



Office for Product
Safety & Standards



Construction product incident data

Identifying and evaluating data for domestic and international
product safety monitoring systems

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We are also deeply grateful to colleagues from the Office for Product Safety & Standards, and to other reviewers both internal and external to OPSS. Several OPSS colleagues have given us especially valuable assistance, helping to mitigate our limited prior knowledge of the construction product sector and wider product regulation systems, facilitating access where possible to OPSS data, and allowing us to better account for key aspects of current product safety data production and usage that are central to this project.

Acronyms

A&E	Accident and emergency
ABI	Association of British Insurers
ACCC	Australian Competition & Consumer Commission
ACCP	ASEAN Committee on Consumer Protection
AHS	American Housing Survey
APPG	All-Party Parliamentary Group
ASEAN	Association of Southeast Asian Nations
AWISS	All Wales Injury Surveillance System
BEIS	UK Department for Business, Energy & Industrial Strategy
BIM	Building Information Modelling, or Building Information Management
BSRIA	Building Services Research and Information Association
CHSG	Construction Health & Safety Group
CP	Construction product ¹
CPA	Construction Products Association
CPSC	US Consumer Product Safety Commission
CROSS	Collaborative Reporting for Safer Structures
CSV	Comma-separated values file format
DCLG	UK Department for Communities and Local Government (now renamed as the Department for Levelling Up, Housing & Communities)
DIY	Do it yourself
DLUHC	UK Department for Levelling Up, Housing & Communities
EC	European Commission
EEA	European Economic Area
EFTA	European Free Trade Association
EHS	English Housing Survey
EU	European Union
EU-SILC	EU statistics on income and living conditions
HSE	UK Health & Safety Executive
ICD	International Classification of Diseases
ICSO	International Standard Classification of Occupations
ICSMS	EU Information and Communication System for Market Surveillance
IHA	International Housing Association
ILO	International Labour Organization (UN)
IRS	Incident recording system
LABC	Local Authority Building Control
ISO	International Organization for Standardization
LFS	Labour Force Survey

¹ N.B. within some other acronyms here (and in some relevant data systems, policy documents and other literature), 'CP' is used as an acronym for either consumer products or consumer protection.

MHCLG	UK Ministry for Housing, Communities & Local Government (now renamed as the Department for Levelling Up, Housing & Communities)
MoJ	UK Ministry of Justice
MSA	Market surveillance authority
NAFTA	North American Free Trade Agreement
NaPSIR	National patient safety incident reports
NFCC	National Fire Chiefs Council
NHBC	National House-Building Council
NHS	National Health Service
NRLS	National Reporting and Learning System, NHS England
OECD	Organisation for Economic Co-operation and Development
ONS	UK Office for National Statistics
OPSS	UK Office for Product Safety & Standards
ORR	UK Office of Rail and Road
PDF	Portable Document Format
PSD	UK Product Safety Database
RAPEX	EU Rapid Exchange of Information System (now renamed as Safety Gate)
RIDDOR	Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (UK)
RTC	Road traffic collision
SOC	Standard Occupational Classification
UK	United Kingdom of Great Britain and Northern Ireland
UK-AFI	United Kingdom Association of Fire Investigators
UN	United Nations
UN-Habitat	UN Human Settlements Programme
UNSD	UN Statistics Division
URL	Uniform resource locator (internet/web address)
US / USA	United States / United States of America
USMCA	United States–Mexico–Canada Agreement
VOC	Volatile organic compound
WHO	World Health Organization (UN)

1. Introduction

In January 2021, the Office for Product Safety & Standards (OPSS) was announced as the new national regulator for construction products, alongside the other responsibilities OPSS had been given since its creation in January 2018.² Establishing these regulatory powers was one of the UK government's responses to the 2017 Grenfell Tower fire disaster, following the recommendations of Dame Judith Hackitt's Independent Review of Building Regulations and Fire Safety (OPSS 2022; Hackitt 2018; MHCLG 2021a; DLUHC 2022a). The Health & Safety Executive (HSE) was announced as the new building safety regulator (DLUHC 2022b).³

As part of OPSS' transition into this regulatory role, work is currently underway to build up the relevant knowledge base. One aspect of this is seeking to rectify an identified paucity of data on construction product incidents, which hinders OPSS' capability to set priorities and develop intervention strategies.

Precedents to the Grenfell disaster in Australia, Dubai, and another London fire – at Lakanal House in Camberwell in 2009 – among other cases (e.g. Sweet 2017; Week 2017; Leshinsky & Johnston 2018; Apps 2019; Chen *et al.* 2019) demonstrate the importance of incident data for construction product monitoring purposes. In each of these examples, exterior cladding similarly provided a means for fire to spread quickly through tower blocks. More systematic monitoring of what was going wrong could perhaps have helped to prevent future tragedy, without an event on the scale of Grenfell being needed to attract sufficient policy attention.

As a first step towards addressing this data gap, this research provides an overview of currently-available datasets related to construction product incidents, outlining the parameters of the data and assessing how and where datasets may enable some regulatory analysis of historical product performance and compliance issues. The research also explores how OPSS could potentially accrue fuller incident-related data from a range of different currently-available sources to inform its monitoring of construction products. The report considers further data sources that might be newly established or drawn upon from other stakeholders, and identifies remaining knowledge gaps and areas for further research.

The following sections begin by reiterating the key definitions given to the project team and expanding on how these have been interpreted. The methodology and associated activities undertaken are explained next, before the main findings are presented, and recommendations are made for future construction product safety data systems and further research. Appendices at the end of this report include a set of tables providing a fuller inventory of the main data sources that were scrutinised.

² OPSS is most closely affiliated to the Department of Business, Energy & Industrial Strategy (BEIS), but in its construction product regulator role, OPSS reports to both BEIS and what is now the Department for Levelling Up, Housing & Communities (DLUHC).

³ The construction product and building safety regulatory responsibilities overlap somewhat, partly reflecting how building safety can be affected by a combination of building design, construction products and construction activities. However, the HSE responsibilities here focus more on overall building safety and performance and on people working in building construction than on the specific products involved.

2. Definitions and focus of the research

The project brief⁴ defines ‘construction product’ and ‘incident’ as follows:

“A ‘**construction product**’ is defined as any product or kit which is placed on the market for permanent incorporation in any construction works (regardless as to whether or not there is [a] UK designated standard or Technical Assessment for the product). The scope is all construction products not just those currently governed by the Construction Product Regulations 2013. Equipment, tools and machinery used by construction trades during the construction process are excluded from the scope of this work.”

“An ‘**incident**’ is defined as an occurrence in the UK in which one or more construction products were implicated as causal factors and in which either:

- actual harm (injury or ill-health) was caused to persons (i.e. residents/occupiers/tenants/homeowners/consumers/public etc.); or
- there was the potential for serious harm to persons to have been an outcome.

Incidents resulting in harm to workers during construction activity are excluded from the scope of the project (e.g. incidents causing harm to workers during a product’s manufacture, installation or activity elsewhere in the supply chain). Incidents in which the design/safety/performance of construction products is the primary focus, i.e. as opposed to those w[h]ere the incident arose solely as a result of inadequate/poor installation. However, it is acknowledged that this interface is complex and that poor installation may sometimes be the result of inadequate product information/instructions having been provided by the manufacturer.”

Construction product (CP) incidents are thus occurrences “where construction products have been implicated in an event of actual harm or potential for serious harm”. It is important to note that although the above definition makes clear that incidents in the UK are the main concern of this project, the brief also asks for consideration of “whether there is any non-UK CP incident data (available/published) that may have valid read-across to inform the UK regulator’s strategic planning prioritisation”.

Consistently with the brief, the project has focused primarily on construction product incidents like these. Nevertheless, several factors have led us to situate this within a broader exploration of data pertaining in more general terms to potentially-dangerous construction products. Perhaps the most important factor here is the lack of ‘incident’ information in much of the relevant product safety data that we have encountered. Moreover, thresholds for exactly what constitutes *potential* serious harm may be difficult to pinpoint, and both this ambiguity and the recognised complexity of attributing responsibility for incidents to specific construction products are exacerbated where details of occurrences, investigation processes and their conclusions are missing or vague (as often seems to be the case).

OPSS colleagues have also clarified that the ultimate purpose of the project is to support improved identification of **non-compliant construction products**, generating data useful for regulatory purposes – which include seeking to prevent incidents from occurring in the first place.

⁴ The full brief is included in Appendix 1.

Our research consequently encompasses both construction product incidents and wider indications of product risks and non-compliance, attempting to trace back any connection to incidents in the wider-ranging data.

3. Methodology

The research has mainly involved the collation and analysis of existing construction product data currently available to OPSS and/or publicly-accessible on the internet. This work has been supplemented by another set of activities that have allowed the project to incorporate the OPSS Incident Data team's knowledge of current incident data production and priorities for future monitoring systems.

As per the project brief, our more thorough investigations of existing data have been limited to data in the public domain or made available to us by OPSS teams. We have also considered further potential sources where data may be held behind paywalls or stored internally by other organisations, and explored what data they do provide publicly, but we have not approached other stakeholders like these (on the understanding that our work is considered sensitive and such communications may form part of a follow-on project).

Research activities began with some wider reading of academic and grey literature, for initial familiarisation with construction product safety topics. Some of this literature has provided details of promising data sources or other useful contextual information. However, we have not conducted a formal literature review as such, because of limited time and this project's emphasis on practical scrutiny of available datasets.

3.1. Exploring and cataloguing potential data sources

Cataloguing available data relating to construction product incidents and safety was a crucial early stage of this research, to enable subsequent assessments of the adequacy and potential future uses of this data. The cataloguing process revolved primarily around an inventory of data sources, as explained later in this section.

A central aim of the project is to identify data sources *beyond* the official governmental and regulatory databases already managed or accessed by OPSS. Nevertheless, collecting and analysing data from these official databases (where possible) has also been important, in order to understand what these already include and to ascertain the gaps that other sources could help to address.

The project brief lists the following sources as being already accessed by OPSS:

- Product Safety Database (PSD)
- Construction product-related reports received by OPSS from local Trading Standards and other stakeholders/consumers⁵
- Safety Gate / RAPEX (Rapid Alert System)
- ICSMS (Information and Communication System on Market Surveillance)

RAPEX/Safety Gate and ICSMS are both European Union product safety systems, managed by the European Commission. Due to Brexit, OPSS now only has very limited access to data from these systems that is not available publicly on the internet, to enable market surveillance for Northern Ireland; otherwise, the Product Safety Database largely replaces these systems for product safety monitoring in the UK. Our analysis of these EU

⁵ These feed into and overlap with the Product Safety Database, as do some RAPEX/Safety Gate product notifications.

datasets is thus restricted to the publicly-available data, which may also be the only EU data currently available to OPSS for wider monitoring purposes.

We have had more ‘behind-the-scenes’ access to some parts of the Product Safety Database (and, by extension, some details of the stakeholder reports that contribute to it). The OPSS Incident Data team have kindly given us an initial overview of the PSD structure and the main processes involved in updating it, and answered various subsequent questions. We have also been sent exported versions of the ‘Cases’ and ‘Products’ tables and ‘Construction Products Notifications on the Product Safety Database’ presentation slides detailing the construction products reported as unsafe/non-compliant on the PSD between 18th October 2019 and 14th October 2021, to consider alongside the Product Safety Alerts, Product Safety Reports and Product Recalls available publicly online.

However, we have not had direct access to the Product Safety *Database* itself. Some important details and updates are alluded to (in the documents we have seen) but appear to be recorded in places other than the tables that we were sent, we could see only occasional indications of how risks were identified for the construction product notifications, and we have not had access to the sections where specific details of ‘accidents or incidents’ are added (although adding the specific details is apparently a rare occurrence, at present). We have sought to fill the main gaps in our understanding (and, where possible, data access) and to clarify all key points with the relevant OPSS teams, who have been very helpful, but this incomplete access is still a partial limitation of our research.

In addition to these sources already accessed by OPSS, we have also investigated what data is currently available elsewhere, or may potentially be available behind paywalls or for official regulatory purposes. This exploration included stakeholders mentioned in the project brief⁶ (OECD, International Housing Association, Electricity Safety First, UK Association of Fire Investigators, CROSS-UK) and a wide range of other avenues, encompassing various other UK government sources, other intergovernmental organisations’ and national governments’ data, charity organisations, industry groups, trade associations, trade unions, builders’ merchants and other construction product retailers,⁷ and insurers – attempting to focus on more specialist and (especially) systematic data. The potential sources investigated are listed in the following table; all were accessed between March and June 2022. Rationales for sources’ inclusion in or exclusion from the full inventory and other chapter 4 analysis are explained later in this section.

Source category	Name	Added to full inventory of data sources?	Not added to full inventory, but also analysed in chapter 4?
	Product Safety Database (PSD)	Yes	

⁶ The project brief describes these as “known... industry/stakeholder databases”.

⁷ While bearing in mind the project brief’s significant caveats around the usability of product recall databases and manufacturer-published information: “Anecdotally it is stated that the current CP recall system is not optimised and relies on an ad-hoc mixture of technical bulletins and posting alerts on several product recall websites (many of which are aimed at consumers rather than trade or professional users). Information published by manufacturers may be a useful source of data, however identifying and locating this may not be straightforward.”

<i>UK government sources</i>	Fire statistics (Home Office)	Yes	
	Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)	Yes	
	Labour Force Survey (LFS)	Yes	
	National patient safety incident reports (NaPSIR)	Yes	
	Decisions (Housing Ombudsman Service)	Yes	
	English Housing Survey (EHS)	Yes	
	Coroners statistics	No	Yes
	NHS England Hospital Admitted Patient Care Activity	No	Yes
	NHS A&E Attendances & Emergency Admissions	No	
	ONS Deaths registered in England and Wales – 21st century mortality	No	Yes
	Local Authority Building Control (LABC)	No	Yes
	Civil justice statistics (for small claims courts, etc.)	No	
<i>Intergovernmental organisations and other national governments</i>	Safety Gate / RAPEX	Yes	
	ICSMS	Yes	
	Recalls (US CPSC)	Yes	
	SaferProducts.gov	Yes	
	National Electronic Injury Surveillance System (NEISS)	Yes	
	Recalls and safety alerts (Canada)	Yes	
	Recalls (Product Safety Australia)	Yes	
	Product Recalls (New Zealand)	Yes	

	ASEAN Product Alerts	Yes	
	Global Recalls portal (OECD)	Yes	
	US Fire Administration	No	Yes
	EU statistics on income and living conditions (EU-SILC)	No	Yes
	American Housing Survey (AHS)	No	Yes
<i>Charity organisations, industry groups and trade associations</i>	Collaborative Reporting for Safer Structures (CROSS)	Yes	
	Recalls (International Housing Association)	Yes	
	Product Recalls & Safety Notices (Electrical Safety First)	Yes	
	Product Recalls (UK-AFI)	Yes	
	RedbookLive suspensions and withdrawals	Yes	
	BSRIA Test Report Directory	Yes	
	Building Safety Alliance	No	
	Considerate Constructors Scheme	No	
	Construction Health & Safety Group (CHSG)	No	
	Construction Products Association (CPA)	No	
	National Fire Chiefs Council (NFCC)	No	
	Furniture & Home Improvement Ombudsman	No	
<i>Trade unions</i>	GMB	No	
	Prospect	No	
	Unite	No	
	B&Q	Yes	

<i>UK builders' merchants and retailers</i>	Homebase	Yes	
	Jewson	Yes	
	Screwfix	Yes	
	Travis Perkins	Yes	
	Buildbase	No	
	Lawsons	No	
	Selco	No	
	Wickes	No	
<i>Insurers</i>	Association of British Insurers (ABI)	No	Yes
	National House-Building Council (NHBC)	No	

We are aware that as part of the OPSS data strategy, staff are already exploring access to other UK government-related sources including NHS accident and emergency (A&E) admissions and police investigations; the work was not yet at a stage where data could be shared with us.

There was insufficient time for us to investigate some further sources of potential relevance. Within the UK, the fire statistics, housing ombudsman and housing survey data involves separate systems for England, Scotland, Wales and Northern Ireland. We have focused on the English data here, because of limited time, the much larger English population and often apparently more extensive data, but links to the Scottish, Welsh and Northern Irish equivalents are also provided in the inventory, sometimes with additional commentary.

Due to time reasons, we also did not investigate several other national safety alerts and recalls 'jurisdictions' mentioned on the OECD Global Recalls portal website (OECD 2022): Chile, Denmark, Finland, France, Israel, Japan, Mexico, Slovenia, South Korea, and the United Arab Emirates. We would expect much of the information from these systems to feature already in the OECD portal (and for the EU countries, RAPEX/Safety Gate and ICSMS). However, no recalls from the jurisdictions of Chile or Mexico are currently included in the OECD portal. There was not time to investigate housing surveys beyond the English Housing Survey, EU-SILC and the American Housing Survey either; for example, we note that these also exist for Canada (the Canadian Housing Survey) and Australia (Survey of Income and Housing, and previously the Australian Housing Survey).⁸

Some sampling was needed for prioritising which data to scrutinise from the sources that were investigated, due to the project timescale, the wide range of sources considered and the large volume of information that many of them entailed (often spread across many separate documents or webpages). The process was essentially one of continuation until 'saturation', comparable to similar principles which are widely used for sample size

⁸ See the references listed for Statistics Canada (2022) and the Australian Bureau of Statistics (2007, 2022).

estimation in qualitative research (e.g. Guest *et al.* 2020; Hennink and Kaiser 2022): trying to establish a reasonable sense of the main patterns in relation to the focuses of our project – including examples from a range of relevant categories, where appropriate – and reaching a point where several further items merely confirmed the impression provided by previous items. The exact details of this sampling varied between data sources according to their structures and apparent levels of complexity; for example, more precise summaries (encompassing more fully the whole datasets) were possible in some instances where full tabular datasets could be downloaded and where less of the relevant data was in free-text fields. This sampling approach is also justified by the particular aims of this project. Because one of the aims was to investigate what data was recorded *systematically*, in some cases this could be ascertained merely from an absence of the relevant information in several examples. However, it must be emphasised that this is an exploratory, scoping study, rather than a definitive ‘last word’ on the contents of the various datasets investigated (which may themselves also change over time).

For most sources where any meaningful and accessible data was found, summary details of this data were added to an overall **inventory of sources/datasets**, used for some of the later analysis. This inventory encompasses a wide range of important dimensions including the organisations involved, the data’s intended purposes, indicators of data quality and validity, accessibility and ease of usage, frequency of updates, and scope/coverage (in several different regards), as best we could gauge from the available information and with the above caveats around sampling. Some guesswork was needed about how certain categories or other variables may overlap with construction products, incidents and risks; this is reflected in correspondingly imprecise language in our analysis. The full inventory is included in Appendix 2 of this report.

Some other sources where the available data was only of minimal relevance have also been included in chapter 4’s analysis, but for reasons of brevity they were not added to the full inventory tables. Finally, some of the further sources that we investigated but did not add to the inventory nevertheless provided indications of potentially-useful data that may be available behind paywalls or by other special arrangements; these are discussed in section 6.3.

3.2. Analysis of data usefulness for monitoring, strategic prioritisation and planning

3.2.1. Inventory of data sources

This central component of our analysis focuses on drawing out the key points about existing data availability on construction product incidents, risks and non-compliance from the summary details recorded in our inventory of data sources, and their implications for OPSS’ regulatory oversight.

The main questions considered here (and in the subsequent recommendations) were as follows:

- From the details that we have been able to find, how do the different sources’ apparent scope, availability, quality, reliability and validity vary?
- Which sources seem to be most useful on these grounds?
- Which sources might not be as trustworthy, and would any further information help us to assess this better?
- What are the most important gaps for the monitoring of construction product incidents, risks and non-compliance?

We originally planned to include some further quantitative analysis. This would have explored how the incidents and alerts that we found disaggregated by country, by construction product category, and by type of incident/harm or risk, and how the patterns corresponded to other known or estimated indications of construction product incident frequency (if appropriate data existed for the comparisons). However, in order to give more focus to other higher-priority aspects of the project, this quantitative analysis was not carried out. An expanded and partially-delayed data cataloguing process had taken more of the available time, and most importantly it became increasingly clear that the limitations of much of the data we found were readily apparent without needing the more detailed analysis. Data integration (synthesis) and analysis along these lines would be more effective once a more 'complete' set of construction product data is available – perhaps including fuller data from the sources we have identified without being able to contact their gatekeepers – and when the Product Safety Database categorisations that are currently under development by OPSS are finalised, for greater consistency with subsequent datasets and analysis. We include suggestions for this work towards the end of the report, in section 6.4.4.

3.2.2. Institutional context for construction product safety data

The other strand of our main analysis investigated the institutional context for construction product safety data, with a view to reflecting the practicalities of producing and using this kind of data in our project's analysis and recommendations, alongside consideration of our own findings from the existing construction product safety datasets that we could access.

We approached these issues primarily through a focus group discussion in April 2022 with three OPSS staff members who work on product safety and monitoring data, making use of the particular expertise available to us for this project. Some of the questions were answered in writing by one of these staff members who had to leave halfway through the discussion, and we also incorporated information from several other question responses⁹ and further reflections sent by email.

Drafted in advance, the focus group questions explored (a) the types of construction product safety data and database functions that would be most helpful for regulatory purposes, (b) the institutional factors perceived to influence how different types of product safety data¹⁰ are reported and recorded (sometimes with pertinent further implications for assessments of existing data quality), and (c) key priorities, challenges and opportunities in this area. Starting the discussion with desired ideals for the data was intended to encourage creative and reflective conversations from the outset, as well as to help to focus attention subsequently on where current systems could be improved. Some aspects of the questions overlapped; this was intended to encourage the discussion of further ideas and to approach topics from a range of angles.

The drafted questions are listed in Appendix 3.

We were not seeking to assign blame to any individuals for shortcomings of what is still a relatively new system (developed at speed), but rather to learn more about *institutional* arrangements – whether present or missing – that may contribute to the identified paucity of incident data which sparked this project.

The resulting qualitative data has been analysed thematically. Using software such as NVivo for the analysis was an option, especially had these discussions taken the form of multiple separate interviews needing to be analysed in parallel, as was a possibility initially. However,

⁹ These questions sought to clarify specific points.

¹⁰ This included considering a wider range of product categories, for example those such as toys and electrical products which seem to feature more heavily in product safety data than construction products.

the focus group format meant that most of the information was already in one place – with less need for NVivo-type ‘coding’ functions to identify themes or extract the relevant excerpts – and it was simpler to just work with Microsoft Word documents in this instance.

3.3. Proposals for future construction product safety data systems

Proposals for future improvements stem primarily from the analysis of existing data sources and institutional context described above, with some further influence from the research team’s past experiences and wider reading.

These proposals encompass the strengths and possibilities of currently-available data for construction product safety monitoring systems, the main gaps and other weaknesses in this available data, identification of stakeholders who may hold further useful data, and potential next steps for taking forward the recommendations.

4. Inventory of data sources relating to construction product safety

This chapter begins the report’s empirical analysis, scrutinising the data that we have been able to access on construction product incidents, risks and non-compliance.¹¹

Much of this analysis pertains to the generally more detailed summaries of individual data sources (with various website URL links) that are provided in Appendix 2. We have striven to produce rigorous overviews of each source. However, our insights will be slightly more limited where we could not access an exported version of a whole database and where relevant information may be stored in free-text fields of the source data, because of the impossibility in many of these cases of accounting for the *entirety* of the data involved.

The sources considered come from a wide range of types of organisations, and focus with most detail on the UK but also relate to various different areas and jurisdictions further afield. Data on construction product safety issues identified within the UK may be of greatest pertinence for OPSS’ regulatory role. Nevertheless, data from other countries can also be extremely valuable, both as points of comparison and (more cumulatively) as resources which widen the metaphorical ‘net’ in which safety problems can appear – especially considering the global nature of many construction product issues, as epitomised by the Grenfell Tower fire disaster¹² – and OPSS is keen to investigate international or global data-sharing and the consequent data requirements.

The chapter looks first at the data sources’ scope and availability, before turning to their apparent quality, reliability and validity.

4.1. Scope and availability

4.1.1. Incidents, harms, and investigations

4.1.1.1. UK data

There is very little *systematic* data on construction product incidents occurring within the UK, from the sources available to us. What does exist may be spread across various different datasets (although a single incident may not necessarily feature in multiple datasets), and in most cases the information recorded appears to be severely incomplete, relative to what might be needed for effective construction product incident monitoring – to the extent that there are few events *unambiguously* constituting ‘construction product incidents’ which are in a tabular format, and even fewer which could be extracted and manipulated straightforwardly from this data.

Product Safety Database

In the Product Safety Database, managed by OPSS, we have been told that adding specific details of ‘accidents or incidents’ is currently rare (as noted in chapter 3), but we have not been provided with this segment of the data. We have seen some internal documents shared with us, as well as outputs that are publicly available on the UK government website. Across this PSD data, it is clear that we have not had access to the full picture, and also that there are various inconsistencies and a lack of systematic recording of important details.

¹¹ As explained in sections 3.1 and 3.2.1.

¹² See chapter 1.

The most comprehensive PSD information relevant to construction product incidents appears to be in the internal 'Construction Products Notifications on the Product Safety Database' presentation slides that we were sent, and which we cross-referenced with the matching records in the 'Cases' table, before OPSS colleagues kindly added some further information that they thought was all the remaining "data to be had from the database with regards to these products". These slides and pieces of supplementary information detail the construction products reported on this database as unsafe or non-compliant during the almost two-year period between 18th October 2019 and 14th October 2021. Yet even here, there are **only two possible construction product incidents** recorded (and they are not specified explicitly as 'incidents' in this sense). One, PSD case 2010-0159, was an incident of actual harm: during one of the first uses of a recently-fitted loft ladder, "it is alleged that" the bracket supporting the ladder collapsed, causing a fall and a fractured leg. Besides this cautious language of 'allegation', whether the product or the installer was to blame for this is not confirmed by the data – the only indication of this is that the local authority which issued the alert "suggests that the third party installer may have substituted the screws used to install the ladder".¹³ The other, PSD case 2006-0427, could be an incident of potential harm: an aluminium bubble foil insulation product was purchased and tested by the consumer prior to installation, finding that contrary to its description as "flame retardant", it ignited near a flame. The business "were aware of the issue and advised disposal of the product and provided a full refund". For these two cases, there is some indication of the nature and severity of the harms which actually occurred from the loft ladder incident, and some suggested causes – but these seem to be recorded only in much wider, all-encompassing 'Issue' and 'Handling/notes' free-text fields, rather than more systematic variables. Meanwhile, the only details of incident investigation processes are some dates and the names of authorities to which investigations have been allocated.

Some further construction product incidents may feature in the Product Safety Database without being included in the notifications slides. For example, case 2106-0066 from the 'Cases' table involves a fire from May 2021 in a large multi-storey apartment building.¹⁴ The free-text 'Description' field notes that the local fire investigation identified the cause of the fire as an electrical timer switch, and that the building's cladding (apparently the same as the cladding at Grenfell Tower) caused the fire to be declared a 'major incident'. Although this cause was from an electrical product rather than a construction product, the fire would still seem to be a construction product incident because of the involvement of the cladding; it might also perhaps be deduced from this information that the cladding could have contributed to the considerable number of non-fatal casualties reported. However, from the data we have seen, there is no obvious way to simply and systematically identify potential construction product incidents such as this one.

Other UK government sources

A range of other UK sources seem to encompass at least some construction product incidents, but in general – particularly for the larger-scale datasets – the categories used in these sources' data do not allow for construction product incidents to be identified within the far broader range of incidents that they cover. Published summary statistics are clearly limited in this regard, and the underlying data may not necessarily provide much more (if any) of the required information. The lack of relevant details is perhaps to be expected, considering the different purposes of the data, but does not necessarily preclude future

¹³ The case is described as "open, no further information supplied" and "investigation ongoing" (having been allocated to a different local authority's trading standards body to investigate in October 2020).

¹⁴ The case was created in June 2021.

recording of these details. It is also possible that incidents recorded in some of these sources may overlap with each other, as well as with the Product Safety Database.

Fire data can be found in both the Home Office's Fire statistics and the Department for Levelling Up, Housing and Communities' English Housing Survey (EHS).¹⁵ The Fire statistics come from data collected initially by firefighters in real time and then updated through fire and rescue investigations, and they include potentially-relevant fire and non-fire incidents – but it is not always clear whether the incidents are *construction product* incidents, and the published summary statistics also only allow for very limited disaggregation of fatalities and casualties in relation to incident types. However, the questions used for the Incident Recording System which provides this Fire statistics data do seem to have scope for recording some of these more specific details. The English Housing Survey appears to provide far less detail about fires; there may be some construction product incidents reported, but this is not made clear by the summary statistics and the categories used. As well as a standard questionnaire, for some households the EHS also entails a physical survey where a professional surveyor carries out a visual assessment of the property, but fires appear to be the only discrete or tangible incidents recorded.

A wider range of housing problems can be recorded in the 'Decisions' data published by the Housing Ombudsman Service, an executive non-departmental public body sponsored by the Department for Levelling Up, Housing and Communities.¹⁶ The remit of this ombudsman service includes resolving disputes between residents (tenants or leaseholders) and social landlords (housing associations or local authorities) and other voluntary members. Construction product incidents could feature in either the 'Property Condition' or 'Health and Safety (inc. Building Safety)' complaint categories; 'Property condition' accounted for 47% of total complaints received between October and December 2021, the most common category of complaints (Housing Ombudsman Service 2022: 7). There are some construction product incidents described in the published ombudsman decisions, but the details are mostly provided just in free-text descriptions – and the focus is primarily on landlords' property maintenance and interactions with residents, far more so than the performance of particular products. Moreover, where faulty items are described in the decision reports, the exact products involved do not seem to be specified.

Disputes between residents and most private landlords would be resolved by local authority environmental health departments (e.g. see Shelter 2022a), and more broadly, local authorities have a crucial role in enforcing building standards (e.g. Wilson 2022). All local authority building control teams in England and Wales are represented by Local Authority Building Control (LABC). However, apart from the collation of complaints about the quality of new homes over a three-year period to 2016 (APPG for Excellence in the Built Environment 2016: 20), there do not appear to be any significant publicly-available repositories of these disputes or other relevant enforcement actions.

Workplace data from the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) and the Labour Force Survey (LFS) may also include some relevant

¹⁵ Both of these datasets only cover England; the focus on English data when the relevant information is not published at UK level was explained in section 3.1. Similar information to the Home Office's Fire statistics is provided by the Scottish, Welsh and Northern Irish devolved administrations. There has also been an annual Scottish House Condition Survey since 2003/04, but only more sporadic iterations of Northern Ireland's House Condition Survey and the Welsh Housing Conditions Survey. See the Fire statistics and English Housing Survey tables in Appendix 2 for some more details and links to these other datasets.

¹⁶ There are separate ombudsman services for Northern Ireland, Scotland and Wales, which also publish details of their investigations. However, their published decision reports are either much briefer or rare. Again, see the 'Decisions (Housing Ombudsman Service)' table in Appendix 2 for more details and links.

incidents, although again the summary statistics and categories do not make clear whether construction products have a role. The most pertinent data here appears to be both sources' workplace injury categories of "hit by moving, flying, falling object" and "trapped by something collapsing or overturning", as well as RIDDOR's other 'dangerous occurrences'. Yet the RIDDOR data excludes incidents such as fractures to fingers, thumbs or toes, or serious burns covering less than 10% of the body – all of which may be important to include in data for construction product incidents – although RIDDOR reporting requirements do include "certain... specified dangerous occurrences (near misses)". In line with this project's definition of construction product incidents (see chapter 2), incidents resulting in harm to workers during construction activity would need to be excluded for the RIDDOR and LFS data; this is not possible for the summary statistics, but the key details could perhaps be recorded in the underlying data. Issues like construction workers being potentially involved in construction product incidents when not on an active construction site may also need to be considered.¹⁷

In NHS England's National patient safety incident reports (NaPSIR), the 'infrastructure' incidents – including both actual and potential harms to patients – may include some construction product incidents in NHS-funded health facilities. However, once more the summary statistics and categories used do not provide enough of the relevant details to ascertain whether these incidents are construction product incidents.

Several other datasets focus more on health problems and outcomes (and thus again exclude potential harms) while providing some information about the causes, but further details would still be needed to establish how many were construction product incidents. NHS England's Hospital Admitted Patient Care Activity statistics (NHS Digital 2021) provide information on 'external causes' of hospital patient admissions, with categories which include various different types of explosions, falls, cases of being struck, caught, crushed, jammed or pinched by different objects, and other forms of contact with or exposure to different items or hazards, among many other causes of hospital admission (all disaggregated by age and gender, and brief details of the extent of their hospital care). Similarly, the ONS Deaths registered in England and Wales – 21st century mortality dataset (ONS 2022) lists annual numbers of deaths assigned to each International Classification of Diseases (ICD-10) code. Some of these codes again include 'external causes' (WHO 2016), which in many (but not all) cases are the same as the external causes in the NHS England Hospital Admitted Patient Care Activity statistics. The Coroners statistics published by the Ministry of Justice (MoJ 2022) include one possibly relevant 'Accident/Misadventure' category (in table 7's summary of "Inquest conclusions recorded by Coroners in England and Wales"), but the most detail available is disaggregation into annual totals for the 'male' and 'female' categories.

