's "BPA FREE" label

Ineris has developed a "BPA FREE" label available to professionals.

This voluntary label, issued by Ineris, guarantees that cash register and credit card receipts do not contain the three phenolic compounds bisphenol A, S and F. It can be issued to producers of thermal papers as well as their users, such as supermarket chains.

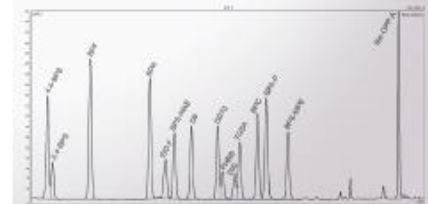
Extension of the "BPA FREE" label to the "NO PHENOL Added" label

Ineris has created a second, broader label guaranteeing the absence in thermal papers of all phenols and bisphenols (including bisphenol A, bisphenol S and bisphenol F) known to be used in these papers as thermal developers, which includes fifteen phenolic compounds.

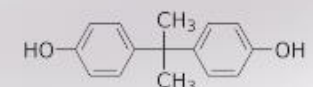
¹ Migration of bisphenol A from cash register receipts and baby dummies - Carsten Lassen, Sonja Hagen Mikkelsen and Ulla Kristine Brandt (DOWI A/S)
² <https://echa.europa.eu/fr/-/misc-unanimously-agrees-that-bisphenol-a-is-an-endocrine-disruptor>

Companies certified in 2017

Since December 2016, BPA has been identified by the EU Member States Committee as a **substance of very high concern** due to its reprotoxic properties and since 2017 for its **endocrine disrupting properties causing probable serious effects to human health and the environment**². For the last several years, Ineris has been performing research and offering technical support to the Ministry of Ecology on the risks related to endocrine disruptors.



Chromatography of 15 phenolic compounds present in thermal paper



Bisphenol A (BPA) : (4,4'-dihydroxy-2,2-diphenylpropane)

Thank you for you attention

Do you have any questions ?

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