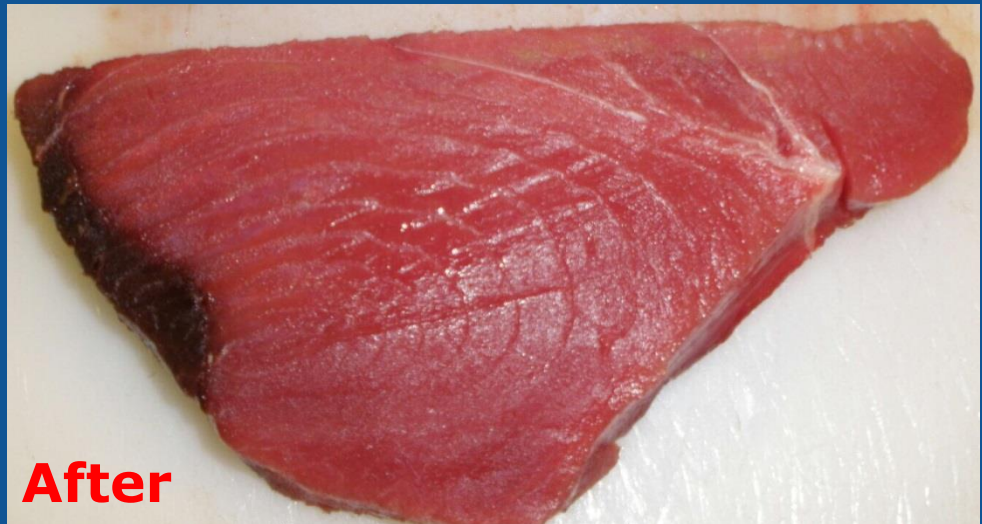


FOOD FRAUD NETWORK EU-COORDINATED CASE

Illegal treatment of Tuna with antioxidants &/or other chemicals



Before



After

Both Pictures are from the same loin



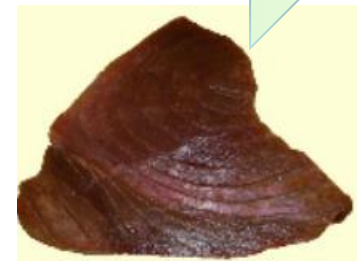
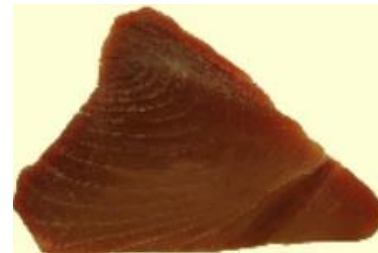
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Tuna Colour matters as it varies depending on quality & freshness

Tuna caught by regular purse seiners has a special destination for cannery. Low brine frozen does not maintain the initial red colour of flesh



Fresh or ultra-low temperature frozen defrosted tuna caught by line has a red colour



**Colour is directly linked to freshness and handling & freezing conditions.
It is the KEY recognition factor for consumers**



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Origin & Destination of fish

Brine Tuna has a Special Destination



Regulation CE n° 853/2004 requests that any fishery product shall be quickly frozen & maintained below -18°C

Brine frozen whole tuna can be frozen at -9° C as they are subject to a special destination of cannery in which they will go through an autoclave for sterilization process



Regular brine frozen tuna raw material cannot be used for non cannery destination
Sales on the defrosted tuna loin market is illegal for grilling or raw consumption

Any low grade tuna should not be treated to upgrade it

Apart from brine tuna, the lower grade of regular frozen tuna (from hand line, long line, nets) is also used as raw material for such treatments

Such use is also a fraud as it is using a lower grade raw material and changing its initial colour to give it appearance of a fresher products & misleading consumers



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Fraudulent scheme



Tuna primarily intended for **canned** tuna is actually sold as **Sashimi defrosted** tuna or **Natural fresh** tuna

As per Regulation any treatment should have a purpose and **additives should be used for a technological need**

Tuna loin could be subject to oxidation on the surface but its chunky shape protects it from inner oxidation

As a result antioxidant **DO NOT** HAVE a antioxidant technological purpose when injected

Tuna loin has no reason to be injected, so presence inside the loin of antioxidants might be a sign of a fraudulent practice



Food fraud criteria

1. Violation of EU food law

- Use of any treatment aimed at improving initial colour of tuna is a fraud as it deceives consumers. Using low grade tuna and turning its initial colour to red or pink is **not authorised** in tuna as it masks the perceived quality

2. Intention

- Intentional use of chemicals to **enhance tuna colour**
- Antioxidants DO NOT change tuna meat colour**, they just slow down discoloration (preservative effect). So if low grade tuna is sold as defrosted loins, it means that another treatment has taken place for turning its colour. As this treatment is not declared, it is illegal. **Antioxidants cannot turn brown tuna to red.**

3. Economic gain

- Poor or average quality tuna is sold as high quality: **price is x2 to x3 higher**

4. Customer deception

- Poor quality tuna bought as high quality
- Public health issue:** Histamine level tends to be too high due to Tuna's poor quality, potentially **causing allergenic effects**. The excess of antioxidants can be hazard for some specific population. Organoleptic perception cannot be used to measure freshness



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Control Tips

Trace backwards in Processing units

Brine canning grade tuna should only be used in cannery

Use catch certificate to identify fishing vessel & relate to Catching method "Purse Seine"

A small number of Purse Seiner vessels have the capacity of dry ultralow temperature freezing suitable for non-canning purpose. (See Excel file attached for a list of authorised vessels and a list of potential major players in this fraudulent activity)

Trace forward in additives industry

To which fish industries were the nitrites solutions sold to?



Price Indication

- Canning or low grade Raw material is sold approx. 2 to 2,50€/kg Whole fish base when good longline & ultra low temperature frozen fish is sold around 4 to 5€/kg
- Frozen Loin base price are approx. 4 to 6€ for lower grade and 7 to 12€ for steaking grade
- Defrosted treated tuna loin is sold between 6,5 & 9,5€ when Defrosted non treated loin is sold between 10,5 & 17€/kg

Colour check

- Organize controls in processing units with attendance through the full process from raw material to departure of the product
- Such control should start by inspecting finish goods & check red colour with pictures (in case processor do not treat fully in presence of controllers). Pictures of products taken from the market is a key indicator. There is a need to give time for the action of colouration to occur.
- Additionally, raw material should be defrosted & controlled for their colour with pictures
- If finished goods are nicer and more red than raw material, there has been a colour improvement. Such treatment is **not authorised** as it should only slow down discoloration and not enhance initial colour



Health and
Food Safety