

GCSE

CHEMISTRY A

Chemistry A Unit 3 Ideas in Context plus C7

Pre - release Material

To be opened immediately

For issue to candidates on or after

DATE MARCH YEAR

H **A323/02**

This version is for HIGHER tier candidates who will be entered for A323/02.

Sufficient time should be allowed for study of the material in the classroom.

INSTRUCTIONS TO CANDIDATES

- Take the article and read it through carefully. Spend time looking up any technical terms or phrases you do not understand. You are **not** required to do more research of your own on this topic.
- For the examination you will be given a fresh copy of this article, together with the question paper. You will not be able to take this original copy into the examination with you.

This Pre-release paper consists of 2 printed pages.

This newspaper article is about a food scare that occurred in February 2005.

Carcinogenic dye causes food scare

More than 400 well-known processed foods have been removed from sale because they are contaminated with an illegal red dye which can cause cancer.

The bright red carcinogenic dye, Sudan 1 had been used to colour a batch of chilli powder used as an ingredient in a brand of Worcester sauce. The sauce in turn was sold on to hundreds of food companies for manufacture into famous brands of food and supermarket ready meals.

The Food Standards Agency warned that the crisis was likely to get worse, as it came under attack for failing to prevent the lapse in food safety and for taking too long to make the information public.

Some flavours of crisps were removed from supermarket shelves

This table shows how the crisis developed.

28 January 2005	Sudan 1 contamination of chilli powder is discovered by a laboratory in Italy.
1 February 2005	Sudan 1 is found in a brand of Worcester sauce. Environmental health officers are notified.
7 February 2005	Further tests finally confirm presence of the dye.
10 February 2005	The FSA demands a list of companies supplied the Worcester Sauce for use in other products.
14 February 2005	The list of 200 companies is received by the FSA. The FSA begins ringing the companies.
15 February 2005	The FSA begins telling the companies and supermarkets that they are planning a recall.
18 February 2005	Britain's largest food recall is launched, with more than 400 products withdrawn from supermarket shelves.

Banned in 2003 under European Union rules, the harmful Sudan dye, also known as 'scarlet red', has been found in a range of chilli powders and curry powders, as well as more than 200 food products ranging from pesto sauce to chicken tikka masala.

The FSA said that over 300 food companies were involved in the effort to trace how far the Worcester sauce had spread. Companies involved include all of the leading supermarkets, and top brand owners such as crisp makers. The FSA said it could not guarantee that there was not more adulterated chilli in circulation.

"The big supermarkets are all using the same manufacturers, so if there is a problem it spreads very quickly," said a leading food critic.

The food chain is now both highly industrialised and highly centralised. The main supermarket groups depend on a handful of suppliers to provide the ingredients for their processed meals.

The use of sauces containing additives to bolster the flavour of factory food is widespread. The result is not just that many ready meals taste the same but also that any breakdown in safety is instantly multiplied.

Sudan 1 is an azo dye, which has been shown to cause liver cancer in animal tests. It has not been shown to cause cancer in humans. It was first used in the US in 1918 but withdrawn from food use the same year. Sudan 1 is not permitted as a dye for foods in the EU but is meant to be used as a colour for boot polish, industrial solvents and petrol.

“At the levels present the risk is likely to be very small but it is sensible to avoid eating any more. There is no risk of immediate ill-health,” said the chief executive of the FSA.

A further difficulty is that by the time the contaminated chilli has been used in other ingredients such as Worcester sauce it is present only in parts per billion making it virtually undetectable. Public analysts have had to devise new tests to detect it, according to one food safety officer.