

Risk Assessment			
Risk Assessment for the activity of	Circus society Fire Practice and Performance		Date 20/10/2024
Unit/Faculty/Directorate	University of Southampton Circus Society	Assessor	Harvey Wilkinson (Vice President) Ethan Kelt (President)
Line Manager/Supervisor	<i>Ethan Kelt</i>	Signed off	

The Activity: Experienced members that are confident enough with their skills sometimes perform with fire at external events or practice sessions, both on and off university campus. Such members have their own fire props, and use fuel (paraffin) to light their props on fire and as part of the performance or practice. See the Fire Safety Protocol Adendum for more information on the steps taken to ensure safety. Public transport is most commonly used, either bus or train, to reach the events. All relevant risk assessments from the event or venue also apply. Some events and venues may require an extra risk assessment due to the unusual nature of the requirements.

Note: the main society practice and performance risk assessment also applies here. Those risks concern risks related to transportation to the event and use of non-fire props, while this assessment only considers risks specific to fire performance.

Suggested Event Setup: In the interests of audience safety, we would recommend having a cordoned off area where the performers will remain for the duration of the performance. This area will not only contain the space where the performers will perform, but also the refuelling station, an area for spinning off excess fuel, fire safety equipment, and a space for performers to wait when not performing.

There will always be a Trained first aider on site to deal with any incidents

PART A										
(1) Risk identification			(2) Risk assessment				(3) Risk management			
Hazard	Potential Consequences	Who might be harmed (user; those nearby; those in the vicinity; members of the public)	Inherent			Control measures (use the risk hierarchy)	Residual			Further controls (use the risk hierarchy)
			Likelihood	Impact	Score		Likelihood	Impact	Score	
Slips, trips, and falls during activity	A participant may incur injuries (such as cuts, bruises, sprains or fractures) if they slip or trip over equipment.	Members of society	3	2/3	7.5	It is recommended that members wear grippy shoes such as trainers and loose-fitting clothing so their movement is not restricted. Before every session the floor is checked for anything unsafe, such as a wet patch. During the session, equipment that is not used needs to be placed in a safe place	1	2/3	2.5	

<p>A prop (e.g. juggling equipment, staff, diabolo) may hit participant/ someone nearby if dropped</p>	<p>A participant may incur injuries (such as cuts, bruises, sprains or fractures) if hit by a prop.</p>	<p>User of the prop, other participants nearby</p>	<p>3</p>	<p>2/3</p>	<p>7.5</p>	<p>Learners will be instructed carefully. A distance of minimum 2m between participants using props and other participants will be kept throughout the session.</p> <p>While performing/practicing, all performers will remain at a safe distance from one another, with a maximum of two or three performing at once.</p> <p>As the props will be moving with sufficient velocity, they will most likely bounce back from an impact. If on fire, such a bounce will only leave a black soot mark.</p>	<p>2</p>	<p>2/3</p>	<p>5</p>	<p>Performers will announce to all participants that they are about to set fire to their props before setting fire to the props. Performers will then wait for anyone nearby to vacate the area before setting fire to the props. This ensures that everyone is aware of any flaming props and can maintain a safe distance.</p> <p>Tricks involving fire props must only be performed at least 4m away from anyone who is not performing. This reduces further the chance of a prop hitting someone if dropped.</p> <p>Participants must demonstrate that they are confidently capable of performing a skill without fire before they are allowed to do the skill with fire. This prevents participants who do not have sufficient skill from hurting themselves or anyone around them.</p> <p>Members must abide by these rules. If rules are broken by members, they will not be allowed to</p>
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										partake in the activity any further. A bucket of water will always be near in case of emergency.
Manual handling	A participant may incur a back injury from handling equipment.	Participants	1	2/3	2.5	The committee are the main members in charge of transporting props and equipment before and after every meeting and will oversee any members that assist. Follow manual handling protocol. Bent knees, straight back, etc.	1	1	1	

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Falling of stage	A participant may incur injuries (such as cuts, bruises, sprains or fractures) if falling down stage.	Performers on stage	2	2/3	5	If performing on a stage of any height, performers must take care. Parts of the performance that require a performer to get too close to the edge of the stage should be planned and rehearsed, and all performers should be made aware of all entrances and exits before the show.	1	2/3	2.5	

