Practice Question Set For A-Level
Subject : Chemistry
Paper-2 Topic: Alcohols

Merit Minds
www.merit-minds.com
Exam Preparation and Free Resources

Name of the Student:_____
Max. Marks : 22 Marks **Time : 22 Minutes**

Mark Schemes

Q1.

(a) Weigh the spirit burner (alcohol) before and after combustion **M1**
Do not allow "a known mass of alcohol" owtte
1

Water in a calorimeter / beaker **M2**
1

Measure volume of water (or mass) **M3**
1

Burn the alcohol to heat the water **M4**
1

Measure temperature rise <u>in water</u> **M5**
1

(b) Incomplete combustion

Evaporation of alcohol

Heat capacity of / heat absorption by the apparatus

Inadequate stirring
Any two correct
1
1

(c) Acidified potassium dichromate / manganate(VII) (Heat)
Allow sodium in place of potassium with appropriate colour change)
If reagent incomplete lose M1 but mark on.
If reagent incorrect, CE = 0/3
1

butan-1-ol orange to green / purple to colourless
1

2-methylpropan-2-ol NVC / orange / purple
1

(d) $C_4H_9OH + 2O_2 \rightarrow 4C + 5H_2O$
OR
$C_4H_9OH + 4O_2 \rightarrow 4CO + 5H_2O$
Allow any correct balanced equations which include combinations of C, CO and/or CO_2 in the products but must be incomplete combustion.
1

Downloaded from www.merit-minds.com

Engine would not run as efficiently / would need to use more fuel / would release less energy

Allow build-up of carbon in engine costly to remove

1

CO / Particulates of carbon toxic

Allow global dimming if carbon given as product

1

[13]

Downloaded from www.merit-minds.com

Q2.

(a) Ethoxyethane is flammable

Accept "to avoid igniting ethoxyethane vapour".

1

(b) Ethoxyethane (vapour) forms a protective layer

Water and ethoxyethane are immiscible.

Do not allow 'ethoxyethane is dense' without further qualification.

1

(c) Acidified potassium dichromate(VI)/$K_2Cr_2O_7$ **M1**

*If incomplete, lose **M1** but mark on. If incorrect CE = 0/3.*

Accept acidified sodium dichromate / $Na_2Cr_2O_7$

1

Observation with 2-methylpropan-2-ol – no colour change **M2**

Accept "stays orange".

1

Observation with 2-methylpropan-1-ol – (orange to) green **M3**

Accept chemically correct alternatives.

1

(d) i. (Acidified) silver nitrate (solution)

Allow a chemically correct alternative reagent.

1

ii. Cream / off-white precipitate

Allow this alternative with correct observation.

1

Dilute ammonia solution **OR** Conc ammonia solution

Allow this alternative with correct confirmatory reagent or procedure.

1

some ppt dissolves or ppt dissolves

Allow this alternative with correct confirmatory result.

*Do not allow full marks for alternatives without **both** a test and a confirmation.*

1

[9]

Downloaded from www.merit-minds.com