



## Housing Health and Safety Rating System (HHSRS)

## Case Studies

Group A  
Protection Against  
Accidents

Hazard A4  
Fire and Explosions

Example A4.3  
1946–79  
Shared house  
HMO

Vulnerable Group  
All persons aged  
60 years and over

Multiple Locations  
Yes

Related Hazard A7  
Structural Collapse and  
Falling Elements

Related Hazard A8  
Electrical Hazards

Related Hazard D18  
Crowding and  
Space



# Dwelling

## Description

This is a three-storey, mid-terrace HMO with six bedsits, one on the ground floor, two on the first floor and three on the top floor. The two first-floor bedrooms can accommodate up to two persons each, but the other four bedsits are for one person.

There is gas-fired central heating, with radiators in every room and a modern condensing combination gas boiler mounted in the utility room. The property has a gas safety certificate.

The property has three bathrooms that are shared and one kitchen with one set of facilities. The kitchen hob uses gas.

The living room rear door leads to a back garden and then to a rear, accessible alleyway running along the rear of the terrace. All windows are uPVC and openable.

The timber-panel front door is provided with a chain and thumb-turn 'Yale' type lock, which opens onto an internal porch with a separate handle timber door with no locks. The rear uPVC door incorporates a key-turn combination lock. The first-floor windows are escape windows. Walls and ceilings provide 30 minutes' fire resistance. Each tenant has a microwave in their bedroom as well as a TV and computer equipment. There is suitable directional fire safety signage.

Six unrelated individuals occupy the HMO, though the maximum number that can be accommodated is eight persons in six households.

The property has a valid EPC with a D rating.



1  
Front exterior



2  
Floorplan

## Deficiencies

### Description

All internal doors are standard solid wood-panel doors without door closers. The bedroom doors have key-operated locks. The ground-floor stairs open onto the open-plan kitchen/living room, and the staircase is not enclosed. The battery-operated smoke alarms originally provided on each floor have all been removed or damaged at some stage, with no replacements provided. Three fire extinguishers (water) are provided, one to each floor. They do not appear to have been serviced in the last 5 years. No fire blanket has been provided in the kitchen.

The stairs do not benefit from natural lighting but do have two-way artificial light. No emergency lighting is provided to this area. Externally, there is no lighting to the front or rear, though the front street does have streetlamps.

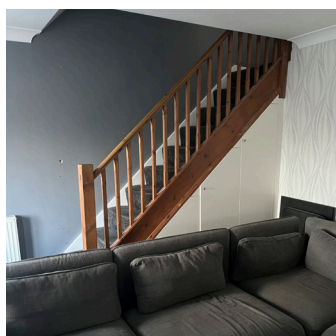
Several landlord-provided items of furniture and soft furnishings (such as the sofas, curtains and mattresses) lack labelling to indicate their fire resistance.

There is no electrical installation condition report (EICR). Most of the wiring including the fuse board is as originally installed when the house was built in the mid-1970s. Bedrooms each have only one double socket. The utility meters and fuse board are contained in a wooden cupboard in the ground-floor hallway.

The electrical appliances provided by the landlord do not have PAT labelling.

No FRA (fire risk assessment) is provided.

A fire hydrant is present, being within 100m of the HMO.



3  
Open plan stairs into living room



4  
Broken smoke detector

## Relevant Baseline Indicators

0

Satisfactory  
or N/A

1

Not  
Satisfactory

2

Defective

3

Seriously  
Defective

Subject	Score	BI	Baseline Indicator
8 Internal Doors	0 1 2 3	8.1	Internal doors leading between areas of a single dwelling must provide a sufficient barrier to the spread of smoke and fire (where appropriate). Any glazing in doors must respond safely to collision and must be designed for functionality to avoid strains or entrapment when in use, and must be maintained in good repair. All bathrooms and toilet room doors must be fitted with a suitable lock and must not contain clear glass.
11 Security	0 1 2 3	11.1	Adequate external lighting shall be provided to all means of access including entrances and external refuse stores providing good visibility when there is no daylight.
	0 1 2 3	11.2	Access doors to dwellings should have adequate locks. Doors must be solid external grade and fitted with a minimum of a mortice deadlock to BS-3621, openable from the inside without a key. There must be a means for occupiers to view visitors without opening the door, either by means of a viewer within the door or by a glazed pane adjacent or close to the entrance door. All rear doors should be fitted with a mortice dead lock to BS-3621 or 2 security bolts.
14 Lighting and Services	0 1 2 3	14.4	All electrical installations, including fixtures and fittings, must be maintained in good repair.
	0 1 2 3	14.6	Every habitable room shall have at least 2 separate and remote double electric sockets, that are suitably located for use. Kitchens shall have at least 4 suitably located double sockets.
19 Fire Safety	0 1 2 3	19.1	Any furniture or soft furnishings that are provided by the landlord should comply with the Furniture and Furnishings (Fire) (Safety) Regulations 1988, inclusive of being correctly labelled for fire resistance.
	0 1 2 3	19.2	All electrical equipment supplied by landlords in rented residential premises is safe and compliant with current UK requirements for safety of domestic electrical products; all electrical appliances supplied by the landlord are subject to testing in line with the IET Code of Practice for In-service Inspection and Testing of Electrical Equipment (Fifth Edition) (unless they are under one year old and display a UKCA/CE marking).
	0 1 2 3	19.4	The electrical installation should have been inspected and tested within the last 5 years.

