Brussels, 24/04/2023

To: Mrs. Katleen Baert
DG SANTE, the European Commission

Dear Mrs. Baert,

Subject: Re-evaluation of Sulphur dioxide

FRUCOM officially represents European traders, importers, agents and brokers in a wide range of products, including dried fruit and nuts, peanuts and processed seafood.

1. **Reasons for using sulphites in dried fruit:**

Sulphites have some specific properties and there are no viable alternatives. Here are the main reasons for using sulphites in production of certain dried fruit and the importance to maintain the existing maximum levels:

A) Preservative properties:

There are several benefits to using sulfur dioxide in dried fruit, including:

1. Prevention of spoilage: Dried fruits can spoil quickly if not stored properly. Sulfites help to prevent spoilage by inhibiting the growth of microorganisms such as bacteria and mold.

Sulphur dioxide is effective at preventing growth of mould and yeast. Dried fruit that are commonly available to consumers have moisture levels >30% and water activity (Aw) >0.75. At this Aw yeasts & moulds will grow, but pathogenic bacteria will not. Due to the treatment and process, the growth of yeast and moulds are reasonably high (ca 104 cfu/g). For these reasons to be effective the sulphite levels that are used in dried fruit need to be higher than for some other foods.
For some dried fruit, including dried apricots, pitting takes place during drying. Therefore, the fruit is more susceptible to mould growth. In this situation sulphites are an effective way to prevent mould growth.

2. Long shelf life: Dried fruits treated with sulfites have a longer shelf life than those without, which means they can be sold at a later date.

Post-harvest loss of fruits and vegetables is estimated at 30% and 25%, respectively, due to a lack of proper handling and cold-storage facilities, and considerable economic losses occur in addition to food waste. Preservatives are extensively used in dried fruits and vegetables to extend storage time. To extend the shelf life of fresh and dried fruits and vegetables, efficient preservatives such as sulfur dioxide and preservation technologies are required.

3. Nutritional value: Dried fruits are a great source of vitamins, minerals, and dietary fiber; e.g. the carotene content for dried apricots is better preserved in dried apricots which are SO2 treated than

in non-treated ones. Sulfites help to preserve the nutritional value of dried fruits, making them a healthy and convenient snack option.

4. Treating dried apricots with sulphites can limit the risk of ochratoxin A (OTA) contamination.
5. Sulphites shorten the drying period, making the process more effective.

B) Antioxidant:

6. Preservation of color: Some dried fruits can lose their natural color over time due to exposure to light and oxygen. Sulfur dioxide helps to preserve the color of dried apricots by inhibiting the oxidation process. This means that dried fruits treated with sulfur dioxide will have a more consistent, attractive color compared to untreated dried fruits.
7. Preservation of flavor: Dried fruits can lose their natural flavor over time due to exposure to light, heat, and oxygen. Sulfur dioxide helps to preserve the flavor of dried fruits by inhibiting the oxidation process. Dried fruits treated with sulfur dioxide will have a more consistent, desirable flavor compared to untreated dried fruits.
8. Preservation of texture: Dried fruits can become tough and chewy over time due to exposure to humidity. Sulfur dioxide helps to preserve the texture of dried fruits by preventing the absorption of moisture. Treating with sulfur dioxide gives a more consistent, desirable texture compared to untreated dried fruits.

2. Exposure to SO2

A) Overall combined exposure to SO2

Sulfur dioxide (SO2) is a versatile chemical compound that has a wide range of uses in various industries. Aside from food preservation it is used in pulp and paper production, water treatment, pharmaceuticals, cosmetics, and fertilizers. For many people, they are more likely to be exposed to higher amounts of SO2 in other ways than SO2 in foodstuffs. Here are some examples where dried fruit can be used as an ingredient: food mixes, chocolate snack, mix with other dried fruit and nuts, ice cream, baked cakes and desserts, breakfast cereal, etc.

According to the EFSA opinion (2022) the main contributors to the exposure of SO2, for both the adult and elderly population groups, were beer and malt beverages and wine and other products. For adolescents, other children, and toddlers, flavored drinks and fruit and vegetable juices contributed most to dietary exposure. In addition, for adolescents, beer and malt beverages, while for the younger population groups, dried fruits and vegetables were found as the third major contributor. In infants, fruit and vegetable juices contributed more than 10% of the exposure. From the EFSA conclusion, it is clear that for the majority of the population dried fruits are not the main contributors to the exposure of SO2.