Insurers

The Association of British Insurers may have data on a broad range of incident types, although only blank template 'sample files' are shown on their website, with payment required for access to their actual industry data of potential relevance (ABI 2022). From these blank sample files, the 'property' and 'accident & health' data seems most likely to include construction product incidents – but only the total numbers of claims and amounts

¹⁷ A more simple exclusion of all construction product incidents that involve construction workers would risk the problematic omission of this particular sub-set of such incidents. This is because the broader intention would be to exclude incidents that occur during construction activity – and hence fall under the Health & Safety Executive (HSE)'s *building safety* regulatory remit – but construction workers could also be among potential victims of construction product incidents that occur outside of 'construction'/'building' activities per se, for example during desk-based work in an office if this also forms part of their job.

of money paid within the categories used¹⁸ appear to be provided. There is also no sign of whether particular products were to blame for the problems involved.

Charity organisations, industry groups and trade associations

The fire and structural safety information published by CROSS-UK includes some details of construction product incidents, but these are mostly just in free text descriptions, and the analysis often emphasises building and maintenance practices (rather than product performance per se). Moreover, the focus is primarily on structural consequences of the relevant issues rather than harms to people (although the structural consequences are of course very important too, not least because of how they may lead to harms to people). The CROSS publications' general approaches of either a 'whistleblowing'-type cautionary exposé (without identifying details) or an in-depth discussion of a broader topic do not seem geared towards providing a comprehensive overview of safety problems, but they may still indicate more widespread current or unfolding problems.

There were also some details of construction product incidents in the UK Association of Fire Investigators' (UK-AFI) Product Recalls data, but again only in free-text descriptions, and the only details of harms seen were where "No injuries have been reported" or where risks like burns or electric shocks were mentioned. Their listings do include an 'Investigator Name' field, although often it is left blank.

The Electrical Safety First electrical product recalls and safety notices may include some construction product incidents too, but we did not see anything that would clearly constitute one – and the most recent listings all seem to be taken directly from Product Safety Database outputs.¹⁹

We could not see any details of construction product incidents on the Building Services Research and Information Association (BSRIA) Test Report Directory or in the RedBookLive list of suspensions and withdrawals.

Builders' merchants and retailers

Among the builders' merchants and retailers whose websites we checked, only B&Q seemed to provide any indication of whether their product recalls and safety notices were linked to construction product incidents. For example, one listing on the B&Q website included the brief statement that "it has been brought to our attention that there has been a component failure during use in a small number of these aluminium loft ladders which makes them unsafe for use". However, this still gives very little detail of the relevant incidents.

4.1.1.2. Intergovernmental organisations and other national governments

Internationally, varying amounts of public information on construction product incidents are provided by different governments and intergovernmental organisations. In some cases – particularly US datasets focused on product-related incidents and injuries – there are many details of the incidents, although still with limited information on incident investigations.

European Union (EU)

The EU's Safety Gate (previously RAPEX) and Information and Communication System on Market Surveillance (ICSMS) data that have already been used by OPSS provide almost no mention of incidents, at least from the data that is publicly-available online. In the accessible

¹⁸ For example, 'Fire & Explosion' and 'Escape of Water (Non-weather)' for the property data, and no relevant-looking categories for the accident & health data.

¹⁹ Many earlier Electrical Safety First recall and safety notice listings seem to originate from retailers or manufacturers.

Safety Gate/RAPEX data, there only seems to be one reference to a construction product incident, in alert 0142/06 (which was submitted by the UK): a window hinge for which “No accidents have been reported but there has been one complaint of failed product.” There appear to be no details of incidents in the ICSMS data, which does include an ‘Investigations’ section for all product notifications – but it only lists the notifying authority, processing authority, and measures taken, rather than including substantive details of the investigations themselves.

EU-wide data on housing conditions comes from a component of the EU statistics on income and living conditions (EU-SILC), “a multi-purpose instrument which focuses mainly on income”, mostly collated from national-level survey data (Eurostat 2022a). The EU-SILC housing conditions information seems to focus on levels of crowding and ability to keep homes warm, rather than performance of construction products, but may also encompass issues like damp and leaks (Eurostat 2022b). These are all pertinent to questions of living standards and poverty (in various conceptualisations, including fuel poverty and multidimensional poverty), and could partly reflect construction product performance among other factors. However, it is clear that construction product incidents may be quite a tangent from the primary emphasis of these statistics, even more so than for the English Housing Survey (which is separate to the surveys used to produce UK income data, primarily the Family Resources Survey).

Fire data does not yet appear to be collected at EU level, but work appears to have been underway to establish this for some time now. Ten years ago, a ‘Comparison of European Fire Statistics’ report commissioned by the UK Department for Communities and Local Government found that “The vast majority of states collect data at a national or state basis and use this data to inform government policy, raise awareness of fire risk and develop interventions” (Greenstreet Berman 2012: 4). More recently, the EU FireStat project (EU FireStat 2022) was due to be completed in February 2022, aiming to close data gaps by mapping existing member-state fire data collection and proposing datasets for use in pan-European fire safety efforts.

United States of America

From the relevant US government data, the SaferProducts.gov ‘Incident Reports’ file – containing many different safety-related consumer product complaints reported by consumers and a range of public-oriented organisations (and sometimes responded to by manufacturers or retailers) – provides a combination of product-related incident information that appears to be unique amongst all of the datasets scrutinised in this project, in terms of the level of detail recorded *systematically* on the incident, a specific product involved, and the health consequences for the ‘primary’ victim. Yet trying to establish an ‘incident type’ (beyond just the products involved and severity of injuries) would probably require detailed manual analysis of the ‘Incident Description’ free-text field. Incident causes are also mostly just provided in one or more of the free-text ‘Incident Description’, ‘Answer Explanation’ and ‘Company Comments’ fields, and details of any incident investigation process would only be provided if mentioned either in the free-text information submitted by the person reporting the incident or in the response from the business. Contradictions between the information provided by the respective incident-reporter and business may be especially problematic. The report data may also downplay incidents causing harm to multiple victims.

The US National Electronic Injury Surveillance System (NEISS) also provides slightly different (and in some ways less extensive) information on construction product incidents, in this case from samples of hospitals in the USA and its territories; the hospitals’ emergency departments report on consumer product-related injuries, and this data is used to create

national estimates. This would of course exclude any incidents of potential harm or harms not resulting in *emergency* hospitalisation. More details are recorded about the victim's injury than in the SaferProducts.gov incident reports, across several different categorical variables, and there are other variables for 'fire involvement' (as well as alcohol or other drugs) and scope to record up to three different product types as being involved. However, most other incident-related details could only feature in the free-text 'Narrative' field, which is extremely succinct but does at least use a partly-standardised format that could potentially facilitate *some* automated extraction of different elements. The NEISS data also only includes product categories ('groupings') rather than more specific products, and while the combinations of product types involved may be useful information too and the description of validation checks for the dataset mentions "follow-back investigations" for some incidents, it seems possible that some of these product types may not necessarily share in the blame for the incident – and there appears to be no indication in the published data of which incidents have been more thoroughly investigated or any further details of what may have been found (for example, whether faulty installation may have contributed to an incident). For the purposes of this project, the NEISS injuries may also include construction product incidents occurring during construction work, unless code '7' locations were excluded – but these 'industrial places' would include both construction sites and various other settings.

The US Consumer Product Safety Commission (CPSC)'s Recalls data²⁰ includes some details of construction product incidents too, but mostly just in the free-text 'Hazard Description' and 'Incidents' fields (without further sub-fields that might be useful). The incidents' severity and harms are often only briefly described, and no details seem to be provided of incident investigation processes.

Fire data for the USA seems to have a more limited set of 'cause' categories than the UK's Fire statistics, making identification of potential construction product incidents very difficult (US Fire Administration 2022). Meanwhile, the American Housing Survey 'Table Specifications' document indicates that quite a wide range of 'housing problems' are covered, but how these relate to the performance of particular construction products again seems unclear (US Census Bureau 2021, 2022).

Canada

Some construction product incidents feature in Canada's Recalls and safety alerts database (managed by Health Canada), but there only appear to be a small number of such incidents mentioned, and all of the details come from the free-text 'Issue' or 'Hazard identified' fields. Similarly to the US CPSC Recalls data, most of the listings that could otherwise involve a construction product incident include a statement along the lines of "*As of June 12, 2019, the company has received no reports of incidents and no reports of injury in Canada, the United States, or Mexico*"²¹ – this is a useful clarification. Less positively, there is considerable variation in the types of information provided in different listings within this Canadian database.

Australia

Product Safety Australia's Recalls data may include information on construction product incidents, but we could not see any definitive indications of them beyond brief statements such as "in some instances the fitting has cracked" – which does not specify whether the

²⁰ SaferProducts.gov also provides a 'Recalls' file, but this seems to be just a slimmed-down version of the separate US CPSC 'Recalls' database – with little or no direct relation to the SaferProducts.gov 'Incident Reports' file.

²¹ Presumably these three countries are specified because they are the countries in the NAFTA/USMCA trade agreements.

instances were in test environments or inhabited buildings. We did not come across any listings where product defects were explicitly linked to particular incidents, although for example there are occasional mentions of hazards like electrocution.

New Zealand

Construction product incidents may also be recorded in New Zealand's Product Recalls data. However, in the 'building product' recalls listed at the time of our search, the only mention of incidents seemed to be in one case where *"No incidents of property damage or injury have been reported globally. The action was enacted after internal testing of components."*

Association of Southeast Asian Nations (ASEAN)

The ASEAN Product Alerts data contains some construction product incidents, but causes and harms are only recorded rarely and inconsistently (in free-text 'Description', 'Hazard' and/or 'Injury' fields), and we did not see any details of the severity of the incidents or any incident investigation processes.

Organisation for Economic Co-operation and Development (OECD)

Similarly to the ASEAN Product Alerts, the OECD's Global Recalls portal includes some construction product incidents, but details of causes, harms and severity only seem to be recorded in free-text 'Hazard' and 'Injury' fields, and we did not see any details of incident investigation processes. The portal features product recalls from many – but not all – of the world's high-income and middle-income (or 'newly-industrialised') countries, with some of the reports coming from countries that are not OECD members (currently these other countries are the United Arab Emirates and some other members of the EU/EEA and ASEAN). However, from some comparisons between the recall listings on the OECD Global Recalls portal and those on RAPEX/Safety Gate, the ASEAN Product Alerts portal, and national systems, often there are considerably more listings on these other systems than on the OECD portal. There are also some apparent errors in the OECD portal listings that do not seem to affect the original listings elsewhere.²² Because of these issues, it may be most appropriate to use the original source data where possible, rather than relying solely on the OECD aggregation. The OECD portal could still be used to supplement data from original sources, for example if a case is otherwise missing or if more direct access to the original source is not possible.

Others

Finally, the International Housing Association (IHA) was another of the several stakeholders mentioned in the brief for this project. The IHA's Recalls web-page displays a range of updates about construction-related product recalls (and some related issues) from the Australian, Canadian and US government recall systems, often with links to these systems and sometimes also to other websites, but it does not appear to have been updated since January 2017 and it is not uncommon for the links to lead to web-pages which no longer exist. There are also just two items from Australia (one of them a news story from ABC News), alongside larger numbers of updates from the Health Canada and US CPSC recalls systems. Across these updates on the IHA Recalls web-page itself, some construction product incidents do feature, but the level of detail provided varies considerably and only entails free-text descriptions.

²² See Appendix 2's OECD Global Recalls portal table, and also section 4.1.3.

4.1.2. Product defects and risks

Many of the product recall and product safety notification datasets described in section 4.1.1 do contain more systematic information on product defects and risks than on more specific incidents that may have occurred – albeit again sometimes only with free-text or otherwise inconsistently-used variables. However, there are still many useful aspects.

Appendix 2 outlines the details of product risks, alerts and other authority actions that are recorded by each of the main sources investigated for this project, as part of the wider summary of each source.

A common limitation of many of the sources that did provide information of construction product incidents was the lack of detail included about how incidents were investigated (if any investigations took place), the findings of any investigations, and how blame was attributed to specific products. For most product recall and product safety notification systems, in many cases there is a parallel lack of information on how risks were identified and investigated.

Two notable exceptions are repositories of specialist information on particular products or wider topics, rather than being lists of product recalls as such.

Firstly, some reports in the Building Services Research and Information Association (BSRIA) Test Report directory provide extensive details of product performance and compliance.²³ These details could include in-depth descriptions, statistics and charts, as well as ‘Pass’- and ‘Fail’-type outcomes and statements about compliance with the relevant standards, although the formats and exact types of information vary somewhat between reports. A possible disadvantage of this level of detail is that some of the information on product performance and compliance seemed very narrowly technical, and lacked sufficient explanation for us to fully gauge what it demonstrated about ‘risk’ – so working with this data may thus require a high level of relevant, product-specific expertise. The need for this specific expertise should not be surprising, considering the complex and potentially high-stakes issues involved, and rigorous assessments of construction products’ contributions to incidents would presumably require similarly specific expertise. However, for purposes such as more general monitoring of product safety issues, beyond the original context of these tests, there may perhaps be a useful middle-ground of easier-to-digest summaries that could help wider audiences of policy-makers, businesses and the public to better understand product risks and to have confidence in the risk-monitoring process.

Secondly, many of the Collaborative Reporting for Safer Structures (CROSS) safety reports describe and discuss construction industry practices that the author has observed and find alarming, while the CROSS safety alerts discuss in more detail structural risk issues “which are considered to be critical and time sensitive”. Both of these publication types primarily consist of prose, with varying structures and content – and often there is no identification of specific construction products (in many cases, the focus is more on how products are used, or structures built and maintained) – but the details provided tend to be very informative while also being accessible to a non-specialist reader.

4.1.3. Spatial coverage

For this project we have not been able to investigate all countries’ data that might relate to construction product incidents, or indeed all potential sources within the countries from

²³ The RedBookLive website is also part of a certification system which lists fire and security products that have been certified as meeting required standards. However, its suspensions and withdrawals data (listing where certification has been removed) is very brief – providing no details of the risks involved, apart from the fact of the suspension or withdrawal.

which data sources have been scrutinised (as was also explained in section 3.1). Because of limited time, below the UK-level we have focused on English data for this analysis, although where available, data from the other ‘home nations’ should also form part of monitoring systems. Beyond the UK we have focused primarily on data from the European Union (as a large and well-resourced grouping of most other major European economies, sometimes also including affiliated EEA and EFTA countries in its data), and from the USA, Canada, Australia and New Zealand (as other significant, globally-engaged trading partners of the UK with highly-developed economies and public administration systems primarily using the English language) – the USA in particular because of its especially detailed incident-related data, as well as the scale of its economy. We included some data from further countries through the OECD Global Recalls portal and the ASEAN Product Alerts data.

The areas covered by each of the main datasets scrutinised are indicated in the ‘geographical scope’ section of the tables in Appendix 2.

The Product Safety Database covers and involves contributing local authorities from the whole of the UK, although as alluded to earlier in this chapter, some other datasets relevant to construction product incidents only contain data for one (or another incomplete combination) of England, Scotland, Wales or Northern Ireland. Some of the separate data for Scotland, Wales and Northern Ireland may be similar in its coverage to the English datasets, or indeed better, but from the housing conditions surveys and housing ombudsman data explored for this project, there appears to be less information about the relevant phenomena in Wales and Northern Ireland.

Further afield, there are large quantities of data on injuries and other incidents involving consumer products (including construction products) occurring in the USA. National data is also collected in the USA and in various other high-income countries on fires and housing conditions, albeit seemingly with little detail that might link back to particular construction products.

The largest-scale coordination of data that we have encountered is the OECD Global Recalls portal. As was explained in section 4.1.2 (with more detail in the relevant table in Appendix 2), the data in this OECD portal appears to be less complete and to include more errors than the regional or national product recall datasets from which its listings originate. However, it still gives an indication of a range of countries’ governments that both collect data on product safety data and have either shown interest in or followed through with cooperation to make this data more widely-accessible.²⁴ Besides the UK, data (for at least one product type) is included in this portal from the recall jurisdictions of almost all European Union or European Free Trade Association countries (with the exception of Switzerland, which also has no product alerts in RAPEX/Safety Gate), from other OECD members Australia, Canada, Colombia, Costa Rica, Israel, Japan, South Korea and the USA, from the ASEAN countries Brunei, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam, and from the United Arab Emirates.

It is clear from initial ‘eyeballing’ of the different countries’ overall numbers of recalls in the OECD portal²⁵ that countries with larger populations and economies tend to produce more alerts (as well as more recalled products), while factors such as having land or sea borders into the European Economic Area may also affect how many alerts are produced. However,

²⁴ Not all of these countries have submitted recalls of ‘building products’ (and may not have submitted recalls for construction products potentially in other product categories used by the portal either); the different countries’ recalls by category and sub-category can be disaggregated using the OECD portal website.

²⁵ Whether looking at all recalls within the portal, or only from a single recent year.

there are still substantial discrepancies between countries with apparently similar characteristics that may not be explained by such dynamics, perhaps indicating inconsistent coverage levels.

Further product recall data not directly listed on the OECD portal is provided on New Zealand's Product Recalls website (included in this project's data inventory), and there appear to be comparable websites for Chile (SERNAC 2022) and Mexico (Gobierno Federal 2022). While less closely integrated, the OECD portal's 'Jurisdictions Websites' page does link to these countries' systems.

It is possible that the "close ties" that the OECD portal website mentions as having been established with non-OECD countries Brazil and China may in time also lead to their fuller participation and provision of product recall alerts, as seems to have been the case for Colombia and Costa Rica (which published recall alerts on the portal before they became OECD members) and the United Arab Emirates. Data from Brazil and China would be significant additions. Yet there would still be some notable Latin American, Middle Eastern and (especially) Asian recall datasets missing from the OECD portal or otherwise linked to from its website, and there are none here from any African countries.

Some of the countries that do not provide recall alerts to the OECD portal from their jurisdictions do feature in the portal's recall data as countries of origin of some recalled products. China was the country of manufacture for roughly half of all currently listed OECD portal recalls (and one-third of the recalled 'building products'), for example.

4.1.4. Time periods

The brief for this research "ideally" sought to find "relevant incidents that have occurred in the UK since 1984 (implementation of Building Act) or if not possible then since 2006 (Building Regulations extended) or 2010 (Building Regulations totally rewritten)".

Most of the data that we have encountered from the UK and other countries is considerably more recent than 1984, and often also more recent than 2006 and 2010. We must also refer back to the caveats explained in section 4.1.1 around how well the data identifies 'construction product incidents', and it seems likely too that some of the information recorded in these sources may have changed during the intervening period.

Nevertheless, some of the UK data dates back to the 1960s and 1970s. The English Housing Survey has gone through several iterations since the (sporadic) English House Condition Survey was first conducted in 1967, operating in its current guise since 2008-09. Labour Force Survey data is available from 1975 onwards. The first CROSS-UK Review was published soon afterwards, for 1976-77, although the other CROSS publication types began somewhat more recently: Topic Papers in 1994, Safety Alerts in 2000, Safety Reports in 2005, and the first Feature Article in 2021.

The Product Recalls listed by the UK Association of Fire Investigators start in 2000. The National Reporting and Learning System that encompasses NHS England's National patient safety incident reports (NaPSIR) was established in 2003, initially as a voluntary scheme. Electrical Safety First's Product Recalls and Safety Notices date back to 2007.

Data is available for the Home Office Fire Statistics since 2010/11, from the BSRIA Test Report Directory since (at least) 2012, and from RIDDOR reporting since 2014/15. Where dates are provided – often for 'on sale' periods – the earliest dates on the builders' merchant and retailer safety notices and recalls websites were from 2011. Providing just a handful of years' data, the Product Safety Database became operational in 2019, RedBookLive suspension and withdrawal listings date back to 2019 and 2020 respectively, and the

Housing Ombudsman Service started publishing their Decisions in 2020 (but the Scottish system has cases from 2011).

From the other national and international datasets we have investigated, the longest-running appears to be the US CPSC Recalls database, which has a first listing from 1973 – although many of the current variables seem to have been used far more systematically since 2009 and 2010. The Australian Recalls data begins over a decade later, in 1986.

Several other sources commenced early in the 21st century: the US National Electronic Injury Surveillance System and the EC's ICSMS in 2001, followed by RAPEX/Safety Gate in 2005.

The SaferProducts.gov Incident File data starts in 2011, as do Canada's Recalls and safety alerts (albeit with far more frequent updates from 2018 onwards). The OECD Global Recalls portal was launched in 2012 with "over 2000 entries" and plans for "adding historical data into the portal"; exactly how far back this historical data goes is partly obscured by some apparently erroneous dates, but the more reliable-looking ones stretch from 1985 onwards (mostly from Japan and Australia). The ASEAN Product Alerts data begins on 31st December 2015, and New Zealand's Product Recalls data in 2016.

4.2. Quality, reliability and validity

Several key aspects of data appropriateness for monitoring construction product incidents have already been discussed in section 4.1.

Crucially, the validity of the available data for this purpose²⁶ – how well it represents the intended phenomena – is in general extremely limited. Particularly in the UK, no datasets systematically and explicitly record construction product incidents (as opposed to capturing a wider range of incidents that may or may not include construction product incidents, or analysing in more detail a particular event or issue). The contrast described in section 4.1.1.1 between the two construction product 'incidents' from the Product Safety Database notifications and the far higher rates of deaths associated with historic construction is particularly stark.

Somewhat more specific information is provided by some other countries' recall systems which mention the number of incidents reported – often none – for the product being recalled, and incident- or (less so because of excluding incidents not resulting in injuries) injury-focused data from the USA that records both products (or product types) and health consequences of an incident, together with further narrative details. However, the extent of the products' responsibility for these incidents may still be ambiguous.

Nevertheless, although little information tends to be provided on the investigations of particular cases – especially as regards the attribution of incident causality or blame to specific construction products – many official datasets do involve broader quality assurance processes. For each main source investigated, summaries of the provided information on validation checks and other potential indicators of data quality are listed in Appendix 2's tables.

Some sources include simpler indications of which cases have been investigated. For example, the associated information states that there are additional checks of severe incidents for both the RIDDOR and NaPSIR data, while the Product Safety Database 'Cases' table also has a 'Date_ Validated' field (albeit only with a date for a minority of cases).

²⁶ The datasets often have a range of other purposes, focuses and emphases.

Indicators of more general data quality include the evident subject-specific expertise that is utilised for the CROSS publications, the BSRIA and Red Book testing systems, the Home Office Fire statistics, the physical survey component of the English Housing Survey, and involvement of health professionals in NaPSIR and NEISS.

By contrast, apart from the occasional redaction, most of the SaferProducts.gov Incident Reports data seems to come directly from consumer reports (sometimes also with responses from businesses) – complete with various idiosyncrasies in the incident descriptions. Yet having access to this information directly from the person affected may be valuable too, even if ideally it might be accompanied by some further validation.

Across the various datasets considered, there does not appear to be enough explicit construction product incident data to properly gauge ‘reliability’ in the most rigorous scientific sense, consistency of measurement. However, there are still some pertinent indications of broader consistency in terms of both data provision itself and the consistency of the data that is provided.

Legal requirements to report safety issues might be expected to increase reporting levels, potentially also reducing some participation biases. The product recall systems in Australia and New Zealand are strengthened by respective legal requirements to notify the government about any product-associated deaths, serious injuries or illnesses (in Australia, as well as issuing any recall notifications to recipients outside the country), or simply about any safety-related product recall (in New Zealand). Among the UK datasets, there are also some legal requirements to report “certain severe incidents” for the NaPSIR data and specified workplace safety incidents for the RIDDOR data – and there are also some requirements to report construction product safety problems in both UK and EU law, as will be described in section 5.1.3. However, legal requirements alone may not be sufficient to engender reporting of all incidents. For example, the author of a website article comparing workplace injury statistics from RIDDOR and the Labour Force Survey asserts that “non-fatal injuries are substantially under-reported via RIDDOR” (Yurday 2021).

Non-response bias may be a particular issue for two of the other datasets we have looked at. The Housing Ombudsman Service state that they “may decide not to publish a decision if we believe, even anonymised, the resident could be identified or if it is not in the interests of an individual or a landlord”. More problematically, clients must agree for their test reports to be published in the BSRIA Test Report Directory – perhaps making more negative test results less likely to be published, although BSRIA staff may be able to shed more light on the dynamics involved. Mandatory publication may be more transparent, but care would need to be taken to avoid disincentivising or reducing the numbers of tests carried out.

Similarly, for the OECD Global Recalls portal “each jurisdiction decides how often and when it sends information to the portal”; this appears to have resulted in varying levels of completeness for the portal data, compared to many of the national or regional datasets involved. However, the reasons for these differences and absences of certain listings are not clear.

Many of the product recall and safety alert datasets contain various inconsistencies within the data that *is* provided. These include inconsistent use of categories (as well as other errors) and cases where some important fields are left blank or otherwise missing information. The recording of significant information in a free-text format without also recording the key details in more specific dedicated variables can similarly lead to major inconsistencies between records in the same dataset, leaving more open both the details that are recorded and also their order and format.

4.3. Summary

Most of the dimensions of construction product incidents and broader safety issues on which we have focused are covered or satisfied in some form by at least one source, but currently this data is piecemeal: the useful elements are largely scattered across the various datasets in ways that would either prevent or (at best) greatly hinder attempts at systematic analysis, although analysis of already-identified risks may be more feasible.

Nevertheless, construction product incidents both in the UK and other parts of the world do seem to feature – mostly implicitly – in various datasets, and relatively small additions to their frameworks for collecting and presenting data could perhaps make these incidents clearer and more visible in future. Initial suggestions are discussed in chapter 6.

5. Institutional context for construction product safety data

This chapter presents the main themes from our focus group discussion with OPSS staff about the wider institutional context in which construction product safety data is produced and used, and some further reflections about the implications of what was discussed. The main discussion took place in April 2022. It encompassed perspectives about current contextual factors – in particular, the current processes through which product safety issues are identified and monitored – and also ideas about avenues for improving construction product safety data in future.²⁷

These discussions supplemented our findings from the data sources inventory analysis that formed the main strand of this project,²⁸ and helped to inform the project's recommendations.

5.1. Current practices for construction product safety data

5.1.1. Incident investigation and management processes

There are two types of notifications received by OPSS as a national product safety regulator: a 'product safety notification' (where an issue has been identified across an entire product line, an investigation undertaken, and a corrective action taken on either a voluntary or compulsory basis), or an 'incident notification' (where there has been an isolated incident/accident relating to a product but a full investigation may not necessarily have been undertaken, or where it is an isolated issue with a product with no wider issue across the product line detected).

One of the main gaps that OPSS is seeking to address in the incident-reporting system is to ensure that the routes for these product safety notifications and incident notifications are clear, because the incident-reporting route is currently less prominent. For more general reports of product safety risks or non-compliance, whether the product has been involved in an incident is not asked as an explicit question when entering a case, although the business notification guidance and the Product Safety Database do include fields for recording this.²⁹

Some contributions to the Product Safety Database come from a range of different stakeholders in the UK (also see Appendix 2). Concerns raised by consumers come through Citizens Advice, who provide the consumer with civil rights advice and undertake any required routing to local authority trading standards officers. Concerns raised by businesses or other stakeholders are routed more directly through trading standards, as trading standards are the default lead regulator for product regulation. Cases beyond these go through the OPSS case assessment process, to assess whether the issue is nationally significant, novel or contentious – these are the triggers for OPSS to take on an issue as national regulator. Meanwhile, for all of these instances the initial contact and safety concern

²⁷ Section 3.2.2 and Appendix 3 provide more details of the set-up of these focus group discussions.

²⁸ See chapter 4.

²⁹ The EU product safety systems (from which OPSS' Product Safety Database has partly stemmed) have not had a function for reporting incidents; the US Consumer Product Safety Commission (CPSC) and Australian Competition & Consumer Commission (ACCC) do have incident-reporting systems, and OPSS are keen to understand the benefits from these systems and the value of the information.

would be recorded on OPSS' systems and feed into intelligence monitoring and development.

As well as these other contributions, an OPSS team also actively monitors media coverage³⁰ and overseas recall sites for recalled products, adding them to a shared tracking spreadsheet. This process uses the Product Safety Database, to ensure that there is a searchable record of the case. The information recorded includes details of the allegation, where it came from, and links to other relevant source material. A check is carried out for whether the products are on the UK market; if so, the team refers the case to the relevant local authority and asks them to follow up the issue. Local authorities must also report back to update the system with their response.

Construction product incidents of actual or potential harm would thus usually be routed to the local trading standards regulator to investigate initially, but the local regulator can escalate an incident for investigation by OPSS as national regulator under the OPSS Incident Management Plan (OPSS 2021b). Which agency would take the primary lead depends on the circumstances of the incident, and an investigation can sometimes involve several agencies with one nominated as the lead agency. Local trading standards or OPSS may lead if the issue was caused by a product. But for workplace incidents and in some consumer circumstances, the Health & Safety Executive (HSE) would lead, and the Office of Rail and Road (ORR) may lead if the case is relevant to road or rail.

Construction product incidents are currently investigated by OPSS through a triage-based process, as set out in the Incident Management Plan. The case would first be triaged by the OPSS Incident Management Team and responded to by the relevant team. If required, the case would also be assessed and monitored by the cross-Office 'Case Assessment and Monitoring Group', and if escalation is required from there, the case can be escalated to the Tactical Tasking Group or the Case Conference. Monitoring and case management procedures are in place at each level.

An incident or issue would receive greater OPSS attention where it is designated as nationally significant, novel or contentions (as OPSS lead responsibilities), or even more so where it is declared a national product safety incident and the incident management plan is invoked.

However, the triage process for investigating *construction product* incidents is currently at an early stage of development. The process for other consumer product types is far more established; the aim is for the construction product incident investigations to emulate this more established process.

The focus of an investigation is considered on a case by case basis, and both installation instructions and the qualifications of installers may be taken into account when identifying the causes of a construction product incident and assessing whether blame should be attributed to a product or (for example) to its installation. Depending on the circumstances of the case, existing product standards may also come under scrutiny: there have been instances in the past in *consumer product* safety where an incident has highlighted a gap or deficiency in a standard which is subsequently updated.

Besides this more clearly-defined process that is reactive to incidents that have been reported, the various data resources being collected can also be used more proactively, to identify potential problem areas, future risks and priorities for monitoring and regulatory

³⁰ The media monitoring focuses in particular on incidents occurring in the UK that are potentially product-related.

research activities. Such problems and priorities may be indicated by an accumulation of even minor incidents or risks.

5.1.2. Product Safety Database, RAPEX/Safety Gate and ICSMS

Three main databases record construction product safety issues with most immediate relevance to the UK – the Product Safety Database (PSD), RAPEX/Safety Gate and ICSMS. The UK had been part of the RAPEX and ICSMS systems through the country's membership of the European Union, and during the Brexit transition period OPSS sought to facilitate the integration and compatibility of these European Commission-managed systems with the UK's new PSD system. As of April 2022, a data-sharing agreement for RAPEX and the PSD was still considered possible, although at the time the negotiations were on hold.

The Product Safety Database is currently the only source to which OPSS has full access, post-Brexit, allowing for analysis and generation of statistics by OPSS staff. Yet there are still some gaps within the data and a lack of consistency (also see section 4.1.1.1 in particular), although work is underway to rectify these and to produce more outputs.

RAPEX has a user-friendly online database from which anyone can export data, making analysis of the information that is shown efficient and easy to conduct. RAPEX submissions are also validated before going live on the system, and there are checks for empty fields at the submission stage.

ICSMS is more of a case management system than RAPEX and it is less public-facing, oriented primarily towards coordination between market surveillance authorities (MSAs) from different EU member states, and with more limited scope for OPSS to generate/retrieve data or statistics from it.

5.1.3. Reporting obligations

Both the EU and UK systems used to report construction product safety problems involve legal responsibilities or obligations for reporting. The EU's 2011 construction product regulations (European Parliament 2011) require corrective action to be notified; businesses must notify national MSAs if they detect any issues, and the MSAs must then report these and any proactive action they undertake themselves into the RAPEX or ICSMS systems.

This legislation has also featured in UK law and is being adapted in the UK's new Building Safety Bill, which has amendments covering notification requirements for businesses and MSAs. Regulation 9(2) of the draft regulations obliges economic operators based in the UK to notify the Secretary of State for Levelling Up, Housing and Communities of any "reason to believe" that a construction product of theirs "is not in conformity with the general safety requirement" (MHCLG 2021b: 6).

5.1.4. Comparing construction products with other product types

It is evident from the Product Safety Database's safety reports and from many other national or intergovernmental product recall systems' data that far more reports are produced for certain other product types than for construction products – electrical products and children's toys in particular. A range of different issues appear to contribute to this disparity.

The current reporting obligations outlined above are weaker (vaguer and less prominent) for construction products than they are for some other product types such as electrical products and children's toys. The current construction product regulations also appear to pay little attention to risks, focusing instead on actions and performance, whereas safety legislation for other product types involves more emphasis on risk assessment and more frequent and urgent reporting of serious risks. However, the draft regulations of the Building Safety Bill will have more requirements for risk assessment, which may help to increase the

identification of construction product safety problems (and make the construction product reporting obligations more similar to electrical products and toys).