Relevant Baseline Indicators

0

Satisfactory  
or N/A

1

Not  
Satisfactory

2

Defective

3

Seriously  
Defective

Subject		Score				Baseline Indicator	
19	Fire Safety	0	1	2	3	19.5	There should be sufficient, properly designed and appropriately sited smoke and heat detectors with alarms in every dwelling. These should be properly maintained and regularly tested.
		0	1	2	3	19.6	The escape route from bedrooms through habitable rooms should either be avoided, or mitigated, by other provisions.
		0	1	2	3	19.7	Egress through doors/windows that are required for means of escape should not require the use of a key or a code.

## Other Relevant Matters

0

Satisfactory  
or N/A

1

Not  
Satisfactory

2

Defective

3

Seriously  
Defective

### Consideration of likely scenarios for Fire and Explosions

The assessor is to consider the likelihood of a fire igniting within the scenario presented and the likelihood of whether that fire can become uncontrolled. The outcomes relate to the impact of the fire to persons, which is to include the effects of smoke inhalation.

The assessor is to consider the likelihood of an explosion occurring and its source and whether that explosion is also likely to lead to a fire ignition and the outcomes are impacted by the location of the explosion and the provisions within the building to contain the explosion.

### Matters affecting Likelihood of Harm

0

1

2

3

Electrical sources of ignition

0

1

2

3

Smoking management

0

1

2

3

Potential for arson

0

1

2

3

Accidental fire spread

0

1

2

3

Cooking provision

0

1

2

3

Fixed heating

0

1

2

3

Lightning

0

1

2

3

Laundry facilities

0

1

2

3

Multiple occupation and  
overcrowding

## Other Relevant Matters

0

Satisfactory  
or N/A

1

Not  
Satisfactory

2

Defective

3

Seriously  
Defective**Matters affecting both Likelihood and Harm Outcomes**

0	1	2	3	Escape route
0	1	2	3	Dwelling layout
0	1	2	3	Travel distance
0	1	2	3	Operation of exits
0	1	2	3	Obstructions
0	1	2	3	Non-fire resisting fabric – allowing fire to spread.
0	1	2	3	Smoke permeable fabric – allowing smoke to spread.
0	1	2	3	Fire stops to cavities – lack of, allowing fire to spread.
0	1	2	3	Disrepair to fabric – walls, ceilings and/or floors may allow smoke, fumes and/or fire to spread.
0	1	2	3	Internal doors – insufficient doors or doors of inappropriate materials or ill-fitting doors.
0	1	2	3	Fire-resisting construction (including any glazing) protecting escape routes
0	1	2	3	Measures to ensure that fire-resisting doors are maintained in the closed position
0	1	2	3	Smoke Control
0	1	2	3	Artificial lighting
0	1	2	3	Levels of compartmentation
0	1	2	3	Provision of appropriate Fire Safety Signs
0	1	2	3	Fire Detection and Alarm Systems

0	1	2	3	Provision of fire-fighting equipment
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0	1	2	3	Fire suppression system
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**Matters related to cladding**

0	1	2	3	Condition of cladding
0	1	2	3	Combustibility and fire performance of external wall construction and cladding
0	1	2	3	Location and adequacy of cavity barriers
0	1	2	3	Presence/maintenance of dry/wet rising mains
0	1	2	3	Presence/maintenance of Firemen's/ Firefighting/Firefighters lifts
0	1	2	3	Access arrangements to the site and the building for the fire and rescue service
0	1	2	3	Balconies

**Matters related to explosions**

0	1	2	3	Unauthorised gas supply
0	1	2	3	Siting of gas tanks
0	1	2	3	Ventilation
0	1	2	3	Hot water storage tank
0	1	2	3	Vented hot water system
0	1	2	3	Unvented hot water system

Likelihood of Harm

<b>Scale Points</b> Likelihood of harm from this hazard over the next twelve months		
Very Likely		1 in 1
		1 in 2
		1 in 3
		1 in 5
Likely		1 in 10
		1 in 20
		1 in 30
		1 in 50
Unlikely	Example Dwelling	1 in 100
		1 in 200
		1 in 300
		1 in 500
Very Unlikely		1 in 1,000
		1 in 2,000
		1 in 3,000
	National Average	1 in 5,000
<b>Score</b> 1 in 100		

**Justification of Scoring**  
Likelihood of Harm

There are numerous deficiencies increasing the risk of injury. There is no functioning fire alarm system to alert occupants to an issue or hasten evacuation, and the open staircase results in a non-protected escape route and lacks any barrier to smoke travel from the open-plan communal living. Some mitigation exists by virtue of escape routes from the front and rear of the property and first-floor escape windows.

