



# Foreign Bodies

## Reducing Recalls

### Why are foreign bodies an issue?

Finding a foreign body in a food can be very unpleasant. Just by asking around the RQA office we have experiences of a plaster in a pre-packed sandwich, a cigarette butt in a pack of strawberries, a stone in a pack of cereal, hair in a chocolate, slug in salad leaves. It goes on. Most people will have their own stories.

However, beyond being unpleasant, foreign bodies can cause serious safety issues including choking hazards, dental or oral damage, or even oesophageal lacerations if swallowed.

Where there is the possibility of consumer injury, it may result in a product recall. This can be very expensive and even run into multi-million GBP if plants are shut down or ingredients

with foreign bodies are supplied to processors that make many more contaminated products.

In addition, there may be product liability claims for damages, potential legal action or regulatory prosecution and fines if due diligence cannot be demonstrated.

Malicious contamination with foreign bodies is also a serious issue. For example, the malicious contamination of strawberries by a disgruntled employee in Queensland, Australia in 2018 effectively brought a halt to the AUD\$560 million (£300 million) strawberry industry.

The indirect costs of damage to consumer confidence and brand integrity are unquantifiable.

### The recall numbers

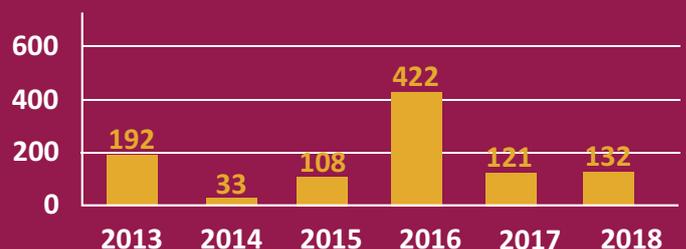
Foreign body incidents reported via the EU RASFF and the US FDA Enforcement reports show an upward trend (see graphs). The high number in 2016 in the US was due to a small number of foreign body incidents involving ingredients that affected a wide range of finished products.

Foreign bodies were responsible for 30% (23) of UK recalls and 15% (15) of Australian recalls, and 18% (23) of USDA recalls in 2018.

**EU RASFF Alerts in Food Foreign Body**



**US FDA (Enforcement Reports (Products) Foreign Body**



## Foreign Body Sources & Types

- Present in raw materials – often referred to as extraneous matter:
  - > Stones, twigs, pits, seeds, insects, rodents and droppings, bones and shot.
- Inadvertent contamination from processing and handling:
  - > Personnel: buttons, jewellery, coins, keys, hair-clips, hair, nails, nail varnish, false nails or eyelashes and lanyards, plasters
  - > Stationery: pens and paper
  - > Maintenance: small tools, screws, bolts, swarf, welding debris, electrical wire and grease
  - > Equipment: clips, cable ties, broken screens, bearings, metal on metal shavings and cleaning cloths
  - > Environment: glass, hard and soft plastic, metal, wood, rust, paint chips, insects, rodents, droppings and cardboard
- Malicious tampering. Materials intentionally placed in food with the intention to cause injury to the consumer or financial damage to the company.

In Australia in the last 10 years foreign body recalls were due to contamination with metal (38%), plastic (28%) and glass (23%). In 2018 in the UK, foreign body recalls were caused by plastic (48%), with glass, metal and pests all at 13%.

Some foreign body incidents may be from consumers fraudulently claiming injury or distress. All complaints should be thoroughly investigated to ensure appropriate action is always taken.

## 10 measures to reduce foreign body contamination

- 1 Review the site HACCP Plan in conjunction with complaint trends to ensure that all foreign body risks have been identified and that residual risks are understood.
- 2 Consider updating metal detectors to take advantage of the software and technological improvements such as product signal suppression and multi-frequency detectors that improve sensitivities and detections.
- 3 Utilise sieving, screening and filtering of ingredients and product wherever possible in the process as an early warning of a contamination event.
- 4 A condition based preventative maintenance schedule ensures that wear and tear of equipment or excessive vibrations are rectified before they can become the cause of foreign body contamination.
- 5 Glass, hard and brittle plastic should be actively minimised within the plant, and registered and audited based on risk.
- 6 Utilise metal detectable items where possible – pens, markers, lanyards, calculators, stopwatches, paperclips, scissors, plasters, mouse-mats and rubber bands are all available as well as metal detectable engineering items such as O rings, cable ties, conveyor belts, tape measures and silicon sealant.
- 7 Ensure maintenance handover and approval procedures are robustly followed.
- 8 Inspect building fabric integrity and environmental cleaning standards regularly. Inadequate cleaning of the environment coupled with proofing issues can lead to insect populations increasing and act as a food source for rodents and flying insects.
- 9 Be aware of staff discontent for any reason – grievance, discipline, change in working practices and staff cliques and have intervention procedures written, tested and ready to implement.
- 10 Improve the food safety culture across the food business. This can have a positive effect on one of the contributory factors of PRP failure - staff not following procedures.

## Detecting foreign bodies in food and drink

Foreign bodies introduced during processing and handling are the main cause of foreign body recalls. With the multitude of standards, controls and regulations that food businesses need to comply with, why do foreign bodies still find their way into foods?

Failure of detection devices, such as metal detectors, magnets, X-rays, optical sorters, sieves, screens, filters etc. is fortunately now rare with improved fail-safe software and technology, and the operational and audit focus given to these control points. However, when these devices indicate a contamination event has occurred, lack of thorough investigation into the source of contamination can create a crisis out of what should be an internally managed incident.

No detection device is 100% effective and each type of device has limits of sensitivity and exclusion which must be assessed as a risk within the HACCP Plan.

Pre-requisite programmes (PRPs) should prevent foreign body contamination events, but failure of these PRPs is a significant cause of foreign body contamination events. Procedures for handling glass was number 1 of the top 10 non-conformities raised at BRC compliance visits to food sites in 2017. This had slipped to 7th most common non-conformance in 2018.

PRPs including sanitation, pest management, maintenance handover procedures, pre-operational inspections, glass registers, glass breakage procedures, loose item controls and ingredient opening procedures need to be clear, easy to follow and implementation checked on a regular basis to ensure they prevent foreign body contamination.

## Why don't staff follow procedures?

- Optimistic bias – it will not happen to me
- Illusion of control – nothing has gone wrong in the past when rules were not followed
- Cognitive dissonance – I know I am doing something wrong but I have a good reason
- Attitudinal ambivalence - there are more important matters

The greater emphasis on food safety culture in Issue 8 of the BRC Global Food Safety Standard provides a framework for identifying, investigating and correcting any lack of commitment to food safety wherever it occurs in the organisation.



## Summary

Foreign bodies are a common cause of product recall but if HACCP is applied effectively to identify risks and control measures are put in place such recalls should be reduced. It is usually down to human factors such as ignoring policies on metal detectable items in the factory environment, or not following the processes around maintenance procedures that lead to costly recalls. In short, the often repeated RQA mantra "Don't forget the basics".

Reducing foreign body contamination would mean we all have fewer unpleasant stories to tell about what we have found in food.

## References

<https://data.gov.uk/dataset/dd196518-9447-40ad-a097-foa055b07af1/product-recalls-and-withdrawals>

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<https://www.fsis.usda.gov/wps/portal/fsis/topics/recalls-and-public-health-alerts/recall-summaries>

<https://www.brcgs.com/media/1367539/brgcs-compliance-report-2019-digital.pdf>

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