Incident notifications can also vary by sector because there is no statutory requirement to notify consumer product safety incidents in most sectors (unlike how the RIDDOR requirements apply to workplace settings), and some sectors have more established processes and procedures for flagging up safety issues for monitoring. There are particularly established processes and procedures here for cosmetics and electrical appliances and equipment:

- For cosmetics, certain statutory obligations apply and businesses/responsible persons and Trading Standards are required to notify OPSS in circumstances where a cosmetic product has caused a 'serious undesirable effect': one in which the "normal or reasonably foreseeable use of a cosmetic results in temporary or permanent functional incapacity, disability, hospitalisation, congenital anomalies or an immediate vital risk or death."
- For electrical appliances and equipment, the London Fire Brigade have procedures established to capture information from their fire investigation teams which attend the site of a fire post-incident where the cause needs investigating. Where the cause of the fire is due to a product, they complete an 'appliance fire notification' and send it to the manufacturer of the product (who are required to monitor incidents), the primary authority/local authority for the manufacturer, and the local authority for the location in which the incident occurred, copied to OPSS. Plans are in motion to standardise this across the UK – in a non-statutory manner – for fire and rescue services, with fire investigation teams to report their findings should they wish.

For construction products, the CROSS reporting mechanisms do produce alerts about some practices and incidents, but as noted in section 4.1.1.1, these often have a somewhat different focus and they are not systematic records of incidents: the topics and format generally seem to reflect the particular experiences and interests of people submitting reports or conducting other analyses.

For construction product defects, there can also be many complications with responsibility and whether the product or the installer is at fault, so considerable untangling of these aspects is often needed. This is a major challenge for construction products in particular, because of the complexity of their usage and the large number of different actors involved. Trying to pinpoint the main causes of a problem can often be difficult when outcomes may be affected by the wider design of the structure, how the product has been installed and incorporated into its surroundings, and how it stands up to real-world usage, as well as the compliance of a product itself with the relevant standards (and perhaps their adequacy too). Issues on the installation side may also include installers (potentially in DIY situations) making product adjustments that were not anticipated by manufacturers or not covered in risk assessments, but which may be necessary to fit the product into the intended wider structure. These aspects are often not recorded anywhere. Meanwhile, various stakeholders involved may also try to shift blame between themselves, and to avoid the transparency needed for an investigation to get to the bottom of the problem.

However, there may still be some comparable complications for other product types, where context and the behaviours surrounding an incident can also be important. For example, if a child had been injured from swallowing a toy's button battery, one of the central questions would be how the child got access to the battery: had the parent unscrewed a compartment to change the battery, and did all components of the toy work in an appropriate way in this

situation? Yet for construction products there are often more stages of design, construction and usage across which a series of crucial behaviours can accumulate and interact.

Another difference is how the product safety data is managed and utilised after concerns are flagged. Consumer product safety data tends to be monitored more carefully, with detailed analysis feeding more directly into policy and other enforcement action.³¹ For construction products, there is not yet enough collation of data into one place to enable equivalently thorough analysis of what can be seen to have happened and how policies and enforcement action should respond. However, the new regulations include a 'safety critical' list, which suggests a greater role for data in influencing which products feature on this list and then putting those products under more scrutiny.

Lastly, the complexity of construction product incidents is also perceived to lead to under-representation of these incidents and relevant product recalls in both the media and many different recall systems. For example, when investigating a fire, it may be far simpler – and also considered more 'newsworthy' – to identify the cause as a pair of hair straighteners. Reporting processes may also be less clear: whereas there may be a relatively straightforward process for a parent to report harms caused by a defective toy to local authority trading standards officers, for construction product incidents there may not be an equivalent person who would know the relevant information or be in a position to report it when an incident occurs.

Overall, construction product safety issues appear to be monitored considerably less effectively than is the case for other types of sectors, with important gaps in the systems for producing and using appropriate data. The new legislation may help to address these gaps and allow construction products to be scrutinised in more detail, but there are still many practical challenges to be overcome.

5.2. Future improvements

5.2.1. Database goals and functionality

5.2.1.1. Facilitating the production of good data

Completeness is a key aspiration for construction product safety data, and it is a particular shortcoming of the current data. In line with what was discussed in chapter 4, OPSS staff are aware that much of the necessary information is missing and there are also significant problems with categorisations. These shortcomings make it difficult to generate meaningful statistics and to monitor issues of concern.

Part of the solution could be to make fields such as the manufacturer, brand, specific product, other identifying details, dates placed on the market, and vendors compulsory, but also to record information about how the relevant products have been installed, which other products they have been used in combination with, and the types of structures and overall buildings in which they have been incorporated. Wider information about quantities of the product that are still in warehouses, on the market, or now incorporated into buildings can

³¹ Toys in particular also require extensive tests and checks before a product can be put on the market, due to the risks having been implicitly deemed an especially high priority. The monitoring process is also more established in the UK for cosmetics and appliance fires: in both instances, data is reported in and stored on a dedicated Microsoft Excel spreadsheet which is monitored for emerging trends and concerns.

also have significant implications for regulation and enforcement activities and prioritising between interventions.³²

The details of other products involved can be especially pertinent in cases where the cause of a problem may be different to how it was first reported: for example, a wall-mounted fire surround may appear to have been faulty when falling off a wall, but the responsibility could lie with the structural integrity of the wall itself, which could potentially be overlooked in more superficial reporting or investigations.

However, there is an important balance to be struck between the amount of information made compulsory to report and the burden on the person entering the data. For statistical purposes, the more data that can be provided the better, so that more complete information is recorded and more thorough analysis can be carried out. But where this is unrealistic or may disproportionately deter reporting in the first place, prioritisation will be needed, with compulsory core fields accompanied by optional – but ideally also completed – further fields. It may be possible to emphasise for the non-compulsory fields that details which *are* known or otherwise reasonably ‘available’ should still be entered, while leaving blank the details that are not available. This could be accompanied by a brief summary explanation of the blank sections in another field, to provide an understanding of why certain details are missing which would also help to increase confidence in the data overall, perhaps enabling analysis too of whether any important aspects are being systematically overlooked or excluded and how this might be addressed.

The problem of consistency extends beyond missing information to differences in how the information that *is* provided has been entered. This can include the use of differing categories and even different *interpretations* of the same categories, as well as different formats or details being provided in free-text fields. One of the major considerations here is the entering of data by over 1,500 users from many different contributing organisations. Most of these users – such as people in local authority positions – will only conduct a construction product investigation a couple of times in their career, and so will not be as familiar with the process as the OPSS staff who are working with the system every day. Clear instructions, guidance information about how to interpret the key elements of each field and the data to be recorded (including ‘hint text’ potentially in pop-up message boxes), drop-down menus for categorical variables (with an ‘other’ category and associated ‘other’ free-text field available where this may be needed), and a range of in-built checks would help to provide clarity and maintain data quality. Additional ‘notes’ fields could still be provided for the recording of further information that does not fit into the standard fields, but with far greater assurance of having the highest-priority core details recorded consistently.

It is particularly crucial to develop appropriate product categories and sub-categories and to use these consistently, so that analysts can be confident of how many reports of different kinds are linked to each product type. Again there is a balance to be struck in terms of combining a narrow number of top-level categories with appropriate further detail (for the desired types of analysis) being captured beneath this in different tiers of sub-categories – while also retaining the information about each product’s specific manufacturer, brand and model (which should also be somewhat standardised between reports, where possible). The product categorisation system would need to accommodate the possibility of multiple different names or other terminology for the same type of product, and also to ensure that

³² A further aspect relevant to regulatory action here is that while issues with products are the regulatory responsibility of OPSS, in its role as regulator for construction products, issues of faulty installation would be the responsibility of the Health & Safety Executive (HSE) through its role as building safety regulator – and HSE is also responsible for workplace incidents.

the most appropriate characteristics are used to group products within useful sub-categories (for example, to distinguish between different types of plasterboard). Other characteristics could potentially still be factored in through a set of further variables for each product.

Proposals for the development of new product categorisation systems will be discussed in more detail in sections 6.4.2 and 6.4.3. It is also relevant to note here that as well as taking into account various existing categorisations in use domestically and internationally, clear documentation of the system developed may help with interpretation of how other categories (e.g. from external market data or health data) should fit into this system – and more extensive comparisons could be mapped out for any other sources with different categorisations that are particularly significant or frequently used with Product Safety Database data.

Another significant element of categorisation that is a challenge with the current structure of the Product Safety Database is clear identification of broad types of product safety report. At present, it is not always immediately clear whether a record pertains to a statutory notification – where an investigation has been undertaken (potentially stemming from, for example, 50 reports of a tumble dryer catching fire) and a corrective action has been taken – or a more isolated incident. Both types of report are important, but more systematically establishing which is which – and also indicating the scale and severity of the basis for the statutory notifications – would help to facilitate more proportionate consideration of the issues involved.

Similarly, OPSS staff have also found that the main ways to group cases at present are based on details of the organisation that has added the case (for example if a case was added by a non-enforcement OPSS team, it would not have begun as a statutory notification), but more specific and nuanced categorisation options for case types (e.g. ‘surveillance’) would be useful. This would reduce the reliance on inferences, and contribute to making statistics generated from the system more reliably accurate.

Other details that are particularly valued for construction product safety monitoring purposes include clear information more generally about types of non-compliance, types of incidents, and levels of incident scale, severity and harm.

5.2.1.2. Data-provided insights into construction product safety and risks

Consistency and appropriate categorisations are also central to a database’s ability to provide reliable and useful insights, so that there is valuable information at different levels going down to as much detail as possible at the lowest level, but in a way that can be easily aggregated and summarised. Moreover, having data available that is as granular as possible would provide most scope for subsequent analysis. This could benefit a range of different users of the data, including several OPSS research teams as well as the incident team.

Besides these aspects, one starting point for enabling useful insights could be to begin with the perspective of ‘What would we need to know to take corrective action?’, and to then combine different variables or even datasets accordingly.

For example, particularly useful insights for construction products might stem from recording the types of buildings or dwellings where incidents occur, so that the problematic usage of specific products in different types of settings could be monitored. It may be the case that if a product responsible for dangerous incidents had been widely used in schools or other high-risk settings, information on this could be a strong spur for action. Similarly, data on problems occurring frequently with flat roofing products (as opposed to pitched roofing products) in residential houses (as opposed to offices or many other building types) could be combined with data separately available to OPSS on how many houses had flat roofs,

for an indication of the scale of the possible risk. Regional differences may also be relevant and help to pinpoint the underlying problem.

Different problems with construction products will undoubtedly often require different solutions, and there are a range of different types of problems that can each be a high priority for regulatory intervention. Flags for urgent regulatory action might variously include indications of:

- a sector-wide issue,
- a very large number of affected units,
- several problems with the same specific product or products from a particular manufacturer,
- or the same problem with a category of product from different models and manufacturers.

When just one manufacturer is involved, it can be clear that the appropriate course of action is to contact this particular manufacturer to investigate the source of the problem. In other cases, the regulator may need to conduct a wider investigation into the issue, which could suggest for example that building design is a factor, or that improvements are needed to a relevant standard against which a product must be certified. For each of these scenarios, it is crucial to have the necessary contextual information to understand which type of problem is emerging and to target consequent actions appropriately.

Another important function for a product safety database is to enable the monitoring and modelling of issues to provide early warnings of more significant problems that could emerge later on – potentially indicated in some cases just by issues that may at first seem to be specific to only one product and manufacturer (and which thus may not be given sufficient priority attention when there is insufficient knowledge about the extent of the problem). Effective early warning systems are likely to involve both reactive and proactive work streams and the monitoring of both low-risk and high-risk incidents. Both short-term and long-term analysis should also be conducted, to identify emerging trends as well as more established patterns. Key principles here include keeping track of the minor issues that might foreshadow a more major one (before that major issue or significant harm actually occurs), and stepping up regulatory action where concerns are reinforced.

The tracking of issues will involve some monitoring of incidents or other problems identified in other countries, with assessments of whether an issue may also affect products or structures in the UK – and if so, how the regulator can quickly respond to rectify the issue and prevent incidents from occurring. The importance of this international dimension was especially evident with the Grenfell fire disaster and the problems with the building's cladding system that had previously been observed in other countries. International data could also be useful for tracking new products that come to markets at different times in different countries, potentially with uses too in training of local authority trading standards and enforcement teams.

Many different types of details can shed light on different dimensions of potential importance, and maximising how much of this information is recorded and stored accessibly can provide most scope for properly understanding a problem.

Some of the initial focus is likely to revolve around several priority projects and product areas (the construction products priority products work stream) that are currently being trialled as an emphasis for regulatory enforcement. These include fire doors, thermal insulation, electric cables, smoke dampers, fire dampers, cross laminated timber, plywood, and related products. The list of priority products includes some products (e.g. cables and plywood) that

are used extremely commonly – so only a small proportion need to have a problem for an incident to occur – and others such as the fire doors and fire dampers which must be operating correctly in order to keep people safer if certain high-risk incidents do occur.

However, from a wider perspective of monitoring construction product risk and incident *data*, all construction products, risks and incidents are considered as worthwhile targets for more general monitoring, with a view to developing a better understanding of these various risks and incidents, and ultimately catching problems before they are repeated or escalate. Part of this aim is to catch risks before a product or design ends up being incorporated in a building, and thus before the risks can cause harm, interact with other sources of risk or be especially difficult to rectify. This may also require a system for monitoring risks at product development and testing stages, which could perhaps be separate to the system for monitoring risks and incidents in structures that are actually in use.

5.2.2. Overcoming key challenges for *construction product safety data* in particular

Monitoring of construction product safety – and incidents especially – is complex, with a range of challenges stemming not just from the incompleteness and inconsistencies of current databases in relation to existing data, but also the difficulties of disentangling exactly what has gone wrong in an incident, and ensuring that more of the necessary information is recorded or otherwise available for incident investigations. The current lack of data contributes to somewhat obscuring these issues, but they are seen by OPSS staff as key elements of more effective monitoring systems.

However, structured information capture for incident notifications is currently not an established procedure in the industry, and ensuring industry-wide buy-in across trading standards, industry actors and other stakeholders for data-capturing processes (often for the first time) is seen as a particularly significant challenge. Providing a clearer route for safety concerns and incidents to be reported to OPSS by more centralised means (and also centralising the notifications) may be one of the ways that OPSS could facilitate this buy-in, and this centralisation is seen as one of the steps that could be most easily taken to rectify construction product safety data problems.

Among the various other challenges, disentangling what has happened in an incident is complicated by the problem that when an incident occurs after building work has finished, the products involved have almost never been used in isolation. As noted also in section 5.1.4, there are many factors that can affect this outcome, from procurement to installation and the use of different products in combination with each other. Responsibility can thus be very difficult to pin down in some cases, but the more information (including contextual details) is captured, the more of a basis there would be for narrowing down particularly high-priority areas to investigate.

Some details that could be usefully recorded as part of incident data to help to provide some broad indications of the installation process include the name of the installer if this is known, but also an ‘installer type’ category, and categorised information about the setting in which the incident has occurred – for example, whether it is a new build house or a recently-refurbished older house, among various other types of structures.

There can be further challenges in tracing products back to manufacturers and specific product types once a product has been installed and a problem has occurred, due to a lack of labelling on the product or damage to the labelling caused by fires, other incidents, or even simply through normal construction or decorating processes. Some products may be easier to trace than others – for example, a circuit-breaker in a fuse board would tend to have a manufacturer’s name and the model number printed on it; this may melt in a fire, but

otherwise, tracing it would be simpler than for a product like a plywood board of unknown provenance. There are already significant conversations ongoing around indelible marking of white goods to enable these to be identified after incidents such as fires, and registration schemes for white goods and other electrical products also operate partly with this purpose – indeed, some very large-scale product recalls have been facilitated by the existence of registration schemes like these. However, consumers may not be aware of this dimension to product registration, and may not necessarily take the trouble to complete the registration process. Some other smart products such as Peloton exercise machines and Fitbit wearable technology are always traceable.³³

Similarly to these other systems, one way to overcome this challenge for some construction products could be to encourage the wider utilisation of tracers that some companies have developed for their interior wall-cladding products (primarily to ensure that customers can be confident their products have been used, rather than cheaper products from competitors). For some other construction products, there could be greater usage of traceability forms that some manufacturers already require purchasers to complete before releasing their product, and increased attention paid to products' digital 'footprints' of various potential kinds. These existing schemes or data trails (which could perhaps be built upon) show the potential value of asking industry actors what they are doing to monitor the use and performance of their products – even if this is for different reasons to why OPSS would be interested in the data, but nevertheless with scope to be useful for OPSS' monitoring aims.

Again there is a balance to be struck between the administrative burden and the benefits of this type of traceability. Yet it may also benefit the companies producing safer products, if it could be a means to demonstrate that their products were not implicated in an incident. The avoidance of incidents like fires and the difficulties of identifying products involved following a fire also provide a strong rationale for investing in this type of product registration or tracing. Some prioritisation of products with most need for tracing may come from the risk factors of different product types – although ranking products in this way would in itself rely on a certain amount of confidence in the accuracy and comparability of data about their respective risks.

It may also be possible to record more systematic data about both products and their installers in some scenarios by slightly expanding existing data collection requirements for safety certification of systems for electricity and gas (or widening this to a larger group of circumstances), and increasing the collation of this data. Electricians, for example, would already be capturing lots of relevant data when certifying the rewiring of a house, recording the type of consumer unit used – and they could perhaps be asked to record some further details to make the information more useful. There are similarities too with building inspections which check that a building is compliant with building regulations; this could perhaps be expanded to document the installation of construction products. However, equivalent systems are not currently in place for all aspects of construction product usage. With some others, such as fire door installation, certified installers are recommended, but ultimately a fire door could have been installed by anyone (including DIY enthusiasts following instructions).

Construction project management systems may also contain valuable details of the products used as well as their installation, especially where 'BIM' software³⁴ is used to make in-depth

³³ Moreover, these products can be deactivated remotely by 'bricking' them.

³⁴ BIM seems to describe a broad approach to using design software to guide construction decisions and processes, rather than one particular software programme. The 'BIM' acronym is used with both 'Building

and often 3-dimensional construction plans. Nevertheless, even with such detailed plans there may still be some product substitution that occurs and is not reflected in updated plans, particularly if certain products are not available when needed for the construction activities but equivalents can be found.

There are also a range of different stages in which different construction product types tend to be installed during the construction process, potentially meaning that different solutions are required. One approach to organising this record-keeping could be to orient it around the main phases of construction (such as the first and second fixes of cabling), while still accounting for possibilities of some products featuring in multiple stages. This may also help to ensure that details are captured of products which could otherwise be out of sight and inaccessible by the time of an end-of-construction-process building inspection.

These various complexities can also make construction products less likely to feature in media reports or product recalls datasets, if there is a less obvious or less easily-communicated 'story', or if the necessary attention is not given to these more difficult (and possibly more resource-intensive) investigations. In turn, this lack of coverage deepens the challenge of obtaining the relevant data and collating it in one database, let alone identifying potential construction product incidents and wider safety issues of concern. Understanding where other sources of information may exist and how this data could be captured is thus another major challenge – and one that this project seeks to help with.

Information Modelling' (or Modeling in American English) and 'Building Information Management', the former apparently most commonly used for use of the relevant software itself, and the latter perhaps focusing more on incorporation of the software in wider construction processes.

6. Proposals for future construction product safety data systems

This chapter builds on the previous chapters' analysis of construction product safety data already available and the wider institutional context in which such data is produced and used. It highlights some positive aspects of the current available data as well as its main gaps and other weaknesses, before pointing to stakeholders who could be approached about potential further data, and sketching out some routes to explore for developing a more thorough system for monitoring construction product safety.

6.1. Current available data: strengths and possibilities for monitoring systems

Chapter 4 demonstrated the various shortcomings of the available data that we scrutinised, when considering its current suitability for purposes of monitoring construction product incidents. The most fundamental problem here is the need to be able to identify and collate genuine 'construction product incidents' (and to a lesser extent, defects and risks) with greater confidence than this data allows at present. Yet there are still some more promising aspects of the existing data that could provide examples of good practice or serve as starting points for systems more useful for these monitoring purposes.

In particular, the US Consumer Product Safety Commission's respective SaferProducts.gov Incident Reports and National Electronic Injury Surveillance System each show how a range of different product- and incident-focused details can be systematically (and transparently) recorded, even if both could be made more systematic (with less reliance on free-text information) and could involve or reveal more details of validation and investigations to establish the responsibility of specific products.

While not tending to include more substantive details of incidents, the recalls and safety alerts data from Canada and the USA also do at least feature a brief – but still worthwhile – statement about the numbers of incident or injury reports received. And although neither appear to be used for more than a minority of cases, the (UK) Product Safety Database's apparent function for adding more specific details of 'accidents or incidents' and the 'Date_Validated' field in its 'Cases' table may each help to make the database's recording of incidents and subsequent investigations more systematic. Quality-assurance processes that are commonplace for many large-scale survey datasets (and their data collection tools) could also be applied to other kinds of incident and safety data before its publication or analysis, where sufficient equivalent procedures are not yet in place.

Legal requirements in Australia and New Zealand to notify the relevant authority (and international recipients of the products) about product safety issues and recalls – and similar requirements in the UK and EU for reporting construction product safety problems, as well as the UK requirements for reporting workplace incidents through RIDDOR – demonstrate one mechanism for seeking to increase the completeness of the data reported. The 'whistleblower'-type approach facilitated by CROSS could perhaps help to close remaining data gaps, besides more indicative comparisons with survey data (where appropriate survey data exists), such as Yurday's (2021) parallel analysis of RIDDOR and Labour Force Survey statistics.

Product recall and safety notification datasets tend to include more systematic information on product defects and risks than on more specific incidents, and although ideally the datasets might also provide more details of how these defects and risks were identified or confirmed, they would appear to have enough basis in expert opinion to be given the benefit of the doubt where necessary. The more explicit involvement of subject experts in many of the other datasets considered goes further towards removing doubts like these. Nevertheless, accompanying the more ‘top-level’ information with more in-depth details such as the ones that feature in BSRIA Test Reports and CROSS safety publications could still strengthen the risk data, while also opening up new analytical possibilities.

The OECD Global Recalls portal is the most *global* product safety database that we have encountered, including data from several ASEAN countries and the United Arab Emirates as well as most (but not all) members of the OECD, the EU and EFTA. Comparisons with the relevant regional or national product recall datasets reveal some errors and incompleteness, but the participation and coordination involved is at least a positive sign of intent – and fixing these issues would not seem to present insurmountable challenges. The publicly-available data from all relevant sources could be collated and checked for duplicated or contradictory information (although various differences would still remain between records from different original sources, including the types of detail provided on product risks), and for the portal itself, attempts could be made to persuade the participating countries to provide a more automatic link between their jurisdictions’ own systems and the portal data.

After checking for errors and incompleteness, the more widely-used variables from this recalls data would provide the best available indication of which products are being most frequently recalled and the risks that have been attributed to them. For the North American data, there may also be value in comparing the numbers of incident and injury reports received that are stated in recalls and safety alerts with the patterns in the SaferProducts.gov Incident Reports and National Electronic Injury Surveillance System data, for example to compare the frequencies with which the same products or product types are occurring in each dataset and with which risk types and severity levels. The results may not necessarily be directly applicable to product safety in the UK, considering the broad range of socio-economic and regulatory differences between these contexts, but could still offer some useful learning points.

However, beyond these aspects the current data is mostly too piecemeal and disparate to enable worthwhile combinations of different datasets at present. The various non-Product Safety Database sources of incident-related data available in the UK that we have found provide particularly limited options, with potentially-relevant categories usually too vague for connections to specific product types to be established (at least for the time being).

6.2. Gaps and other potential weaknesses in current available data

Other than in the North American datasets described above (which still have their own flaws, as explained in section 4.1.1.2), all of the datasets of significant scale that we have seen lack at least one of two crucial pieces of information when it comes to the monitoring of construction product incidents. In the product-focused data, there is insufficient systematic flagging and identification of incidents. Vice versa, in the incident-focused data there is insufficient identification of products, let alone their degree of responsibility for the incidents (as opposed to other causal factors). This conceals the construction product incidents that the relevant data may contain.

Guidance on submitting product recall notices from the Australian and New Zealand governments' product safety websites could hint at one reason for the absence of these details in much product-focused safety data. The guidance for New Zealand cautions that "if you include too much information, consumers may try to fix the fault themselves", although it also advises that "if you don't include enough information, consumers may not take the hazard seriously and risk injury to themselves or others using the product". Meanwhile, the guidance for Australia encourages descriptions of defects "in simple terms so that the average consumer can understand what the problem is. Suppliers should refrain from using overly technical terminology wherever possible". This may be good advice where consumers are the main focus, but the emphasis on providing the minimal information necessary for a consumer to be convinced of risks does limit the data's wider value. A possible solution to this problem which would avoid the need to over-complicate the alerts aimed at consumers could be to implement a parallel system: the simpler recall notices supplemented with a more extensive, regulator-focused alert, which could then include more details of incidents and investigation processes. Both outputs could draw on the same underlying data, just using different combinations of it.

The lack of relevant details in incident-focused data may similarly reflect different purposes and emphases for these sources, and imperatives to limit the administrative burden on people reporting the incidents and processing the data. From the outside, this problem appears more difficult to overcome; it may be a question of both priorities and resources, potentially requiring the creation of a whole new dataset.

A further gap in the available data on incidents relates to longer-term safety concerns. Some products that are known to be high-risk in these regards may feature in recalls data – for example, the Safety Gate/RAPEX alerts include products found to be non-compliant with chemical or environmental standards. However, they seem far less likely to be recorded as 'incidents' (which tend to revolve around accidents or other immediate, discrete occurrences), even though long-term health effects such as from poor ventilation or from exposure to mould, radon or asbestos rank highly among both risks and fatality rates from historic construction. Coordination with local authority monitoring of housing conditions could perhaps help to provide data from cases where there are identified problems like these in certain homes – private rented properties are most often inspected (Shelter 2022b) – and the issue can be attributed to particular products or their use. This would only include one segment of cases. Another option with wider reach might be to monitor relevant conditions in health datasets, although this would also present significant challenges: products involved may be absent from the data or long since off the market by the time problems are evident (as with problems now from asbestos exposure), and some relevant longer-term health issues and the housing conditions responsible – such as damp, mould, and harmful volatile organic compounds (VOCs)³⁵ – may be affected by a combination of factors including building processes, furnishings, fuel poverty and occupant behaviour as well as construction products. Moreover, this may overlook risks that have not yet been detected or are not yet manifesting in noticeable health conditions. A better way to capture more of the potentially-relevant details could be to expand the scope of surveys like the English Housing Survey to include more consideration of the materials and maintenance within participants' homes as well as suitable health and behavioural components of the questionnaire, and to add a longitudinal dimension to the survey (following the same people over time) – although the

³⁵ Until recently the risks from VOCs have not been addressed in European product standards (Scutaru and Witterseh 2020).

participants would not necessarily need to be revisited annually, if the focus was solely on longer-term problems.

Besides data that is missing altogether, the ambiguity and lack of systemisation is partly also an issue of data formats and disaggregation. As noted many times in chapter 4, many potentially important incident details appear to be stored solely in free-text fields of the product-focused data (in particular). More specific and dedicated variables would better facilitate analysis and monitoring of the data – especially with increased usage of categorical and numerical variable types where appropriate – and could also help to encourage more widespread recording of the relevant aspects. Free-text data can be beneficial too in some places, such as for recording or presenting genuinely open-ended narrative details or miscellaneous notes, or helping to make the data more engaging or comprehensible. But it is less appropriate for vital details that are intended to be recorded across most cases in a large dataset, when not accompanied by the more specific variables.

There are also various other issues of data consistency and quality, as summarised in section 4.2 and also explored in chapter 5.

6.3. Stakeholders who may hold other useful data

A priority for making contact with external stakeholders should be to contact those responsible for the datasets that we have already investigated, to discuss access to the fuller underlying data (especially where only partial data or summary statistics are provided publicly) and in some cases perhaps also to explore possibilities for additions to their data collection, where this is deemed to be of particular importance for OPSS' aims.

Among UK government and local government bodies, institutional overlaps could perhaps mean that stakeholders involved with the English Housing Survey and the Housing Ombudsman Service would be a suitable first port of call. The Department for Levelling Up, Housing & Communities (DLUHC) is responsible for both; OPSS similarly reports to DLUHC (as well as the Department for Business, Energy & Industrial Strategy) for its construction product regulator role. Local authorities are already involved with the Product Safety Database, and they – or Local Authority Building Control – could also be contacted to enquire about data availability on building and housing standards, as well as disputes between residents and *private* landlords, which are usually not the responsibility of the Housing Ombudsman Service. Local authorities (and housing associations) may have other records too on construction product incidents through their roles as social housing landlords (e.g. see Shelter 2019). The Health & Safety Executive also has some responsibilities which overlap with OPSS, and may be able to facilitate special access to RIDDOR data.

Further data may also be available from the Home Office for Fire statistics and from NHS England for NaPSIR, and devolved authorities responsible for the equivalent data in Scotland, Wales and Northern Ireland should also be contacted. As noted in section 3.1, we are aware that OPSS staff are already exploring access to NHS accident and emergency admissions and police investigations.

Outside of the UK, both the US Consumer Product Safety Commission (CPSC) and Health Canada may also hold additional data on incidents beyond the numbers stated in their product recalls data. It may also be useful to make enquiries with the US CPSC about the extent of investigations and verification conducted for linking products (and especially construction products) to particular incidents in the SaferProducts.gov Incident Reports and the National Electronic Injury Surveillance System, and the opportunity could perhaps also

be taken to ask about their experiences of managing these two datasets – each focused on incidents related to product safety, but with a very different mode of data collection.

Other contacts with these and further stakeholders will be suggested in section 6.4.2, as part of wider efforts to encourage more effective pooling of construction product incident data in the UK and globally.

An extremely broad range of stakeholders *might* have useful data relating to construction product incidents and safety risks. Of particular note could be the National Fire Chiefs Council, whose data portal³⁶ requires an account for access, and the Swansea University team responsible for the All Wales Injury Surveillance System (AWISS) that is described in several places (Swansea University 2022; Lyons *et al.* 2002, 2016), although its dedicated website³⁷ no longer seems to exist.

Product ‘test houses’ may be a potential source of especially extensive data, as alluded to in section 4.1.2’s examples of the BSRIA Test Report Directory and the RedBookLive suspensions and withdrawals. Test services like these assess vast numbers of different products for manufacturers at different stages, and the results could help to indicate where problems might be most likely to arise – including where other products used in conjunction with them may need to account specifically for their risks. The government-approved UK Market Conformity Assessment Bodies index³⁸ currently lists a total of 47 testing services concerned with construction products. In the BSRIA directory there is only voluntary publication of results (see section 4.2); however, it may be possible to obtain special regulatory access. Details of failed tests could spark consideration of whether other products in use may have similar flaws and help to pinpoint where more detailed re-testing may be needed before related products could be put back on the market.

Various further stakeholders potentially with other useful data on construction product incidents or safety concerns are listed below.

- Construction Products Association³⁹
- British Standards Institute⁴⁰
- Building Services Research and Information Association (BSRIA)⁴¹
- Building Safety Alliance⁴²
- Considerate Constructors Scheme monitors⁴³
- Construction Health and Safety Group (CHSG)⁴⁴
- National House-Building Council⁴⁵ (including through their Buildmark insurance scheme⁴⁶), as well as other building companies, the Association of British Insurers⁴⁷ (but also see the apparent limitations of their published data as outlined in section

³⁶ <https://tymly.nationalfirechiefs.org.uk/login>

³⁷ <https://www.awiss.org.uk/>

³⁸ https://www.gov.uk/uk-market-conformity-assessment-bodies?uk_market_conformity_assessment_body_type%5B%5D=approved-body&uk_market_conformity_assessment_body_legislative_area%5B%5D=construction-products

³⁹ <https://www.constructionproducts.org.uk/>

⁴⁰ <https://www.bsigroup.com/en-GB/our-services/product-certification/industry-sector-schemes/construction/>

⁴¹ <https://www.bsria.com/uk/>

⁴² <https://buildingsafetyalliance.org.uk/>

⁴³ <https://www.ccscheme.org.uk/ccs-ltd/site-monitors/>

⁴⁴ <https://www.chsg.co.uk/home/>

⁴⁵ <https://www.nhbc.co.uk/>

⁴⁶ <https://www.nhbc.co.uk/homeowners/problems-with-your-new-home>

⁴⁷ <https://www.abi.org.uk/>

- 4.1.1.1), and other providers of home insurance or equivalent forms of structural and contents insurance for other types of buildings
- Home Builders Federation (HBF) and their National New Homes Customer Satisfaction Survey (CSS)⁴⁸
 - New Homes Ombudsman⁴⁹
 - Furniture & Home Improvement Ombudsman⁵⁰
 - Unions whose remit includes construction sector workers, like GMB,⁵¹ Prospect⁵² and Unite⁵³
 - Shelter⁵⁴
 - Citizens Advice⁵⁵
 - Tenants' and residents' associations (TRAs), usually registered with their local council
 - Renters' unions, like ACORN,⁵⁶ Greater Manchester Tenants Union⁵⁷ and London Renters Union⁵⁸
 - Home Owners Alliance⁵⁹
 - Organisations that participated in the *Independent Review of Building Regulations and Fire Safety*, post-Grenfell (see Hackitt 2018: 140-146)
 - Other 'construction industry institutes and associations' listed by the Designing Buildings website⁶⁰

6.4. Avenues for further exploratory work and research

6.4.1. A broader approach

Alongside the monitoring of construction product incidents (which remains a vitally important objective, to learn from real-world occurrences), there is considerable value in continuing work to catch risks and defects at earlier stages. Incidents are crucial, but looking *too* narrowly at these may neglect some of the earlier warning signs, as well as phenomena that could perhaps be of similar overall impact but where the harms involved are spread over a longer period. As noted earlier, long-term harms seem far less likely to feature in 'incident' data (see section 6.2), and from the range of data available on product defects and risks (section 4.1.2), it appears that many problems are currently identified before they have the chance to form part of finished constructions.

