

ETHOXYQUIN and its use as antioxidant in fishmeal and fish feeds

IFFO, The Marine Ingredients Organisation

Notes for Members

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Summary

Compliance with trading laws and jurisdictions is enshrined in IFFO's Code of Practice. IFFO is supportive of the continued use of ethoxyquin as an antioxidant in the stabilisation of fishmeal provided the safety of the consumer, farmed animals and the environment is secure. The position of the European Commission on the reauthorisation of ethoxyquin is unclear at the current time, but IFFO hopes that there will be an allowance for time for the knowledge gaps to be addressed through targeted science, and that those results come out in favour of the continued use of ethoxyquin.

Background

Ethoxyquin (E324) is a widely used antioxidant in the animal feed industry, and is included in preparations of vitamins and carotenoids, in premixes and compound feed, and in feed constituents, notably fishmeal. Antioxidants are commonly used in the feed and food industries to protect the raw materials and final products against oxidation (rancidity), and because ethoxyquin has proven to be a highly effective antioxidant it is generally used in the fishmeal industry.

The use of ethoxyquin in fishmeal stabilises long chain polyunsaturated fatty acids (notably eicosapentaenoic acid, EPA and docosahexaenoic acid, DHA, known to promote health in humans and animals) and is important in relation to both the quality and safety at transport¹ of that product. IFFO estimates that approximately 66% of world production of fishmeal is stabilised with ethoxyquin, and it has been used since at least the 1970s. As an animal feed additive, ethoxyquin is currently within a reauthorisation process in EU-28. The current maximum limit of EQ according to the Regulation (EC) No 1881/2003 refers to compound feed. Irrespective of the current maximum limit in fish feed, the average level of EQ in the European fish feed has declined significantly during recent years due to reduced levels of fish meal in the compound feed. The major producers of fish feed in Europe, are supportive of the reauthorization of EQ, and they still aim to reduce the content of EQ in the compound fish feed.

The Reauthorisation Process for ethoxyquin as an animal feed additive in EU-28

The re-authorisation process was initiated in 2003 with the intention to assess all feed additives for their safety. The relevant legislation is detailed in Regulation (EC) No 1831/2003 which states that the use of all animal feed additives should be revised regularly, and authorisations where granted should be time-limited to permit regular reviews. According to the regulation, action relating to human health, animal health and the environment should be based on the precautionary principle. The re-authorisation is a standard process that commences with a review of safety data on a substance by the European Food Safety Authority (EFSA), followed by a publication of an opinion on

¹ Fishmeal that is not stabilised with antioxidants has self-heating properties that may result in combustion.

farmed animal, consumer and environmental safety drawn from that review. The re-authorisation is a standard requirement for all feed additives. Ethoxyquin was authorised for use in animal feed under previous legislation, Directive 70/524, with a limit of 150 mg kg⁻¹ set on its use in animal feed and a request for its re-authorisation as required was submitted in 2010.

The EFSA Opinion on ethoxyquin in animal feed published in November 2015² reported that the review of safety data was inconclusive. The EFSA identified a number of knowledge gaps where data is required to make an overall assessment of safety of ethoxyquin for animals, the consumer and the environment. IFFO has been working closely with the European trade bodies FEFAC (feed) and FEFANA (feed ingredients) and liaising with the European Commission on the way forward.

The next step in the reauthorisation process is for the European Commission, in the form of the Standing Committee on Plants, Animals, Food and Feed (SCoPAFF), Animal Nutrition section, to debate the application for authorisation for ethoxyquin by the applicant. In normal circumstances the Commission will prepare a draft regulation to grant or deny authorisation within a period of 3 months of receipt of the EFSA Opinion. In complex cases there is provision for this deadline to be extended. The SCoPAFF Animal Nutrition section meets monthly, and the March meeting included a continuation of the discussion on the safety and economic importance of ethoxyquin³, which indicated that the Commission is still some way from making a decision on its authorisation.

IFFO Trials on reducing the inclusion rate of ethoxyquin in fishmeal, and prospective alternative antioxidants

IFFO has been looking at the possibility that producers may be able to reduce the level of incorporation of ethoxyquin in fishmeal, whilst still retaining satisfactory quality and safety properties in the manufactured product. A reduced incorporation level in feed ingredients and/or feed, could be an outcome of the reauthorisation process. The International Maritime Organisation (IMO) regulates shipping safety and requires that fishmeal is dosed with ethoxyquin at between 400 mg kg⁻¹ and 1000 mg kg⁻¹ within 12 months of shipping, ensuring that at least a level of 100 mg kg⁻¹ is present at the time of loading before shipping to mitigate the risk of combustion during transport at sea.

IFFO has also been assessing the effectiveness of other antioxidants in trials undertaken with fishmeal from some of the members. Those trials include the use of BHT (butylated hydroxytoluene), and a natural option containing a blend of tocopherol and rosemary extract in the stabilisation of fishmeal.

The storage trials commenced in July 2015 and will terminate July 2016. Afterwards, the results will be evaluated and reported. In addition, IFFO is conducting accelerated fishmeal stability studies with the same treatments as the long term storage trial to assess whether accelerated studies could be used in the future to evaluate antioxidants for use in fishmeal.

IFFO has engaged with the United Nations Transport for Dangerous Goods committee (UN-TDG) and the IMO on the process for including alternative antioxidants and/or amendments to the inclusion levels of ethoxyquin and BHT in fishmeal. The UN-TDG compiles the UN Model Regulations for the Transport of Dangerous Goods, which the IMO use to base their shipping codes. Any change to the IMO's IMDG code therefore takes time. For example, from THE next UN-TDG's semiannual meetings

² <http://www.efsa.europa.eu/en/press/news/151118>

³ http://ec.europa.eu/food/animals/docs/reg-com_ani-nutrit_20160308_agenda.pdf

in summer 2016. revised IMO codes that will come into force in 2020 at the earliest. Furthermore, IFFO has learned that there is an exemption clause in the code whereby countries may make agreements under chapter 7.9.1 of the IMDG code between the relevant competent authorities on marine safety for those countries. IFFO continues to attend the UN-TDG's semiannual meetings maintaining the conversation on antioxidants.

It is possible that the EU authorities may suspend the approval for use of ethoxyquin with immediate effect. The next meeting and decision point is the SCoPAFF meeting on 27-28 April, 2016. Thus, IFFO recommends members consider contingencies and alternatives to the use of ethoxyquin and potential impacts and follow-up actions if authorities decide to suspend ethoxyquin.

Further Information

Updates are posted regularly to the IFFO website. Member queries should be addressed to secretariat@iffo.net.