Calor Lite Risk Evaluation
Methodology

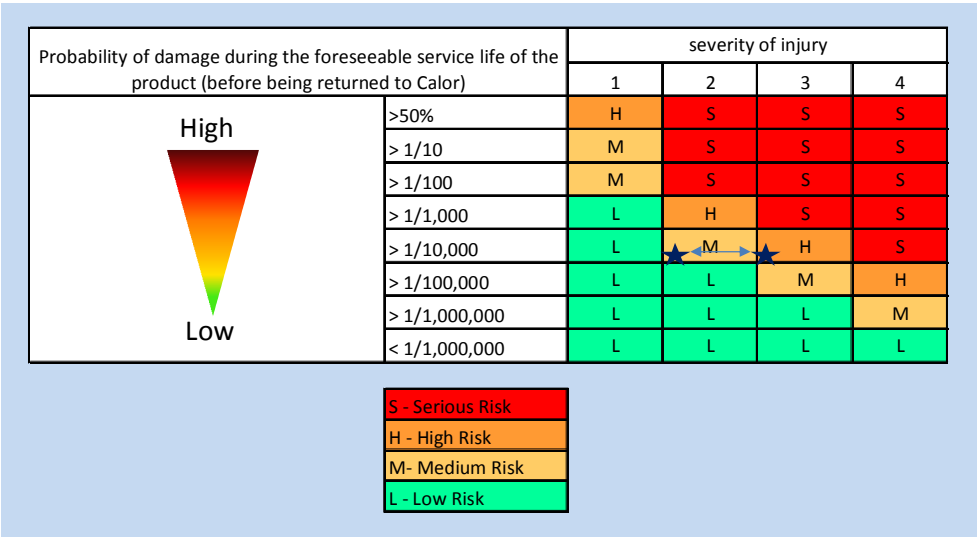
To calculate the risk of harm or property damagefrom a Calor Lite, an event tree was constructed. To calculate probabilities of the various outcomes:

1. Data has been obtained on the number of cylinders purchased by year and the numbers of cylinders outside the control of Calor's network (i.e. with end customers). This has enabled probabilities to be calculated of:
   - a cylinder being in the affected batch
   - a cylinder being with a customer.
2. In excess of 3,000 cylinders have been examined. From these inspections, probability values have been derived for:
   - Probabilty of cylinder having internal defect
   - Whether the cylinder leaks
3. Estimates made of:
   - Likelihood of a cylinder being in a well ventilated area
   - Likelihood of the leak igniting – in various scenarios
   - Probability of a person bein "in harms way" if the cylinder ignites

The results from the tree indicated the risk being in the range of 10^{-3} for an incident without injury and 10^{-4} for an incident involving injury.

Ascertaining the severity of injury was done by consulting Table 3 of the EU document "*Risk Assessment Guidelines for Consumer Products*". Within the section on burns, it is estimated that injuries have the potential of 20% burns or in some cases 30% burns. This puts it in the 2 to 3 severity range.

Using the probabiltiy and severity numbers calculated, enabled an estimate of the Calor Lite defect being classified as a medium to high risk. This is shown in the risk level matrix shown below.



Probability of damage during the foreseeable service life of the product (before being returned to Calor)		severity of injury			
		1	2	3	4
High	>50%	H	S	S	S
	> 1/10	M	S	S	S
	> 1/100	M	S	S	S
	> 1/1,000	L	H	S	S
	> 1/10,000	L	M	H	S
	> 1/100,000	L	L	M	H
	> 1/1,000,000	L	L	L	M
Low	< 1/1,000,000	L	L	L	L

S - Serious Risk
H - High Risk
M- Medium Risk
L - Low Risk