Electrophoresis Gels

The concentration of a gel affects the rate at which fragments of different sizes will run. A 1% agarose gel will help larger fragments migrate effectively. A 3% gel will help to separate out bands of similar sizes.

To make a N% gel, you require Ng of gel agarose per N*100mL of TBE buffer

Ie weigh out 1g of agarose per 100mL of 1x TBE buffer in a clean weigh boat, and add to the bottle before the buffer, as the agarose adds volume.
The gel is formed by microwaving for 3 minutes on high, mixing every 30 seconds until the agarose is dissolved and the solution clear. This gel can be remelted, so larger volumes can be made and aliquoted (Reduces the time required to remelt).

Be careful to mix up your gels in a sufficiently large bottle so that it does not overflow when boiling.

Following the microwaving, your solution will be boiling hot, so should be allowed to cool for a time before use. If the gel is too hot when poured into the mold, you can crack the cast.

Once the gel has cooled a little, add the Redsafe DNA dye. For 100mL of gel you require 5µL of dye. Swirl in the dye in gently to prevent the formation of bubbles. The Redsafe dye is photosensitive, and should not be kept outside of its tin longer than necessary. It is also temperature sensitive, so should not be added to gel which will be remelted. Ie add for use.

When pouring the gel, fill the gel holder to ⅓. Make sure the barriers and well comb is in place before pouring. The gel will be set in approximately an 40 minutes. If you are not using the gel straight away you can pour some TBE buffer over it to prevent dehydration. Gently remove the comb by wiggling and lifting.