

CONRESA

Tuna Meal Monograph



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COMPANY PRESENTATION

Name |

Conserveros Reunidos SL, is owner of registered CONRESA trademark and logo.

VAT Registration Number: B-15010168.

Sanitary Registration Number: S15073001

Integrated Environmental Registration Number: KEY 2004/0318 _ NAA/IPPC

Location |

Company with a unique plant located in Couso, city of Santa Uxía de Ribeira, La Coruña province. In the Autonomic Region of Galicia, Spain.

<https://www.google.es/maps/@42.5266001,-9.0392987,186m/data=!3m1!1e3>

History |

1961 | Birth thanks to the initiative, union and vision of several canning factories from Galicia, with the aim of using and give an added value to Fishing industry by-products.

2000 | Construction and Inauguration of a new factory with processing capacity up to 40.000MT of raw material per year.

2004 | Obtention of Integrated Environmental Authorization.

2016 | Investment in a complete new production line with capacity to process 70.000MT per year of Fish by-products.

Present | We have one of the most modern factories, within an activity directly linked to Circular Economy and focused on Permanent Supply, Innovation, Quality and Sustainability.

Product

Raw material used |

Raw materials used for production of our Fish Meal are wild Fish (Tuna) trimmings from canning industries that are not going to be canned for food. Under no circumstances we process raw material from the aquaculture industry.

It is composed mainly of dark Tuna meat (Sangacho), head, offal, skin, tails and skeleton.

Unused parts during Fish process (our raw material), are separated in the own canning plants with extreme cleanliness and stored in a hopper to be transported in trucks to our plant on a daily basis, where they are processed continuously.

Description |

The product elaborated is Fish Meal, Tuna species (Tuna Meal)

Code 23012000 in the TARIC nomenclature

Our Fish Meal and Oil are obtained from Tuna by-products/trimmings that are daily elaborated in human consumption canning plants of our closest area and processed in just a few hours, to obtain the highest quality and freshness in our finished products.

We manufacture a Fish Meal rich in essential micronutrients that are essential for nutritional needs of animals and mandatory for their health.

Throughout the whole process we contribute to an efficient economy in the use of by-product resources, with the aim of generating a smart, sustainable and inclusive growth.

Our Tuna Meal provides Amino Acids, Group B, A, D Vitamins and minerals (iron, phosphorus, calcium and selenium) for animal feed production.

Application |

CONRESA Tuna Meal is intended for production of feed for the following families:

- **Farm animals:** Pig and Poultry sector. Prohibited for ruminant animals.
- **Aquaculture:** for species such as Salmon, Sea Bream, Sea Bass, Sole, Turbot, Trout...
- **Pet Food:** Pets

Physico-chemical characteristics |

| Conresa Tuna Meal | | |
|---------------------|------------------|-------------|
| Parameters | % / Units | |
| Protein | % mín | 60 - 62 |
| Moisture | % máx | 8 |
| Fat | % máx | 12 |
| Ash | % máx | 22 |
| TVN | mg N/100g max | 150 |
| Histamine | PPM | 500 - 1.000 |
| Salmonella spp. | Ausencia en 25 g | |
| Enterobacteriaceae | < 10 UFC / g | |

Product is in a granular powder form, with a brown colour and Fish smell «sui generis», completely free from foreign bodies.

Product complies with Spanish and European union current legislation regarding dioxins, heavy metals and other undesirable substances.

Total absence of Genetically Modified Organisms (GMOs) in raw material used and in resulting product.

It can be used for farmed Fish feeding of all species, according to Regulation (EC) 1069/2009.

Additives Used |

- **Organic Acid** | Salmogal
- **Antioxidants** |
 - **Synthetic** | E-320 BHA and E-321 BHT
 - **Natural** |

Storage and Conservation |

Fish Meal must be stored in a clean and dry place, away from contamination sources.

A 24-month shelf life from date of manufacture is established for Fish Meal in bulk in traditional big bags and up to 36 months in vacuum big bags.

Selling formats |

Bulk |

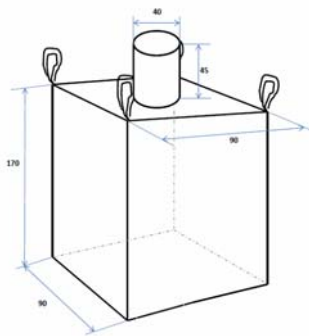
Gravity filling system in our warehouse and deposited in:

- Trucks | capacity up to 25 tons
- 40" containers | capacity up to 25 tons

Traditional Big Bags |

Product is presented in blank or screen-printed white big-bag with an up to 1,250 kilos capacity.