⁴⁸ <https://www.hbf.co.uk/policy/policy-and-wider-work-program/customer-satisfaction-survey/>

⁴⁹ <https://www.gov.uk/government/publications/building-safety-bill-factsheets/new-homes-ombudsman-factsheet>

⁵⁰ <https://www.fhio.org/>

⁵¹ <http://www.gmb.org.uk/>

⁵² <http://www.prospect.org.uk/>

⁵³ <https://www.unitetheunion.org/what-we-do/unite-in-your-sector/unite-construction-allied-trades-and-technicians/>

⁵⁴ <https://www.shelter.org.uk/>

⁵⁵ <https://www.citizensadvice.org.uk/housing/>

⁵⁶ <https://www.acorntheunion.org.uk/>

⁵⁷ <https://www.tenantsunion.org.uk/>

⁵⁸ <https://londonrentersunion.org/>

⁵⁹ <https://hoa.org.uk/campaigns/publications-2/>

⁶⁰ A to F:

https://www.designingbuildings.co.uk/wiki/Construction_industry_institutes_and_associations_A_to_F

G to Z:

https://www.designingbuildings.co.uk/wiki/Construction_industry_institutes_and_associations_G_to_Z

At present, there is insufficient UK data on construction product incidents for any widespread monitoring. However, the development of new and improved frameworks for this incident data also presents an opportunity to establish how overlapping strands of data could be connected to each other more holistically, in order to generate further useful insights. This could for example include expanding product recalls datasets to provide more details of incidents and investigations (in a research- and regulator-focused output parallel to consumer-focused materials), as suggested in section 6.2, but also various other linkages.

Ideally the different aspects of product safety data would form part of a broader, joined-up system, where products could be traced through from testing and risk assessments to subsequent usage. Monitoring of product performance after testing and risk assessments could help to provide more accountability and learning points, in terms of aspects such as how accurately these preliminary safety processes had identified all relevant safety issues and how well users of the products were following necessary precautions (which may also be affected by their awareness of the issues involved and capacity to modify usage of the products accordingly, for example). Recording product installation dates and details could perhaps also help to estimate time periods for when problems emerge and to provide other contextual information from which usage patterns could be analysed, although for this installation stage, there may be especially pertinent issues of proportionality, administrative burden and privacy to be carefully thought through (with appropriately thorough mitigation).⁶¹ There might be scope too for tracking of what happens after products lose certification or are affected by changes in relevant legislation, including whether such products are still available and what respective actions are taken to remedy historic sales and installation of them.

Among other aspects to work through when setting up a monitoring system, there are general questions of how best to prioritise between different stages in product life-cycles for effective regulatory actions of different kinds, taking into consideration the progression from design to development, initial testing, qualifying testing, procurement, manufacture, quality testing, shipping, installation, use and ultimately disposal. The priorities could vary according to factors such as the product type and the maturity of the technology; for example, some new technologies might require time for both installation and subsequent evidence to accumulate, while still giving appropriate emphasis to the precautionary principle.

Watson *et al.* (2019) point to how:

“The independent review into the UK Building Regulations and fire safety following the Grenfell Tower tragedy in 2017 highlighted significant failings in traceability of construction products used in the UK, noting that the construction industry is ‘significantly lagging behind many other sectors’ in this respect. One of the key drivers behind the need for traceability is to support product recall, such as might be required in the event of the discovery of issues in product manufacturing, testing or as a result of inappropriate product specification or substitution.”

⁶¹ It is already relatively common for a certain amount of information about buildings’ design and construction to be in the public domain, such as when planning applications are submitted or when properties are advertised for sale or for rent. However, these processes are driven largely by the relevant property owner (or other responsible persons), and recording granular details of all construction products used in a property would be a significant expansion of the monitoring of private (and often domestic) spaces – even if it might be very useful to know exactly where, for example, a future equivalent of asbestos was located across the country’s structures and perhaps in which instances it should be removed. Establishing effective systems for comprehensive monitoring of non-specialist ‘handyman’ or DIY-type construction activities could also be very challenging.

The framework for product recall proposed in Watson *et al.*'s article appears to be a useful starting point for a more holistic monitoring system along these lines. Additionally, Gad *et al.*'s (2021) review of construction product conformity assessment in Australia may also provide some transferable ideas.

6.4.2. Bringing together stakeholders both domestically and internationally to pool data

Whether thinking in broader construction product safety terms or looking solely at incidents, to maximise the potential of the relevant data that could be available, OPSS would need to draw on data from a range of other stakeholders. Section 6.3 discussed steps that could be taken in an attempt to gain increased access to existing data relating to construction product incidents and safety risks. Beyond this access to existing data, more ambitious projects could also seek – through more formal and multilateral means – to influence what data is collected and to instigate more significant collaboration. This could have greatest effect if it combined both domestic and international efforts. Domestic considerations could be fed into the UK's aims for international discussions, but it may be most logical to give primacy to the eventual international consensus about aspects such as categorisations, on the grounds that this could enable the widest possible data-sharing and most influence could be exerted over domestic actors (whether through central government coordination or regulatory authority).

Domestically, various different stakeholders with useful data (beyond the stakeholders that already contribute) could be invited to connect their systems to the Product Safety Database, perhaps with an offer of specific funding in some cases. These links could take a range of forms, tailored to each source and potentially with varying degrees of automation – when not simply making the data available to OPSS – but should aim for consistency and completeness, and the use of compatible categories even if some data is not added systematically to the PSD itself. Where the current data is lacking sufficient details of incidents – or safety issues at other stages of the product life-cycle, where these are also prioritised and relevant to the source – funding of the extra data collection and processing work required may help to encourage the inclusion of these aspects.

Alongside different kinds of collaboration with other stakeholder types, channels for formally receiving construction product incident reports from residents and the wider public could also be established. This would be consistent with the recommendations to give residents greater voice that were made by the Independent Review of Building Regulations and Fire Safety in the wake of the Grenfell Tower fire disaster (Hackitt 2018). The new system could also take partial inspiration from the US CPSC SaferProducts.gov Incident Reports (see section 4.1.1.2), which likewise mainly come directly from members of the public. It could potentially include additional ways to report other concerns about construction product safety too, prior to incidents actually occurring – most effectively perhaps if this was also coordinated with the Health & Safety Executive, local authorities and other regulators and ombudsman services with similar or overlapping responsibilities, so that concerns could be routed to the most appropriate organisation (or *organisations* more jointly) for the particular circumstances.

An equivalent to RIDDOR reporting requirements for construction product incidents could also be enacted, if necessary to capture the intended details or to produce sufficient coverage particularly from relevant private sector sources such as product manufacturers, testing companies, builders, and insurance companies. This would ideally be coordinated where possible with the existing systems from RIDDOR and any other relevant and similarly large-scale endeavours, to reduce duplication of incidents that would overlap between them

and help to streamline the process for incident reporters. As well as RIDDOR itself for a more UK-specific example, inspiration could also be taken from the Australian and New Zealand legal requirements to report specified product safety issues (see section 4.2 and the relevant tables in Appendix 2).

Internationally, efforts could be made to develop a *global* construction product incident monitoring system. Given the structures and collaboration already in place – including involvement from various non-OECD member countries⁶² – building on the OECD Global Recalls portal (and also addressing its current flaws)⁶³ would seem to be the most effective option, if at all possible. The imperative of learning from other experiences globally to help to avert future disasters like the Grenfell fire (where antecedents in other countries were not acted upon in time) might perhaps provide a salient rallying point both domestically and internationally, and may strengthen the case for OPSS (and the UK more broadly) to play a leading role.⁶⁴

Expanding the scope of the portal's data to include more systematic and specific incident-related fields would be a key element of these efforts, which could again potentially draw on template examples of parallel consumer- and regulator-focused product recall outputs, the latter with more detail of incidents and investigations (see section 6.2). To provide the new information, participating countries may also need to expand the scope of their own product recalls data that feeds into the portal. A tentative first step could be to encourage more countries to include the statements of 'incident' numbers that feature in the recalls data from the USA and Canada, although further incident details would add considerably to the value of the data.

Involvement of an organisation like UN-Habitat might be one option for trying to increase participation by lower-income countries from the Global South,⁶⁵ although such states may also be likely to have lower administrative capacity and slightly different priorities. For example, the OECD portal data includes product recalls from the jurisdictions of a range of ASEAN members but none from the poorest ones Cambodia, Laos and Myanmar. This is despite the ASEAN Committee on Consumer Protection (ACCP) website (that also features the ASEAN Product Alerts data) listing aid agencies from Australia, Germany and Japan as 'Development Partners'; it is possible that the development assistance may have focused on infrastructure at the regional level more so than national governments' capacities. Development assistance focused also on national capacity could help to enable wider participation – and indeed the Mexican product safety alert website similarly appears (through flags and logos) to acknowledge some EU involvement.

There may also be some value in exploring how widespread among other countries are the Australian requirements for product suppliers issuing recalls to also notify international

⁶² This includes "close ties" with non-OECD members China and Brazil, although product recalls from their jurisdictions do not currently feature on the OECD Global Recalls portal (unlike some other non-member countries). See section 4.1.3 and the relevant table in Appendix 2 for more details.

⁶³ For example, more systematically cleaning the portal data of errors (especially those introduced when uploading or transferring data from the relevant national or regional datasets) and working towards greater completeness. See sections 4.1.1.2 and 4.2, and Appendix 2's OECD Global Recalls portal table for more details.

⁶⁴ The Grenfell dimension should also demonstrate that primarily this is not a 'Brexit' issue, especially considering the importance of EU countries' data being included too.

⁶⁵ Nevertheless, the OECD Global Recalls portal does present itself as being targeted at regulators including in "countries which do not [yet] have an electronic system on data recalls, as it can be easily adapted, customised and used in their jurisdictions."

recipients of the affected goods, and considering whether requirements like these could also be implemented elsewhere.

6.4.3. New variables and categories for construction product data, and international/global data sharing

For effective use of both domestic and international data, considerable technical work will be needed to increase the compatibility of the various different systems involved and ensure that phenomena of interest can be clearly identified. Categorisations are of central importance here. We are aware that work is already underway at OPSS to improve the categorisations, consistency and analytical functions of the Product Safety Database, although we do not have specific details of what this entails.

One of the key requirements for construction product incidents in particular is for these incidents to be clearly flagged in relevant datasets, ideally also with further details that are recorded consistently across different sources – including some international coordination between participants in the proposed global construction product incident monitoring system. This could take a range of different approaches, but for example could start with a binary variable establishing whether an incident has taken place, before subsequent variables could record whether the incident has caused actual harm to persons, whether there was the potential for further serious harm (and harms of which types, extents and levels of severity),⁶⁶ which types of people were involved, how many people were affected in different ways, how the incident was investigated, and how the incident was found to have been caused and to have then unfolded (perhaps with details of factors that appear to have limited or reduced the harms, as well as those exacerbating them) – including identification of the products involved and their roles in the incident.⁶⁷ Types of harms and incidents should include longer-term harms if possible, rather than being more narrowly restricted solely to more immediate occurrences. There could also be variables for recording initial reports of the causes, etc. (including the products involved), particularly for when results of more thorough investigations are not yet available. Wherever possible these details should all be recorded in categorical or numerical variables, for greater consistency and to facilitate analysis of the data, but there could still be scope for some free-text variables where suitable for recording some narrative details, for providing extra information that is perhaps less commonly needed or available, and for clarifying some of the data recorded in less open-ended variables.

Many of the various categories for organising safety information listed on the CROSS website (CROSS 2022) could also be useful starting points for data covering a wider range of contextual factors involved in a construction product incident.

Product terminology and categorisation systems are also a major issue. The brief for this project emphasises the importance of using these appropriately, and especially of accounting for potential inconsistencies between datasets.

As a precursor to our originally-intended integration of different datasets, early in this project we undertook some initial exploratory work condensing the higher-level categories alluded to in the titles of the UK's 444 designated standards for construction products (MHCLG 2020) and comparing these with the 34 construction 'product families' produced as part of

⁶⁶ As mentioned in chapter 2, thresholds for *potential* serious harm may be particularly difficult to pinpoint. However, there would still seem to be some value in considering the different scenarios that could have occurred.

⁶⁷ The US CPSC NEISS dataset's scope for recording multiple products involved in an injury is commendable, but ideally would be accompanied by more systematic details of how each product was involved.

the European Commission's Construction Products Regulation acquis (EC 2020a, 2020b), with reference to the further details of each 'product family' that could be found by searching for the relevant number from its 'M' code in the EC's Mandates database (EC 2022).⁶⁸ We aimed to develop a hierarchy of construction product categories to use in subsequent analysis, while also better familiarising ourselves with the relevant product types. We hoped that these categories and sub-categories would largely overlap with the categories used in the Product Safety Database, RAPEX/Safety Gate and ICSMS, but at the time we only had fragmentary access to the underlying datasets and categorisations for each of these sources, restricting our ability to use them more directly. Subsequently we learned from the OPSS Incident Data team that OPSS were already working to improve the Product Safety Database's categorisations. We thus paused this strand of our work while waiting to see what data we could ultimately access and which different datasets and their categories would be most important to synthesise for data integration, and eventually ended it to focus on other analysis (as explained in section 3.2.1).

Future efforts to categorise construction products would ideally start with (and/or be mapped against) a significantly wider range of product recalls and incident datasets, while perhaps also encompassing regulatory documents like the ones we used, as well as lists of relevant products currently on the market. The efforts should again include the systems, government agencies and intergovernmental organisations participating in relevant product data-sharing initiatives, to encourage greater consistency and enable more effective analysis of global construction product safety data.

Construction product categorisations should begin by clearly establishing which product types would be considered as 'construction products'. Some construction products could potentially be considered as belonging to other product groupings too, and for example the New Zealand database of recalled products allows products to be assigned to multiple different categories. Yet ideally the relevant databases would still allow for all construction product records to be extracted in one batch. In many of the product recall datasets that we scrutinised, construction products appeared to be spread across various categories with no way of systematically identifying them. Products belonging to more than one of the selected categories could perhaps form their own distinct category for the purposes of the relevant analysis, to avoid issues of either incompleteness or duplication.

The stakeholders involved would need to liaise closely and (where possible) work from shared typologies and guidance materials to prevent discrepancies between different systems. The potential for varying interpretations of what constitutes a construction product can be demonstrated by the product recalls listed by the Electrical Safety First website in its 'Construction Products' category: at the time of writing, all of these products would explicitly *not* be considered to be construction products for the purposes of this project, because they are "equipment, tools and machinery used by construction trades during the construction process" (see chapter 2).

Category development should also include the use of hierarchical lists, to allow products to be allocated and grouped with different levels of specificity. The tiers of these hierarchies facilitate aggregation at higher category levels as well as disaggregation of these into various sub-categories, and can also make it easier to quickly identify the appropriate category for a product or line of enquiry. For example, without the use of different levels of categorisation like this, the 444 product types implied by the UK designated standards for

⁶⁸ For example, the 'M489 ETICS' product family covers 'External Thermal Insulation Composite Systems/Kits with Rendering', as specified (eventually) in the PDF document shown in the search result for number 489.

construction products would be too unwieldy for most analytical purposes. Various ‘other’ or ‘non-specified’ categories and sub-categories could be included, where necessary to ensure that *all* construction products could be assigned to a suitable category. And apart from the possible exception of fields allowing users to provide more detail of a selected ‘other’ value, free-text formats should not be used for any categorical variables in a large database, in order to prevent inconsistencies; this was not the case for all of the data that we scrutinised.

Two examples of global typologies that are already well-established and highly practical (including the provision of clear hierarchical lists) are the International Labour Organization’s International Standard Classification of Occupations (ISCO) and the World Health Organization’s International Classification of Diseases (ICD), each of which has been revised several times in a series of well-documented iterations spread out at intervals of a decade or more (ILO 2010; WHO 2022). The ISCO and ICD classifications are both used in official UK datasets, albeit indirectly in the case of the ISCO. The ISCO is a significant influence on the UK’s Standard Occupational Classification (SOC) typologies,⁶⁹ with shared classification principles and careful mapping between them (ONS 2020, 2021). Meanwhile, the ONS ‘Deaths registered in England and Wales – 21st century mortality’ dataset uses the ICD category codes more directly (ONS 2022).

The ISCO and ICD also both belong to the ‘International Family of Classifications’ that are listed together under the auspices of the UN Statistics Division (UNSD 2022a). The classification most relevant to construction products appears to be the ‘List of Industrial Products’, although its 624 categories include a far wider range of product types than just construction products (UNSD 2022b).

We recommend reading the documents on ‘best practices for developing statistical classifications’ documents produced by the UN Statistics Division (UNSD 2022c) and also contacting the division⁷⁰ at an early stage of work on the typology of construction products, in case they could provide any useful ideas or assistance (whether on classification itself or the logistics of international coordination). It may also be possible to add the typology to this ‘International Family of Classifications’.

The International Organization for Standardization (ISO)⁷¹ could perhaps be another international organisation able to help coordinate action, although they appear to focus primarily on product standards, more so than standardised *data*.

More relevant to construction product incidents in particular, the coding manual that accompanies the US CPSC NEISS data (US CPSC 2021) is a good example of detailed guidance materials for using categorisation typologies (as well as guidance on other aspects of its data reporting system). The sections on product categorisation provide initial overall guidance, a particularly extensive alphabetical index (including synonyms, sub-categories, occasional category-specific guidance, and similar but different codes to consider), and a numerical listing of the codes as well. However, this manual does not seem to include a more overarching hierarchy for the codes (or disaggregation of broad categories into sub-categories and individual items) that would also be very useful alongside this other

⁶⁹ These are used for the Labour Force Survey and other purposes.

⁷⁰ <https://unstats.un.org/unsd/classifications/hotline>

⁷¹ <https://www.iso.org/home.html>

guidance,⁷² although there is some grouping along these lines in the NEISS annual ‘data highlights’ reports.⁷³

6.4.4. Data integration/synthesis

Once datasets that are both useful and available have been obtained and categorised appropriately, integrating data from different sources into a combined dataset (for example to provide the list of construction product incidents ultimately sought through this project) may pose some further challenges.

Exactly which data is combined and how would need to be carefully considered. It is hoped that some current issues – such as excluding incidents that result in harm to workers during construction activity from RIDDOR and US CPSC NEISS data – could be resolved through greater access to the underlying data or through discussions with the responsible stakeholders. Other issues may be primarily a question of time and logistics, such as the potential extraction of key points from data that is not immediately available in a tabular format or data that otherwise makes significant usage of free-text formats, although again some of this data may originate from tables that might be obtained by arrangement with the relevant stakeholders.

Checks of the data to be combined should also identify where any incidents or alerts are duplicated within the same data source or across different sources. Duplication across different sources seems particularly likely in cases such as the inclusion in the Product Safety Database of alerts originating from RAPEX/Safety Gate, and of course for data in the OECD Global Recalls portal if this is to be analysed alongside data from the participating national and regional jurisdictions. The presence of duplication could be an important dimension of the analysis itself (for example in assessing the completeness of different sources), and it may also need to be taken into account for other aspects of the quantitative analysis.

Particular caution should be taken with use of data from samples of a wider population, including most survey data. If all that is desired is the fullest possible ‘list’ of construction product incidents, without much concern for the list’s representativeness, then it may not be unduly problematic to combine sample data (potentially from different surveys) with data from other sources that may ostensibly be more ‘complete’ representations of a population. This combination could perhaps be justified on the basis that the main goal is simply to provide as many data points as possible for now, amidst a general lack of information, and that simply learning from these particular incidents is the main aim. However, if representativeness is a more central concern, it would be more appropriate to keep each set of sample data separate from the other data, and to use the sample data instead in comparisons *between* different sources (and what their results represent). Even when aggregating ‘raw’ underlying numbers from just one survey’s sample data, care should be taken to ensure that the calculations account for any statistical weights or grossing factors that are provided to address estimated under- or over-representation of particular groups in the sample.

⁷² The numbering of the codes may hint at some potential higher-level categories, but this does not seem to be explicit in the manual and the numbering may not necessarily be fully consistent or logical in such a way.

⁷³ N.B. the US CPSC *Incident Reports* data does have a hierarchy of categories: from ‘Product Category’ down to ‘Product Sub Category’ and then ‘Product Type’. The types in this ‘Product Type’ variable seem to largely overlap with the NEISS product type variable, but are missing some of the types from the NEISS variable.

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Appendix 1: Full project brief

Aims

The purpose of this proposal is to procure research that will identify viable sources of construction product ‘incident’ data – i.e. where construction products have been implicated in an event of actual harm or potential for serious harm - to inform the national regulator’s strategic prioritisation and planning. It is envisaged that it will be necessary to rely upon multiple sources of incident data to compile a picture sufficient to meet the regulator’s needs. The incident data is required to enable and inform:

- OPSS strategic planning and prioritisation to inform its construction products national regulator role.
- Development of regulatory (enforcement) intervention strategies and plans – i.e. to select targets/sub-sectors that justify proactive interventions (as well as those that do not).
- Identification of which stakeholder groups should be prioritised for engagement.
- Identification of knowledge gaps and areas for further research.

Objectives:

1. Enable OPSS to gain a detailed insight and understanding of existing externally held/hosted (e.g. publicly available) construction product ‘incident’ data sources – i.e. a study of what’s currently available and from whom/where. This will enable the regulator to look backwards at what has happened historically so as to identify areas of potential poor performance and non-compliance.
2. Assess and recommend to OPSS which existing (external) sources of data will be of most use going forwards, i.e. to mine/monitor and to inform strategic prioritisation and planning.
3. Identify and propose to OPSS potential new/other sources of incident data that could be used or set-up going forwards, e.g. which stakeholders might hold relevant data and be willing to share in some way if approached.

Background

There is a paucity of construction product (CP) incident data and this risks inhibiting OPSS’s capability with regard to CP priority setting and the development of intervention strategies, as well as OPSS’s wider data strategy.

OPSS receives CP-related reports from local Trading Standards and complainants/concerns via stakeholders/consumers; it also has access to a number of databases such as Product Safety Database (PSD), Rapex and ICSMS. At this time the development of a CP-wide strategy underpinning this lack of data is embryonic. How OPSS accrues fuller and expanded CP incident data going forward is a legitimate area of interest and therefore research is proposed, and by way of a first step it is proposed that work should be initially undertaken to scope the CP incident data space and explore options.

The aims and objectives of the project are set out above. The focus of the work is to assess what CP “incident” data is available, be that what is in the public domain or indications of might potentially be held behind paywalls. The scope of the data of interest has been deliberately restricted to “incidents”, at least initially. Whilst consideration was given to

expanding this to cover any data relating to “non-compliant” construction products it was decided that this is not appropriate as the first step.

The proposed work has two elements, one looking backwards, and one forwards. The backward-looking element is to consider what data is already available and, of that, what might be of use to OPSS. The forwards-looking element is about identifying and proposing new potential data sources that could be accessed or created to aid future strategic planning and benchmarking. The data identified may, for example, help OPSS identify high risk product types or CP sub-sectors that warrant targeting for proactive intervention.

It is known that a variety of industry/stakeholder databases exist (e.g. OECD, International Housing Association, Electricity Safety First, UK Association of Fire Investigators, CROSS UK etc.). It is possible that individually these may contain limited information; however, collectively what is available may provide a good insight to the bigger picture.

Some of the data available may be held within product recall databases. Anecdotally it is stated that the current CP recall system is not optimised and relies on an ad-hoc mixture of technical bulletins and posting alerts on several product recall websites (many of which are aimed at consumers rather than trade or professional users). Information published by manufacturers may be a useful source of data, however identifying and locating this may not be straightforward.

There is a risk that the terminology and product categorisation systems used in different CP incident and recall databases/websites (etc.) will be inconsistent – for example different product recall databases may use terms such as construction/building products in different ways and may include products currently outside scope of this project (see Section 5, below), CPR or Building Regulations definitions. This will issue need consideration by the contractor.

Scope & Definitions

- A ‘**construction product**’ is defined as any product or kit which is placed on the market for permanent incorporation in any construction works (regardless as to whether or not there is UK designated standard or Technical Assessment for the product). The scope is all construction products not just those currently governed by the Construction Product Regulations 2013.
Equipment, tools and machinery used by construction trades during the construction process are excluded from the scope of this work.
- An ‘**incident**’ is defined as an occurrence in the UK in which one or more construction products were implicated as causal factors and in which either:
 - actual harm (injury or ill-health) was caused to persons (i.e. residents/occupiers/ tenants/homeowners/consumers/public etc.); or
 - there was the potential for serious harm to persons to have been an outcome.Incidents resulting in harm to workers during construction activity are excluded from the scope of the project (e.g. incidents causing harm to workers during a product’s manufacture, installation or activity elsewhere in the supply chain).
Incidents in which the design/safety/performance of construction products is the primary focus, i.e. as opposed to those where the incident arose solely as a result of inadequate/poor installation. However, it is acknowledged that this interface is complex and that poor installation may sometimes be the result of inadequate product information/instructions having been provided by the manufacturer.

- **Relevant time period:** Ideally relevant incidents that have occurred in the UK since 1984 (implementation of Building Act) or if not possible then since 2006 (Building Regulations extended) or 2010 (Building Regulations totally rewritten).
- **Data sources:** OPSS has access to a number of official (government/regulator) databases that hold relevant information, e.g. product safety database (PSD), Rapex, ICSMS etc. The aim of the proposed project is to identify data sources additional to these sources.

Proposed way forward

It is proposed that two separate providers be contracted to undertake the work independently and concurrently, each bringing a different perspective and expertise. The proposal is therefore for two similar projects, not one. In part this is to increase the scope of the findings/conclusions, but primarily it is believed that contracting the work to two separate providers, each with different perspective/expertise, will greatly enhance the options and recommendations that will be presented to OPSS. It is therefore intended that two providers will be contracted to undertake this work, one each from the following backgrounds:

- An organisation from academia, e.g. a university or someone with pure research background; and
- A body or organisation with practical construction experience, knowledge, and expertise.

It is not proposed that the contractors will be asked to work collaboratively in any way, rather the work will be delivered independently as standalone projects albeit tackling the same overall task.

Timing

It is hoped that the research phase of the proposed work can be undertaken in Q3 of 2021/22, with reporting and project completion in Q4 2021/22. *[N.B. our team's work on this project began in January 2022.]*

Organisation and roles

A primary OPSS contact will be provided to support and answer any questions arising throughout the work.

The work should be carried out in line with the steps detailed below and in accordance with the timescales given in section '7. Timetable'.

Deliverables

The contractor will be expected to:

- Research the current availability of UK construction product (CP) incident data (see section 5 for scope).
- Assess the CP incident data sources available and comment on reliability, validity and overall relevance to the scope of the project (as defined).
- Recommend which of the identified CP incident data sources may be most relevant and informative to OPSS objectives going forward.
- Identify gaps in the CP data that is available, e.g. are particular types of CP missing from data sets and if so is this because no incidents occur or because nobody is capturing them?
- Where data sources are identified, consider who the intended target audience is for the information published, e.g. consumers or construction sector professionals.

- Look for and comment on evidence to indicate the independence of and any validation checks on the data - so that each data source can be assessed to indicate the degree of confidence we may have in it.
- Consider whether there is any non-UK CP incident data (available/published) that may have valid read-across to inform the UK regulator's strategic planning prioritisation.
- Consider and identify potential new sources of CP incident data that are not in the public domain and that could perhaps be accessed/used going forward – for example, identify stakeholders who might hold relevant data. (Note: It is not expected that the contractor will formally approach such stakeholders as part of this project, rather this would form the basis of recommendations and potentially future follow-on work.)
- Produce a report summarising the above, including:
 1. what (i.e. what CP incident data is available, from whom/where and with what limitations),
 2. any gaps in knowledge/data and recommendations/suggestions on how gaps could be filled
 3. proposals and suggestions for new data sources/systems that could be established for the future, e.g. using stakeholders etc.
 4. proposals, if any, for potential further exploratory work and research in this area.

Outcomes

From the proposed work we wish to achieve the following outcomes:

1. A list of construction product incidents that have been found (reviewed for quality/reliability/validity etc.);
2. A list of sources that may have information; and
3. An evidence gap review of what else we would need to build an incident database associated with construction products and a proposed high-level framework of how this could be achieved.

Appendix 2: Tables with further details from the inventory of data sources

These tables provide the full details from our inventory of the data sources from which potentially-relevant data could be accessed, across the various dimensions of construction product safety data availability that we considered. The tables supplement our analysis from chapter 4, and the process of compiling the inventory is outlined in section 3.1 (which includes another table listing these sources as well as several others that were not added to this full inventory but are also analysed in chapter 4).⁷⁴

An overview of the Product Safety Database is included here for completeness and comparison with the other sources, although it is clear that despite receiving access to some components and outputs from the database, we have had less extensive access to the database itself than is available to some OPSS staff members.⁷⁵ Consequently, these staff members may be able to improve on our initial overview here.

Other relevant UK governmental data sources are shown next, followed by datasets from intergovernmental organisations and other national governments, then data from charity organisations (sometimes bringing together industry groups/trade associations), and finally product recalls and safety notices from prominent UK builders' merchants and other construction product retailers. The tables for builders' merchants and other retailers are slightly more condensed than the others, reflecting the narrower focus of their data.

These sources are presented here in the following order:

UK government data sources

- Product Safety Database (PSD)
- Fire statistics (Home Office)
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Labour Force Survey (LFS)
- National patient safety incident reports (NaPSIR)
- Decisions (Housing Ombudsman Service)
- English Housing Survey (EHS)

Intergovernmental organisations and other national governments

- Safety Gate / RAPEX (Rapid Alert System)
- Information and Communication System on Market Surveillance (ICSMS)
- Recalls (US CPSC)
- SaferProducts.gov
- National Electronic Injury Surveillance System (NEISS)
- Recalls and safety alerts (Canada)
- Recalls (Product Safety Australia)
- Product Recalls (New Zealand)
- ASEAN Product Alerts
- Global Recalls portal (OECD)

Charity organisations, industry groups and trade associations

- Collaborative Reporting for Safer Structures (CROSS)

⁷⁴ The surrounding text explains these and further omissions.

⁷⁵ This is discussed in section 3.1.

- Recalls (International Housing Association)
- Product Recalls & Safety Notices (Electrical Safety First)
- Product Recalls (UK-AFI)
- RedBookLive suspensions and withdrawals
- BSRIA Test Report Directory

UK builders' merchants and retailers

- Product recalls and safety notices (B&Q)
- Product recalls (Homebase)
- Product recall (Jewson)
- Product Safety Notices & Recalls (Screwfix)
- Product Recall Notice (Travis Perkins)

Perhaps the most notable absences are the safety alerts and recalls databases of several further countries' governments, which we first saw mentioned through the OECD Global Recalls portal website (OECD 2022) towards the end of this project: Chile, Denmark, Finland, France, Israel, Japan, Mexico, Slovenia, South Korea, and the United Arab Emirates. It was too late to investigate whether these national systems provided details beyond the recall information already featured in the OECD Global Recalls portal (and for the EU countries, RAPEX/Safety Gate and ICSMS). Significant duplication or overlap with these intergovernmental systems might be expected, and the OECD Global Recalls portal does include data from most of these countries. However, the recall systems of Chile, Mexico and New Zealand⁷⁶ are listed on the OECD website without any recalls from their jurisdictions being currently included in the Global Recalls portal.

⁷⁶ New Zealand's Product Recalls data *has* been included in our inventory.

UK government data sources

Product Safety Database (PSD)

Name of dataset / source	Product Safety Database (PSD)
Publishing organisation	UK Office for Product Safety & Standards (OPSS)
Other contributing organisations or stakeholders	The 'Cases' table lists the following 'Complainant_Type' categories: <ul style="list-style-type: none"> • Business • Consumer • Emergency service • Internal • Local authority (Trading Standards) • Other government department.
Notable URLs	<ul style="list-style-type: none"> • Database overview: https://www.gov.uk/guidance/product-safety-database-unsafe-products • Product Safety Alerts, Reports and Recalls search page: https://www.gov.uk/product-safety-alerts-reports-recalls • How to use the PSD: https://www.product-safety-database.service.gov.uk/help/about
Brief summary of data contents	<p>From the data we have seen:</p> <ul style="list-style-type: none"> • 'Cases' dataset: All allegations and enquiries received by OPSS, as well as OPSS investigation projects (see the 'Type' variable). • 'Products' dataset: Risk assessments logged on the PSD system - some carried out by OPSS, and some by various other organisation types. • 'Construction Products Notifications on the Product Safety Database' slides: Details of the products reported as unsafe/non-compliant on the PSD between 18/10/2019 and 14/10/2021. • Product Safety Alerts: Materials which "draw attention to the most serious risks, where issues have been identified across entire product categories or sectors", seemingly resulting from in-depth OPSS investigations. • Product Safety Reports: Summaries of "individual products that have been investigated and found to present a risk to the health and safety of consumers". • Product Recalls: Notices "for specific products that have been sold in the UK and may require you to act to receive a free replacement, repair or refund from the manufacturer or a retailer".
Target audience	<ul style="list-style-type: none"> • Main datasets and slides: Internal OPSS teams. • Alerts, reports and recalls: Manufacturers, retailers, online interfaces/platforms, consumers, and Local Authority Trading Standards bodies (as specified in the two Product Safety Alerts).
Purpose	<ul style="list-style-type: none"> • Main datasets and slides: Managing OPSS investigations and stakeholder communications - and wider monitoring purposes too? • Alerts, reports and recalls: "To notify unsafe and noncompliant products, including those that present a risk to the health and safety of consumers."
Public accessibility online	<ul style="list-style-type: none"> • Main datasets and slides: Not accessible online. • Alerts, reports and recalls: Fully accessible (ostensibly).

