# Material capable of detecting the decomposition of certain packaged foods.

## Summary

Profile type

**Technology offer**

Company's country

**Spain**

POD reference

**TOES20230207004**

Profile status

**PUBLISHED**

Type of partnership

**Commercial agreement with technical assistance**

**Research and development cooperation agreement**

Targeted countries

**• World**

Contact Person

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Term of validity

**7 Feb 2023**

**7 Feb 2024**

Last update

**7 Feb 2023**

## General Information

Short summary

A Spanish research group has developed polymers for detecting compounds released by certain decomposing foods. This technology allows to know if packaged food, specifically fish, is still suitable for consumption. They are looking for commercial and research cooperation agreements with companies and institutions related with the food sector. The new partners' role would be to test the technology in their facilities and/or give economical support to improve/adapt the technology to their need

Full description

Until now, the expiration date (or best before date) is the only information available to the consumer to know the useful life of a food. The polymers developed by this Spanish organization make it possible to determine the presence of biogenic amines that a food releases during its putrefaction.
By applying this technology, the presence of, for example, putrescine and cadaverine (two of the most common amines) can be determined quickly and efficiently. This technique is positioned as a viable alternative to the determination of these compounds by techniques that are more complex, such as HPLC (High Performance Liquid Chromatography).

It would be desired to find companies from all around the world to transfer the technology and/or start a collaboration with the Spanish institution.

Applying for European funds, with both companies and research groups/institutions, could be a very interesting

option, in calls related with food safety.

Advantages and innovations

The main advantages of this material and its use in the determination of the chemical compounds of interest are:
- Simple and cheap. It does not require handling of reagents or pre-treatment.
- Specific. The detection of amines in the gas phase has no interferents.
- Response time. The analysis is practically immediate (colour change and fluorescence).
- Versatile. The polymer can be presented as a film, a membrane or covered by fibres, such as cotton.

Technical specification or expertise sought

Stage of development

**Available for demonstration**

Sustainable Development goals

**• Goal 12: Responsible Consumption and Production**

IPR Status

**IPR applied but not yet granted**

## Partner Sought

Expected role of the partner

The partner sought will be food related companies that are willing to implement a quick and affordable method to detect decomposition in food. It is important to note that all countries are fighting against food waste and that this technology can be a key tool for that.

Their role will be, for instance, to use and test this technology and implement it in their products.

In addition, they are looking for a research groups and research institutions to collaborate to transfer and bring the technology to the next level and, additionally, apply for European funds.

Type of partnership

Type and size of the partner

**Commercial agreement with technical assistance**

**Research and development cooperation agreement**

- **Big company**
- **University**
- **SME 50 - 249**
- **SME <=10**
- **R&D Institution**
- **SME 11-49**
- **Other**

## Dissemination

Technology keywords

- **08002003 - Safe production methods**
- **08001005 - Food Technology**
- **09001009 - Sensor Technology related to measurements**
- **05001004 - Organic Chemistry**

Market keywords

- **08001018 - Polymer (plastics) materials**
- **08001008 - Membranes and membrane-based products**
- **07003002 - Health food**

Targeted countries

- **World**

Sector groups involved

- **Agri-Food**
- **Health**