Prevent Gas Accidents - Case Analysis

Gas Lighter Accident
(I090327001)

Incident	A man placed an LPG lighter on the panel of a double burner gas cooking stove in the kitchen. He then started cooking on the stove. When he left the kitchen to take a phone call, the lighter had a minor explosion. Luckily, the man was not hurt by the explosion.
Cause	The plastic shell of the lighter cracks under the heat of the stove. LPG leaking out and is ignited by the flame of the stove, causing the minor explosion.
Prevention Tips	Keep lighters away from flame or any environment with a temperature higher than 50°C, such as near an electrical appliance that gives off heat or a cooking stove. Lighters should be stored in a dry, cool, well-ventilated place which is inaccessible to children. Never leave lighters in a car.
Photo	 The lighter involved in the incident

Flashover Involving Cassette Cooker
(I110330003)

Incident	The male householder got a cassette cooker out to prepare hot pot at home. He inserted the LPG cartridge and tried to switch on the cassette cooker. There was a flashover. The female householder rushed to get the burning cassette cooker to the bathroom to put out the fire. Her left arm suffered minor burns in the incident.
Cause	Investigation found that the cassette cooker involved in the incident was purchased more than 10 years ago. It has no flame failure device and has not been properly maintained. The ageing rubber seal ring at the connection between cartridge nozzle and cooker is the cause of the gas leak. A flashover occurred when the male householder tried to switch on the gas-leaking cassette cooker.
Prevention Tips	Purchase cassette cooker bearing the **GU mark** and follow the instructions on the LPG cartridge in handling and changing cartridges. Do not use non-approved accessories.
Photo	 Position of gas leak

Gas Leak from Cooker
(I090302001)

Incident

A strange odour from a flat was detected and reported to the police by a neighbour. Firemen broke into the flat and found that the left burner of a double burner LPG cooking stove had not been switched off completely, resulting in the LPG leak. Luckily, the leak was detected in time, before any serious incident, such as fire or explosion, happened.

Cause

The LPG cooking stove involved in the incident is a non-approved gas appliance (without the GU mark). Although fitted with a flame failure device, that device could not function normally. As the burner on the left is neither switched off completely nor ignited, it results in the LPG leak.

Prevention Tips

Purchase gas appliances that bear the **GU mark**. Arrange for a registered gas contractor to conduct safety checks on the appliance once every 18 months to ensure best performance of the appliance. Check if the switch of the gas appliance is turned off properly after cooking or cleaning.

Photo

The non-approved gas appliance involved in the incident

Gas Leak from Flexible Gas Tubing
(I090209001)

Incident	It is a gas leak incident involving an LPG cylinder left on the ground outside a village house. Firemen arriving at the scene switched off and removed the regulator of the LPG cylinder to stop the gas leak.
Cause	The flexible tubing and regulator of the LPG cylinder have already reached the end of their service life, and there are a number of surface cracks on the flexible tubing. This is the cause of the incident.
Prevention Tips	Use flexible gas tubing that is approved by EMSD. Arrange for a registered gas contractor to conduct safety checks on gas installations every 18 months. Change the regulator and flexible tubing before the expiry of service life according to the instructions of the registered gas contractor.
Photo	 A number of cracks are found on the flexible gas tubing

Non-approved Gas Water Heater Incident
(I091230003)

Incident	A member of the public was killed by inhaling excessive amounts of carbon monoxide while using a non-EMSD approved water heater in a shower.
Cause	The flueless gas water heater used by the deceased is not approved by EMSD. The bathroom was filled with carbon monoxide discharged by the water heater, and the ventilation fan was not turned on when the deceased was taking the shower. That is how the incident happens.
Prevention Tips	Do not purchase or use gas water heaters that are not approved by EMSD.
Photo	

Non-EMSD approved and flueless gas water heater

Breakage of tempered glass panel of built-in gas hob
(C120319007)

Incident

A domestic helper was using a built-in gas hob with tempered glass panel surface to cook soup in the kitchen. About an hour later, she switched off the utensil to bring the cooked soup to the dining room where dinner was served. A "pop" sound was heard within a few minutes, and the glass panel of the built-in gas hob was found broken.

Cause

Very often the flame distributor was not cleaned after spillage of food and liquid during cooking, leading to blockage of gas passage, resulting in the flame not being able to burn externally and returning partially to the bottom of the glass panel. The glass panel, having been burned by the back fire for a sustained period of time, would be damaged, and the resulting bulge would shrink when the flame was extinguished, eventually leading to the breaking of the glass panel.

Prevention Tips

Clean the burner assembly frequently to maintain a clear gas passage on the flame distributor. Clean and tidy up the flame distributor as soon as possible after spillage of food and liquid. Otherwise, there would be a chance of blockage of gas passage on the flame distributor, resulting in gas not being properly conveyed outside the flame distributor, thus causing back fire and abnormal build-up of heat at the bottom of the glass panel, causing the bursting of the glass panel.

Photo

Broken glass panel of built-in gas hob