

OBJECTIVES

- Know the essential oils that are **currently used** in the food industry.
 - Analyze the **advantages** and **disadvantages**.
- Know their **applications of direct use** in food and **packaging**.
 - How they affect the **organoleptic properties** of food.

USE AS ANTIMICROBIAL

- Mechanism of action not completely clear
- Phenolic compounds

USE AS ANTIOXIDANT

Phenolic compounds



Fig. 1. Mint and mint essential oil. Extract from:
<https://www.moodandmind.com/peppermint-natural-yakima-essential-oil-5-oz>



Fig. 2. Cinnamon sticks and cinnamon essential oil. Extract from:
<https://knowyourbodybest.com/shop/aroma-therapy/cinnamon-leaf-essential-oil/>

ESSENTIAL OILS

USE IN ACTIVE PACKAGING

ENCAPSULATION OF ESSENTIAL OILS

- Protects the essential oils
- Improves their antimicrobial properties
- Increase the bioavailability
- Allows a slow release
- Reduces the organoleptic disturbances

CONCLUSIONS

- Essential oils have **great potential** to be applied, while **no organoleptic** changes occur in foods.
- **More studies are needed**, since their mechanism of action has not been fully understood.
- It is more likely that they can be **applied in packaging** that do not directly in the food, by **nano encapsulating**.
- Is a **viable alternative** as a food additive, but requires **more studies** and **legal regulations** to ensure its safety.