

Health and Safety Executive		Sector Information Minute	
Agriculture and Food Sector		SIM 01/2002/59 (formerly 05/2002/24)	
Cancellation Date	26/11/2006	Open Government Status	Fully Open
Version No & Date	1: 26/11/2002	Author Unit/Section	Food Section

Target Audience
FOD Inspectors responsible for the food industries
Specialist Inspectors (Occupational Hygiene)

MEAT STAINING DYES

This SIM gives advice on the toxicity and use of meat staining dyes used in abattoirs to mark meat unfit for the food chain.

BACKGROUND

- 1 An important part of the BSE cattle cull process is to ensure that there is no chance of meat from culled animals getting into the food chain. This is carried out in the abattoir by staining the carcasses with a blue dye.
- 2 The dye is called Patent Blue V and comes in powder form which is mixed in water before being applied by spray or drip. The dye is a permitted food colourant in Europe. There have been limited animal studies and, although no data is available on the effects on humans, the current view is that it is not toxic and there is no evidence of harm from ingestion.
- 3 However some abattoir workers, including Meat Hygiene Inspectors, have been concerned over their exposure to this dye because they find themselves coughing and sneezing in a colour other than the normal.
- 4 The orange dye tartrazine is also used in abattoirs.

ANALYSIS BY HSE

- 5 Samples of both types of dye and urine samples from persons exposed were sent to HSL for analysis. Both dyes contain a variety of heavy metals. These are in tiny amounts and probably originate from catalysts used in the production process.
- 6 The results of the analysis show the heavy metal content in the dye solution to be no more than a few parts per billion. Evidence of increased levels in the urine samples was close to the level of detection of the equipment used.

ACTION BY INSPECTORS

- 7 No special visits are required, however inspectors visiting abattoirs may find the information in this SIM useful.
- 8 With adequate control there would appear to be no health risk to users of the dyes in the context of spraying in abattoirs.
- 9 There is general agreement on precautionary measures. These include:

- 1) low pressure spraying or drip application;
- 2) enclosure of spraying where possible; and
- 3) the use of appropriate personal protective equipment including respiratory protection.

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