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A prop may fall on a member of the audience	A member of the audience may incur injuries such as cuts or bruises including head injuries.	Member of the audience	2	2/3	5	<p>Audience members should be kept a safe distance away from performers, whether the performers are on stage or at ground level but separated by some form of boundary.</p> <p>Performers will perform their sets at a safe distance from the audience. If performing within a cordoned-off area, the performers will be at a safe distance from the cordon.</p> <p>If an audience member gets too close, the performance will cease until the situation is rectified. Spotters will be present to warn the performer to cease in this event.</p>	1	2/3	2.5	

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			Likelihood	Impact	Score		Likelihood	Impact	Score	
A member hits themselves or a nearby person with fire equipment	Participants may incur burns and other injuries.	User of fire equipment, nearby participants/members of the public	2	4	8	<p>Fire safety protocol in place, see supplementary sheet. No fire equipment is to be used inside. All committee members knowledgeable in basic first aid for burns.</p> <p>Members will practice in an appropriate open space, away from other members, the fire safety equipment and fuel. They should not attempt any tricks they are not very confident with. Before using fire equipment they will be well versed in the safety and equipment requirements.</p>	1	4	4	<p>All Incidents are to be reported as soon as possible. Follow SUSU incident report policy.</p> <p>In the event of a burn ensure all equipment and any fires are put out and follow instructions of first aid for burns listed in the SUSU Circus society Fire Safety Protocol Addendum</p> <p>Emergency services are to be called when necessary. Follow SUSU incident report policy.</p>

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Prop-specific Risks (e.g. juggling clubs are thrown, so may land amongst the audience; poi can wrap around the performers' arm, etc.)	Participants may incur burns and other injuries.	User of props, members of audience, Public	2	4	8	All fire equipment in use belongs to the performers, and they are experienced in their use. Performers will not perform any moves that are unsafe or they are not confident in performing. Spotters and first-aiders will be present to assist in the event something goes wrong.	1	4	4	Performers must practice with their equipment beforehand to ensure they are comfortable using it when it is lit. Before any fire event, participants must check that their clothes are not made from synthetic material. Anyone wearing synthetic material will not be able to use fire or go near fuel storage areas. All incidents are to be reported as soon as possible. Follow SUSU incident report policy . Emergency services are to be called when necessary. Refer to the bottom of the SUSU Circus Society Fire Safety Protocol Addendum "classification of burns"

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A participants clothing or hair may catch fire	Participants may incur burns and other injuries. Damage to clothes	User of fire prop, members of audience/public	2	4	8	<p>Clothing will ignite after prolonged contact with a flame. Performers will wear suitable clothing to maximise this time (ideally natural fibres with a dense weave). Performers will not wear loose or baggy clothing.</p> <p>Performers will either wet their hair or cover it prior to a performance set.</p> <p>Spotters and first aiders will be on hand to extinguish any performer who catches light.</p> <p>In the event that a performer catches light, the rest of the performance will cease and props be extinguished.</p>	1	4	4	<p>All incidents are to be reported as soon as possible. Follow SUSU incident report policy</p> <p>Fires are to be put out from the head down. In the event of someone's hair catching fire follow the Fire Safety Protocol Addendum instructions on what to do in these scenarios. All committee members present must be familiar with these rules prior an event. This will ensure response to any accidents happens quickly and damage is minimised.</p> <p>All members including those that are not using fire equipment will also be briefed on Fire Safety to further minimise risk of accidents.</p>

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			Likelihood	Impact	Score		Likelihood	Impact	Score	
Participants may be struck by burning fuel as props are spun	Participants may incur burns and other injuries.	User of fire props, audience members/members of public	1	4	4	Equipment will be properly spun off prior to being lit, so there will be no excess fuel on the prop when it is lit. The exception is the fire staff, where excess fuel must be burnt off. The burn-off will occur in the centre of the performance area, with all other performers and audience members at a safe distance. Note this should not be done under low-hanging trees or any structures.	1	4	4	Use of fire will not take place on a windy day. This prevents any fuel from blowing towards the audience or performers. Any flames caused by fuel should be smothered using a fire blanket/ thick and dense cotton blanket. Under no circumstance should any synthetic material be used. All incidents are to be reported as soon as possible. Follow SUSU incident report policy
An unauthorised person enters the performance area	Participants may incur burns and other injuries from props	User of fire props, Audience member/member of public	3	3	9	All performers will cease, and extinguish their props if possible, until the unauthorised person can be escorted out of the performance area.	1	3	3	

