FOOD ANALYSES

SAFE SUSTAINABLE SOLUTIONS

Food contact legislation indicates clearly that in some cases the material compliance can be demonstrated with analysis to be performed directly on food, expecially if the packaging is dedicate to particular food.
In the types of testing hierarchy, it is clear that in-food migration is greater importance than simulant testing; in fact, **EU Reg. 10/11 about plastic materials, a refence for the entire food contact materials chain**, states:

"**"The results of specific migration tests obtained in food products prevail over the results obtained in food simulants. The results of specific migration tests obtained in food simulants prevail over the results obtained from the screening procedure"**
(Art. 18 Reg. UE 10/2011)

The Fiche MCDA n°4 (V02 – 01/01/2019) Aptitude au contact alimentaire des matériauxorganiques à base de fibres végétales destinés à entrer en contact avec des denrées alimentaires states:

"Les résultats des essais de migration dans les denrées alimentaires priment sur ceux obtenus dans les simulants de denrées alimentaires. Les résultats des essais de migration dans les simulants de denrées alimentaires priment sur la vérification de la conformité par des méthodes de calcul".

DG CCRF

The chance to use the real migration assessment in food was also confirmate from BRF document "Guideline for the safety assessment of substances for the manufacture of food contact materials and articles" - 01.03.2022 that concerns all food contact materials.
The document reports this specific paragraph:

5.5.1.2 Migration measurements in food
"Measurements in food are necessary when there is uncertainty whether the migration in simulants correctly reflects the migration in food. The choice of test foodstuffs and contact conditions must be made according to the state of scientific knowledge and must be justified. The correctness of the measurements in food must be proven (e.g. via recovery tests)."

BfR
German Federal Institute for Risk Assessment

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WHY CHOOSE TO CARRY OUT FOOD ANALYSES?

- In some cases it is observe that simulant's food analisys lead to a **overestimation of the specific migration result**. Instead, in-food analysis, simulating the material under **real condition**, could avoid that problem.
- The use of food is particularly useful also for testing a **entire food machinary** with **only one analisys** instead of analysing each single part. This approach is the only one possible in case that the food machinary is already in use and therfore cannot be tested that it is not possible to use simulant.

WHICH ARE THE ISSUES RELATED TO FOOD ANALYSES?

- They are **complex analysis**, that needs expensive materials for the purification, know-how and instruments that few laboratory have.
- Due to their complexity, feed analysis require a specific **method validation** for each matrix and for each analyte you want to test, and **recovery test** to verifiy that the matrix does not reduce the method sensitivity.
- Another sensitive aspect of that analysis concerns the **correct food selection** use and the **correct test condition**. Concern the test condition, is appropriate use realistic contact condition. For food section, when the object is not intended to specific food, is necessary to select different type of food with different mining capacities.

OUR SOLUTION

Food Contact Center, *in line with the normatives and customers needs,* ***has validated and accredited some migrations methods of FCMs contaminants in food,*** *to perform tests that are the only solution to demonstrate the objects' compliance , corroborated also with the* ***Accredia Mark.***

Pizza/Pizza, Prodotti da forno/Bakery products

Denominazione della prova / Campi di prova	*Metodo di prova*	*Tecnica di prova*
2-2-Bis(4-idrossifenil)propano (Bisfenolo A) (BPA)/2-2-bis(4-hydroxyphenyl)propane (Bisphenol A) (BPA) (0.02 - 1 mg/Kg di alimento pizza)	MHTH083 rev.2 2023	LC-MS
Benzil butilftalato (BBP)/Benzyl butylphthalate (BBP), Di-2-etilesilftalato (DEHP)/Di-2-ethylhexylphthalate (DEHP), Di-butilftalato (DBP)/Di-butylphthalate (DBP), Di-isobutilftalato (DIBP)/Di-isobutylphthalate (DIBP), Di-isodecilftalato (DIDP)/Di-isodecylphthalate (DIDP), Di-isononilftalato (DINP)/Di-isononylphthalate (DINP) (0,01 - 2 mg/Kg di alimento pizza)	MHTH086 rev. 1 2023	GC-MS/MS

Materiali ed articoli in alluminio destinati a venire in contatto con alimenti carnei o ittici/Alluminium materials and objects in contact with meat products and seafood

Denominazione della prova / Campi di prova	*Metodo di prova*	*Tecnica di prova*
Migrazione specifica di Alluminio/Specific migration of Aluminium (0,7 - 50 mg/kg)	MHTH084 rev.3 2022	ICP-MS

Materiali ed articoli in acciaio non rivestiti destinati a venire in contatto con prodotti derivati dalla farina umidi e secchi/Steel materials and objects in contact with wet and dried flour based products

Denominazione della prova / Campi di prova	*Metodo di prova*	*Tecnica di prova*
Migrazione specificadi Ferro/Specific migration of Iron (2 - 50 mg/kg)	MHTH085 rev.3 2022	ICP-MS

The Laboratory's Management

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