39th INTERNATIONAL CHEMISTRY OLYMPIAD

UK Round One - 2007

MARKSCHEME

Notes

Chemical equations may be given as sensible multiples of those given here.

State symbols do not need to be included in the chemical equations to obtain the mark(s).

Answers should be given to an appropriate number of significant figures although the marker should penalise this only once.

As a general rule, markers should aim to reward correct chemistry. Errors cannot be ignored but markers should ensure that candidates are not penalised for *trivial* errors.

Total mark: 73

Question 1			**Mark**
(a)		$H_2 + ½\ O_2 \longrightarrow H_2O$	1
(b)		Mass of hydrogen = 80 t Mass of oxygen = 638 t	1 1
(c)		Volume of hydrogen = 1470 m^3 Volume of oxygen = 538 m^3 Total tank capacity = 2010 m^3 *2 marks if total tank capacity correct. If incorrect, allow 1 mark for volume of H_2 **or** O_2 correct.*	2
(d)		- 9769 kJ mol^{-1}	1
(e)		2.6 MJ (2.6 x 10^9 kJ) *Don't penalise if – sign present; allow 1 for correct working even if final answer incorrect.*	2
			Marks = 8