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Interference with cordon to change its position	Audience members/members of public could get too close to the performers/fire users	Users of fire props, members of audience/public	1	3	3	Spotters will check the cordon prior to and at appropriate times during the performance to ensure it has not been tampered with	1	3	3	
Damage to the stage/backdrop from fuel or fire	Damage to surroundings, fire risk	User of props, members in audience/public	2	2	4	If performing on a stage with a backdrop, no part of the performance should be planned that requires a performer to get too close to the backdrop. If a prop is dropped on the stage, it should be picked up immediately and any flames stamped out.	2	1	2	
Fuel Spillage	Fire risk from spilling fuel, potentially slipping on fuel puddle	Members in vicinity	2	2	4	Fuel will only be kept in one location (the fuel reserve). Only a single container will be open-topped, and will remain covered when not in use. Spare fuel will be contained within sealed 4L bottles.	1	2	2	

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Unintended ignition of fuel	Risk of burns from props, fire risk from lit fuel	people in vicinity, user of fire prop	2	3	6	Paraffin will only be lit when soaked into a prop, and will be lit in the performance area at a safe distance from the fuel reserve. Props will be lit at the start of a performance set and will be extinguished at the end. Lighters will only be held by designated persons. Fire safety equipment (extinguishers and blankets) will also be kept by the fuel reserve.	1	3	3	

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			Likelihood	Impact	Score		Likelihood	Impact	Score	
Explosion due to fuel vapour/air mix	Risk of Burns and injury	People in vicinity to fuel	1	4	4	<p>The only fuel in use will be paraffin, which has a high ignition point and is non-explosive under normal conditions.</p> <p>Paraffin will be stored in sealed bottles separate from the main soaking container. The soaking container will be covered when not in use to minimise emission of fuel vapour.</p> <p>Only authorised members will be allowed near the fuel storage area</p>	1	4	4	<p>There are to be no open flames within 2m of the fuel storage area.</p> <p>All fire performances must be at least 4m away from the fuel storage area and the main soaking area at all times. After use, equipment must be allowed to cool and ensure that it is no longer hot before going back near any areas with fuel.</p> <p>In the event of an accident, refer to the Fire Safety Protocol Addendum sections “in case of accidents” and “First Aid for Burns”</p> <p>All incidents are to be reported as soon as possible. Follow SUSU incident report policy</p>

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			Likelihood	Impact	Score		Likelihood	Impact	Score	
Interference with/theft of fuel or fire equipment	Burns from fuel, loss of equipment	Members of audience/public	1	2	2	At least one person will be present by the fuel reserve at all times. Access to this area should be restricted only to performers and designated monitors.	1	2	2	

PART B - Action Plan

Risk Assessment Action Plan

Part no.	Action to be taken, incl. Cost	By whom	Target date	Review date	Outcome at review date
	Announcing when props are going to be lit/ Vacating the area after the announcement. This will be enforced as a rule and all participants will be informed of this rule before any activity involving fire.	All Committee present at the event	The day of the event		
	Bucket of water and other safety equipment must be present, in case of emergency.	Any Committee members	The day of the event		

		present at the event.			
	Distance of at least 4m between those performing anyone who is not performing. This will be enforced as a rule which all participants must adhere to.	All Committee members present at the event.	The day of the event		
	All committee members attending the fire event are to read through the Fire Safety Protocol Addendum and familiarise themselves with its contents.	All Committee members present at the event.	The week before and the day before the event		
	Everyone involved on the day will be briefed on Fire Safety using the fire safety protocol addendum. This must happen before any activity involving fire.	Any Committee member present at the event	The day of the event.		
	Any incidents are to be reported to SUSU following the SUSU incident report policy .	The President/Vice President	No later than the day after the incident.		
	Anyone wearing synthetic clothes will not be allowed to use fire or be near any fuel or fire. This will be enforced as a rule and all participants will be informed of this rule prior to any activity involving fire.	All Committee members present at the event	The day of the event.		
	Weather check prior to the event, in case of strong winds.	President/Vice President	The week and day before the event.		
Responsible manager's signature: Ethan Kelt Print name: ETHAN KELT Date:20/10/2024				Responsible manager's signature: Harvey Wilkinson Print name: HARVEY WILKINSON Date:20/10/2024	

