What are Food Contact Materials?

“Food Contact Materials”, or FCMs for short, refers to all materials that come into contact with food.

Migration is a natural and unavoidable phenomenon that occurs in all materials. Whenever two materials come into contact with each other, substances can migrate from one material into another. This also happens with food packaging and food.

Risk assessments make sure that Food Contact Materials are safe

A risk assessment is based on different elements to assess potential health risks associated with exposure to substance migration into the food.

Quantity is key

Even natural substances can interact with the body but would only cause adverse effects from a certain dose. It is the quantity which sets the risk.

Water:
Water is vital for leading a healthy lifestyle. We need water to remain hydrated and energised.
Adequate Daily Intake: around 2.5 litres

Coffee:
Coffee has antioxidants and nutrients that contribute to good health. Coffee increases your focus and can improve energy levels.

ADI: 400 milligrams

Soy sauce:
Soy sauce has some great health benefits: it is low in calories and very high in natural antioxidants.

ADI: 2 tablespoons (32 grams)

Why is packaging so important?

Packaging plays an important role in ensuring the freshness of food, extends its shelf life and helps to improve the quality of products for consumers.

According to the WHO, in the less developed world up to 50% of all food is wasted between harvest and home.

In a sustainable society, using modern packaging and storage systems, wastage is reduced dramatically to around 3%.

In the UK, more than 1 million people per year have been poisoned by deteriorated food, leading to 500 deaths.

... But adequate food packaging could change this!
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Water intoxication can occur when a person drinks so much that the water dilutes the concentration of sodium in the blood, creating an electrolyte imbalance. Water intoxication, known as hyponatremia, is mostly a risk for endurance athletes.

Too much caffeine can cause insomnia, restlessness, nausea, irregular heartbeat, muscle tremors, anxiety and headaches.

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Plastic Food Contact Materials play a crucial role in preserving food from contaminants and preventing food waste. Yet, some worry about the chemicals that are required in the production of these important materials.

Risk assessments make sure that Food Contact Materials are safe

The European Food Safety Authority performs a risk assessment of the substance to ensure a high level of human health protection. The safety limit is based on the toxicological profile of each substance.

The result ensures safe use of products

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EFSA


In a sustainable society, using modern packaging and storage systems, wastage is reduced dramatically to around 3%.

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... But adequate food packaging could change this!
Packaging plays an important role in ensuring the freshness of food, extends its shelf life and helps to improve the quality of products for consumers.

... and food poisoning is a massive problem as well...

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Inside Food Contact Materials

1. Identity and physico-chemical properties of the substances
   The goal is to understand the substance and how it migrates. The applicant provides information on the basic properties (e.g., solubility and stability) and explains the final use of the substance, including maximum use level, function, in which plastic(s), in contact with which foods, what are the contact conditions (time, temperature...), etc.

2. Data on the residual content of the substance in the Food Contact Material
   The objective is to understand how much of the substance is present and what type of specific migration can be expected. Residual content is the actual content in the final material placed on the market.

3. Migration data of the substance
   The purpose is to comprehend how much of a substance is migrating into food. This is done by testing different types of food and real storage conditions (time/temperature).

4. Toxicological data and microbiological properties of the substance
   The applicant needs to demonstrate that, in case of microbiological properties of a substance, these have no effect on the food. To demonstrate that levels of migration into food are safe for human consumption, the applicant provides the adequate toxicological reports.

5. Evaluation of existing assessments
   The applicant provides information on whether a substance is already approved in a consumer application elsewhere.

Conclusions
EFSA reports its conclusions to the European Commission. If approved, the substance can be used in FCMs. The substance is safe and suitable to be used in food contact according to the descriptions included in the technical dossier.
INSIDE FOOD CONTACT MATERIALS

HOW CAN WE MAKE SURE THAT MIGRATION IS SAFE?

MIGRATION OF SUBSTANCES INTO FOOD OCCURS WITH ALL PACKAGING

Migration happens whenever packaging — of any type — comes into contact with food. It is a natural physical process. The key point is that the level of migration is safe.

PLASTICS ARE RIGOROUSLY TESTED TO MAKE SURE THAT MIGRATION - IF ANY - IS SAFE

Testing conditions are specified legally, and need to be used by all actors performing tests in the value chain (from raw materials, packaging producers and to food packers). Tests are done at several stages in the value chain to ensure that the plastic sample is suitable in its end-use.

WHAT DO THE TESTS SHOW?

The tests show how migration occurs in different food types under various conditions.

The tests enable us to determine if a plastic packaging can be used for a given food and its conditions of use.

The tests are designed to exaggerate the real use scenario and therefore to make sure that there is a safety margin. It assumes that all consumed food is in contact with the same packaging material.

These testing conditions ensure that migration — if any — is below the safe limit.

WITH ALL THESE DATA, WE CAN ENSURE THE SAFE USE OF THE PACKAGING
INSIDE FOOD CONTACT MATERIALS

HOW CAN WE MAKE SURE THAT MIGRATION IS SAFE?

At all stages of the value chain, materials are produced in a controlled, safe and consistent way.

NINE GOLDEN RULES OF ENSURING PACKAGING SAFETY THROUGHOUT THE SUPPLY CHAIN:

1. Assign management responsibilities for ensuring product safety, and train all operational personnel.
2. Adhere to an appropriate hygiene policy.
3. Document all relevant information (e.g. product formulation, operating procedures), ensure correct material labelling, and implement traceability procedures.
4. Have procedures in place at production level to prevent any product contamination.
5. Conduct internal risk assessment including monitoring of raw materials and finished products. Verify compliance with documented specifications.
6. Have a system for complaint handling, product recall and incident management in place.
7. Regularly carry out internal and supplier audits.
8. Ensure that procedural changes are managed and implemented properly.
9. Adhere to an appropriate hygiene policy.

WHO ENSURES THE SAFETY OF FOOD CONTACT MATERIALS?

All of the different parties involved are required to issue a declaration of compliance that states product safety.

PROCESS FOLLOWS: EFSA’S RISK ASSESSMENT PRINCIPLES

ALL THIS ENSURES SAFE FOOD CONTACT MATERIALS