**UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS**

**International General Certificate of Secondary Education**

# MARK SCHEME for the May/June 2009 question paper

# for the guidance of teachers

## 0620 CHEMISTRY

**0620/05** Paper 5 (Practical Test), maximum raw mark 40

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

- CIE will not enter into discussions or correspondence in connection with these mark schemes.

CIE is publishing the mark schemes for the May/June 2009 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

**1** Table of results

Initial temperature boxes completed correctly i.e. increasing downwards (1)
Final temperature boxes correctly completed i.e. lower or the same (1)
Average temperature boxes correctly completed (1)
Times completed correctly i.e. descending (1) in seconds (1) [5]

**(a)** 5 points correctly plotted (2), –1 for any incorrect
smooth line graph is a curve (1) [3]

**(b)** pale yellow/cream/white (1) not cloudy/milky [1]

**(c)** **(i)** experiment 5 (1) [1]

**(ii)** more energy owtte (1) particles move faster (1) more kinetic energy = 2 more collisions (1) [3]

**(d)** idea of a fair test/to compare effect of changing the temperature (1) [1]

**(e)** **(i)** value from graph (1) unit (1)
extrapolation shown (1) [3]

**(ii)** curve sketched on grid below original curve (1) [1]

**(f)** change e.g. use of data logger/colourimeter (1) or use of lagging/insulation /repeat experiments/use a burette or pipette

explanation e.g. timing of reaction more accurate (1) to reduce heat losses /average readings for times/more accurate volumes [2]

**[Total: 20]**

**2** tests on solid **S**

**(a)** black (solid) see (d)

**(b)** effervescence (1)
splint ignites/catches fire or glows brighter (1) [2]

**(c)** blue (1) [1]

**(i)** blue (1) precipitate (1) [2]

on heating turns brown/black/darkens (1) [1]

**(ii)** blue (1) precipitate (1)

with excess dissolves/clears (1) deep/royal blue (1)

**(iii)** white (1) precipitate (1) [2]

**(d)** black/dark brown solid (1) MUST HAVE **(a)** correct as well [1]

**(e)** effervescence (1) splint relights (1) ignore pops [2]

**(f)** **(i)** **V** is more reactive/faster or converse (1) [1]

**(ii)** oxygen (1) [1]

**(g)** copper (1) oxide (1) reacts with sulfuric acid to form copper sulfate (1) max 2 [2]

**(h)** catalyst/transition metal/manganese oxide (1) [1]

**[Total: 20]**