Assessment Guidance

1. Eliminate	Remove the hazard wherever possible which negates the need for further controls	If this is not possible then explain why	
2. Substitute	Replace the hazard with one less hazardous	If not possible then explain why	
3. Physical controls	Examples: enclosure, fume cupboard, glove box	Likely to still require admin controls as well	
4. Admin controls	Examples: training, supervision, signage		
5. Personal protection	Examples: respirators, safety specs, gloves	Last resort as it only protects the individual	

LIKELIHOOD	5	5	10	15	20	25
	4	4	8	12	16	20
	3	3	6	9	12	15
	2	2	4	6	8	10
	1	1	2	3	4	5
		1	2	3	4	5
		IMPACT				

Risk process

1. Identify the impact and likelihood using the tables above.
2. Identify the risk rating by multiplying the Impact by the likelihood using the coloured matrix.
3. If the risk is amber or red - identify control measures to reduce the risk to as low as is reasonably practicable.
4. If the residual risk is green, additional controls are not necessary.
5. If the residual risk is amber the activity can continue but you must identify and implement further controls to reduce the risk to as low as reasonably practicable.
6. If the residual risk is red do not continue with the activity until additional controls have been implemented and the risk is reduced.
7. Control measures should follow the risk hierarchy, where appropriate as per the pyramid above.
8. The cost of implementing control measures can be taken into account but should be proportional to the risk i.e. a control to reduce low risk may not need to be carried out if the cost is high but a control to manage high risk means that even at high cost the control would be necessary.

Impact		Health & Safety
1	Trivial - insignificant	Very minor injuries e.g. slight bruising
2	Minor	Injuries or illness e.g. small cut or abrasion which require basic first aid treatment even in self-administered.
3	Moderate	Injuries or illness e.g. strain or sprain requiring first aid or medical support.
4	Major	Injuries or illness e.g. broken bone requiring medical support >24 hours and time off work >4 weeks.
5	Severe - extremely significant	Fatality or multiple serious injuries or illness requiring hospital admission or significant time off work.

Likelihood	
1	Rare e.g. 1 in 100,000 chance or higher
2	Unlikely e.g. 1 in 10,000 chance or higher
3	Possible e.g. 1 in 1,000 chance or higher
4	Likely e.g. 1 in 100 chance or higher
5	Very Likely e.g. 1 in 10 chance or higher

SUSU Circus Society Fire Safety Protocol Addendum

All designated monitors, performers, and first aiders should be familiar with the following procedures. It is the responsibility of the Fire Safety Officer (an appointed committee member) to ensure all members are familiar with these procedures. At events, it is the responsibility of the Fire Safety Officer or other nominated person to ensure these procedures are followed, to keep risk of accidents as low as possible.

Before a Performance

- Advise performers not to use aerosols (e.g. hairspray) on the day of the performance
- Ensure all equipment is checked for loose or worn parts
- Ensure that all relevant safety equipment is present:
 - Fire blanket
 - Fire extinguisher
 - First aid kit
 - Bucket of water
 - Torch
 - Dipping Pot/Soaking jug for paraffin, which can be covered when not in use
- Assess conditions:
 - Fire cannot be used in high winds or muddy/slippery conditions, as this is unsafe for the performers
 - Ensure the performance area is level and clear from trip hazards
 - Ensure the performance area is away from buildings and overhanging trees
 - Ensure there are no flammable materials such as dry grass or leaves nearby
- Establishing a Fuel Reserve and Refill Station:
 - Paraffin containers should be kept on a flat surface
 - The soaking container should have a lip to reduce the risk of spillages
 - Spare fuel should be stored in sealed bottles
 - Safety equipment, a first aid kit and torch should be kept at the Refill Station
- Ensure that performers are in a fit state to perform. They must be:
 - Wearing suitable clothing (nothing synthetic, easily flammable or baggy. Recommend tight-fitting denim or thick cotton)
 - Competent enough with the props they intend to use
 - A member of the society and therefore covered by insurance
 - Sober
- All performers must be alerted to the location of the fire safety equipment and first aiders
- Advise any fire breathers of the symptoms of swallowing/inhaling paraffin to ensure they will seek medical assistance if any of these occur after the session
 - Ensure that fire breathers are using the correct technique