According to the European food additives database, the use of sulphites (E220-E228) is not permitted in the following food category: “Foods for infants and young children (13.1)”. Therefore, it is difficult to explain why dried fruit regarded as the main contributor to sulphite exposure in the following two population groups: “infants and toddlers” and “children and adolescents”.
In practice, dried fruits are not very suitable for direct consumption by infants and toddlers because of their chewy texture. Dried fruit can always be added as an ingredient to various food products, but specific rules for production of baby food apply. National authorities already have control systems in place to ensure that food which is placed on the market is safe.
Contrary to the previous scientific opinion on sulphites issued in 2016, EFSA changed its strategy in the current opinion and used the Margin of Exposure (MoE) approach, which is often used for the genotoxic carcinogenic substances in foods.

Other pre-treatments, such as benzoic acid, ascorbic acid, tocopherols, and sistein, are being researched as alternatives to sulfur dioxide, but none of these options are being implemented because sulfur treatment is less expensive, more effective, and easier to execute.

B) Challenges regarding the SO2 levels

In addition, there are other factors that affect the sulphur dioxide concentration: type of treatment used (burning sulphur gas, gas, sulphite solutions), exposure period to the treatment, variety, stage of maturity, size, physical and chemical properties of the fruit, etc. For instance, fumigation, cleaning/washing, calibration and packaging performed after drying reduce the sulphite levels. During storage the level also decreases, especially when dried fruits are not cold-stored.

Due to all of these, the potential reduction in sulphite maximum levels would result in difficulty to comply with such levels.

Dried fruit treatment with sulphites depending on the type:

Dried fruits that have been destoned or cut would require certain storage conditions or use of a preservative to stop the growth of yeast and mould. Such dried fruit include dried apricots, dried peaches, dried pears, dried apple, etc.

Only a small proportion of dried vine fruit are treated with sulphites. The ones that are treated have a share of around 5-10% of all dried vine fruit. In this case sulphites are mainly used to retain the specific colour.

Prunes, dried figs and dried dates are not treated with sulphites, because:

- Sulphites are used in cases where the secondary antioxidant capability is desirable and this is not the case for these dried fruits.
- The Aw in dried figs and dried dates tends to be lower than in dried apricots therefore they do not need the preservative to the same extend.
- Prunes need a preservative and because there is no requirement for antioxidant effects the preservative of choice is sorbate and not sulphite.

3. International usage, example Turkey

The majority of dried fruits that are sold in the EU are imported because the EU production is very low. A significant portion of it is imported From Turkey. Volumes of dried apricot exports from Türkiye to EU Member Countries between 2016 – 2022 ranged from approximately 32.000 and 27.000 tonnes per year. In Turkey, dried apricot production ranges from 90.000 to 130.000 tonnes per year in Malatya province. Apricots are grown in rural areas of Turkey where cold-storage facilities are not on a scale to change the production to fully organic and there is no market demand for it. Producers choose sulfur treatment over other food additives at that volume of production. There is no practical alternative to sulfurization given the large amount of dried apricots, as well as the well-known benefits of and longstanding experience with sulfur treatments.

4. Conclusions:

- No alternatives have been found that have the same multiplier effect of prevention of mould growth, shelf life guarantee and color retention. For this reason sulphites are seen as being indispensable in the successful production and marketing of some of dried fruit species. Dried apricots are the most obvious example of this.
- The current EU sulphite maximum levels have proven to provide enough margin to allow the production of dried fruits in the producing countries.
- Any decrease in the sulphite maximum levels would affect the availability of several types of dried fruits on the EU market and the offer would not meet the demand.
- If the levels were decreased, it can lead to a shortage of certain dried fruits as they will be exported to other countries with higher sulphur dioxide maximum levels such as: Australia/New Zealand - 3000 ppm and USA – 2000 ppm.
- We ask the Commission to maintain the current sulphite maximum levels in dried fruit, especially for dried apricots.

In view of the importance of this matter, **FRUCOM kindly asks to take into consideration the thoughts presented in this letter.**

We stay at your disposal for further information,

Sincerely yours,

Anna Boulova

FRUCOM Secretary General