A microwave in every bedroom provides multiple fire ignition points throughout the property. The fire risk is aggravated by high electrical loading on an old electrical installation that is not designed for use as a shared house. It has not been tested, and there is an increased use of extension leads due to inadequate provision of sockets in rooms and no testing of landlord-supplied portable electrical appliances.

If a fire were to occur, factors that would significantly increase the risk that occupants could suffer harm requiring medical intervention are the lack of any fire doors; the escape route being via the kitchen; and absence of a fire detection and alarm system.



## Harm Outcomes

Extreme		Severe		Serious		Moderate	
Death, permanent paralysis, etc.		Heart attack, serious fractures, etc.		Chronic stress, severe concussion, etc.		Broken fingers, moderate cuts, etc.	
Very Likely	50.0	Very Likely	50.0	Very Likely	50.0	<b>Example Dwelling</b>	60.0
	30.0		30.0		30.0	National Average	78.0
<b>Example Dwelling</b>	20.0		20.0		20.0	These scores are simply calculated as the sum of the other three harm outcomes subtracted from 100%	
National Average	10.0	<b>Example Dwelling</b>	10.0	<b>Example Dwelling + National Average</b>	10.0		
	5.0		5.0		5.0		
	2.0	National Average	2.0		2.0		
Unlikely	1.0	Unlikely	1.0	Unlikely	1.0		
	0.5		0.5		0.5		
	0.2		0.2		0.2		
Very Unlikely	0.1	Very Unlikely	0.1	Very Unlikely	0.1		
	0.0		0.0		0.0		
<b>Score</b>	<b>20.0%</b>	<b>Score</b>	<b>10.0%</b>	<b>Score</b>	<b>10.0%</b>	<b>Score</b>	<b>60.0%</b>

### Justification of Scoring

#### Harm Outcomes

The absence of any fire detection and alarm system means that occupants sleeping on the second floor may be oblivious to a fire starting on the ground floor. Escape in the event of a fire is compromised by the following factors: open-plan kitchen to staircase; a single route of escape; key-operated door locks; lack of a barrier to rapid smoke spread; no emergency lighting on the stairs or externally to the rear; and potentially unsafe furnishings.

A member of the vulnerable group could be overcome by smoke, hindering or preventing escape, or they could be seriously injured as a result of jumping from an upper-floor window. There is an elevated risk of loss of consciousness over several days, serious burns, serious fractures or death, although relatively short travel distances and escape windows to first-floor rooms mitigate the risk. Class II and III harms are slightly increased.

# Safety Ratings

Scenario 1  
As described in this document

## Key

Category	Band	Score
1 Legal duty to take action	High	10,000
2 Discretion to take action	Medium	1,000
	Low	100

Likelihood of Harm 1 in 100			
Extreme 20.0%	Severe 10.0%	Serious 10.0%	Moderate 60.0%
Category	Band	Score	
1 Legal duty to take action	High	10,000	
2 Discretion to take action	Example Dwelling	2,136	
	Medium	1,000	
	Low	100	
National Average		21	
Score 2,136			

**Scenario 2**

After works meeting baseline indicators

Likelihood of Harm 1 in 3,000			
Extreme 10.0%	Severe 2.0%	Serious 10.0%	Moderate 78.0%
Category	Band	Score	
1 Legal duty to take action	High	10,000	
2 Discretion to take action	Medium	1,000	
	Low	100	
	Example	35	
	National Average	21	
Score 35			

**Justification of Scoring**

After works meeting baseline indicators

Compliance with the baseline indicators would result in the installation of a mains-wired fire detection and alarm system (enabling early warning in the event of a fire and providing adequate time to escape), a protected fire escape route that avoids passing through a high-risk room, and keyless door locks. Improvement to the escape route would also be implemented by provision of external lighting to the rear yard (the secondary escape route), emergency lighting on the stairs and the installation of fire doors.

Compliance with BIs would also see a satisfactory EICR being achieved, testing of portable electrical appliances and replacement of non-compliant furniture.

These measures combined bring the harm outcomes back to the national average and see the likelihood reduced to a much lower level; however, additional risk will remain as a result of the property being a HMO.

**Scenario 3**

After further improvements

Likelihood of Harm 1 in 5,000			
Extreme 10.0%	Severe 2.0%	Serious 10.0%	Moderate 78.0%
Category	Band	Score	
1 Legal duty to take action	High	10,000	
2 Discretion to take action	Medium	1,000	
	Low	100	
	Example Dwelling + National Average	21	
Score 21			

**Justification of Scoring**

After further improvements

A fire risk assessment conducted by a certified and competent person should result in proper compartmentalisation of the means of escape and reduce the risk of an accidental electrical fire, and generally help to ensure the property is well managed.

Whilst the use of the property as an HMO is an indicative risk factor, this will be largely offset by comprehensive fire safety measures that meet the baseline indicators. Provision of a sprinkler/misting system or alternative mitigation could however, potentially reduce risk to the national average score, as could returning the occupation to a single family dwelling.

## Other Relevant Legislation and Guidance

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### Updates

Matters for consideration listed in this section were correct at the time of publication. For the most up-to-date legislation and guidance in these areas, please visit the [gov.uk](https://www.gov.uk) website.