Format	<p>From the data we have seen:</p> <ul style="list-style-type: none"> • Main datasets: Excel tables. • CP notification slides: PDF document. • Product Safety Alerts: Web-page 'news story' free text, and several PDF text documents sometimes including detailed guidance for local authorities. • Product Safety Reports: Web-page search results where the user can click through to a separate web-page (and then a PDF) for each report. The web-page shows mostly tabular-type data in a partly-tabular format, while the PDF is more fully tabular. • Product Recalls: Same as Product Safety Reports.
Structures of accessible data	<p>From the data we have seen:</p> <ul style="list-style-type: none"> • Main datasets: Each all in one Excel table. • CP notification slides: A separate slide for each product, with bullet points very similar to tabular data. • Product Safety Alerts: All free text. • Product Safety Reports: Most of the information is shown on the webpage for each report, also with a URL linking to a PDF showing all of the information (sometimes including extra details) in a more fully tabular format - using some different terminology for the equivalent headings. • Product Recalls: Same as Product Safety Reports, but with more URLs to manufacturer-provided information.
Work seemingly needed to add the data to any new large-scale construction product safety database	<p>We are aware that work is underway at OPSS to improve the categorisations, consistency and analytical functions of the PSD, and its publicly-accessible online system also changed significantly during the course of our project.</p> <p>Similarly, we assume that the PSD already exists in a more integrated format than the data we have been sent and the data available online might otherwise suggest – with no need (for example) to convert PDF document tables into a more practical CSV-type format.</p> <p>However, more prominent and systematically-used categorical variables for recording incident-related details may be needed. Further data consolidation and streamlining may also help to make the data easier and more effective to use. When trying to combine related PSD documents ourselves as part of our attempts to track down 'incident'-related details, there were some striking discrepancies.</p> <p>Firstly, when comparing matched-up cases/alerts from the 'Cases' table that we were sent (exported 16 February 2022) and online Product Safety Reports from the same time (published 11 February), we found that much of the information from the Product Safety Reports was missing from the equivalent 'Cases' variables – and occasionally the two sources were even contradictory. The 'Description' field in the 'Cases' table seemed particularly limited, contrasting with the Product Safety Reports' more extensive 'Risk Description' and 'Corrective Measures' fields.</p> <p>Secondly, the construction product notification slides (from October 2021) also seemed to be more up-to-date and to have far more extensive information than the matched-up cases in our version of the 'Cases' dataset, despite that dataset being exported a few months later. In most instances the 'Cases' table had far fewer details of the potential incidents, non-compliance,</p>

	<p>risks, investigative processes, actions taken and other outcomes than the notification slides, despite the 'Cases' entries often having nominally been updated (and closed) after the last dates listed in the slides.</p> <p>With the benefit of more wide-ranging and in-depth access to the PSD than we have had, it could be the case that the 'Cases' table may not necessarily be the most logical place for the relevant information. Nevertheless, it would seem to make sense for the information to be stored <i>somewhere</i> systematic in the central database from where it could have been exported more directly and sent to us.</p>
Frequency of updates	<ul style="list-style-type: none"> • 'Cases' dataset: Usually many times a day. • 'Products' dataset: Frequently, sometimes multiple times a day. • CP notification slides: A one-off report? • Product Safety Alerts: Sporadic, with only 2 alerts issued so far. • Product Safety Reports: Several reports in most weeks? Previously weekly (except for a 2-week break between Christmas and New Year). • Product Recalls: Several recalls in most weeks?
Earliest data included	<ul style="list-style-type: none"> • 'Cases' dataset: 12 February 2019. • 'Products' dataset: 21 November 2007 (anomalous and perhaps an error; the next date shown is a risk assessment from 1 October 2018). • CP notification slides: 18 October 2019. • Product Safety Alerts: 19 May 2021. • Product Safety Reports: 8 January 2021. • Product Recalls: 8 January 2021.
Details of any validation checks	<ul style="list-style-type: none"> • 'Cases' dataset: 'Date_ Validated' variable only used for 319 out of 10,579 records. From a small recent sample, these include some - but still only a minority - of the records which also feature in Product Safety Reports. • 'Products' dataset: No explicit validation details. • CP notification slides: Presumably some OPSS work in producing the slides. • Product Safety Alerts: These alerts are the result of OPSS investigations. • Product Safety Reports: "These reports include products notified on the PSD by a market surveillance authority, notified to the OPSS Incident Management Team and validated."
Other potential indications of data quality	<ul style="list-style-type: none"> • 'Cases' dataset: Lots of variation in the levels of detail provided for the 'Description' and other risk-/safety-related variables. Less detail and less up-to-date than the CP notification slides (for those cases). • 'Products' dataset: All except 6 of the records pertain to risk assessments carried out by a named organisation - usually one of various UK government or local authority bodies, although sometimes by a (perhaps less reputable) manufacturer or retailer. The 'further_details' information can be quite in-depth, but is often completely empty. • CP notification slides: More detail and more up-to-date than the equivalent 'Cases' dataset records. • Product Safety Alerts: In-depth written information (although the second alert did not include the literature review and

	<p>guidance for local authorities that was published online for the first alert).</p> <ul style="list-style-type: none"> • Product Safety Reports and Recalls: Often in-depth descriptions of why a product is high-risk and does not meet relevant product standards/regulations. However, it is generally unclear how these risks or other deficiencies have been identified.
Geographical scope	<ul style="list-style-type: none"> • 'Cases' dataset: 'Notifying_Country' continues to include EU countries as well as Australia or New Zealand (as of new records added in January and February 2022), alongside notifications originating from the UK or England/Scotland/Wales/Northern Ireland. However, the 'foreign' notifications only account for a small minority of records (48 out of 10,579), first appear here in July 2021, and are each given a UK govt. or local authority body 'Complainant_Type' and 'Case_Owner_Team'. From the 'Description' variable, these cases all seem to stem from RAPEX/Safety Gate notifications. • 'Products' dataset: The majority of risk assessments seem to have been conducted by UK govt. or local authority bodies, but some are from foreign or multinational (or of unspecified scope) governments or companies. • CP notification slides: Probably the same as the 'Cases' dataset. 2 RAPEX notifications from France. • Product Safety Alerts: Apart from the literature review and a mention of online sellers who are not UK-based, these alerts only seem to refer to the UK. • Product Safety Reports and Recalls: Product 'Country of Origin' seems to be global, but unclear (from reports seen so far) whether a non-UK / non-local authority 'Notifier' would be included.
Geographical disaggregation	<ul style="list-style-type: none"> • 'Cases' dataset: 'Notifying_Country', and 'Description' sometimes also includes similar information. 'Case_Creator_Team', 'Case_Owner_Team' and 'Description' can include local authority names. • 'Products' dataset: 'assessed_by' can include the names of UK, local and foreign authorities or companies (as well as those of unspecified scope). • CP notification slides: 'Source of alert', 'Country of origin', 'Manufacturer', and some other relevant details in the 'Issue' and 'Handling/notes' descriptions. • Product Safety Alerts: N/A? • Product Safety Reports and Recalls: 'Country of Origin', and perhaps 'Notifier' (which specifies e.g. OPSS or "Local Authority Trading Standards").
Product types covered	<p>A wide range of products, but excluding "food and drink, vehicles, or medicines and medical devices".</p> <p>N.B. the 'Cases' dataset's 'Product_Category' variable is currently blank for many records.</p>
Any products beyond construction products?	Yes.
Any data recorded directly about construction product incidents?	Yes - some. But from the data we can access, there were only 2 possible incidents mentioned in the CP notification slides (covering almost two years between 18 th October 2019 and 14 th October 2021), and not specified as 'incidents' in this sense, and

	<p>it is difficult to systematically identify incidents in the 'Cases' table.</p> <p>We have also been told that "incidents and accidents" can be added more specifically to the data but that it is rarely done; we have not been provided with this segment of the data.</p>
Construction product <i>incident</i> categories used	N/A from the data seen.
Causes of construction product <i>incidents</i> recorded?	Not systematically - but faulty installation is suggested for one of the possible incidents mentioned in the CP notification slides (2010-0159), and at least one 'Cases' record (2106-0066) includes a mention of a fire which was not started by a construction product, but where the building's cladding (the same as at Grenfell Tower) caused the declaration of a 'major incident' and may perhaps have contributed to the considerable number of (in this case non-fatal) casualties.
Nature of actual or potential harms from construction product <i>incidents</i> recorded?	Not systematically. Details are provided for one of the possible incidents mentioned in the CP notification slides (2010-0159).
Severity of construction product <i>incidents</i> recorded?	Not systematically. Details are provided for one of the possible incidents mentioned in the CP notification slides (2010-0159), and also e.g. for the severity of casualties from the fire in 'Cases' record 2106-0066.
Details of any construction product <i>incident</i> investigation process?	The only systematic details appear to be the dates and names of authorities to which investigations have been allocated in the CP notification slides and the 'Cases' table, but sometimes there are further details in free-text fields.
Other information recorded directly about construction product <i>incidents</i>	Just some free-text notes (with relatively little information) for two possible incidents (not specified as 'incidents' in this sense) in the CP notification slides.
Data recorded on construction product <i>risks</i> ?	Yes.
Types of information recorded on construction product <i>risks</i>	<p>N.B. the 'How to use the Product Safety Database' webpage requests detailed information about product risks, including summaries of test results or other analysis.</p> <p>From the data seen:</p> <ul style="list-style-type: none"> • 'Cases' dataset: 'Hazard_Type', 'Risk_Level' and 'Reported_As' are all relevant - but often left blank. The 'Title' and 'Description' variables can also be relevant. The numbers of 'Products', 'Businesses', 'Activities', 'Correspondences', 'Corrective_Actions', 'Tests' and 'Risk_Assessments' are all included, without further details of what they entailed. Also N.B. blank 'Product_Category' variable for lots of records. • 'Products' dataset: 'risk_level' always used, but the 'further_details' are often blank or contain varying levels of detail. • CP notification slides: Sometimes quite detailed information in the 'Issue' and 'Handling/notes' descriptions. • Product Safety Alerts: No construction products are included in the 2 alerts so far (but these other alerts provide detailed risk information).

	<ul style="list-style-type: none"> • Product Safety Reports and Recalls: Often quite detailed 'Risk Description' information (but generally without specifying the sources). 'Risk Type' and (sometimes missing) 'Risk Level' categories too.
Alert types recorded	<ul style="list-style-type: none"> • Product Safety Alerts: From their summaries, one of the two alerts issued so far appears to be more urgent (asking for "specific action to cease use or remove them from the market", compared to asking for alertness "to the potential dangers" and the taking of "action, where appropriate"). • Product Safety Reports and Recalls: Each product listing is presented as an alert (e.g. 'Alert Number'), with an identified 'Risk Level'
Types of other authority actions recorded	<ul style="list-style-type: none"> • 'Cases' dataset: No systematic records of these, apart from the <i>numbers</i> of 'Activities', 'Correspondences', 'Corrective_Actions', 'Tests' and 'Risk_Assessments' • 'Products' dataset: Corrective actions sometimes mentioned in the 'further_details'. • CP notification slides: Some mentions of investigations, product recalls, market withdrawals, further product testing and certification, and the provision of "business advice". • Product Safety Alerts: The alerts encourage local authority trading standards bodies (and Environmental Health in Northern Ireland) to take action to enforce the relevant regulations. • Product Safety Reports and Recalls: 'Corrective Measures' variable.
Other notes	

Fire statistics (Home Office)

Name of dataset / source	Fire statistics
Publishing organisation	UK Home Office
Other contributing organisations or stakeholders	"The statistics are sourced from the Home Office's online Incident Recording System (IRS). This system allows FRSs [fire and rescue services] to complete an incident form for every incident attended, be it a fire, a false alarm or a non-fire incident (also known as a Special Service incident)."
Notable URLs	<ul style="list-style-type: none"> • Fire statistics overview: https://www.gov.uk/government/collections/fire-statistics • Fire statistics data tables: https://www.gov.uk/government/statistical-data-sets/fire-statistics-data-tables • Fire statistics guidance: https://www.gov.uk/government/publications/fire-statistics-guidance • Methodology and quality report: https://www.gov.uk/government/publications/fire-statistics-guidance/fire-and-rescue-incident-statistics-methodology-and-quality-report • Incident recording system - questions and lists (in use from April 2012): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/974650/incident-recording-system-questions-and-lists-version-1.6-XML-Schemas-v1-0p-from-April-2012.pdf • Fire and rescue incident statistics: https://www.gov.uk/government/collections/fire-statistics-monitor • Detailed analysis of fires attended by fire and rescue services in England: https://www.gov.uk/government/collections/fire-statistics-great-britain
Brief summary of data contents	"Statistics on trends in fires, casualties, false alarms and non-fire incidents attended by fire and rescue services in England; updated quarterly." This includes data on causes of fires.
Target audience	Policy-makers, incident investigators and researchers?
Purpose	
Public accessibility online	Only summary statistics are shown online.
Format	Excel tables.
Structures of accessible data	Various separate Excel tables for each main variable (showing the numbers of incidents of different kinds) in separate documents, sometimes also with further disaggregation (e.g. combining the various 'Cause of fire' and 'Source of ignition' categories).
Work seemingly needed to add the data to any new large-scale construction product safety database	Further information would be needed to more firmly establish how many of these fires and non-fire incidents could be classed as construction product incidents, and to identify the types of construction products involved - ideally with some access to the underlying data, and not just the summary statistics. The Incident Recording System's questions do seem to have scope for recording some of these more specific details.
Frequency of updates	The 'Cause of fire' data tables are annual.

Earliest data included	2010/11.
Details of any validation checks	<p><i>"Data is collected in real time as firefighters respond to incidents and enter information into the IRS. Some fields are updated on a continuous basis as fire and rescue investigations proceed and new information is obtained.</i></p> <p><i>The quality assurance processes in place are focussed on the accurate capture of data, consistency of recording, and the accurate transfer of processed data into a range of publications and published tables... The data quality concern is considered a low concern given that the data are checked by providers and the data are then further quality assured in detail by the statisticians responsible for the publication, who perform further detailed validation and checks, spotting and correcting any errors."</i></p> <p><i>"The IRS has a workflow where an incident is first 'Recorded' by the officer in charge (OIC) and then 'Published' after checking by the FRS quality assurance team who carry out a check of the information being submitted. Only once the data has been 'Published' will it be quality assured by the HO."</i></p> <p>There are some automatic checks in the online Incident Recording System too. (N.B. further details in the Methodology and quality report.)</p>
Other potential indications of data quality	
Geographical scope	<p><i>"The Home Office has responsibility for fire services in England. The vast majority of data tables produced by the Home Office are for England... In the past the Department for Communities and Local Government (who previously had responsibility for fire services in England) produced data tables for Great Britain and at times the UK. Similar information for devolved administrations are available at Scotland: Fire and Rescue Statistics, Wales: Community safety and Northern Ireland: Fire and Rescue Statistics."</i></p> <ul style="list-style-type: none"> • Scotland: https://www.firescotland.gov.uk/about-us/fire-and-rescue-statistics.aspx • Wales: https://statswales.gov.wales/Catalogue/Community-Safety-and-Social-Inclusion/Community-Safety • Northern Ireland: http://www.nifrs.org/
Geographical disaggregation	<p>Nothing in the 'Cause of fire' tables, but should be possible to disaggregate the underlying data by e.g. the fire and rescue authority (as in some of the other data tables).</p> <p>For the non-fire incidents, the 'Type of incident' data tables can be disaggregated by fire and rescue authority and area type.</p> <p>The more 'detailed type of action' data table cannot, but again it should be possible to disaggregate the underlying data.</p>
Product types covered	<p>The 'Structure and fittings' category for the 'Material or item first ignited' and 'Material mainly responsible for the development of the fire' variables seems most immediately relevant (still without fully specifying the particular products involved), but various other categories for these and other variables may also include some construction products (e.g. the heating appliances and 'Electrical distribution' categories for 'Source of ignition').</p> <p>Various other products may be covered by the non-fire incidents data.</p>

Any products beyond construction products?	Yes.
Any data recorded directly about construction product incidents ?	Yes - some.
Construction product incident categories used	N/A apart from the different fire-related categories, and various potentially relevant non-fire incidents - e.g. 'Effecting entry / exit', 'Lift release', 'Other rescue / release of persons', 'Removal of objects from people', 'Hazardous Materials incident', 'Spills and Leaks (not RTC)' [RTC = road traffic collision], 'Making Safe (not RTC)', 'Evacuation (no fire)'.
Causes of construction product incidents recorded?	Yes, although not always entirely clear whether they are <i>construction product</i> incidents. For fires, various different aspects are recorded through 'Cause of fire', 'Source of ignition', 'Material or item first ignited', and 'Material mainly responsible for the development of the fire' variables. For non-fire incidents, the 'detailed type of action' provides some further disaggregation, but still with some ambiguity about the precise causes (and whether construction products may be implicated).
Nature of actual or potential harms from construction product incidents recorded?	Potentially, if able to link the information in the 'cause of fire'-focused data tables to the 'fatalities and casualties'-focused data tables and the further information needed, and likewise for the more detailed information on non-fire incidents
Severity of construction product incidents recorded?	In the fire cause-related data tables, 'casualties' are separated into 'fatalities' and 'non-fatal casualties'. Numbers of fatalities and non-fatal casualties are also shown for the top-level of non-fire incident categories. Non-fatal casualties for non-fire incidents are further disaggregated into 'Casualties requiring hospital treatment' (with 'Hospital severe' and 'Hospital slight' sub-categories), 'First aid', 'Precautionary checks', and 'Unknown', but only for data focused on the property type where incidents occurred (which is less useful for this project).
Details of any construction product incident investigation process?	"Data is collected in real time as firefighters respond to incidents and enter information into the IRS. Some fields are updated on a continuous basis as fire and rescue investigations proceed and new information is obtained." Also cf. the 'Details of any validation checks' part of this table.
Other information recorded directly about construction product incidents	The incident recording system covers various aspects of fires and non-fire incidents attended.
Data recorded on construction product risks ?	No.
Types of information recorded on construction product risks	N/A
Alert types recorded	N/A
Types of other authority actions recorded	Fire and rescue services' attendance of fires and non-fire incidents.

Other notes	<p>N.B. the 'Cause of fire' data tables only cover 'primary fires': "those that meet at least one of the following criteria - occurred in a (non-derelect) building, vehicle or outdoor structure or involved a fatality, casualty or rescue or were attended by five or more pumping appliances".</p> <p>Also N.B. the equivalents in Northern Ireland, Scotland and Wales, summarised in the 'Geographical scope' part of this table.</p>
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Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)

Name of dataset / source	Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
Publishing organisation	Health & Safety Executive (HSE)
Other contributing organisations or stakeholders	
Notable URLs	<ul style="list-style-type: none"> • RIDDOR data tables: https://www.hse.gov.uk/statistics/lfs/index.htm#injuries • Main website: https://www.hse.gov.uk/riddor/ • Key definitions: https://www.hse.gov.uk/riddor/key-definitions.htm • Types of reportable incidents: https://www.hse.gov.uk/riddor/reportable-incidents.htm • Record-keeping requirements: https://www.hse.gov.uk/riddor/what-must-i-keep.htm • Data sources: https://www.hse.gov.uk/statistics/sources.htm • Quality report: https://www.hse.gov.uk/statistics/pdf/riddor-background-quality-report.pdf • Accident book: https://books.hse.gov.uk/?DI=649639&ClickID=002160
Brief summary of data contents	Reports of "certain serious workplace accidents, occupational diseases and specified dangerous occurrences (near misses)" in the UK that are required of "employers, the self-employed and people in control of work premises (the Responsible Person)". The 'accident kind' categories of " hit by moving, flying, falling object " and " trapped by something collapsing or overturning " as well as some of the other ' dangerous occurrences ' could include construction product incidents, if able to exclude incidents occurring during the construction process. The 'RIDKIND' and 'RIDDO' spreadsheets are most relevant here from the HSE website tables.
Target audience	Policy-makers and incident investigators.
Purpose	Monitoring risks and investigating serious accidents.
Public accessibility online	Only summary statistics are shown online
Format	Excel tables.
Structures of accessible data	Various separate Excel tables for each main variable (showing the number and sometimes rates or proportions of incidents of different kinds), in separate documents.
Work seemingly needed to add the data to any new large-scale construction product safety database	Further information would be needed to more firmly establish how many of these workplace injuries could be classed as construction product incidents, and to identify the types of construction products involved - ideally with some access to the underlying data, and not just the summary statistics. For example, the "hit by... object" and "trapped by" categories would need to be disaggregated into product types somehow, and issues like construction workers being potentially hit by construction products when not on an active construction site may also need to be considered.
Frequency of updates	Annual data.
Earliest data included	2014/15.
Details of any validation checks	"The statistical data is taken through a series of validation checks, where implausible data values are looked into, and if

	necessary adjustments are made prior to publication. In the case of fatal injuries, additional checks are made by correlating with additional sources of information, usually related to an investigation of the incident."
Other potential indications of data quality	NimbleFins (a company which researches 'personal finance') has published a comparison of 2018/19 LFS and RIDDOR data on non-fatal workplace injuries (https://www.nimblefins.co.uk/business-insurance/employers-liability-insurance-uk/workplace-injury-statistics-uk#cause); "LFS reflects self-reported injuries and RIDDOR data reflects injuries reported by companies". They conclude that "RIDDOR is the best data source available for some workplace injury metrics in the UK (e.g., body parts most commonly injured), however non-fatal injuries are substantially under-reported via RIDDOR so actual numbers of injuries are higher than the RIDDOR figures, which is why we also included LFS data where available."
Geographical scope	Great Britain (i.e. not Northern Ireland).
Geographical disaggregation	Should be possible to disaggregate the underlying data by UK country, region and/or local authority (e.g. as in the 'RIDREG' table on the HSE website).
Product types covered	Not stated in the data seen.
Any products beyond construction products?	Probably
Any data recorded directly about construction product incidents ?	Potentially. The workplace injury categories of "hit by moving, flying, falling object" and "trapped by something collapsing or overturning" - as well as some of the other 'dangerous occurrences' - could include construction product incidents, if able to exclude incidents occurring during the construction process. N.B. RIDDOR data excludes incidents such as fractures to fingers, thumbs or toes, or serious burns covering less than 10% of the body (all of which may still be worth including among data for construction product incidents). A blog post by Klaus Allion (https://www.industrial-compliance.co.uk/reporting-minor-incidents-to-prevent-future-catastrophe/) similarly highlights the potential importance of various other 'minor' incident types which RIDDOR overlooks.
Construction product incident categories used	N/A apart from the injury and dangerous occurrence categories.
Causes of construction product incidents recorded?	Probably not (beyond "moving, flying, falling object" or "something collapsing or overturning", and the relevant 'dangerous occurrence' categories).
Nature of actual or potential harms from construction product incidents recorded?	Potentially, if able to link the 'accident kind' (RIDKIND) to the 'nature of injury' (RIDNAT) and the further information needed.
Severity of construction product incidents recorded?	The injuries are separated into 'fatal' and 'non-fatal' categories.
Details of any construction product	None seen - but details may exist somewhere in the underlying data?

incident investigation process?	
Other information recorded directly about construction product incidents	None seen.
Data recorded on construction product risks ?	No.
Types of information recorded on construction product risks	N/A
Alert types recorded	N/A
Types of other authority actions recorded	N/A
Other notes	The HSE Accident Book is not visible without buying a copy, but should show which details are recorded (a legal requirement) - and hence potentially accessible through HSE.

Labour Force Survey (LFS)

Name of dataset / source	Labour Force Survey (LFS)
Publishing organisation	UK Office for National Statistics (ONS), with the self-reported work-related ill health and workplace injuries tables also published on the Health & Safety Executive website.
Other contributing organisations or stakeholders	
Notable URLs	<ul style="list-style-type: none"> • Index of LFS tables (self-reported work-related ill health and workplace injuries), on the HSE website: https://www.hse.gov.uk/statistics/lfs/index.htm#injuries • Archived LFS tables, on the HSE website: https://www.hse.gov.uk/statistics/lfs/lfs-archive.htm • About the Labour Force Survey: https://www.hse.gov.uk/statistics/lfs/about.htm • Quality and methodology information: https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/labourforcesurvey/lfsqmi • User guidance: https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/labourforcesurvey/userguidance • Labour Force Survey data catalogue, on the UK Data Service website: https://beta.ukdataservice.ac.uk/datacatalogue/series/series?id=2000026#!
Brief summary of data contents	<p>Survey of households living at private addresses in the UK, with outputs including statistics on workplace injuries - where the categories of "hit by moving, flying, falling object" and "trapped by something collapsing or overturning" could include construction product incidents, if able to exclude incidents occurring during the construction process.</p> <p>N.B. the 'Kind of accident (LFSINJKND)' spreadsheet is most relevant here from the HSE website tables - and more detailed analysis may be possible using the LFS microdata accessible through the UK Data Service website.</p>
Target audience	Policy-makers and researchers.
Purpose	"Its purpose is to provide information on the UK labour market which can then be used to develop, manage, evaluate and report on labour market policies."
Public accessibility online	Fully accessible (ostensibly), but registration with the UK Data Service is needed to access the survey microdata.
Format	From the HSE website, Excel tables. Assume several different formats available for the survey microdata.
Structures of accessible data	<p>HSE website Excel tables: separate tables for each variable, showing three-year averaged 'estimated incidence' and prevalence ('rate per 100,000 workers').</p> <p>Assume that the survey microdata would be in a small number of related tables.</p>
Work seemingly needed to add the data to any new large-scale	Further information would be needed to more firmly establish how many of these workplace injuries could be classed as construction product incidents, and to identify the types of

construction product safety database	<p>construction products involved. For example, the "hit by... object" and "trapped by" categories would need to be disaggregated into product types somehow, and issues like construction workers being potentially hit by construction products when not on an active construction site (e.g. in an office) may also need to be considered.</p> <p>N.B. the survey microdata would only be <i>representative</i> of the prevalence of wider accidents within the UK (most likely also needing some weighting of the microdata), and new additional survey questions may be required to provide the further information about construction products.</p>
Frequency of updates	<p>The survey data is available for overlapping three-month quarterly periods (e.g. Dec 2021 - Feb 2022, Jan 2022 - Mar 2022, etc.).</p> <p>Tables on the HSE website are three-year averages, seemingly produced using whole survey years (e.g. 2018/19-2020/21).</p>
Earliest data included	<p>LFS seems to date back to 1975, although potentially the key variable(s) here could be more recent additions.</p>
Details of any validation checks	<p>Presumably some checks within the survey questionnaire, and then others carried out more centrally by the survey team before publication?</p> <p>However, these do not seem to be mentioned in the ONS' quality and methodology webpage for the LFS.</p>
Other potential indications of data quality	<p>The NimbleFins analysis of 2018/19 LFS and RIDDOR data on non-fatal workplace injuries (https://www.nimblefins.co.uk/business-insurance/employers-liability-insurance-uk/workplace-injury-statistics-uk#cause) notes that LFS data estimates are a useful comparison point to the equivalent RIDDOR data, because of "substantial" under-reporting of non-fatal injuries in the RIDDOR figures.</p> <p>Separately, from the ONS quality and methodology information, <i>"If a household is unavailable for interview, but was interviewed in the previous wave, responses from the previous wave are rolled forward. This is referred to as imputation. Imputation is carried out to minimise non- response bias in estimates, while simultaneously improving precision by boosting the sample size. The rationale is that most LFS variables do not change from one quarter to another for most people. Responses are rolled forward for one wave only. Data are not rolled forward after a second consecutive non-response."</i></p> <p>N.B. imputation like this could be problematic for monitoring of discrete incidents (more so than for what might be expected to be more ongoing conditions/circumstances)?</p>
Geographical scope	UK.
Geographical disaggregation	Should be possible to disaggregate the survey microdata by UK country and/or region (e.g. as in the 'Country and region of residence (LFSINJREG)' table on the HSE website).
Product types covered	Not stated in the data seen.
Any products beyond construction products?	Probably.
Any data recorded directly about construction product incidents?	Potentially. The workplace injury categories of "hit by moving, flying, falling object" and "trapped by something collapsing or overturning" could include construction product incidents, if able to exclude incidents occurring during the construction process.

Construction product incident categories used	N/A apart from the injury categories.
Causes of construction product incidents recorded?	Probably not (beyond "moving, flying, falling object" or "something collapsing or overturning").
Nature of actual or potential harms from construction product incidents recorded?	Potentially, if able to link the 'Kind of accident (LFSINJKND)' to the 'Nature of injury (LFSINJNAT)' and the further information needed.
Severity of construction product incidents recorded?	Unclear.
Details of any construction product incident investigation process?	Assume not, as this is a concise and wide-ranging household survey.
Other information recorded directly about construction product incidents	None seen.
Data recorded on construction product risks ?	No.
Types of information recorded on construction product risks	N/A
Alert types recorded	N/A
Types of other authority actions recorded	N/A
Other notes	

National patient safety incident reports (NaPSIR)

Name of dataset / source	National patient safety incident reports (NaPSIR)
Publishing organisation	National Reporting and Learning System (NRLS), NHS England
Other contributing organisations or stakeholders	Incidents are reported by NHS organisations in England. "NRLS incident reports and data are shared with a range of national bodies to support the identification of hazards and the development of patient safety guidance and solutions. These organisations include: NHS England, Public Health England (PHE), the Medicines and Healthcare products Regulatory Agency (MHRA), CQC and the royal colleges."
Notable URLs	<ul style="list-style-type: none"> • Main website: https://www.england.nhs.uk/patient-safety/national-patient-safety-incident-reports/ • Latest annual data: https://www.england.nhs.uk/publication/national-patient-safety-incident-reports-up-to-june-2021/ • Guidance/methodology notes for latest annual data: https://www.england.nhs.uk/wp-content/uploads/2021/09/NRLS-Guidance-notes-Sept-21-FINAL.pdf • Monthly data: https://www.england.nhs.uk/patient-safety/monthly-data-patient-safety-incident-reports/
Brief summary of data contents	A database of numbers of 'patient safety' incidents involving NHS organisations in England. "We use the definition of a patient safety incident as 'any unintended or unexpected incident that could have or did lead to harm for one or more patients receiving NHS-funded healthcare'. This definition was developed by the National Patient Safety Agency (NPSA) in the Seven steps to patient safety: full reference guide (2004)." Among the 'incident types', ' Infrastructure (including staffing, facilities, environment) ' could include construction product incidents.
Target audience	UK health policy-makers.
Purpose	"Its primary function is to enable learning from these incidents and to reduce their recurrence." "We use information from incident reports to identify trends and develop patient safety resources such as Patient Safety Alerts."
Public accessibility online	Only summary statistics are shown online.
Format	Excel tables.
Structures of accessible data	Various separate Excel tables for each main variable (showing the number and percent of incidents for different timeframes), but all in one document for the annual data.
Work seemingly needed to add the data to any new large-scale construction product safety database	Further information would be needed to establish how many of the 'infrastructure' incident types could be classed as construction product incidents, and to identify the types of construction products involved - ideally with some access to the underlying data, and not just the summary statistics.
Frequency of updates	Annual data published each September, and monthly rolling data each month?
Earliest data included	"The NRLS was established by the NPSA in late 2003 as a voluntary scheme for reporting patient safety incidents... All NHS organisations in England and Wales have been able to report to the system since 2005.

