



Rewarding Learning

**ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2023**

Chemistry

Assessment Unit AS 3

assessing

Module 3: Practical Examination

Practical Booklet A

[SCH31]

TUESDAY 9 MAY, MORNING

**MARK
SCHEME**

1 S is a mixture of anhydrous sodium carbonate and sodium hydrogencarbonate

(a) yellow/orange [1]

(b) any **two** from:
fizzing
white solid
solid disappears
colourless solution [2]

(c) (i) pink [1]

(ii) $5.0-20.0 \text{ cm}^3$ [1]

(iii) colourless [1]

(iv) yellow [1]

(v) $20.0-40.0 \text{ cm}^3$ [1]

(vi) red/pink [1]

(vii) correct calculations of titres [2]
all readings given to one decimal place [1] [3]

AVAILABLE
MARKS

12

2 A = toluene B = ethanol C = deionised water

AVAILABLE
MARKS

(a)

Test	Observations
1. Mix 2cm ³ of A with 2cm ³ of B in a test tube. Stopper and shake gently.	one layer/colourless liquid [1]
2. Mix 2cm ³ of A with 2cm ³ of C in a test tube. Stopper and shake gently.	two layers [1]
3. Mix 2cm ³ of B with 2cm ³ of C in a test tube. Stopper and shake gently.	one layer/colourless liquid [1]
4. Place 2cm ³ of B into a test tube in a test tube rack. In a fume cupboard, add a spatula measure of phosphorus(V) chloride to the test tube. Place a strip of damp universal indicator paper at the mouth of the test tube.	mixture warms up/solid disappears/hissing steamy/misty fumes/fizzing [1] universal indicator paper changes to red [1] any [2]
5. Mix 2cm ³ of B with 10 drops of potassium manganate(VII) solution and 2cm ³ of dilute sulfuric acid in a test tube. Place the test tube in a beaker of hot water for approximately five minutes.	purple [1] brown/orange [1] colourless [1] any [2]

(b) A no
B yes
C yes 1 error = [1] [2]

(c) (i) A: two layers [1]
top layer is violet/purple/pink/red or
lower layer yellow/orange/brown [1] [2]

(ii) B: orange/brown (solution) [1]

(iii) C: orange/brown (solution) [1]

Total

13

25