- Ensure they have dampened any facial hair they may have

A Note on Fuel

The only fuel that may be used is paraffin. It burns at a relatively low temperature which helps minimise the risk of burns, has a relatively high ignition temperature, and is non-explosive under normal conditions.

During the Performance

- Hats must be worn to protect hair
- A maximum of 3 people may use fire at any one time
- Equipment must be 'spun off' to remove excess paraffin prior to lighting. This must be done away from the other performers and the refill station, or using a special cover to catch the paraffin.
- The performers must keep a minimum safe distance of 4 m away from everyone else, and in particular the refill station.
- Performers must only do tricks they are comfortable doing
- Each performer should have at least one spotter to tell them if they get too close to another person/object and to ensure safety procedures can occur as quickly as possible if things go wrong
- When fire breathing, a performer must stand with their back to the wind, and use a damp towel to wipe excess paraffin from mouth and chin before and after fire breathing

At the End of a Performance

- Ensure all equipment has fully cooled before packing it away
- Paraffin must be stored safely, away from named flames

In Case of Accidents:

Clothing on Fire

- Attempt to get the casualty flat on the floor – you may have to physically push them over using a fire blanket to ensure you are not exposed to the flames
- Once the casualty is flat on the floor, try to smother the flames. Ideally use a fire blanket or improvise with a woollen or cotton fire blanket.
- Ensure the casualty's Airway, Breathing, and Circulation are present
- Cool the burn(s). See first aid advice below.
- DO NOT over-cool the burn, as you may lower the body's temperature too much.
- DO NOT roll the casualty.
- Extinguish from the head down.

First Aid for Burns

1. Ensure that the cause of the burn does not endanger your life or the life of the casualty.
2. Assess that the casualty is still conscious. If they are not, carry out the ABC of resuscitation.
3. Immediately begin to cool the burn. Continue cooling under water for 10 minutes.
NB. DO NOT over cool, you may lower the body temperature too much.
4. If the burn has affected a limb, e.g. an arm, remove any constrictive items such as watches, rings, belts, shoes, smouldering clothes, etc. in anticipation of any swelling.
NB. DO NOT remove if directly in contact with the burn.
NB. If clothing is burnt onto the wound, DO NOT pull it off.
5. Initially cool under running water for 10 minutes or until burning sensation has stopped, and then apply a non-adhesive sterile dressing. A water-based gel soaked sterile dressing is ideal as it helps prevent burn-progression and infection.
6. DO NOT:
 1. Burst any blisters.
 2. Apply adhesive dressings.
 3. Remove damaged skin.
 4. Apply ointments/creams.
 5. Cover with 'fluffy' dressings.
 6. Affix dressing too tightly.
 7. Apply butter/fats/margarine.
 8. Remove damaged clothing.
 9. Apply ice.

Classification for Burns

SUPERFICIAL

- Reddening and discolouration of the skin
- Some swelling
- Pain

PARTIAL THICKNESS

- A combination of discolouration, swelling, and blistering of the skin
- May involve one or more blisters forming
- If any blisters have burst a clear watery fluid (serum) may leak from the site

- Pain

FULL THICKNESS

- Pitted/charred appearance
- Skin surrounding burn site may appear wax-like and false
- Clear watery fluid may leak directly from the burn site
- Blisters may form around the site of the main charred area, but not on it
- If the skin is badly charred, the casualty may not experience pain as the nerve endings may be destroyed

Refer Casualty to Hospital If:

- Any Superficial burn covers more than 5% of the body's surface
- Any Partial Thickness burn covering more than 1% of the body's surface
- Any Full Thickness burns
- Any burns involving children
- All burns involving feet, hands, face, or genital areas
- All burns that extend around a limb
- Any burns with a mixed pattern of depth
- If unsure of depth or severity of burn