	... In April 2010, it became mandatory to report deaths in certain circumstances and some other types of incidents to the Care Quality Commission (CQC)."
Details of any validation checks	"All patient safety incident reports submitted to the NRLS coded as resulting in severe harm or death are individually reviewed by NHS Improvement clinicians to make sure we learn as much as we can from them and take action at a national level where appropriate."
Other potential indications of data quality	<p>"Reporting to the NRLS has increased year on year since its inception in 2003, it is anticipated that this will continue to increase as the culture of reporting all incidents spreads more widely and deeply across the NHS. Therefore, the NRLS does not provide the definitive number of patient safety incidents occurring in the NHS and comparisons over time are confounded by increases in the underlying numbers."</p> <p>"In April 2010, it became mandatory to report deaths in certain circumstances and some other types of incidents to the Care Quality Commission (CQC)... To foster openness and encourage continual increases in reporting, reporting to the NRLS remains voluntary with the exception of certain severe incidents (see below)."</p> <p>"Other systems and organisations collect data that relates to patient safety incidents; however, the NRLS is the only national database that includes all types of patient safety incident. Many of these other data collections have been created specifically for a particular type of incident, have a broader remit, or cover a wider geography; as such their comparability with the NRLS cannot be assumed. Other systems include the: strategic executive information system (StEIS); CQC notification database; (MHRA) 'yellow card scheme' and serious adverse blood reactions and events (SABRE); NHS safety thermometer; PHE notifications database; and serious hazards of transfusion (SHOT) scheme. More information is available in our accompanying data quality statement."</p>
Geographical scope	England. Unclear whether there are equivalent data sources available for other UK countries?
Geographical disaggregation	<p>The annual data which includes 'incident types' is shown only for 'England', albeit with some disaggregation by 'care setting' (e.g. 'ambulance service', 'community pharmacy', 'general practice', etc.).</p> <p>The rolling monthly data is shown for many different NHS organisations (i.e. the various different NHS 'trusts' in England), but this monthly data only counts incidents by their 'degree of harm', with no indication of the incident type.</p>
Product types covered	Not stated in the data seen.
Any products beyond construction products?	Probably.
Any data recorded directly about construction product incidents ?	<p>Potentially. Among the 'incident types', 'Infrastructure (including staffing, facilities, environment)' could include construction product incidents.</p> <p>N.B. "We use the definition of a patient safety incident as 'any unintended or unexpected incident that could have or did lead to harm for one or more patients receiving NHS-funded healthcare'. This definition was developed by the National</p>

	Patient Safety Agency (NPSA) in the Seven steps to patient safety: full reference guide (2004)."
Construction product incident categories used	N/A
Causes of construction product incidents recorded?	Not in the data seen, beyond the "Infrastructure (including staffing, facilities, environment)" category.
Nature of actual or potential harms from construction product incidents recorded?	Not in the data seen.
Severity of construction product incidents recorded?	Potentially, if able to link the 'incident type' to the 'degree of harm' and the further information needed.
Details of any construction product incident investigation process?	Not in the data seen.
Other information recorded directly about construction product incidents	None seen.
Data recorded on construction product risks ?	No.
Types of information recorded on construction product risks	N/A
Alert types recorded	N/A
Types of other authority actions recorded	N/A
Other notes	

Decisions (Housing Ombudsman Service)

Name of dataset / source	Decisions
Publishing organisation	Housing Ombudsman Service
Other contributing organisations or stakeholders	The Local Government and Social Care Ombudsman (LGSCO) and the Regulator of Social Housing.
Notable URLs	<ul style="list-style-type: none"> • Decisions: https://www.housing-ombudsman.org.uk/decisions/ • Main website: https://www.housing-ombudsman.org.uk/ • What we do: https://www.housing-ombudsman.org.uk/about-us/what-we-do/ • Who we are: https://www.housing-ombudsman.org.uk/about-us/who-we-are/ • Others we work with: https://www.housing-ombudsman.org.uk/about-us/others-we-work-with/ • Guidance on decisions: https://www.housing-ombudsman.org.uk/guidance-on-decisions/ • Insight reports: https://www.housing-ombudsman.org.uk/useful-tools/insight-reports/
Brief summary of data contents	Summaries of ombudsman decisions on "disputes involving the tenants and leaseholders of social landlords (housing associations and local authorities) and our voluntary members." (Disputes between tenants and their landlords would be resolved by local authority environmental health departments.)
Target audience	Housing organisations, policy-makers and the wider public.
Purpose	"We now publish all decisions on cases investigated, as part of our increasing transparency. They are published every two weeks, providing an ever-expanding resource to promote learning in the sector and demonstrate the difference complaints can make for individual residents and wider benefit. The decisions are anonymised so residents' names are not used, but landlords are identified. We may decide not to publish a decision if we believe, even anonymised, the resident could be identified or if it is not in the interests of an individual or a landlord."
Public accessibility online	Fully accessible (ostensibly), but anonymised for confidentiality.
Format	Web-page search results where the user can click through to a separate web-page for each case - this shows mostly free-text data.
Structures of accessible data	Each case notice is shown on a separate webpage. All of the information is shown immediately, with numbered paragraphs under several headings in a mostly chronological order.
Work seemingly needed to add the data to any new large-scale construction product safety database	Further information would be needed to establish how many of the problems with housing conditions or repairs could be classed as construction product incidents, and to identify the types of construction products involved. There would also be considerable manual work involved to process the relevant free-text details into more systematic variables (and N.B. the online database has no 'export' function).
Frequency of updates	"We now publish all decisions on cases investigated, as part of our increasing transparency. They are published every two weeks".
Earliest data included	4 September 2020.

Details of any validation checks	"The decisions are anonymised so residents' names are not used, but landlords are identified. We may decide not to publish a decision if we believe, even anonymised, the resident could be identified or if it is not in the interests of an individual or a landlord."
Other potential indications of data quality	The published 'Decisions' are carefully written, in the style of a legal document.
Geographical scope	England. There are separate ombudsman services for Northern Ireland, Scotland and Wales, which also publish details of their investigations. The Scottish Public Services Ombudsman (https://www.spsso.org.uk/decision-report-search) and the Public Services Ombudsman for Wales (https://www.ombudsman.wales/findings/) decision reports/findings are much briefer. The Welsh system only seems to date back to 2021, but the Scottish system has cases from 2011. The Northern Ireland Public Services Ombudsman system (https://nipso.org.uk/nipso/our-findings/) has very few housing 'investigation reports' and 'case summaries' (and the latter are undated), but its investigation reports are very detailed.
Geographical disaggregation	When the landlord is a local authority, the local authority is named.
Product types covered	Construction products are often involved in disputes about housing conditions or repairs, although the focus is primarily on landlords' property maintenance and their interactions with residents.
Any products beyond construction products?	Potentially.
Any data recorded directly about construction product incidents ?	Yes (and could be included under both the 'Health and Safety (inc. Building Safety)' and 'Property Condition' complaint categories).
Construction product incident categories used	N/A
Causes of construction product incidents recorded?	This can be included in the 'background and summary of events' and 'assessment and findings' sections. But N.B. where faulty items are described in the ombudsman's 'decision' reports, the exact products involved do not seem to be specified.
Nature of actual or potential harms from construction product incidents recorded?	Yes, among the free-text data - and N.B. long-term harms are also sometimes recorded.
Severity of construction product incidents recorded?	Potentially, among the free-text data.
Details of any construction product incident investigation process?	Potentially, among the free-text data.

Other information recorded directly about construction product incidents	Potentially various useful bits of free-text information.
Data recorded on construction product risks ?	Potentially.
Types of information recorded on construction product risks	This would vary between cases.
Alert types recorded	N/A
Types of other authority actions recorded	Various social housing provider actions, and Housing Ombudsman determinations, orders and recommendations.
Other notes	Because this only covers disputes between residents and social landlords, it would not include people with other housing arrangements, or construction product incidents that did not result in a dispute with the landlord. Also N.B. the equivalents in Northern Ireland, Scotland and Wales, summarised in the 'Geographical scope' part of this table.

English Housing Survey (EHS)

Name of dataset / source	English Housing Survey (EHS)
Publishing organisation	UK Department for Levelling Up, Housing and Communities (DLUHC)
Other contributing organisations or stakeholders	
Notable URLs	<ul style="list-style-type: none"> • English Housing Survey main website: https://www.gov.uk/government/collections/english-housing-survey • Survey data tables on dwelling condition and safety: https://www.gov.uk/government/statistical-data-sets/dwelling-condition-and-safety • Guidance and methodology: https://www.gov.uk/guidance/english-housing-survey-guidance-and-methodology • 2019/20 technical report: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1000123/2019-20_EHS_Technical_Report_-_Final_Ch_1-7.pdf • English Housing Survey data catalogue, on the UK Data Service website: https://beta.ukdataservice.ac.uk/datacatalogue/series/series?id=200010 • 2020/21 survey questionnaire and physical survey form: https://www.gov.uk/government/publications/english-housing-survey-2020-to-2021-questionnaire-and-physical-survey-form
Brief summary of data contents	Survey of households living at private addresses in the UK, with outputs including statistics on 'dwelling condition and safety'. As well as a standard questionnaire, for some households the survey also entails a physical survey where a professional surveyor carries out a visual assessment of the property. More detailed analysis may be possible using the survey microdata accessible through the UK Data Service website.
Target audience	Policy-makers and researchers.
Purpose	"It collects information about people's housing circumstances and the condition and energy efficiency of housing in England."
Public accessibility online	Fully accessible (ostensibly), but registration with the UK Data Service is needed to access the survey microdata.
Format	From the DLUHC website, OpenDocument tables. Assume several different formats available for the survey microdata.
Structures of accessible data	DLUHC website OpenDocument tables: various different tables, showing the numbers and prevalence of different phenomena for particular types of dwelling, household and area. Assume that the survey microdata would be in a small number of related tables.
Work seemingly needed to add the data to any new large-scale construction product safety database	Further information would be needed to establish how many of the problems with housing conditions could be classed as construction product 'incidents' (of actual or potential harm), and to identify the types of construction products involved. N.B. the survey microdata would only be representative of the prevalence of wider accidents within the UK (most likely also needing some weighting of the microdata), and new additional

	survey questions may be required to provide the further information about construction products.
Frequency of updates	Annually.
Earliest data included	"The English Housing Survey (EHS) began in 2008-09, bringing together two previous housing surveys into a single fieldwork operation: the English House Condition Survey (EHCS) which ran in 5 years between 1967 and 2001 and became continuous from 2002 to 2007, and the Survey of English Housing (SEH) which ran from 1993/94 to 2007-08."
Details of any validation checks	"In line with MHCLG's statistical revisions policy, we seek to minimise the need for revisions. This is done through detailed cleaning, checking and validation of the data and results." "The EHS has several quality assurance measures in place which are undertaken throughout the annual survey process, beginning at the point of data collection, both through the computer-aided personal interviewing (CAPI) system and through surveyors validating their forms using the online system developed by the Building Research Establishment (BRE)... As the data are collated, processed and modelled, additional validation procedures are undertaken."
Other potential indications of data quality	
Geographical scope	England. There appear to be equivalent surveys for Northern Ireland, Scotland and Wales. The Scottish House Condition Survey (https://www.spsso.org.uk/decision-report-search) is also annual, with data stretching back to 2003/04. However, Northern Ireland's House Condition Survey (https://www.nihe.gov.uk/Working-With-Us/Research/House-Condition-Survey) appears to be conducted every 5 years (and was postponed when last due in 2021), and there seems to have been only one Welsh Housing Conditions Survey so far, in 2017/18 (https://gov.wales/welsh-housing-conditions-survey).
Geographical disaggregation	Should be possible to disaggregate the survey microdata by region. DLUHC website 'area' tables show different area types, deprivation deciles, and 'Northern', 'London and South East' and 'Rest of England'.
Product types covered	The DLUHC website tables do not identify particular products responsible for why a dwelling 'fails Decent Homes criteria' of 'Category 1 hazard', 'repair', 'modern facilities and services' or 'thermal comfort', or has problems of damp and mould. However, the survey questionnaire includes questions about a range of product types (including some construction products) in relation to any fires experienced in the past 2 years, and the physical survey form's identification of various hazards and corrective actions seems to implicate particular product types (including many construction products) in some cases.
Any products beyond construction products?	Yes.
Any data recorded directly about	Potentially, through the survey questions about fires.

construction product incidents?	
Construction product incident categories used	Seemingly just fires, in terms of <i>discreet</i> /tangible incidents that have taken place.
Causes of construction product incidents recorded?	Yes (although without necessarily making clear whether a construction product was implicated).
Nature of actual or potential harms from construction product incidents recorded?	Yes (in some but not all years' data, judging by the questionnaire?).
Severity of construction product incidents recorded?	Seemingly not.
Details of any construction product incident investigation process?	Not in the data seen.
Other information recorded directly about construction product incidents	The survey questions cover various aspects of fires experienced.
Data recorded on construction product risks?	Yes.
Types of information recorded on construction product risks	The physical survey form records circumstances where people's housing conditions have exposed them to various "hazards identified as posing an extreme risk", and also lists corresponding corrective actions. However, only some of these seem likely to relate to construction products.
Alert types recorded	N/A
Types of other authority actions recorded	The professional surveyors "are instructed to tell you [survey participants] if they discover anything that poses a danger to life or limb, but are not allowed to give any other feedback for professional indemnity reasons".
Other notes	N.B. the equivalents in Northern Ireland, Scotland and Wales, summarised in the 'Geographical scope' part of this table.

Intergovernmental organisations and other national governments

Safety Gate / RAPEX (Rapid Alert System)

Name of dataset / source	Safety Gate, previously named RAPEX (Rapid Alert System)
Publishing organisation	European Commission
Other contributing organisations or stakeholders	31 EU and EFTA/EEA member states' national authorities (for consumer product safety), and producers.
Notable URLs	<ul style="list-style-type: none"> • Database search and downloads: https://ec.europa.eu/safety-gate-alerts/screen/search?resetSearch=true • About the database: https://joinup.ec.europa.eu/collection/rapex/about • FAQs: https://joinup.ec.europa.eu/collection/rapex/faq • Most recent alerts: https://ec.europa.eu/safety-gate-alerts/screen/webReport
Brief summary of data contents	"EU rapid alert system for unsafe consumer products and consumer protection".
Target audience	Member states' national authorities?
Purpose	"It ensures that information about dangerous products withdrawn from the market and/or recalled from consumers anywhere in Europe is quickly circulated between Member States and the European Commission, so that appropriate action can be taken everywhere in the EU."
Public accessibility online	Fully accessible (ostensibly).
Format	Excel download, or web-page search results where the user can click through to a separate web-page table for each alert.
Structures of accessible data	Excel download: all in one table. N.B. some fields (e.g. 'Compulsory measures') combine multiple further variables.
Work seemingly needed to add the data to any new large-scale construction product safety database	Potentially just a little tidying-up for standardisation / harmonisation (e.g. of categories, etc.) and separating out variables (where currently combined into the same field). N.B. alert publishing dates are not included in the Excel download, but could be added from the online search results (which are by default displayed in order of most recent publication).
Frequency of updates	Daily (except weekends).
Earliest data included	3 February 2005.
Details of any validation checks	Some unspecified validation by the European Commission: "Each country designates a national RAPEX Contact Point which coordinates the system at the national level and submits information to the Commission about dangerous products found on its own market. The information received as 'notifications' and validated by the Commission is rapidly circulated to the national Contact Points for appropriate action. The results of these follow-up activities are reported back through the system through so-called 'reactions'."
Other potential indications of data quality	Some inconsistent use of categories, but probably quite simple to make these more consistent. Also some potential missing information for some alerts.

Geographical scope	Alerts only from member countries (which previously included the UK), but product countries of origin seem to be more global. N.B. no notifications from Switzerland, although there are notifications from the other EFTA countries (Iceland, Liechtenstein and Norway).
Geographical disaggregation	<ul style="list-style-type: none"> • "Alert submitted by": country. • "Country of origin": country (or "Unknown"). • "Products were found and measures were taken also in": country or countries.
Product types covered	Wide range of products, excluding food products, pharmaceuticals, medical devices and some other categories.
Any products beyond construction products?	Yes.
Any data recorded directly about construction product incidents ?	Potentially, but in the current data there only seems to be one relevant mention - where "No accidents have been reported but there has been one complaint of failed product."
Construction product incident categories used	N/A
Causes of construction product incidents recorded?	N/A
Nature of actual or potential harms from construction product incidents recorded?	N/A
Severity of construction product incidents recorded?	N/A
Details of any construction product incident investigation process?	N/A
Other information recorded directly about construction product incidents	N/A
Data recorded on construction product risks ?	Yes.
Types of information recorded on construction product risks	<ul style="list-style-type: none"> • 'Risk type' categories. • 'Risk' and 'Risk legal provision' free-text variables outlining more specific details of the risks and how products do not comply with EU product directives and/or standards
Alert types recorded	<ul style="list-style-type: none"> • 'Type' categories: 'Consumer' or 'Professional'. • 'Type of alert' categories: 'Serious Risk', 'Other risk levels', 'Other types of alerts'.
Types of other authority actions recorded	<p>Two main variables:</p> <ul style="list-style-type: none"> • 'Compulsory measures' • 'Voluntary measures'. <p>Each of these is a free text variable but (when not blank) contains what look like several further variables within the free text - potentially multiple times...:</p>

	<ul style="list-style-type: none"> • 'Type of economic operator taking notified measure(s)' • 'Category of measure(s)' • 'Date of entry into force'. <p>Beyond these main 'Compulsory measures' and 'Voluntary measures' variables, there is also a (sometimes used) 'Products were found and measures were taken also in' list, and a 'Company recall page' variable only used for 1 construction product so far...</p> <p>N.B. "The most common measures are: ban/stop on sales; withdrawal of a dangerous product from the market or its recall from consumers; and import rejection by the customs authorities."</p>
Other notes	<p>There is some overlap of data between RAPEX/Safety Gate and the Product Safety Database.</p> <p>However, due to Brexit, OPSS (and the UK government in general) no longer has any more detailed access to RAPEX/Safety Gate than what is publicly-accessible online.</p>

Information and Communication System on Market Surveillance (ICSMS)

Name of dataset / source	Information and Communication System on Market Surveillance (ICSMS)
Publishing organisation	European Commission
Other contributing organisations or stakeholders	'Market Surveillance Documents' search function includes the 27 EU Members states plus "United Kingdom (Northern Ireland)"; 'Authority Search' function also includes Iceland, Liechtenstein, Norway and Switzerland. N.B. the various UK/Ni authorities listed include "BEIS Office for Product Safety & Standards".
Notable URLs	<ul style="list-style-type: none"> • Product Search (consumer-facing; the most relevant section here): https://webgate.ec.europa.eu/icsms/public/productSearch.jsp?locale=en • About ICSMS: https://webgate.ec.europa.eu/icsms/ • Market Surveillance Document Search (consumer-facing, but N.B. no documents seem to be available from the search function): https://webgate.ec.europa.eu/icsms/public/ • Authority Search (consumer-facing, and just a list of relevant authorities and their addresses): https://webgate.ec.europa.eu/icsms/public/authoritySearch.jsp?locale=en • Internal section (password-protected): https://webgate.ec.europa.eu/icsms_internal/secure/
Brief summary of data contents	"The comprehensive [EU] communication platform for market surveillance on non-food products and for mutual recognition for goods. ICSMS is also an intelligence mechanism for the reliable exchange of information among authorities." N.B. the information in the public area "provides only a description of the product and a summary of its non-compliance."
Target audience	Internal area: (member states') "market surveillance authorities, customs authorities and the EU". Public area: "consumers, users and manufacturers".
Purpose	"The ultimate role of ICSMS is to help the European Union to fulfil one of its major political objectives; i.e. to ensure reliability and coherence in the implementation and enforcement of the European internal market legislation on non-food products."
Public accessibility online	Some accessible 'Consumer' sections, but an EU login is needed to access an 'Internal' section. Anyone can create an account, but the EC application support team would need to authorise it to access ICSMS.
Format	Web-page search results where the user can click through to a separate web-page for each alert - this shows mostly tabular-type data, in a partly-tabular format.
Structures of accessible data	Each product notification is shown on a separate webpage. This initially shows the main product details (in a format where the variables and their headings are listed in boxes on top of each other, with some variables in the same box); a button can also be clicked to reveal some summary details of "Investigations" into the product, shown in a similar format.
Work seemingly needed to add the data to any new large-scale	Probably considerable manual work, unless able to access the raw data (the online database has no 'export' function). Also N.B. the product search function does not seem to help much in

construction product safety database	narrowing down the data to a category like construction products. There is no category search option that could help, and e.g. entering "construction" as the product key word currently leads to just 5 results - none of them construction products (for the purposes of this project).
Frequency of updates	A considerable number of updates per month.
Earliest data included	23 February 2001.
Details of any validation checks	No information on this.
Other potential indications of data quality	
Geographical scope	The product search function's 'Country of origin' list seems to include all countries globally, although many have no products listed.
Geographical disaggregation	"Country of origin", and for 'Investigations', a "Notifying Country" and "Processing Country".
Product types covered	Wide range of non-food products.
Any products beyond construction products?	Yes.
Any data recorded directly about construction product incidents ?	No.
Construction product incident categories used	N/A
Causes of construction product incidents recorded?	N/A
Nature of actual or potential harms from construction product incidents recorded?	N/A
Severity of construction product incidents recorded?	N/A
Details of any construction product incident investigation process?	Not really - there is an 'Investigations' section for all product notifications, but it only lists the notifying authority, processing authority, and measures taken.
Other information recorded directly about construction product incidents	N/A
Data recorded on construction product risks ?	Yes
Types of information recorded on construction product risks	'Type of most serious injury / harm possible' category in some - but not all - product notifications (e.g. for one gas pipe product, this is "Burns, scalds").
Alert types recorded	N/A
Types of other authority actions recorded	Two main variables: • 'Compulsory measures'

	<ul style="list-style-type: none"> • 'Voluntary measures'. <p>Each of these is a free text variable but (when not blank) contains what look like several further variables within the free text - potentially multiple times:</p> <ul style="list-style-type: none"> • 'Type of economic operator taking notified measure(s)' • 'Category of measure(s)' • 'Date of entry into force'. <p>Beyond these main 'Compulsory measures' and 'Voluntary measures' variables, there is also a 'Products were found and measures were taken also in' list (only sometimes used), and a 'Company recall page' variable only used for 1 construction product so far.</p> <p>N.B. "The most common measures are: ban/stop on sales; withdrawal of a dangerous product from the market or its recall from consumers; and import rejection by the customs authorities."</p>
Other notes	<p>The 'About' webpage describes further aspects of ICSMS which may involve more detailed information in the internal (rather than 'consumer'-facing) area:</p> <p><i>"The system allows information on non-compliant products (test results, product identification data, economic operator information, accident information, information on measures taken by surveillance authorities etc.) to be quickly and efficiently shared between authorities. It supports market surveillance activities, by providing a register for their documentation, the identification of the products inspected and the results of the tests/checks.</i></p> <p><i>ICSMS enables specific searches for non-compliant products. Each authority can input data about investigated products, which are not already in the database and add information (e.g. additional tests results, measures taken) to an already existing product information file.</i></p> <p><i>In particular, ICSMS helps authorities to:</i></p> <ul style="list-style-type: none"> • <i>Facilitate the quick exchange of information on market surveillance measures;</i> • <i>Coordinate their activities and inspections more effectively;</i> • <i>Share resources and thus have more time to concentrate on other products which have yet to be tested;</i> • <i>Carry out wide-scale market interventions wherever products of a dubious nature are concerned using the latest information and thus avoid duplicate inspections;</i> • <i>Ensure that market surveillance is efficient and of even rigour in all Member States and thus avoid distortion to competition;</i> • <i>Establish an encyclopaedia of EU market surveillance intelligence."</i>

Recalls (US CPSC)

Name of dataset / source	Recalls
Publishing organisation	US Consumer Product Safety Commission (CPSC)
Other contributing organisations or stakeholders	Companies submitting product recall notices?
Notable URLs	<ul style="list-style-type: none"> • Database search and downloads: https://www.cpsc.gov/Recalls
Brief summary of data contents	An extensive database of product recall information.
Target audience	Regulators, researchers and consumers?
Purpose	
Public accessibility online	Fully accessible (ostensibly).
Format	CSV download, or web-page search results where the user can click through to a separate web-page (mostly with table-type information) for each alert.
Structures of accessible data	CSV download: all in one table.
Work seemingly needed to add the data to any new large-scale construction product safety database	Biggest challenge would be in categorisation: the exported CSV downloads do not include the 'Hazard' or (product) 'Category' variables that feature in the web-page search function. These variables cannot be used to filter the CSV downloads either: as of 28 May 2022 (and also when first investigating this dataset in March 2022), clicking the 'Download CSV' button when either one or both of the 'Hazard' and 'Category' filters has been applied just leads to an error message (" <i>Be Right Back... Our website is undergoing maintenance. We apologize for the inconvenience. Please check back later.</i> ").
Frequency of updates	Mostly weekly (in batches), with some exceptions and more frequent updates.
Earliest data included	7 June 1973 - but many of the variables in the CSV seem to have been used far more systematically since October 2009 and then even more so October 2010 (although still with occasional records missing responses for many of the variables).
Details of any validation checks	No information on this.
Other potential indications of data quality	
Geographical scope	The alerts seem to be somewhat global in nature, with reports appearing to come primarily from manufacturers - often not based in the USA - about known issues, where the location of incidents or related testing generally doesn't seem to be specified. However, it is also possible that some of the recalls may be the result of more proactive regulatory action (presumably from the US CPSC), and the shops listed seem to be either online or in the USA (sometimes in very specific locations, but also e.g. "nationwide").
Geographical disaggregation	The 'Sold At', 'Importers', 'Manufacturers', 'Distributors' and 'Manufactured In' fields all often have some geographical

	information, but only the 'Manufactured In' country is in a format that could be used immediately.
Product types covered	Wide range of non-food products.
Any products beyond construction products?	Yes.
Any data recorded directly about construction product incidents ?	Yes - some.
Construction product incident categories used	N/A as such - but e.g. the 'hazards' include 'Explosion', 'Fire' and 'Sparking' (as well as various other categories which focus more directly on the harms suffered by people).
Causes of construction product incidents recorded?	Mostly just in the free-text 'Hazard Description' and 'Incidents' fields.
Nature of actual or potential harms from construction product incidents recorded?	Briefly (in the free-text 'Hazard Description' and 'Incidents' fields).
Severity of construction product incidents recorded?	Briefly (in the free-text 'Hazard Description' and 'Incidents' fields).
Details of any construction product incident investigation process?	No.
Other information recorded directly about construction product incidents	N/A
Data recorded on construction product risks ?	Yes.
Types of information recorded on construction product risks	The free-text 'Hazard Description' field records the defects identified in the products being recalled, and the 'Units' field (also free-text but slightly more standardised?) seems to estimate how many of the products may be in circulation/use.
Alert types recorded	The recalls have various different combinations of the following 'Remedy Type' values: 'Dispose', 'Label', 'New Instructions', 'No Remedy Available', 'Refund', 'Replace'.
Types of other authority actions recorded	There is also a free-text 'Remedy' field.
Other notes	N.B. on the web-page version, some recalls are shown as being "In Conjunction With" the Canadian 'Recalls and safety alerts' system (e.g. https://www.cpsc.gov/Recalls/2020/Triangle-Tube-Recalls-to-Repair-Gas-Boilers-Due-to-Risk-of-Carbon-Monoxide-Hazard-One-Death-Reported-In-Home-Remedy-May-Be-Delayed-Due-To-COVID-19-Restrictions).

SaferProducts.gov

Name of dataset / source	SaferProducts.gov
Publishing organisation	US Consumer Product Safety Commission (CPSC)
Other contributing organisations or stakeholders	Primarily, consumers and a range of public-oriented organisations (US federal government agencies, state government agencies, local government agencies, medical examiners/coroners, public safety entities, health care professionals, child service providers). But also some "comment" responses from businesses.
Notable URLs	<ul style="list-style-type: none"> • Database search and downloads: https://www.saferproducts.gov/PublicSearch • Main page: https://www.saferproducts.gov/ • About the database: https://www.saferproducts.gov/About
Brief summary of data contents	<p>"The CPSC-owned website where the public can file and read safety-related complaints about consumer products within the agency's jurisdiction."</p> <p>N.B. the 'Recalls' file seems to be just a slimmed-down version of the separate US CPSC 'Recalls' database - with little or no direct relation to the 'Incident Reports' file - so most of the details in this table only relate to the 'Incident Reports' file.</p>
Target audience	The public / consumers, and businesses.
Purpose	<p>"SaferProducts.gov was created to:</p> <ul style="list-style-type: none"> • Collect reports of harm or potential harm from consumers about unsafe consumer products. • Publish reports of harm or potential harm in a searchable, public database. • Provide businesses with the ability and means to respond to reports about potentially dangerous consumer products."
Public accessibility online	Fully accessible (ostensibly).
Format	Download of "all recalls and unsafe product reports" (in two separate CSV documents), or web-page search results where the user can click through to a separate web-page (mostly with table-type information) for each alert.- and options to export either a (full) CSV or (more limited) PDF file of the search results.
Structures of accessible data	CSV downloads: all in one table (separately for 'Incident Reports' and 'Recalls').
Work seemingly needed to add the data to any new large-scale construction product safety database	Much of the data is already separated out into lots of different CSV table fields, but trying to establish an 'incident type' (beyond just the products involved and severity of injuries) would probably require detailed manual analysis of the 'Incident Description' free-text field.
Frequency of updates	Lots of updates on most weekdays.
Earliest data included	4 January 2011.
Details of any validation checks	Seemingly none.
Other potential indications of data quality	The majority (but not all) of the incident reports seem to come direct from consumers, and e.g. the incident descriptions seem to be mostly just their own accounts of what happened (with unedited typos, idiosyncrasies, etc. left in) - apart from some occasional parts which contain "[REDACTED]".

	However, having access to this information directly from the person affected may be valuable too, and some reports are made by people uploading them in an official capacity. In some records there is also a field showing a 'comment' response from one of the businesses responsible; it seems that the original reports are sent on to the relevant 'Manufacturer / Importer / Private Labeler' within a week, and then that business has two weeks to comment before the report is published.
Geographical scope	The incident reports are mostly from the USA, but for some records the 'Retailer State' or the later address are in a different country - some in the UK - or e.g. a Canadian province or 'Armed Forces' in one of several regions. It's unclear whether this later address is the address of the incident reporter or the location where the incident happened (if there's a difference between the two), and why people not in the USA would report an incident using this particular system (perhaps an American citizen, seeking redress from an American company responsible for the product, or just seeing the dataset as a global resource?).
Geographical disaggregation	"Retailer State", and then later a more detailed (and reporter-oriented?) "City", "State", "ZIP", and "Location" - the location presumably the type of location where the incident occurred (e.g. 'Home/Apartment/Condominium', 'Mobile/Manufactured Home', 'Farm/Ranch', 'Industrial', and various others).
Product types covered	Wide range of non-food products.
Any products beyond construction products?	Yes.
Any data recorded directly about construction product incidents ?	Yes – some.
Construction product incident categories used	N/A, apart from e.g. 'Product Was Damaged Before Incident' and 'Damage Description' (blank for all accessible data).
Causes of construction product incidents recorded?	Mostly just in one or more of the free-text 'Incident Description', 'Answer Explanation' and 'Company Comments' fields.
Nature of actual or potential harms from construction product incidents recorded?	Yes - to an extent (often details in the 'Incident Description' free-text field, and more systematically but briefly/incompletely through the recorded 'severity' of injuries to the 'primary' victim, ranging from 'No Incident, No Injury' to 'Death'.
Severity of construction product incidents recorded?	Yes - to an extent (often details in the 'Incident Description' free-text field, and more systematically but briefly/incompletely through the recorded 'severity' of injuries to the 'primary' victim, ranging from 'No Incident, No Injury' to 'Death'.
Details of any construction product incident investigation process?	Only if mentioned in the free-text information submitted by the person reporting the incident or the response from the business.
Other information recorded directly about construction product incidents	N/A

Data recorded on construction product risks ?	Only if mentioned in the free-text information submitted by the person reporting the incident or the response from the business.
Types of information recorded on construction product risks	Overlapping with the information recorded on incidents, and again only if mentioned in the free-text information submitted by the person reporting the incident or the response from the business.
Alert types recorded	N/A
Types of other authority actions recorded	N/A
Other notes	

National Electronic Injury Surveillance System (NEISS)

Name of dataset / source	National Electronic Injury Surveillance System (NEISS)
Publishing organisation	US Consumer Product Safety Commission (CPSC)
Other contributing organisations or stakeholders	Samples of hospitals in the US. "Statistically valid" data gathered from the emergency departments of approx. 100 hospitals ("a nationally representative probability sample of hospitals in the U.S. and its territories").
Notable URLs	<ul style="list-style-type: none"> • Database search and downloads: https://www.cpsc.gov/cgibin/NEISSQuery/home.aspx • Database query builder (including further links to the coding manual for categorical variables): https://www.cpsc.gov/cgibin/NEISSQuery/UserCriteria.aspx • About the database: https://www.cpsc.gov/Research--Statistics/NEISS-Injury-Data • FAQs: https://www.cpsc.gov/Research--Statistics/NEISS-Injury-Data/Neiss-Frequently-Asked-Questions
Brief summary of data contents	Data on "consumer product-related injuries in the US", used to create national estimates of these.
Target audience	Regulators, researchers, and the public. "NEISS has become an important public health research tool, not just for CPSC, but also for researchers and consumers throughout the United States and around the world."
Purpose	<p>"Enables CPSC analysts to make national estimates of the number of injuries associated with specific products".</p> <p>"Provides evidence for further study of particular products", aiming prevent repeat occurrences.</p> <p>"Evidence of the need for product recall, public awareness and product safety standards".</p>
Public accessibility online	Fully accessible (ostensibly).
Format	<ul style="list-style-type: none"> • 'Archived Annual NEISS Data': Excel downloads (or SAS or tab-delimited text). • Annual 'NEISS Data Highlights' injury number estimates: table in PDF document. • Database query builder: Excel, SAS or tab-delimited text file.
Structures of accessible data	Excel downloads: all in one table.
Work seemingly needed to add the data to any new large-scale construction product safety database	<p>N.B. limited scope for adding the data directly: the raw data just comes from a <i>sample</i> of US hospitals, and though statistically-representative, the annual 'data highlights' state that "Since injury cases have different statistical weights, these "raw" numbers should not be used for comparative purposes" - but weights are provided for the raw data.</p> <p>Meanwhile, although many details are recorded about each case's injury (including a free-text 'narrative' field), both the annual (national) estimates and this raw data only includes product categories / 'groupings', rather than systematic records of more specific products. There is also no indication of whether e.g. faulty installation may be to blame, and a possibility of including injuries sustained during construction work if not excluding code 7 locations ('industrial places', which include construction sites but also various others)?</p>

	<p>However, the annual estimates may still help to inform OPSS prioritisation of product categories to monitor particularly closely, where applicable to the UK context.</p> <p>N.B. the categorical variable codes (including for the 'Product' variables) for each year are in the 'NEISS_FMT' worksheet tab of its Excel spreadsheet download, with more details in the downloadable coding manual PDF.</p>
Frequency of updates	Daily data - but downloads only available annually, and with some lag.
Earliest data included	1 January 2001.
Details of any validation checks	<p>Extensive validation checks.</p> <p>FAQs: "At the end of each day, a NEISS hospital coordinator reviews all emergency department records for the day, selecting those that meet the criteria for inclusion in NEISS. The NEISS coordinator abstracts pertinent data from the selected emergency department record and transcribes it into coded form and onto a NEISS coding sheet, using rules described in a NEISS Coding Manual" - and entering as much product identification as they can. The data entry software contains various built-in checks. "Following completion of data entry at the hospital, the NEISS coordinator transmits the data to CPSC via a secure Internet connection. After undergoing a second computer editing process, acceptable cases are automatically incorporated into the Commission's permanent NEISS database daily. The data are available immediately for further review. The CPSC analytical process begins on the same day the data are collected. Analysts in the Directorate for Epidemiology review the data, not only checking items for quality control, but also screening the data for a potential emerging hazard... For some incidents identified at the NEISS surveillance level, follow-back investigations are conducted through telephone and on-site interviews with the patient or the patient's relative. Investigation reports provide important information about the likely causes of the incident, including the interaction among person, product, and environment."</p>
Other potential indications of data quality	
Geographical scope	Alerts from US hospitals only.
Geographical disaggregation	Not stated/available. However, a 'location' identifies accident location types - e.g. 'home'/'farm'/'street'/etc.
Product types covered	<p>Wide range of products, including some construction products - heavy manual sieving would probably be needed.</p> <p>N.B. there are some more high-level categories in the NEISS 'data highlights' pdfs. Construction products are primarily included in the 'Home Structures & Construction Materials' category, but e.g. some also seem to feature in 'Heating, Cooling, Ventilation Equipment' and 'Miscellaneous Products'. See the 'NEISS_FMT' worksheet tab of each year's Excel spreadsheet download and the coding manual pdf downloads for more details?</p>
Any products beyond construction products?	Yes.

