



LIMPOPO

PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

**NATIONAL
SENIOR CERTIFICATE**

GRADE 11

**PHYSICAL SCIENCES
EFFECT OF INTERMOLECULAR FORCES ON THE
PHYSICAL**

**PROPERTIES OF SUBSTANCES
PRACTICAL TEST MARKING GUIDELINE**

13 AUGUST 2026

GRADE: 11

DATE: 13.08.2026

MARKS: 25

This Marking Guideline consists of 3 pages.

Question 1

- 1.1 Test tubes ✓ (1)
- 1.2 Dipole-dipole forces: forces between two polar molecules ✓ ✓ (2)
- 1.3 Nail polish remover ✓ , It has the lowest boiling point ✓ (2)
- 1.4 Glycerine, ✓ It has the highest boiling point. ✓ (2)
- 1.5 Avoid direct heating with open flame. ✓ (2)
Work in a well-ventilated room/use a fume cupboard. ✓
- 1.6 Nail polish remover ✓ , lowest boiling point ✓ , (2)
OR
weakest intermolecular forces ✓ ,
OR
less energy is required to overcome intermolecular forces ✓
OR
can easily change to vapour ✓
- (Marking criteria: 1 mark for nail polish remover and 1 mark for any reason)
- 1.7 Sunflower oil has a large molecular mass. ✓ ✓ (2)

Question 2

- 2.1 The temperature at which the vapour pressure of a substance equals (2)
atmospheric pressure. ✓ ✓
- 2.2 • The intermolecular forces between the molecules of iodine and bromine are (3)
both London forces (Van der Waals forces/Induced dipole forces). ✓
• Iodine molecules have a bigger molecular mass than the molecules of
bromine/iodine molecules have a larger surface area than molecules of
bromine/iodine molecules have more electrons than that of bromine and
thus have a larger polarity (any option) ✓
• The bigger the molecules/larger the surface are of the molecules, the
stronger the intermolecular forces. ✓
- 2.3 • The intermolecular forces between phosphine molecules are dipole- dipole (4)
forces/Van der Waals forces. ✓
• The intermolecular forces between ammonia molecules are hydrogen
bonds. ✓

- The dipole-dipole forces are weaker than the hydrogen bonds. ✓
- Weaker forces will cause the molecules to evaporate faster/stronger forces will evaporate slower ✓

2.4 Bromine ✓ (1)

2.5 (3)

- Both water and ethanol have hydrogen bonds. ✓
- Both are the same in relative strength. ✓
- Substances with comparable relative strength in intermolecular forces will dissolve. ✓

[13]

TOTAL MARKS: 25

