

Guidance on Mechanically Separated Meat (MSM): Definition

The definition of Mechanically Separated Meat (MSM).

Definition of Mechanically Separated Meat

The definition of MSM is given at Point 1.14 of Annex I to the Regulations: “Mechanically separated meat’ or ‘MSM’ means the product obtained by removing meat from flesh-bearing bones after boning or from poultry carcasses, using mechanical means resulting in the loss or modification of the muscle fibre structure.”

The Courts have considered and interpreted the definition of MSM. That interpretation must be applied in determining whether MSM has been/is being/will be produced.

Section V of Annex III to the Regulations sets out specific requirements that must be met regarding the production of minced meat, meat preparations and MSM. There are requirements regarding production establishments, raw materials, hygiene (during and after production), and labelling.

For a product that is determined to be MSM in accordance with the Courts’ interpretation, requirements in Section V of Annex III must be met for it to be placed on the market lawfully.

FBOs should consider any additional legislative requirements (e.g. labelling requirements) as necessary.

Court rulings on MSM (‘the Judgments’)

The Courts have delivered the following judgments relevant to the interpretation of the definition of MSM set out in Annex I, Point 1.14 of the Regulations:

- Court of Justice of the European Union [Case C-453/13](#) of 16 October 2014
- High Court [Case No: CO/6923/2012](#) of 23 March 2016
- Court of Appeal [Case No: C1/2016/2112](#) of 25 May 2017
- Supreme Court [Case ID UKSC 2017/0110](#) of 3 April 2019
- High Court Judgment [Case No: CO/4360/2021](#) of 5 July 2022

Only the Courts can give authoritative statements of the requirements of food law. As the Judgments considered the production of MSM under the Regulations, their relevance is not limited to a specific process used or to any specific type or brand of equipment which has a mechanical separation function.

Interpretation of the definition of MSM by the Courts

The Courts have interpreted that the definition of MSM is based on three cumulative criteria, which must be read in conjunction with one another, when determining whether a product is MSM. A product that satisfies all three criteria is classified as MSM:

1. The use of bones from which the intact muscles have already been detached, or of poultry carcasses, to which meat remains attached;
2. The use of methods of mechanical separation to recover that meat; and
3. The loss or modification of the muscle fibre structure of the meat thus recovered by reason of the use of those processes.

The use of bones from which the intact muscles have already been detached, or of poultry carcasses, to which meat remains attached

The first criteria refers to the removal of the meat left on the bones of animals after the initial phase of butchering has taken place and from which the intact muscles have already been detached. The initial phase of butchering means anything after the first cut, the first act of removal or separation of bones or portions of meat from carcasses.

For meat other than poultry, any bone removed from the carcasses or cuts of meat with bones that go through a mechanical separation process, after the initial phase of butchering/cutting, will result in the production of MSM, if it also results in the loss or modification of the muscle fibre structure.

Regarding poultry, the first element of the definition of MSM states “poultry carcasses”. This means poultry carcasses to which meat remains attached. The removal of meat from the whole body of the bird and the use of any bones or portions of meat with bones, as raw materials will result in the production of MSM, if also resulting in the loss or modification of the muscle fibre structure.

There is no difference in the final product based on whether a whole poultry carcass, half a poultry carcass or poultry bone-in cuts go through the relevant mechanical separation process.

The use of methods of mechanical separation to recover that meat

The methods of mechanical separation to recover meat from the raw materials referred to in the first criterion usually involve, but not limited to, forcing the raw materials under pressure through a sieve or a similar device to separate the bone from the meat tissue.

The requirements set out in the Regulations differentiate between two MSM subtypes depending on production techniques used. Each subtype has specific legal requirements regarding how it must be produced and used, given respectively in paragraphs 3 & 4, Chapter III, Section V, Annex III to the Regulations.

The loss or modification of the muscle fibre structure

The definition of MSM in the Regulations does not consider the extent of any loss or modification of muscle fibre structure; rather, it considers whether there is loss or modification at all.

Any loss or modification of the muscle fibre structure will result in MSM, irrespective of the degree, in so far as, by reason of the process used, that loss or modification is greater than that which is strictly confined to the cutting point.

This cutting point means the initial phase of detachment of intact muscles from the carcass of an animal or the initial act of removal or separation of bones/portions of meat from carcasses.

Mechanical separation of meat from bones produces separation, shearing or cutting, which modifies or loses the muscle fibre structure at points beyond the initial cutting point used to detach intact muscles or remove meat from the carcass. This process results in MSM, if the first criteria is also met.

For poultry meat, even if a whole carcass, to which meat remains attached, undergoes mechanical separation, the shearing or cutting involved in the process will result in the loss or modification of the muscle fibre structure and, therefore, will result in MSM.

Meat removed from a carcass will not be MSM if it is removed by mechanical means in the first phase of cutting meat from the whole carcass, but will generally be MSM if it is removed by mechanical means thereafter. Therefore, when using mechanical processes, it is important to distinguish MSM from the product obtained by cutting intact muscles. The latter does not show a more general loss or modification of the muscle fibre structure, but reveals a loss or modification of the muscle fibre structure which is strictly confined to the cutting point. Consequently, for example, muscles that are detached from the carcass by mechanically operated cutting, do not constitute MSM.

Raw materials and processes used will determine the loss or modification of the muscle fibre structure. It is straightforward to know whether a carcass or a part of a carcass has gone through the initial process of removal of meat from a carcass and therefore there is no requirement for refined processes of microscopic investigation to be applied.