Any data recorded directly about construction product incidents ?	Yes – some. N.B. "The data system allows for reporting of up to three products for each person's injury, so a person's injury may be counted in three product groups."
Construction product incident categories used	N/A
Causes of construction product incidents recorded?	Yes, in free-text 'Narrative' field.
Nature of actual or potential harms from construction product incidents recorded?	Yes - to an extent (body parts and diagnoses for each injury, and a 'disposition' variable summarising the extent of their hospital treatment and outcome).
Severity of construction product incidents recorded?	Yes - to an extent (body parts and diagnoses for each injury, and a 'disposition' variable summarising the extent of their hospital treatment and outcome).
Details of any construction product incident investigation process?	No.
Other information recorded directly about construction product incidents	N/A
Data recorded on construction product risks ?	No.
Types of information recorded on construction product risks	N/A
Alert types recorded	N/A
Types of other authority actions recorded	N/A
Other notes	N.B. just a (nationally-representative) sample of US hospitals; "Each participating NEISS hospital reports patient information for every emergency department visit associated with a consumer product or a poisoning to a child younger than five years of age". "The total number of product-related hospital emergency department visits nationwide can be estimated from the sample of cases reported in the NEISS." However, "The data system allows for reporting of up to three products for each person's injury, so a person's injury may be counted in three product groups." And because "injury cases have different statistical weights... "raw" numbers should not be used for comparative purposes" - but weights are provided for the raw data.

Recalls and safety alerts (Canada)

Name of dataset / source	Recalls and safety alerts
Publishing organisation	Health Canada, Government of Canada
Other contributing organisations or stakeholders	
Notable URLs	<ul style="list-style-type: none"> • Main page and database search: https://recalls-rappels.canada.ca/en • Consumer Product Incident Form: https://www.canada.ca/en/health-canada/services/consumer-product-safety/advisories-warnings-recalls/report-incident-involving-consumer-product.html
Brief summary of data contents	"Recalls, advisories and safety alerts" for products in Canada.
Target audience	Audience categories (among the listings' 'additional information') include "Children, pregnant or breast feeding women", "General public", "Health professionals", "Healthcare", and "Industry".
Purpose	
Public accessibility online	Fully accessible (ostensibly).
Format	Web-page search results where the user can click through to a separate web-page for each alert - this shows mostly tabular-type data, in a partly-tabular format.
Structures of accessible data	Each alert or recall is shown on a separate webpage. This initially shows some summary details, often with other buttons which can be clicked to reveal "additional information".
Work seemingly needed to add the data to any new large-scale construction product safety database	Probably considerable manual work, unless able to access the raw data (the online database has no 'export' function). Also N.B. the product search function is quite limited, and the structure of the data (i.e. the sub-headings within recall and alert listings) seems to vary.
Frequency of updates	Often several updates a day, although not every day.
Earliest data included	21 April 2011 (but there seem to be far more frequent updates from 2018 onwards).
Details of any validation checks	No information on this.
Other potential indications of data quality	All alerts seem to be published by Canadian government organisations like Health Canada or the Canadian Food Inspection Agency. Some alerts or recalls include quite detailed information about the issue and "what you should do", but others are much briefer.
Geographical scope	Seemingly just products that had been on the market in Canada, although with more global manufacturers/places of origin and sometimes a "number sold" detail which lists separate numbers for Canada, the USA and occasionally Mexico (presumably because these are the countries in NAFTA/USMCA).
Geographical disaggregation	In some recalls and alerts, 'Place of Origin', 'Manufacturer', and an 'Importer' address.
Product types covered	Wide range of products including food products.
Any products beyond construction products?	Yes.

Any data recorded directly about construction product incidents ?	Yes - but very few seen so far (all mentioned in free-text 'Issue' or 'Hazard identified' fields), and e.g. many of the listings that could be relevant include a statement along the lines of "As of June 12, 2019, the company has received no reports of incidents and no reports of injury in Canada, the United States, or Mexico."
Construction product incident categories used	None seen, but cannot access a full export of the data, and there is considerable variation in the types of information provided in different listings.
Causes of construction product incidents recorded?	Yes, in free-text 'Issue' or 'Hazard identified' fields.
Nature of actual or potential harms from construction product incidents recorded?	Only occasionally, in free-text 'Issue' or 'Hazard identified' fields.
Severity of construction product incidents recorded?	Only occasionally, in free-text 'Issue' or 'Hazard identified' fields.
Details of any construction product incident investigation process?	Potentially, but none seen.
Other information recorded directly about construction product incidents	Potentially, but none seen.
Data recorded on construction product risks ?	Yes.
Types of information recorded on construction product risks	Free-text description on some listings of the 'Issue' or 'Hazard identified'.
Alert types recorded	Recalls and alerts, some given 'priority' status, and further categories including e.g. 'Consumer product recall', 'Public advisory', 'Notification', and 'Information update'.
Types of other authority actions recorded	Advice to consumers and reminders of product recalls' legal implications and how to report product "health or safety incidents" - N.B. this links to a 'Consumer Product Incident Report Form', although the resulting incident data does not seem to be publicly-available online, except through these recalls and safety alerts.
Other notes	

Recalls (Product Safety Australia)

Name of dataset / source	Recalls
Publishing organisation	Product Safety Australia, Australian Competition & Consumer Commission (ACCC).
Other contributing organisations or stakeholders	Other Australian government agencies and states/territories, and suppliers/businesses submitting recall notices.
Notable URLs	<ul style="list-style-type: none"> • Main page and database search: https://www.productsafety.gov.au/recalls • Australian product safety system: https://www.productsafety.gov.au/about-us/australian-product-safety-system • ACCC role: https://www.productsafety.gov.au/about-us/accc-role • Who regulates what: https://www.productsafety.gov.au/about-us/who-regulates-what • Guidance for suppliers: https://www.productsafety.gov.au/recalls/guidance-for-suppliers • Conducting a recall: https://www.productsafety.gov.au/recalls/guidance-for-suppliers/conducting-a-recall • Recall advertisement templates: https://www.productsafety.gov.au/recalls/guidance-for-suppliers/recall-advertisement-templates
Brief summary of data contents	"The ACCC administers a national recalls system for recalls of specific and general consumer products, and publishes all product recalls on this website."
Target audience	Seems primarily targeted at consumers, although involvement of retailers etc. is presumably needed too for removal of products from the market.
Purpose	<p>"When suppliers become aware of defective or unsafe products, they can conduct a voluntary recall to remove the product from the marketplace. Under the Australian Consumer Law, a responsible Minister can also order a compulsory recall, if required. The ACCC administers a national recalls system for recalls of specific and general consumer products, and publishes all product recalls on this website."</p> <p>"A recall notice enables suppliers to warn consumers of the hazard the product presents."</p> <p>"The website provides a single entry point for recalled products, directing consumers to the appropriate regulator. It also provides a range of safety information across various product categories, as well as enabling consumers to report unsafe products."</p>
Public accessibility online	Fully accessible (ostensibly).
Format	Web-page search results where the user can click through to a separate web-page for each alert - this shows mostly tabular-type data, in a partly-tabular format, with a link to a recall advertisement poster pdf and potentially some further supporting documentation (although none seen).
Structures of accessible data	Each recall is shown on a separate webpage. Most of the main information seems to be shown immediately, but sometimes there are also URL links to further information.

Work seemingly needed to add the data to any new large-scale construction product safety database	Probably considerable manual work, unless able to access the raw data (the online database has no 'export' function).
Frequency of updates	Updates on most week days, sometimes several updates per day.
Earliest data included	28 July 1986.
Details of any validation checks	No information on this.
Other potential indications of data quality	<p>"Under Australian Consumer Law (ACL), suppliers are required to notify the Commonwealth Minister responsible for competition and consumer policy within two days of initiating a voluntary recall action. If a death or serious injury or illness has been associated with a product, you also need to lodge a mandatory report with the ACCC."</p> <p>Also, "International product recipients - suppliers must issue a recall notification to any person outside Australia that they have supplied the affected goods to. The recall notification must state that the goods are subject to a recall, and, if they contain a defect, have a dangerous characteristic, or do not comply with a prescribed consumer product safety standard, and set out the nature of the defect or non-compliance. Within 10 days of issuing the notification to relevant overseas recipients, suppliers must provide a copy of the notification to the responsible Commonwealth Minister."</p> <p>The website provides detailed guidance on what to include in recall notifications.</p> <p>N.B. the recall advertisement templates are primarily intended "to warn consumers of the hazard the product presents", with e.g. defects "described in simple terms so that the average consumer can understand what the problem is. Suppliers should refrain from using overly technical terminology wherever possible."</p>
Geographical scope	Australia.
Geographical disaggregation	Sometimes in the 'Supplier', 'Traders who sold this product' and 'Where the product was sold' fields.
Product types covered	Wide range of products including food products.
Any products beyond construction products?	Yes.
Any data recorded directly about construction product incidents ?	Potentially - but nothing definitive seen so far, beyond e.g. brief statements like "In some instances the fitting has cracked" (but whether this was in a test environment or an inhabited building is ambiguous).
Construction product incident categories used	N/A
Causes of construction product incidents recorded?	Potentially (among the defects mentioned in a free-text field), but none seen where this is explicitly linked to specific incidents.
Nature of actual or potential harms from construction product incidents recorded?	Occasionally something like "electrocution" is mentioned as a hazard, but in general this does not seem to refer explicitly to specific incidents.

Severity of construction product incidents recorded?	Potentially, but none seen.
Details of any construction product incident investigation process?	None seen.
Other information recorded directly about construction product incidents	None seen.
Data recorded on construction product risks ?	Yes.
Types of information recorded on construction product risks	Free-text descriptions of 'What are the defects?' and 'What are the hazards?'.
Alert types recorded	N/A for the data shown, but apparently some recalls are voluntary ("A business may choose to recall a product if they find out that goods they have supplied pose unacceptable risks to the user or the public") and others compulsory ("under the Australian Consumer Law, a responsible Minister can also order a compulsory recall, if required").
Types of other authority actions recorded	For all recalls, a 'What should consumers do?' free-text field, and occasionally also more details in the 'Product description' field.
Other notes	

Product Recalls (New Zealand)

Name of dataset / source	Product Recalls
Publishing organisation	Product Safety, Ministry of Business, Innovation & Employment (New Zealand).
Other contributing organisations or stakeholders	Businesses and consumers.
Notable URLs	<ul style="list-style-type: none"> • Main page and database search: https://www.productsafety.govt.nz/recalls/ • About product safety and recalls: https://www.productsafety.govt.nz/about-us/ • Product recalls – information for consumers: https://www.productsafety.govt.nz/for-consumers/product-recalls-information-for-consumers/ • Product recalls – information for businesses: https://www.productsafety.govt.nz/for-businesses/product-recalls-information-for-businesses/ • Product recalls explained: https://www.productsafety.govt.nz/for-businesses/product-recalls-information-for-businesses/product-recalls-explained/ • Telling people about a product recall: https://www.productsafety.govt.nz/for-businesses/product-recalls-information-for-businesses/telling-people-about-a-product-recall/
Brief summary of data contents	Product recalls. "Recalls are issued by suppliers to remedy safety issues with their products"; "A product recall is any corrective action taken to remedy a product safety issue that's identified after a product has been manufactured."
Target audience	Seems primarily targeted at consumers.
Purpose	"Helping customers identify recalled products": "Search for a product, be aware of the potential risks and understand what you should do".
Public accessibility online	Fully accessible (ostensibly).
Format	Web-page search results where the user can click through to a separate web-page for each alert - this shows mostly free-text data under three main headings.
Structures of accessible data	Each recall is shown on a separate webpage. Most of the main information seems to be shown immediately, but sometimes there are also URL links to further information or documents.
Work seemingly needed to add the data to any new large-scale construction product safety database	Probably considerable manual work, unless able to access the raw data (the online database has no 'export' function), and then further work needed to process the relevant free-text details into more systematic variables.
Frequency of updates	Several updates per month.
Earliest data included	7 June 2016.
Details of any validation checks	No information on this.
Other potential indications of data quality	"You must notify the Ministry of Business, Innovation and Employment if you're recalling a product because of a safety issue. Failure to notify us of a recall is an offence under the Fair Trading Act and you could be fined up to \$600,000."

	<p>The website provides detailed guidance on what to include in recall notifications.</p> <p>"The information in your recall notice is important. If you include too much information, consumers may try to fix the fault themselves. If you don't include enough information, consumers may not take the hazard seriously and risk injury to themselves or others using the product."</p>
Geographical scope	New Zealand.
Geographical disaggregation	Seemingly none (but varying amounts of supplier contact information are provided).
Product types covered	"Consumer products that are not food, medicines or road vehicles".
Any products beyond construction products?	Yes.
Any data recorded directly about construction product incidents ?	Potentially - but in the current 'building product' recalls listed, incidents only seem to be mentioned for one, where "No incidents of property damage or injury have been reported globally. The action was enacted after internal testing of components."
Construction product incident categories used	N/A
Causes of construction product incidents recorded?	Potentially, but none seen in the current data.
Nature of actual or potential harms from construction product incidents recorded?	Potentially, but none seen in the current data.
Severity of construction product incidents recorded?	Potentially, but none seen in the current data.
Details of any construction product incident investigation process?	None seen, but the only mention of whether a 'building product' incident had occurred does say that "The action was enacted after internal testing of components".
Other information recorded directly about construction product incidents	N/A
Data recorded on construction product risks ?	Yes.
Types of information recorded on construction product risks	Free-text description of 'The Hazard!'. .
Alert types recorded	N/A for the data shown, but apparently some recalls are voluntary ("A business may choose to recall a product if they find out that goods they have supplied pose unacceptable risks to the user or the public") and others compulsory ("when a business or individual is ordered to recall unsafe goods by the Minister because they've failed to take appropriate action to mitigate the risks posed by unsafe goods").

Types of other authority actions recorded	For all recalls, a 'What to do...' free-text field.
Other notes	

ASEAN Product Alerts

Name of dataset / source	ASEAN Product Alerts
Publishing organisation	ASEAN Committee on Consumer Protection (ACCP)
Other contributing organisations or stakeholders	Representatives of consumer protection agencies of ASEAN member states. Australian Aid, GIZ (the German government's main international development agency) and Japan are also listed as 'development partners'.
Notable URLs	<ul style="list-style-type: none"> • Main page and database search: https://aseanconsumer.org/product-alert • Regional cooperation on consumer protection in ASEAN: https://aseanconsumer.org/cterms-regional-cooperation-in-asean • ASEAN Committee on Consumer Protection: https://aseanconsumer.org/cterms-regional-cooperation-in-asean/asean-committee-on-consumer-protection-accp • ASEAN Strategic Action Plan on Consumer Protection (ASAPCP) 2016-2025: https://aseanconsumer.org/cterms-regional-cooperation-in-asean/asean-strategic-action-plan-on-consumer-protection-asapcp-2016-2025 • ASEAN High-Level Principles on Consumer Protection: https://aseanconsumer.org/cterms-regional-cooperation-in-asean/asean-high-level-principles-on-consumer-protection • Development partners: https://aseanconsumer.org/cterms-regional-cooperation-in-asean/development-partners
Brief summary of data contents	"ASEAN Product Alerts is a one-stop portal compiling all information on recalled products which are traded within the region."
Target audience	Consumers and regulators?
Purpose	"Through this portal, consumers can browse for details on product safety concerns prior to purchases, especially when shopping online or offline for products across ASEAN Member States. This also facilitates information-sharing, monitoring and dispute resolution. The portal is developed as part of the efforts by the ASEAN Member States to strengthen product safety enforcement and build higher consumer confidence in the region, as envisaged in the Strategic Goal 3 of the ASEAN Strategic Action Plan for Consumer Protection (ASAPCP) 2016-2025."
Public accessibility online	Fully accessible (ostensibly).
Format	Web-page search results where the user can click through to a separate web-page for each alert - this shows tabular-type data, in a format with several different tables.
Structures of accessible data	Each recall is shown on a separate webpage. All of the information is shown immediately.
Work seemingly needed to add the data to any new large-scale construction product safety database	Probably considerable manual work, unless able to access the raw data (the online database has no 'export' function). The field structure seems quite consistent, but lots of the recall listings have many blanks. Search functions are also fairly limited, and it may be easier to access some of the relevant data through the OECD Global Recalls portal instead - although N.B. the last ASEAN recall update on the OECD portal is from 27 October

	2020, and there are more recent listings on the ASEAN Product Alerts website itself.
Frequency of updates	Hard to see - dates are not displayed on the main database page, and from clicking through to recall listings, the recalls seem to be shown in a rough but not fully chronological order. However, there seem to be several updates per month for some months, and perhaps no updates in other months.
Earliest data included	31 December 2015.
Details of any validation checks	No information on this.
Other potential indications of data quality	Lots of empty fields for many of the recall listings; in some cases it may be very difficult to identify the particular products involved.
Geographical scope	Recall jurisdictions are all ASEAN countries; 'country where made' is often blank, but again all are ASEAN countries where this information is shown. The stated focus is "all information on recalled products which are traded within the region".
Geographical disaggregation	"Jurisdiction Of Recall" and "Country Where Made".
Product types covered	A wide range of products.
Any products beyond construction products?	Yes.
Any data recorded directly about construction product incidents ?	Yes - some.
Construction product incident categories used	N/A
Causes of construction product incidents recorded?	Seemingly rarely and inconsistently, in the free-text 'Description', 'Hazard' and/or 'Injury' fields.
Nature of actual or potential harms from construction product incidents recorded?	Only very rarely and inconsistently, again in the free-text 'Description', 'Hazard' and/or 'Injury' fields.
Severity of construction product incidents recorded?	Potentially, but none seen.
Details of any construction product incident investigation process?	None seen.
Other information recorded directly about construction product incidents	None seen.
Data recorded on construction product risks ?	Yes.
Types of information recorded on construction product risks	Rarely and inconsistently, a 'Risk Level' and free-text 'Description', 'Hazard' and/or 'Injury' fields.
Alert types recorded	Seemingly two recall types ('Official' and 'Voluntary').

Types of other authority actions recorded	A seemingly rarely-used 'Action' field (free-text).
Other notes	

Global Recalls portal (OECD)

Name of dataset / source	Global Recalls portal
Publishing organisation	OECD Working Party on Consumer Product Safety
Other contributing organisations or stakeholders	<p>"Project partners" listed on the Global Recalls website are the European Commission, US Consumer Product Safety Commission, Health Canada, Australian Competition and Consumer Commission, Mexican Consumer Protection Federal Agency (Profeco), Brazilian National Institute of Metrology, Quality and Technology (INMETRO), and a non-profit organisation GS1.</p> <p>"Jurisdictions" listed also include the UK (with a link to a now non-existent Trading Standards web-page), New Zealand, Japan, South Korea, Chile, Israel, the United Arab Emirates, and four EU member states (Denmark, Finland, France and Slovenia), while the Global Recalls portal's 'jurisdiction of recall' categories also include Iceland, Liechtenstein and Norway from the EFTA countries (but not Switzerland), as well as Colombia, Costa Rica, "ASEAN countries" and (individually) Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore and Thailand.</p> <p>Moreover, "the Working Party is co-operating closely with international organisations that are active in product safety, including the Asian-Pacific Economic Co-operation Forum (APEC), the Association of Southeast Asian Nations (ASEAN), the European Free Trade Association (EFTA), GS1 (a non-profit business organisation), the International Consumer Policy Health & Safety Organization (ICPHSO), the International Organization for Standardization (ISO), the Organization of American States (OAS) and the United Nations Economic Commission for Europe (UNECE). Close ties have also been established with non-OECD countries, including Brazil, China, Colombia, Costa Rica, and United Arab Emirates" <i>[N.B. Colombia and Costa Rica are now OECD members]</i>.</p>
Notable URLs	<ul style="list-style-type: none"> • Main page and database search: https://globalrecalls.oecd.org/#/ • Product recalls dashboards: https://globalrecalls.oecd.org/#/dashboard • About the portal: https://globalrecalls.oecd.org/#/about-portal • Benefits of the portal: https://globalrecalls.oecd.org/#/benefits • About the OECD Working party on Consumer Product Safety: https://globalrecalls.oecd.org/#/about-us • Project partners: https://globalrecalls.oecd.org/#/project-partners • Jurisdictions: https://globalrecalls.oecd.org/#/links
Brief summary of data contents	"The GlobalRecalls portal brings together information on product recalls being issued around the world, on a regular basis, together in one place –an OECD platform. The portal includes information on mandatory and voluntary consumer product recalls which were issued by a governmental body and were made publicly available. The scope of the recalls depends on the government agencies providing information".
Target audience	Regulators (including in "countries which do not have an electronic system on data recalls, as it can be easily adapted,

	customised and used in their jurisdictions"), consumers and businesses.
Purpose	"The GlobalRecalls portal was developed by the OECD Working Party on Consumer Product Safety. The body was created in 2010 by the OECD Committee on Consumer Policy to implement a ten-point action plan which was developed by the latter body. The portal addresses the first of these action points which is "pool information on recalls and emergency alerts on a single web site". It also supports the working party's aim to bring stakeholders together to: <ul style="list-style-type: none"> identify safety issues at an early point, explore ways to address safety concerns more efficiently and effectively, share information on practices and policy developments."
Public accessibility online	Fully accessible (ostensibly).
Format	Web-page search results where the user can click through to a separate web-page for each recall - this shows mostly tabular-type data, in a partly-tabular format.
Structures of accessible data	Each recall is shown on a separate webpage. All of the information is shown immediately, apart from an option to click between showing the relevant product category names (the default) or their numeric codes.
Work seemingly needed to add the data to any new large-scale construction product safety database	Probably considerable manual work, unless able to access the raw data (the online database has no 'export' function). N.B. some of the fields used vary slightly, seemingly by their source (e.g. extra 'Distribution/Importer details' and more use of the 'Units' variable for US CPSC Recalls listings, and an extra 'Serious risk' variable for listings from the EU RAPEX system and Colombia, among other potential countries/systems and examples).
Frequency of updates	Several updates on most days.
Earliest data included	Several erroneously listed as 1 January 1900 without proper links to the US CPSC Recalls system, a similar apparent error from Japan in 1969, and then several apparently more accurate dates (mostly from Japan and Australia) from 1985 onwards - before slightly more consistent listings from 1999 and especially 2007 onwards. N.B. the Global Recalls portal itself was launched on 19 October 2012 with "over 2000 entries" at the time, and the stated next steps include "adding historical data into the portal".
Details of any validation checks	It seems that information is "collected automatically from participating jurisdictions"; "each jurisdiction decides how often and when it sends information to the portal".
Other potential indications of data quality	"Each jurisdiction decides what pieces of information is [sic] shared on the portal, so it may happen that the regulatory body may have further details on the recall on its domestic web site, as well as other recalls. However, jurisdictions are generally committed to sharing all publicly available recalls via the portal." Also, "information will be stored on the portal for as long as each individual jurisdiction allows." N.B. the OECD Global Recalls portal listings include a URL link ostensibly to the original alert, although sometimes this only leads to the homepage of the relevant website.

	<p>There are also some apparent errors in the data - for example, Tokelau is purportedly responsible for manufacturing 84 recalled products (hugely disproportionate in comparison to other countries, given its size: a c.1,500 population, on three small coral atolls in an isolated part of the South Pacific Ocean). These recalls are all from Europe, and from a small sample, the original RAPEX/Safety Gate listings don't seem to include a 'Country of Origin'.</p> <p>Comparing some of the equivalent listings from the US CPSC Recalls database, the OECD Global Recalls portal listings seem to include additional categorisations, while there are some different field/variable names for the same information (e.g. 'Action' instead of 'Remedy'), and some missing information (e.g. 'Sold At' and the US CPSC 'Recall number').</p> <p>Meanwhile, some of the ASEAN recalls seem to include very little information - such that it may be very difficult to identify the particular products involved.</p> <p>And in terms of completeness in comparison to the original sources, many EU/EEA and ASEAN countries have provided considerably more listings on RAPEX/Safety Gate or the ASEAN Product Alerts portal than on the OECD Global Recalls portal, and the same is true for Australia, Canada and the USA (as well as New Zealand of course) on their own recalls databases. This pattern is somewhat weaker if looking just at 2021 (Jan-Dec), for a more recent example comparison once all relevant systems were fully up and running: some numbers were the same, and some of the differences are close enough to perhaps suggest effects mostly from different publishing dates (e.g. for alerts near the beginning or end of the year), while some (smaller) EU countries and also Australia have fewer alerts published in '2021' on Safety Gate or the Australian Recalls system than the OECD Global Portal. However, for various other countries there were still large discrepancies (with far fewer alerts on the OECD portal), and e.g. no Canadian recalls have been added to the OECD portal since February 2020.</p>
Geographical scope	<p>Many - but not all - of the world's high-income and middle-income (or 'newly-industrialised') countries, some of them not OECD members. All notifications come from the 'Jurisdiction of recall' of countries who are a member of at least one of the OECD, EU, EFTA or ASEAN groupings, with the exception of the United Arab Emirates (seemingly the only country to provide notifications that is not a member of any of these groups). But N.B. no data provided by OECD members Chile, Mexico or New Zealand (despite them being listed on the 'Jurisdictions Websites' page), or by OECD members (without listings on the 'Jurisdictions Websites' page) Switzerland or Turkey.</p> <p>Switzerland is also the only EFTA country not to have provided notifications to Safety Gate/RAPEX. Some of the poorer ASEAN countries (Cambodia, Laos and Myanmar) have not provided any recall notifications to either the OECD or ASEAN datasets. Also cf. the 'Other contributing organisations or stakeholders' part of this table, although the list of partners and co-operators provided by the OECD appears to include various further countries that have not yet contributed any recall notifications</p>

	(Brazil and China, as well as some members of the APEC, OAS and UNECE groupings).
Geographical disaggregation	"Jurisdiction of recall" and "Economy where made", sometimes also with e.g. the location of the distributor or importer.
Product types covered	A wide range of products, but N.B. the types of products included will vary slightly between different sources: "The portal includes information on mandatory and voluntary consumer product recalls which were issued by a governmental body and were made publicly available. The scope of the recalls depends on the government agencies providing information: in some cases data on food products, vehicles, pharmaceuticals and drugs are also included... Each jurisdiction may have slight differences in the types of products that fall within their definition of consumer product."
Any products beyond construction products?	Yes.
Any data recorded directly about construction product incidents ?	Yes - some.
Construction product incident categories used	N/A
Causes of construction product incidents recorded?	Mostly just in the free-text 'Hazard' and 'Injury' fields.
Nature of actual or potential harms from construction product incidents recorded?	Briefly (in the free-text 'Injury' field).
Severity of construction product incidents recorded?	Briefly (in the free-text 'Injury' field).
Details of any construction product incident investigation process?	None seen.
Other information recorded directly about construction product incidents	None seen.
Data recorded on construction product risks ?	Yes.
Types of information recorded on construction product risks	The free-text 'Hazard' field records the defects identified in the products being recalled. For some recalls (mostly from the EU's RAPEX system) there is a 'Serious risk' variable (seemingly 'true'/'false'), and for some others (mostly/all from the US CPSC Recalls system?) there is a 'Units' field which seems to estimate how many of the products may be in circulation/use.
Alert types recorded	Seemingly just 'true' or 'false' for the 'Serious risk' variable for recalls coming from the EU RAPEX system.

Types of other authority actions recorded	An 'Action' variable, seemingly shown for most/all listings - but blank for many recalls from the ASEAN Consumer system.
Other notes	<p>"How will this portal evolve over time?" <i>The official launch of the portal completed Phase I of the project. Next steps encompass: i) enhancing translation and searching capabilities, ii) adding historical data into the portal, iii) automating regular updates and iv) gathering data from additional jurisdictions. Work also commenced on a mobile application which would facilitate the use of the portal. Efforts will be also made to develop a customized interface for those jurisdictions which do not have their own database in place."</i></p> <p>N.B. other activities of the OECD Working Party on Consumer Product Safety <i>"focus on i) enhancing information sharing on policy and regulatory developments so as to alert stakeholders to key developments as they occur, ii) working towards more effective product risk assessment globally and iii) developing an injury data portal, which would bring together data on product-related injuries onto one platform."</i></p> <p>Also cf. the 'jurisdictions disclaimers' web-page, as well as a catch-all disclaimer at the bottom of the page for each recall: <i>"The OECD does not guarantee the accuracy, completeness, or adequacy of the contents of this website. Responsibility for the information provided lies with the provider of information. The translations are not created by the OECD and should not be considered an official OECD translation. The OECD shall not be liable for any content or error in these translations. In the event of any discrepancy between the original product recall notification and its translation, only the text of the original notification shall be considered valid.</i></p> <p><i>Please note that many globally distributed products look alike but may contain significant, unseen differences from one market to another and for that reason, users of this portal should not conclude that similar looking products should be universally subject to the same safety recalls, warnings, etc. Also, some products may be recalled because they violate requirements in the recalling jurisdiction(s) while the identical product may not violate requirements elsewhere.</i></p> <p><i>This portal and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area."</i></p> <p>N.B. the OECD's more statistics-oriented website does not seem to include any data relevant to construction product incidents or risks (https://stats.oecd.org/).</p>

Charity organisations, industry groups and trade associations

Collaborative Reporting for Safer Structures (CROSS)

Name of dataset / source	Collaborative Reporting for Safer Structures (CROSS)
Publishing organisation	CROSS-UK, CROSS-AUS (Australasia), and CROSS-US
Other contributing organisations or stakeholders	<p>"Structural-Safety Ltd (SSL) is the legal entity for CROSS-UK. SSL is owned equally by the Institution of Structural Engineers (IStructE) and the Institution of Civil Engineers (ICE), who founded CROSS-UK in 1976... The Health and Safety Executive (HSE) have supported CROSS-UK since 1995. From 2020, CROSS-UK began working with the Institution of Fire Engineers (IFE) to develop and run CROSS-UK for fire safety." The Ministry of Housing, Communities and Local Government (MHCLG) have also provided funding to CROSS-UK in recent years.</p> <p>"Professionals who work with buildings and other structures can use our confidential reporting system."</p> <p>CROSS-AUS was also launched by the Institution of Structural Engineers (IStructE).</p> <p>Most recently, CROSS-US was launched by the Structural Engineering Institute (SEI) of the American Society of Civil Engineers (ASCE).</p>
Notable URLs	<ul style="list-style-type: none"> • Main website: https://www.cross-safety.org/global • CROSS-UK: https://www.cross-safety.org/uk • CROSS-UK safety information (with search functions): https://www.cross-safety.org/uk/safety-information-uk • About CROSS-UK: https://www.cross-safety.org/uk/about-cross-uk • History: https://www.cross-safety.org/uk/about-cross/our-history • Safety information we provide: https://www.cross-safety.org/uk/about-cross-uk/safety-information-we-provide • Other UK safety reporting systems: https://www.cross-safety.org/uk/about-cross-uk/other-uk-safety-reporting-systems • Our international network: https://www.cross-safety.org/uk/about-cross/our-international-network • CROSS-AUS: https://www.cross-safety.org/aus • CROSS-AUS safety information (with search functions): https://www.cross-safety.org/aus/safety-information-aus • Other Australasia safety reporting systems: https://www.cross-safety.org/aus/about-cross-aus/other-australasia-safety-reporting-systems • CROSS-US: https://www.cross-safety.org/us • CROSS-US safety information (with search functions): https://www.cross-safety.org/us/safety-information-us • Other US safety reporting systems: https://www.cross-safety.org/us/about-cross-us/other-us-safety-reporting-systems
Brief summary of data contents	<ul style="list-style-type: none"> • CROSS Safety Reports: "These are reports which have been sent to us using our confidential reporting system." • CROSS Safety Alerts: "We publish CROSS Safety Alerts to raise awareness of safety issues which are considered to be critical and time sensitive. Alerts can be based on the reports we receive and information in the public domain."