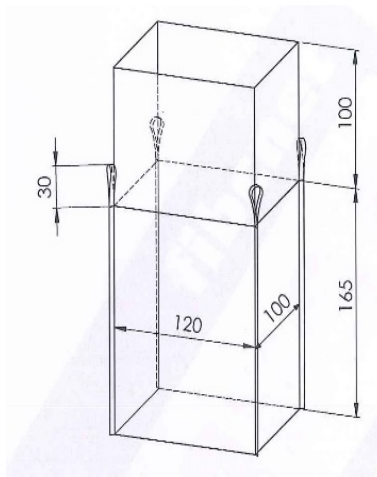
Size: 92 cm x 92 cm x 190 cm with a round loading neck and made of 180g/m² polypropylene. Flat bottom. Suitable for feed/food use.



Vacuum Big Bags |

Product is presented in a blank or labelled white big-bag with an approximate capacity of 1,250 kilos, made of raffia/polypropylene for a weight of 175 gr/m². He's got measurements of 100 cm x 120 cm and a height of approximately 165 centimetres, with squared loading neck.

It is a single use and has an inner liner made of different types of polymers (PE + PA + EVOH), which closes the product tightly thanks to a valve which keeps it in place isolated from any external agents. Suitable for food use.



Bags |


Product is presented in palettized 25 kilos bags, made of paper Kraft, labelled and for empty size of 54 cm x 75 cm x 18 cm.

Pallet Characteristics: Pine wood pallet 120cm x 100cm - weight 20 kg approx. 6 to 9 top boards. Sent sterilized by thermal treatment.



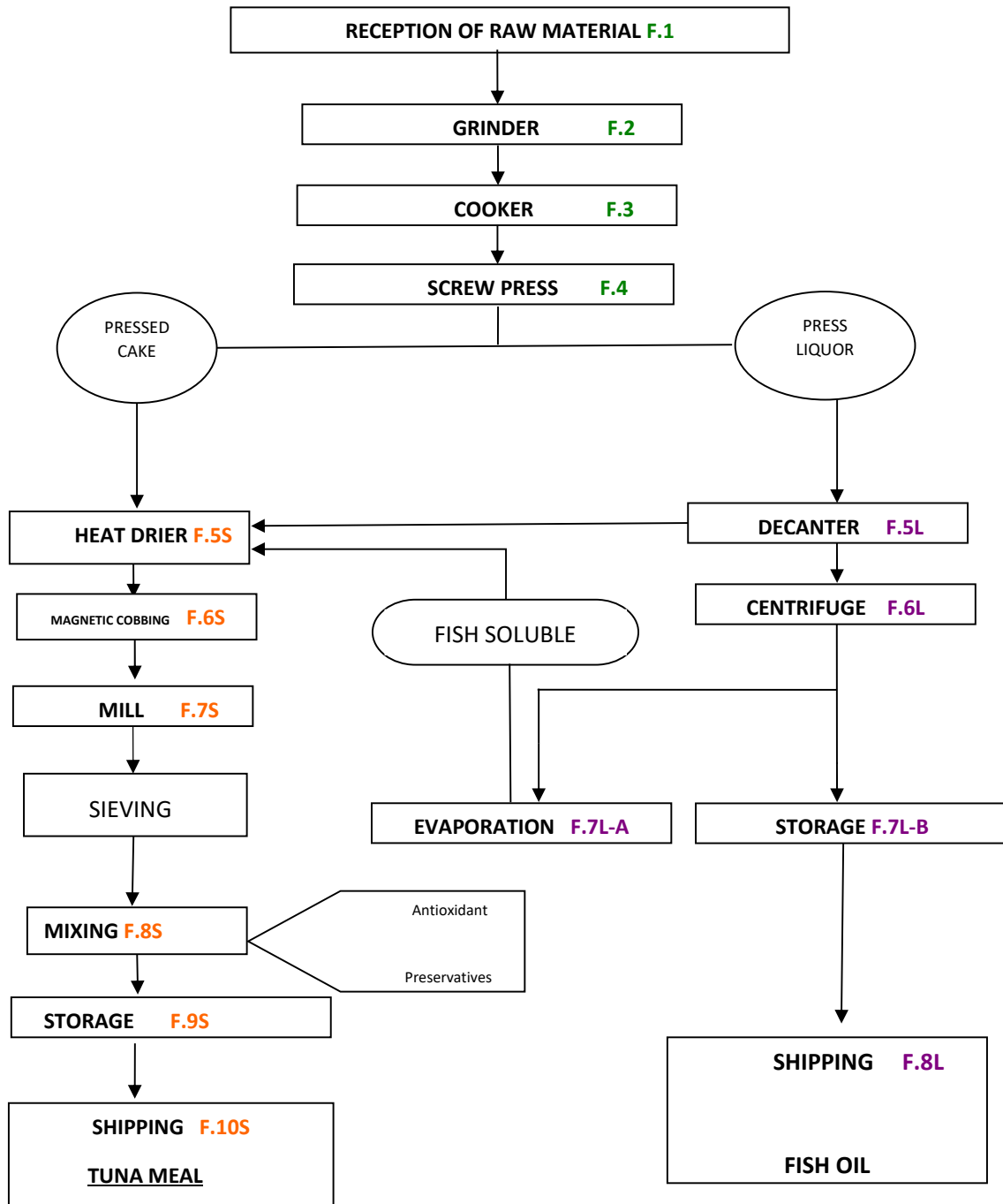
LABEL

Used size is a DIN A5. Please see below example (in Spanish) filled with following information:

