

**For discussion  
on 20 January 2009**

**LegCo Panel on Food Safety and Environmental Hygiene**

**Sulphur Dioxide in Beef**

**PURPOSE**

This paper briefs Members on the measures taken by the Administration in monitoring the use of sulphur dioxide in beef.

**BACKGROUND**

2. Sulphur dioxide is used in the food manufacturing industry as a preservative in a variety of foods, including preserved fruits and fruit juices. As sulphur dioxide is water soluble, most of it can be removed through washing and cooking. While sulphur dioxide is of low toxicity, people who are allergic to it may experience respiratory discomfort, headaches and nausea. According to the International Agency for Research on Cancer of the World Health Organisation, there is inadequate evidence that sulphur dioxide can cause cancer in humans.

3. The Preservatives in Food Regulations (Cap. 132BD) govern the amount of sulphur dioxide allowed in different food categories. Under the Regulations, no sulphur dioxide should be added to fresh, chilled or frozen meat. Sale of fresh, chilled or frozen meat containing sulphur dioxide is an offence and the maximum penalty is a fine of \$50,000 and six months' imprisonment.

4. Sulphur dioxide has the property of brightening the colour appearance of raw meat, such as beef. The effect is particularly noticeable in meat that has been darkened after oxidation. Some law breakers may thus use sulphur dioxide to make the colour of meat look fresher or even use it in frozen meat for sale as fresh meat.

## **SURVEILLANCE AND ENFORCEMENT**

5. The Administration has always been concerned about the illegal use of sulphur dioxide by meat traders. Fresh provision shops as well as market stalls selling meat are subject to inspections from time to time to monitor the source and safety of meat on sale.

6. The Food and Environmental Hygiene Department (FEHD)'s Food Surveillance Programme is designed to control and prevent food hazards. Samples are taken at import, wholesale and retail levels for microbiological and chemical testing. Microbiological testing covers both bacteria and viruses, while chemical testing includes natural toxins, food additives and contaminants. To be in line with the international trend of putting more focus on target-based surveillance, the FEHD has started to adopt a three-tier approach to food surveillance consisting of routine food surveillance, targeted food surveillance and seasonal food surveillance since 2007. In 2007, over 64 000 food samples were tested under the Food Surveillance Programme and the satisfactory rate is over 99%.

7. The Food Surveillance Programme covers sample testing of meat from retail outlets for sulphur dioxide. In the most recent routine food surveillance conducted in September and October 2008, about 15 600 food samples were tested and some of the samples were tested for preservatives. The results have been announced in end November 2008. Four samples of fresh beef and one sample of fresh pork were found to contain sulphur dioxide, at levels ranging from 79 ppm to 2 400 ppm. Apart from including the testing of sulphur dioxide in meat in the routine surveillance programme, targeted surveillance projects focusing on this specific issue were also conducted in the past two years. The latest targeted surveillance for assessing the use of sulphur dioxide in meat was conducted from July to September 2008, with the results announced in early October 2008. In the exercise, some 290 pork and beef samples were collected for tests, among which 15 beef and four pork samples were found to contain sulphur dioxide, at levels ranging from 10 ppm to 2 100 ppm.

8. While sulphur dioxide is detected in some of the samples in the past three years, based on the levels detected, normal consumption should not lead to immediate adverse health effects in non-allergenic individuals. The FEHD took follow-up action regarding all the unsatisfactory results, including testing further samples, issuing warning letters to the shop

operators concerned, and taking out prosecutions. The prosecution figures in relation to the use of sulphur dioxide in meat for the past three years are as follows -

<b>Year</b>	<b>No. of Prosecutions</b>
2006	12 (with 7 cases involving beef)
2007	13 (with 9 cases involving beef)
2008 (Jan – Sept)	10 (with 8 cases involving beef)

9. In view of recent intelligence on suspected use of sulphur dioxide in frozen beef for sale as fresh beef, the FEHD has conducted a blitz operation to monitor the situation. The FEHD completed inspection on 23 November 2008 and collected 26 beef samples from 22 retail outlets for tests of sulphur dioxide, among which 10 were found to contain sulphur dioxide at levels ranging from 17 ppm to 5 500 ppm. The results of the operation have been published on 3 December 2008. Prosecution is in hand to bring the offenders to court. Since 38% of the samples collected contained sulphur dioxide, FEHD has mounted another blitz operation of a similar scale on 2 December 2008. Should sulphur dioxide also be detected in this batch of samples, prosecution would be considered as well. Besides, follow-up inspection and further sampling for monitoring purpose will also be made to the retail outlets with unsatisfactory results.

## **WAY FORWARD**

10. The Administration will keep in view the market situation and continue the surveillance and enforcement in relation to the illegal use of sulphur dioxide in meat. In addition to regular routine surveillance, the FEHD will continue to step up surprise inspections to all retail outlets selling beef and to take samples for testing sulphur dioxide, for closer monitoring of the situation and for sanctioning malpractices. Legal action will be taken against outlets with sulphur dioxide found in the samples collected. If convicted, other appropriate sanctions in accordance with the existing suspension/cancellation policy applicable to food premises and market tenancy will be applied.

## **ADVICE SOUGHT**

11. Members are invited to note and comment on the measures taken by the Administration in tackling the illegal use of sulphur dioxide in beef.

**Food and Health Bureau  
Food and Environmental Hygiene Department  
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