	<ul style="list-style-type: none"> • CROSS Topic Papers: "CROSS Topic Papers are similar to CROSS Safety Alerts, but are aimed at presenting safety information which is considered to be less critical and time sensitive. Topic Papers can be based on the reports we receive and information in the public domain." • CROSS Theme Pages: "CROSS Theme Pages are used to present content around a particular topic." • CROSS Reviews (biennial summaries of CROSS activities and publications): "CROSS Reviews take the opportunity to reflect on our past work and to look to the future." • CROSS Feature Articles: "These articles present information about a safety topic. They are written by CROSS."
Target audience	Construction professionals, as well as relevant authorities, fire and rescue services, and property owners.
Purpose	"CROSS-UK publishes fire safety and structural safety information to help professionals make structures safer."
Public accessibility online	Fully accessible (ostensibly), apart from some information redacted or anonymised for confidentiality.
Format	<ul style="list-style-type: none"> • Safety Reports: web-page search results where the user can click through to a separate web-page for each report - this shows mostly free-text data, as well as the slightly more tabular "categories this page belongs to". • Safety Alerts: web-page search results where the user can click through to a separate web-page and then mostly free-text PDF document for each alert. • Topic Papers: web-page search results where the user can click through to a separate web-page and then mostly free-text PDF document for each paper. • Theme Pages: webpage collating relevant Safety Reports, Safety Alerts and links to third-party content. • Reviews: web-page search results where the user can click through to a separate web-page and then mostly free-text PDF document for each review. Much of this seems to be information already covered by other CROSS publications. • Feature Articles: web-page search results where the user can click through to a separate web-page for each article (currently just one, and all free-text).
Structures of accessible data	<ul style="list-style-type: none"> • Safety Reports: each report is shown on a separate webpage. Most of the information is shown immediately, sometimes with links to further details. • Safety Alerts: each alert entails a separate PDF. • Topic Papers: each paper entails a separate PDF.
Work seemingly needed to add the data to any new large-scale construction product safety database	Probably considerable manual work, unless able to access the raw data (the online database has no 'export' function) - and even then lots of work to extract the relevant free-text details into more systematic variables.
Frequency of updates	Generally several updates per month (often with many on the same day), but the frequency varies considerably between publication types – for example there is only one CROSS-UK Feature Article, and the latest Topic Paper available is from December 2016.

Earliest data included	Various milestones listed on the 'history' webpage. CROSS-UK was launched in 1976, and CROSS-AUS and CROSS-US in 2018 and 2019 respectively.
Details of any validation checks	"All safety information published on the CROSS website is checked for quality by CROSS. This includes information from third party organisations."
Other potential indications of data quality	Most of the information seems to come from knowledgeable construction professionals and other domain experts, and it is written primarily for a technical audience. However, a downside of the 'whistleblowing'-type nature of much of the information is that it is likely to be only indicative of current problems, rather than providing a more comprehensive overview.
Geographical scope	Unclear, but presumably primarily the UK - and now also 'Australasia' and the USA. Potential for some reports from elsewhere too (e.g. one seen describing problems observed in Canada).
Geographical disaggregation	A 'CROSS regions' category (CROSS-UK, CROSS-AUS and CROSS-US) seems to provide the only systematic geographical disaggregation.
Product types covered	The "materials" sub-categories all seem to be construction products, but collectively the reports cover a wide range of activities and services across all phases of construction from pre-design to demolition (and hence the problems often do not stem from the construction products themselves, or may involve inappropriate usage of a product). Also N.B. many of the reports involve non-domestic structures (e.g. bridges, grandstands, etc.) as well as homes.
Any products beyond construction products?	Seemingly not in terms of physical 'goods', but the data also covers a wide range of construction-related services beyond the specific products.
Any data recorded directly about construction product incidents ?	Yes - some.
Construction product incident categories used	N/A
Causes of construction product incidents recorded?	Yes, but mostly just in free-text descriptions.
Nature of actual or potential harms from construction product incidents recorded?	It seems that this would only be in free-text descriptions, and often the nature of harms to <i>people</i> involved is not explicitly mentioned (with more focus on e.g. the structural consequences).
Severity of construction product incidents recorded?	It seems that this would only be in free-text descriptions, and often the nature of harms to <i>people</i> involved is not explicitly mentioned (with more focus on e.g. the structural consequences).
Details of any construction product incident investigation process?	Sometimes.

Other information recorded directly about construction product incidents	Potentially various useful bits of free-text information.
Data recorded on construction product risks ?	Yes.
Types of information recorded on construction product risks	Many of the safety reports describe and discuss construction industry practices that the author has observed and find alarming. This is primarily through prose and with structures and content that vary between reports, but generally this starts with an explanation of what has been observed and the potential dangers involved, sometimes also with further contextual details, 'Key Learning Outcomes' and other possible solutions or improvements. The safety alerts and some topic papers discuss structural risks in more detail.
Alert types recorded	Traffic-light warning system for the most recent CROSS Safety Alerts (e.g. 'Amber') from 2021 onwards, but seemingly not for older safety alerts which were originally published as 'SCOSS Alerts'.
Types of other authority actions recorded	Potentially various others, although N.B. the primary CROSS functions appear to focus on sharing and reviewing information for an audience of construction professionals more so than e.g. issuing legally-binding decrees.
Other notes	"We plan to expand our international network further so that more people can collaborate as part of the CROSS community." N.B. the webpages listing 'other safety reporting systems' in the UK, US and Australasia also provide further useful information and links.

Recalls (International Housing Association)

Name of dataset / source	Recalls
Publishing organisation	International Housing Association (IHA)
Other contributing organisations or stakeholders	"The IHA's growing membership spans nations from six continents and includes both developed and developing countries" (building associations from Australia, Brazil, Canada, 'Europe', Japan, Malaysia, Nigeria, Norway, South Africa, Sudan, Taiwan, UK and USA). Also some links "to other global organizations with interest in housing, such as the World Bank and the International Monetary Fund".
Notable URLs	<ul style="list-style-type: none"> • Recalls page: https://www.internationalhousingassociation.org/page.aspx/generic/sectionID=3022 • About the International Housing Association: https://www.internationalhousingassociation.org/page.aspx/generic/sectionID=3006 • Member organisations: https://www.internationalhousingassociation.org/page.aspx/generic/sectionID=3008 • Product information: https://www.internationalhousingassociation.org/page.aspx/generic/sectionID=3021 • Research: https://www.internationalhousingassociation.org/page.aspx/generic/sectionID=3023
Brief summary of data contents	<p>The IHA's 'Recalls' page currently displays a range of updates about construction-related product recalls (and some related issues) from the Australian, Canadian and US government recall systems, seemingly listed here by the building association from the relevant country - and not updated since January 2017? The two current Australian items are a news story from ABC News, and an 'Update' from the Australian Competition & Consumer Competition website (N.B. this relates to two listings from its own 'Recalls' system, but is in a separate, 'Media'-oriented part of the ACCC website).</p> <p>There are larger numbers of updates from the Health Canada and US CPSC recalls systems, occasionally also linking to pages - which all seem to no longer exist - on other websites beyond these systems.</p>
Target audience	Seemingly, "builders, remodelers and their clients".
Purpose	Raising awareness of "counterfeit and non-conforming building products", and "health or safety issue[s] associated with a particular building product".
Public accessibility online	Fully accessible (ostensibly).
Format	Free-text information all on one web-page; each update has a concise summary and a URL link to the original source.
Structures of accessible data	Each of these updates has a concise summary and a URL link to the original source.
Work seemingly needed to add the data to any new large-scale	Most of this data may be better accessed through the original Australian, Canadian and US governments' product recalls websites. Otherwise, this would involve manual work to pick out

construction product safety database	the key points from the free-text descriptions from this IHA 'Recalls' webpage and the relevant source URLs that it provides.
Frequency of updates	Several updates with links to external URLs from 2015 (USA), 2015/16 (Australia) and 2016/17 (Canada) - but seemingly no updates since January 2017 (as of 5 June 2022).
Earliest data included	24 February 2015.
Details of any validation checks	Information added by Australian, Canadian and US building associations, primarily from their governments' product recalls systems.
Other potential indications of data quality	Seems to have been last updated in January 2017, and some of the URLs (especially those which link to non-government websites) lead to pages which seem to no longer exist.
Geographical scope	Australia, Canada and the USA.
Geographical disaggregation	Sub-headings 'Australia', 'Canada' and 'USA'.
Product types covered	Construction-related products - including some construction <i>tools</i> that would not be considered as construction products for the purposes of our project.
Any products beyond construction products?	Yes.
Any data recorded directly about construction product incidents ?	Yes - some.
Construction product incident categories used	N/A
Causes of construction product incidents recorded?	Yes, but just in free-text descriptions.
Nature of actual or potential harms from construction product incidents recorded?	Sometimes (and then only briefly in free-text descriptions).
Severity of construction product incidents recorded?	Sometimes (and then only briefly in free-text descriptions).
Details of any construction product incident investigation process?	None seen.
Other information recorded directly about construction product incidents	None seen.
Data recorded on construction product risks ?	Yes.
Types of information recorded on construction product risks	Some free-text details.
Alert types recorded	No systematic categories used.
Types of other authority actions recorded	Some descriptions of the product recalls issued by the relevant government.

Other notes	The IHA 'Research' page provides links to several other policy documents of varying degrees of relevance.
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Product Recalls & Safety Notices (Electrical Safety First)

Name of dataset / source	Product Recalls & Safety Notices
Publishing organisation	Electrical Safety First
Other contributing organisations or stakeholders	Contributions to the Product Safety Database, and potentially some more direct input from manufacturers and/or retailers.
Notable URLs	<ul style="list-style-type: none"> • Product recalls: https://www.electricalsafetyfirst.org.uk/product-recalls/ • OPSS Product Safety Alerts, Reports and Recalls search page (listing many of the more recent product recalls from the Electrical Safety First website): https://www.gov.uk/guidance/product-recalls-and-alerts
Brief summary of data contents	Electrical product recalls and safety notices. The most recent listings all seem to be taken directly from Product Safety Database outputs, but many earlier listings seem to originate from retailers or manufacturers.
Target audience	Consumers?
Purpose	Presumably to address the following issue: "In the UK, the response rate to an electrical product recall is worryingly low, largely due to people failing to register their appliances. This means that there are potentially millions of recalled electrical items still in the UK."
Public accessibility online	Fully accessible (ostensibly).
Format	Web-page search results where the user can click through to a separate web-page for each recall/safety notice - this shows partly tabular-type data, in a free-text format.
Structures of accessible data	Each recall/safety notice is shown on a separate webpage. All of the information is shown immediately.
Work seemingly needed to add the data to any new large-scale construction product safety database	Much (if not all) of the more recent recalls listed seem to already feature in the Product Safety Database: they replicate information which has been published as OPSS Product Safety Alerts, Reports and Recalls (with a lag of several days). However, other recalls may come from different sources and be worth adding if these do not yet feature in the database; this would probably involve considerable manual work, unless able to access the raw data (the online database has no 'export' function).
Frequency of updates	A considerable number of updates per month.
Earliest data included	1 June 2007.
Details of any validation checks	No information on this.
Other potential indications of data quality	Some of the data seems to come directly from Product Safety Database outputs.
Geographical scope	Unclear, but presumably primarily the UK.
Geographical disaggregation	None.
Product types covered	Electrical products, some of which are construction products for the purposes of this project - but N.B. all recalls listed under the Electrical Safety First website's 'construction product' sub-category are construction <i>tools</i> , which are not considered to be construction products for this project.

Any products beyond construction products?	Yes.
Any data recorded directly about construction product incidents ?	Potentially - but nothing definitive seen so far.
Construction product incident categories used	N/A
Causes of construction product incidents recorded?	Potentially (in free-text descriptions), but none seen where risks or defects are explicitly linked to specific incidents.
Nature of actual or potential harms from construction product incidents recorded?	Potentially, but none seen.
Severity of construction product incidents recorded?	Potentially, but none seen.
Details of any construction product incident investigation process?	None seen.
Other information recorded directly about construction product incidents	None seen.
Data recorded on construction product risks ?	Yes.
Types of information recorded on construction product risks	A 'Risk' initial free-text field, and then another 'Details' field.
Alert types recorded	No systematic categories used.
Types of other authority actions recorded	A 'What to do next' section.
Other notes	

Product Recalls (UK-AFI)

Name of dataset / source	Product Recalls
Publishing organisation	United Kingdom Association of Fire Investigators (UK-AFI)
Other contributing organisations or stakeholders	Some of the recall information seems to come direct from retailers or manufacturers (and does not seem to feature on the Product Safety Database - e.g. the B&Q oscillating fan heater recall dated 15 March 2021).
Notable URLs	• Product Recalls: https://www.uk-afi.org/product-recalls
Brief summary of data contents	Product recalls involving a risk of fire (and sometimes additional risks/hazards).
Target audience	Consumers?
Purpose	Presumably to reduce fire risks.
Public accessibility online	Fully accessible (ostensibly).
Format	Web-page search results where the user can click through to a separate web-page for each recall - this shows mostly tabular-type data with additional free-text.
Structures of accessible data	Each recall is shown on a separate webpage, with a set of headings followed by further text. All of the information is shown immediately.
Work seemingly needed to add the data to any new large-scale construction product safety database	Probably considerable manual work, unless able to access the raw data (the online database has no 'export' function), and then further work needed to process the relevant free-text details into more systematic variables.
Frequency of updates	The data is not shown in full chronological order, but updates seem to have been quite sporadic from 2021 onwards. As of 5 June 2022, the last recall date shown appears to be from 14 November 2021 - almost 7 months ago - and there do not seem to have been any updates between June and September 2021 either (although updates were more frequent before then).
Earliest data included	6 December 2000.
Details of any validation checks	No information on this.
Other potential indications of data quality	
Geographical scope	Unclear, but presumably primarily the UK. Many recalls provide UK contact details - but some others seem more targeted at the US market.
Geographical disaggregation	Nothing systematic.
Product types covered	Wide range of product types.
Any products beyond construction products?	Yes.
Any data recorded directly about construction product incidents ?	Yes - but very few seen so far (all mentioned in free-text below the more systematic headings).
Construction product incident categories used	N/A

Causes of construction product incidents recorded?	Potentially (in free-text descriptions), but none seen where risks or defects are explicitly linked to specific incidents.
Nature of actual or potential harms from construction product incidents recorded?	Potentially, but none seen - except where "No injuries have been reported" or where risks like burns or electric shocks are mentioned.
Severity of construction product incidents recorded?	Potentially, but none seen except where "No injuries have been reported".
Details of any construction product incident investigation process?	There is an 'Investigator Name' field, although often it is left blank.
Other information recorded directly about construction product incidents	None seen.
Data recorded on construction product risks ?	Yes.
Types of information recorded on construction product risks	The main risk type (e.g. "Risk of Electric Shock and Fires") is effectively a sub-title for each recall listing, often with further details provided in the free-text below.
Alert types recorded	No systematic categories used.
Types of other authority actions recorded	No authority actions are recorded systematically.
Other notes	

RedBookLive suspensions and withdrawals

Name of dataset / source	RedBookLive suspensions and withdrawals
Publishing organisation	Loss Prevention Certification Board (LPCB) and the Building Research Establishment (BRE) Trust/BRE Global
Other contributing organisations or stakeholders	Presumably also some input from the companies whose products or services are going through the certification process - but sometimes unclear how active they are in the more negative 'Suspensions' and 'Withdrawals' data.
Notable URLs	<ul style="list-style-type: none"> • Suspensions: https://www.redbooklive.com/page.jsp?id=86 • Withdrawals: https://www.redbooklive.com/page.jsp?id=85 • RedBookLive home page: https://www.redbooklive.com/index.jsp • History: https://www.redbooklive.com/page.jsp?id=444 • About the Red Book: https://www.redbooklive.com/page.jsp?id=441 • Explanation of certification: https://www.redbooklive.com/page.jsp?id=451 • Approved products and services search: https://www.redbooklive.com/search/index.jsp • Listings map: https://www.redbooklive.com/filelibrary/Images/LPCB-countries-map.pdf • BRE investigations and expert witnesses: https://bregroup.com/services/expert-witness/ • BRE fire inspection services: https://www.bre.co.uk/page.jsp?id=3318
Brief summary of data contents	The RedBookLive website as a whole lists fire and security products and services that have been certified as meeting required standards through the LPCB Red Book system. The 'Suspensions' page lists companies from which certification has been suspended, and the 'Withdrawals' page lists products where either the product or its certification has been withdrawn (sometimes voluntarily).
Target audience	"The LPCB Red Book is a key reference for specifiers, regulators, designers and end users of fire and security products and services."
Purpose	<p><i>"Providing independent third party certification for fire and security products".</i></p> <p><i>"Third party certification (or approval) is a conformity assessment process, carried out by a body that is independent of both supplier and customer organisations. It provides confirmation that products and services have met and will continue to meet the requirements of specified standards and other normative documents.</i></p> <p><i>Independent third party certification provides a safeguard as to the performance of a product or service.</i></p> <p><i>LPCB third party product certification schemes are quality assurance schemes and comprise initial type testing and technical evaluation, assessment and surveillance of the manufacturer's quality system and production procedures, regular audit testing, labelling and listing.</i></p> <p><i>Similarly, LPCB schemes for suppliers of services (installers) are also quality assurance schemes comprising a technical</i></p>

	<p><i>assessment of a contractors capability, assessment and surveillance of the installers quality system and production procedures, regular inspection of completed installations and listing."</i></p> <p>N.B. the specific purposes of the Suspensions and Withdrawals listings do not seem to be explicitly stated on the RedBookLive website.</p>
Public accessibility online	Fully accessible (ostensibly).
Format	Free-text information all on one web-page; information provided is quite minimal and mostly formulaic.
Structures of accessible data	Each of these updates has two lines of text. The first line lists the company details, and the second line summarises the suspension or withdrawal of the specified products or certification (usually including a product or certificate number).
Work seemingly needed to add the data to any new large-scale construction product safety database	Although listed in a somewhat free-text form, the listings are so formulaic that it may be relatively straightforward to extract the relevant details and process them into separate variables (also accounting for where the months are shown). However, further information would be needed to establish the reasons for suspensions/withdrawals and to categorise the products.
Frequency of updates	Seemingly between 1-4 suspensions per month so far, and often a higher number of withdrawals. N.B. "Instant access to the most up-to-date Red Book listings used to be a Red Book but is now more readily available than ever" through the website and a range of Red Book Apps.
Earliest data included	Suspensions: 17 June 2019. Withdrawals: 6 January 2020.
Details of any validation checks	"Every product and service listed in the Red Book has been robustly checked by independent experts to ensure that it delivers and will continue to deliver the performance expected."
Other potential indications of data quality	Unclear how companies, products and their certification come to be suspended or withdrawn. Perhaps this may overlap somewhat with e.g. the 'Investigations and Expert Witnesses' and 'Fire Protection System Inspection' services to which the RedBookLive website also links?
Geographical scope	The UK and various other countries in Europe, the Middle East, Africa, Asia, Oceania and South America - but e.g. apparently not including France, Germany, Belgium, the USA, Canada, Mexico, Chile, Japan, China and Russia among many others.
Geographical disaggregation	Company addresses are provided for all suspensions and withdrawals.
Product types covered	<p>"The schemes we operate are classified under the following headings:-</p> <ul style="list-style-type: none"> • Fire detection and alarm products and related installers • Fire suppression products and related installers • Fixed fire-fighting systems and related installers • Passive fire protection products and related installers • Cables • Security protection systems • Management systems • Construction products"

Any products beyond construction products?	Yes.
Any data recorded directly about construction product incidents ?	No.
Construction product incident categories used	N/A
Causes of construction product incidents recorded?	N/A
Nature of actual or potential harms from construction product incidents recorded?	N/A
Severity of construction product incidents recorded?	N/A
Details of any construction product incident investigation process?	None seen.
Other information recorded directly about construction product incidents	N/A
Data recorded on construction product risks ?	Only implicitly, by virtue of the suspensions and withdrawal being announced.
Types of information recorded on construction product risks	None seen.
Alert types recorded	Both suspensions and withdrawals seem to be either "voluntary" or presumably involuntary (where this is not specified).
Types of other authority actions recorded	The more positive lists of certified products and services, including links to their certificates.
Other notes	

BSRIA Test Report Directory

Name of dataset / source	BSRIA Test Report Directory
Publishing organisation	Building Services Research and Information Association (BSRIA)
Other contributing organisations or stakeholders	Testing clients, who must agree to the publication here of reports for their products.
Notable URLs	<ul style="list-style-type: none"> • Type-test certificate and report directory: https://www.bsria.com/uk/test-research/test/directory/ • BSRIA home page: https://www.bsria.com/uk/
Brief summary of data contents	An "on-line directory of type-test certificates and reports for the products that have been independently tested by BSRIA"; N.B. "This is not an exhaustive list as type-test certificates are confidential unless otherwise agreed by our clients".
Target audience	"Construction and building services stakeholders".
Purpose	"Building Services Research and Information Association (BSRIA) is a non-profit distributing, member-based association promoting knowledge and providing specialist services for construction and building services stakeholders. Our mission is to make buildings better by improving their environmental, operational and occupational values, and we support the industry by providing guidance and solutions."
Public accessibility online	Fully accessible (ostensibly).
Format	Web-page search results where the user can click through to a separate PDF for each test report - this shows varying amounts and types of information.
Structures of accessible data	Each test report's PDF test report seems to include a mixture of free-text and tabular data, but some are much more extensive than others - e.g. with lots more text and tables spread over 35 pages, as well as various charts, diagrams and other images.
Work seemingly needed to add the data to any new large-scale construction product safety database	Probably considerable manual work.
Frequency of updates	Difficult to gauge without checking each report, because the main directory page does not show the dates and reports are not displayed in chronological order. But some reports are <i>at least</i> as recent as September 2020, and many reports from 2019 and 2020 seem to be shown.
Earliest data included	At the <i>latest</i> , 14 February 2012 - and possibly earlier.
Details of any validation checks	The reports mostly seem to be compiled and approved by separate BSRIA test engineers.
Other potential indications of data quality	"This is not an exhaustive list as type-test certificates are confidential unless otherwise agreed by our clients" - so more negative test results may be less likely to feature in this repository?
Geographical scope	Not fully clear, without checking all reports. However, the manufacturers/agents/'carried out for' details include companies from the UK, Italy, China, Malaysia and potentially various other countries.

	All test reports seen seem to be issued by BSRIA from a UK address (in Bracknell, Berkshire).
Geographical disaggregation	The addresses of both the test-commissioning and -issuing organisations are specified in most reports.
Product types covered	Seemingly a range of construction-related products, many of them linked to plumbing and heating.
Any products beyond construction products?	Possibly.
Any data recorded directly about construction product incidents ?	None seen. N.B. the reports generally do not seem to include descriptions of the context for why the particular tests have been commissioned, which might otherwise mention if testing is in response to an incident.
Construction product incident categories used	N/A
Causes of construction product incidents recorded?	N/A
Nature of actual or potential harms from construction product incidents recorded?	N/A
Severity of construction product incidents recorded?	N/A
Details of any construction product incident investigation process?	N/A - unless the tests were commissioned as part of a construction product incident investigation process.
Other information recorded directly about construction product incidents	N/A
Data recorded on construction product risks ?	Yes, but often in a highly specific and technical sense. Specialist expertise may be required to interpret some of the test results.
Types of information recorded on construction product risks	Some test results are provided with very little detail, while others are far more extensive. Sometimes this includes what seem like quite in-depth descriptions, statistics and charts, as well as e.g. 'Pass'/'Fail' type outcomes and statements about compliance with the relevant standards (which seem to feature in some but not all reports).
Alert types recorded	None seen.
Types of other authority actions recorded	N/A
Other notes	

UK builders' merchants and retailers

Product recalls and safety notices (B&Q)

Name of dataset / source	Product recalls and safety notices
Publishing organisation	B&Q
Notable URLs	• Recalls and safety notices: https://www.diy.com/product-information/product-recall
Format and structures of accessible data	Webpage showing all recalls and safety notices, where the user can click separate buttons to expand the information for each one - this shows mostly free-text data.
Work seemingly needed to add the data to any new large-scale construction product safety database	Manual work, including processing the relevant details into more systemic variables.
Frequency of updates and time range of the data shown	The recalls/safety notices seem to be shown in an order based on when the products were on sale. Currently there are 48 recalls/safety notices, which seem to cover various 'on sale' periods between June 2011 and April 2022.
Product types covered	A range of appliances, tools, furniture, furnishings and construction products.
Any products beyond construction products?	Yes.
Any data recorded directly about construction product incidents ?	Yes - some (e.g. the brief statement "it has been brought to our attention that there has been a component failure during use in a small number of these aluminium loft ladders which makes them unsafe for use.")
Construction product incident categories used	N/A
Causes of construction product incidents recorded?	Only very briefly and in free-text.
Nature of actual or potential harms from construction product incidents recorded?	None seen.
Severity of construction product incidents recorded?	None seen.
Details of any construction product incident investigation process?	None seen.
Other information recorded directly about construction product incidents	None seen.
Data recorded on construction product risks ?	Yes.

Types of information recorded on construction product risks	Free-text descriptions, with varying levels of detail.
Alert types recorded	Some (free-text) instructions for customers.

Product recalls (Homebase)

Name of dataset / source	Product recalls
Publishing organisation	Homebase
Notable URLs	• Product recalls: https://www.homebase.co.uk/customer-services/resources/product-recalls.list
Format and structures of accessible data	Webpage showing all recalls, with links to a separate PDF for each recall. The PDF document formats vary between recalls.
Work seemingly needed to add the data to any new large-scale construction product safety database	Manual work, including processing the relevant details into more systemic variables.
Frequency of updates and time range of the data shown	Currently there are 17 recalls/safety notices, which seem to cover various 'on sale' periods between June 2011 and July 2021.
Product types covered	A range of appliances, tools, furniture, furnishings and construction products.
Any products beyond construction products?	Yes.
Any data recorded directly about construction product incidents ?	Potentially, but none seen.
Construction product incident categories used	N/A
Causes of construction product incidents recorded?	Potentially, but none seen.
Nature of actual or potential harms from construction product incidents recorded?	None seen.
Severity of construction product incidents recorded?	None seen.
Details of any construction product incident investigation process?	None seen.
Other information recorded directly about construction product incidents	None seen.
Data recorded on construction product risks ?	Yes.
Types of information recorded on construction product risks	Free-text descriptions, with varying levels of detail.
Alert types recorded	Some (free-text) instructions for customers.

Product recall (Jewson)

Name of dataset / source	Product recall
Publishing organisation	Jewson
Notable URLs	• Product recalls: https://www.jewson.co.uk/product-recall
Format and structures of accessible data	Free-text information all on one web-page; each update has a concise summary and sometimes a URL link to a 'product identification' PDF from the manufacturer.
Work seemingly needed to add the data to any new large-scale construction product safety database	Manual work, including processing the relevant details into more systemic variables.
Frequency of updates and time range of the data shown	Currently only 3 recall notices are shown; no dates are provided.
Product types covered	A range of construction-related products (including tools).
Any products beyond construction products?	Yes
Any data recorded directly about construction product incidents ?	Potentially, but none seen.
Construction product incident categories used	N/A
Causes of construction product incidents recorded?	Potentially, but none seen.
Nature of actual or potential harms from construction product incidents recorded?	None seen.
Severity of construction product incidents recorded?	None seen.
Details of any construction product incident investigation process?	None seen.
Other information recorded directly about construction product incidents	None seen.
Data recorded on construction product risks ?	Yes.
Types of information recorded on construction product risks	Free-text descriptions, with varying levels of detail.
Alert types recorded	Some (free-text) instructions for customers.

Product Safety Notices & Recalls (Screwfix)

Name of dataset / source	Product Safety Notices & Recalls
Publishing organisation	Screwfix
Notable URLs	<ul style="list-style-type: none"> • Recalls and safety notices: https://www.screwfix.com/help/product-recall/
Format and structures of accessible data	Webpage showing all recalls/safety notices, with links to a separate PDF for each one. The PDF documents include a table with product details, and free-text descriptions of the issues identified and how customers should respond.
Work seemingly needed to add the data to any new large-scale construction product safety database	Manual work, including processing the relevant details into more systemic variables.
Frequency of updates and time range of the data shown	Currently 21 recalls/safety notices are shown, dated between February 2016 and March 2021.
Product types covered	A range of appliances, tools and construction products.
Any products beyond construction products?	Yes.
Any data recorded directly about construction product incidents ?	Potentially, but none seen.
Construction product incident categories used	N/A
Causes of construction product incidents recorded?	Potentially, but none seen.
Nature of actual or potential harms from construction product incidents recorded?	None seen.
Severity of construction product incidents recorded?	None seen.
Details of any construction product incident investigation process?	None seen.
Other information recorded directly about construction product incidents	None seen.
Data recorded on construction product risks ?	Yes (but not always).
Types of information recorded on construction product risks	Free-text descriptions, with varying levels of detail.
Alert types recorded	Some (free-text) instructions for customers.

Product Recall Notice (Travis Perkins)

Name of dataset / source	Product Recall Notices
Publishing organisation	Travis Perkins
Notable URLs	• Recall notices: https://www.travisperkins.co.uk/content/product-recall-notice
Format and structures of accessible data	Free-text information all on one web-page; the two current updates have a concise summary and a URL link to either a 'full recall notice' PDF or another webpage with service centre details from the manufacturer.
Work seemingly needed to add the data to any new large-scale construction product safety database	Manual work, including processing the relevant details into more systemic variables.
Frequency of updates and time range of the data shown	Currently only 2 recall notices are shown, from June and October 2021.
Product types covered	Currently just one gas cylinder and one cutting machine - but potentially a much wider range of construction-related products.
Any products beyond construction products?	Yes.
Any data recorded directly about construction product incidents ?	Potentially, but none at the moment.
Construction product incident categories used	N/A
Causes of construction product incidents recorded?	Potentially, but none at the moment.
Nature of actual or potential harms from construction product incidents recorded?	None seen.
Severity of construction product incidents recorded?	None seen.
Details of any construction product incident investigation process?	None seen.
Other information recorded directly about construction product incidents	None seen.
Data recorded on construction product risks ?	Potentially, but none at the moment.
Types of information recorded on construction product risks	(Free-text descriptions of risks from the current product recalls.)
Alert types recorded	Some (free-text) instructions for customers.

Appendix 3: Pre-prepared focus group discussion questions, on the institutional context for construction product safety data

Ideals for construction product incident data

- What would good construction product incident data look like?
- How useful are details of construction product alerts and related risks or non-compliance, compared to more tangible incidents of actual or potential harm?
- Which types of insights would you be most keen to see?
- How would you prioritise very wide-ranging or more thorough/specific incident data, respectively, and would these be used for different purposes?
- Are there some types of construction products or incidents that you would be especially keen to monitor? If so, which types/categories and why?
- How important is the speed or urgency of alerts to construction product incidents of different types?
- Do any construction product or incident types currently seem especially difficult to monitor? If so, how important does this seem for the respective products?
- How would you like a new product safety database to function in terms of format, organisation, searchability, etc.?

Existing product incident data-production processes

- From your impressions of the different datasets already known to be accessible to OPSS, how would you rate the Product Safety Database, RAPEX/Safety Gate and ICSMS for comprehensiveness, reliability and validity, in terms of how well they represent the range of product safety issues relevant to their jurisdiction?
- What (if any) responsibilities or obligations do you know of for reporting construction product **incidents**, in the UK, EU or elsewhere? Where are these specified?
- How does this compare to other products which seem to feature more heavily in product safety notifications data, such as electrical products and children's toys?
- Beyond official regulations and laws, do you think there are any other notable differences in the reporting mechanisms used to flag up safety issues in different sectors?
- And are there also notable differences in how different sectors' product safety data is managed and utilised *after* issues are flagged up?
- How are construction product **incidents** of actual or potential harm investigated? Which organisations have primary responsibility here?
How, for example, is blame attributed to construction products as opposed to their installation?
And how are the particular 'at fault' products identified and isolated, when they may be attached to others and be part of complex systems?
Is this primarily a question of just checking compliance with existing product standards? Or would those existing product standards also come under scrutiny?
- How does this all vary between incidents of different types and severity?

- How codified or systematic are the processes through which construction product incident data would be communicated to OPSS and its staff responsible for managing the Product Safety Database?
How do these processes seem to compare to the reporting processes that feed into similar 'risky product'-focused sources like RAPEX/Safety Gate and ICSMS, or further afield like the US Consumer Product Safety Commission's data?
What are the main gaps in these processes? (And consequently in the databases...)
- Once incidents involving *any* product types (construction products or otherwise) are first known to OPSS, are there any processes for formal monitoring of incident investigations and recording their outcomes?
- When reports of product safety risks or non-compliance are received by OPSS, are there any processes for tracing back and formally recording the impetus for the report/alert and how the risks or non-compliance were identified (including whether an 'incident' may have occurred)?
- How useful, respectively, is data on construction product *recalls*, *testing failures* or other *losses of certification* for OPSS monitoring?
And should these sources be required to declare whether the product has caused an actual incident or just been identified as too high risk?

Priorities, challenges and opportunities

- Which problems with current monitoring of construction product incidents and broader safety issues do you think are most important?
- What do you think are the most significant challenges that would affect future efforts by OPSS to more systematically monitor construction product incidents and broader safety issues with construction products used in the UK?
- Which problems with current monitoring of construction product incidents and broader safety issues do you think could most easily be rectified?
- We are aware that work is currently ongoing at OPSS to better standardise data within the Product Safety Database, to facilitate more analysis of it.
Beyond this, are there any other particular opportunities or synergies at present (or on the horizon) which could also help to monitor construction products incidents and broader safety issues more systematically, or to facilitate the implementation of new and improved processes and systems?

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