| MATERIA PRIMA PARA PIENSOS ALIMENTACIÓN ANIMAL NO APTA PARA CONSUMO HUMANO HARINA DE PESCADO | |
|--|-----|
| (Producto transformado a partir de material de categoría 3) | |
| ESPECIFICACIONES | |
| Proteína Bruta mín. | 60% |
| Grasa Bruta máx. | 12% |
| Humedad máx. | 10% |
| Ceniza Bruta | 22% |
| <ul style="list-style-type: none">• CONTIENE HARINA DE PESCADO DERIVADA DE PECES SILVESTRES - PUEDE USARSE PARA LA ALIMENTACIÓN DE PECES DE PISCIFACTORÍA DE TODAS LAS ESPECIES.• PROHIBIDO SU USO EN ALIMENTACION DE ANIMALES RUMIANTES• INGREDIENTES: HARINA DE PESCADO. E-321. E-320. | |
| Nº AUTORIZACIÓN: S.15.073.001 MÉTODO DE TRANSFORMACIÓN Nº 7 CONTROL DE FABRICACIÓN LOTE: B342022 FECHA FABRICACIÓN: 19/09/2017 Peso Líquido Aproximado: 1150 kg Utilizar preferentemente antes de 24 meses desde fecha de fabricación. | |
| CONRESA CONSERVEROS REUNIDOS, S.L. Lugar de Couso - AGUIÑO RIVEIRA - A CORUÑA Galicia - España TLF: 981 84 31 40 | |
|  | |

PRODUCTION PROCESS

Flow and Phases Chart |



Phases Description |

Raw Material Reception

In canning factories and plants processing fresh and frozen Fish, trimmings and leftovers from Fisheries are collected daily. This raw material, in bulk, is deposited in reception tanks. Once there, raw material is extracted in a continuous way, by means of helicoidal screws auger, which supply a constant flow of material to cooking process.

In the case of exported Fish Meal, only Fish Meal from Jealsa Rianxeira SA plant in Bodión, Boiro, is used. This allows the emission of Wild Fish Certificates of Origin.

Crushing

The purpose of crushing is to ease cooking and pressing operations which follow. A shredder is used for this, which reduces particle size of raw material to less than 50 mm.

Cooking

Raw material is introduced into the cooker, which is an elongated cylinder surrounded with vapor, Fish material is driven by a worm screw (which may be equipped with a steam jacket), to the press.

Through this channel, raw material receives direct injection of steam (generated in two boilers of the plant). Its mission is to heat Fish material for at least 20 minutes.

Pre-Press

Pre-Press consists of making a drainage, with the purpose of increasing capacity and efficiency in the next pressing phase.

Press

Fish material enters hot into the double-screw press, cake is separated from water and natural Fish Oil, leaving proteins already coagulated in the press paste.

Two products are issued from this stage, press paste (solids) in one hand and on the other hand press broth (liquids).

Decantation

On a first step, liquids go through a double phase centrifuging decanter in order to separate solids which are in suspension. Decanter is installed in order to eliminate these solids continuously from one end and from the other end classified liquid is also eliminated. Solids are then re-introduced in the process and get dehydrated with press cake.

Centrifugation

Press liquid is then separated into two fractions: Oil and aqueous fraction known as «glue water». Separation of Oil and glue water is carried out by a centrifuge with vertical discs.

Evaporation

The operation consists in concentrating the «glue water» up to obtain solid content of 30-50%. The concentration of glue water is done in evaporators with multiple effects.

Drying or Dehydration

At this stage, press cake water, decanter solids and concentrated soluble solids are eliminated in the evaporating plant. Dryer gently heats solids treatment to prevent protein from being overheated in order to obtain quality Fish Meal.

Metal Detector

Any metallic residue present in the processed product is eliminated at this stage. By this way we make sure we avoid any metal contamination into final product.

Grinding

The purpose of the milling process is to produce a homogeneous Fish Meal, free of foreign substances, that can be weighed, bagged, conveyed and easily mixed with the rest of the feed components.

To guarantee granulometry of the product and detection of possible contamination or foreign bodies, a filtering process is performed prior next process step.

Mixing

Mixing process guarantees homogenization of final product and allows the additives to be mixed with our Meal.

CONCLUSIONS

CONRESA's Tuna Meal provides the following **advantages**:

- 1) **Stability in production and supply throughout the year**, using only raw material from canning factories by-products/trimmings.
- 2) **Provides Certificates of Raw Material Legal Origin**, which we request from our suppliers who require them from their Tuna sources.
- 3) Tuna Meal can be sold in **an innovative format which maintains organoleptic properties for a longer time, allows to limit antioxidant use, reduces need for space in warehouses and eliminates dangerous goods classification (IMO) for sea shipments.**



Tuna Meal