

## Generic Risk Assessment for Exhibition of Steam Toys & Small Models under Steam.

Hazard	Manifestation	Potential Consequence	Mitigations and procedures.	Residual risk
Heat	Burning fuel	Burns to hands	Keep hands and combustible materials away from the firebox. Maintain a gap between the engine and the public, slightly longer than a small child's arm. The most credible scenario is a child too young to understand but tall enough to stand and reach for the engine. Place warning signs. Engage the public, draw attention to the hot engine.	Low
	Rising hot gas	Burns, chemical attack to eyes	Do not place face above engine.	None
	Steam	Scalding, eye damage	Keep clear of exhaust pipes, chimneys and safety valves. Check whistles exhaust away from operating lever before use.	Low
Moving parts	Finger in flywheel	Pinching and twisting	Touch rim only	None
	Crank and cylinder	Pinching, impact	Keep clear	None
	Travelling engine	Collision	When operating mobile engines at floor level use a separated area whenever possible. Otherwise use additional supervision and cry out "make way" frequently, draw lots of attention, eg. Use a red flag. (Not appropriate for the shy or fixated). Physically restrain children who get too close, do not wait for permission from parents.	None
Fire	Liquid fuel spill from engine	Small fire, may cause burns	Operate on non-combustible surfaces wherever possible, e.g. concrete floors or metal trays. When using wooden tables or base-boards extinguish fire with wet cloth.	Low
	Liquid fuel spill from bottle, bottle ignites	Significant fire or explosion	Liquid fuel to be stored away from sources of ignition. Decant into a suitable fire-proof container for dispensing whenever possible away from sources of ignition, otherwise minimise the amount of fuel exposed to risk. Ensure burners are cool before re-fuelling.	Low
	Extraneous cloth, paper, curtains etc. catches light	Fire	Keep the display area clear and tidy. When using tablecloths keep operating area separate. Pull curtains out of the way, tie back as required	Low
	Matches and lighters	Burns, ignition	Keep unused matches with fuel, away from flames. Place used matches in a suitable fire-proof receptacle, NOT back in the box. Place lighter in a safe place. Keep both away from fuel.	low

Trip hazards	Materials and tools on floor	Slips, trips and falls	When operating on the floor keep oil, fuel, matches and tools in a tote tray or tool box. Place as out-of-the-way as possible, such as under furniture.	Low
	Guy ropes and Gazebo materials	Slips, trips and falls	Use colourful ropes and marker poles as required. Clear materials away out of the way once used.	Low
	Electrical leads	Slips, trips and falls	Keep electrical leads tidy and away from thoroughfares at all times. Ensure it is not possible to pull a kettle or engine off the table	Low
	Engines and trailers on floor, oil of floor	Slips, trips and falls, combined with other hazards above.	When operating mobile engines at floor level use a separated area whenever possible. Park in an orderly manner in a designated area when operation ceases, eg. In the middle Clear away as soon as possible when finished.	Low
Explosion	Boiler explosion	Scalding, Death	Only use engines with integrity demonstrated by: pressure test, CE mark or known history from new. Check Safety valve prior to use. Fire by an appropriate method, using the manufacturer's burner in accordance with the instructions or with a purpose designed system that has been demonstrated to be safe.	None
Chemical	Products of combustion	Sore eyes	Do not place face above engine. Operate in a well-ventilated place.	Low
	Oil on hands	Dermatitis, poisoning	Avoid by wearing gloves. If unavailable, use a rag to limit contamination. If contamination occurs wipe hands with clean rag or tissue and wash hands as soon as possible. Do not eat or drink with dirty hands.	None
	Oil flicked into eyes by rotating parts	Eye damage	Wear safety glasses when operating engines. Maintain a gap to members of the public, consider small children in buggies. Do not orientate engines to point towards the public. Guard stationary engines if needed. Fit canopies where possible if the public are close. Have first aid facilities available, including eyewash equipment. Failing that have clean water available for washing eyes.	Low
	Poisoning due to drinking fuel	Liver & eyesight damage	Methylated spirits is poisonous and must not be drunk. Store under responsible supervision.	None
Electricity	Electrocution	Death	Use an RCD device at all times. When using kettles to boil water use the kettle on a stable surface. Keep all leads tidy and away from the edge of the work surface. When not in use turn off at the wall.	Low