INTENDED USE(2)
For the quantitative in vitro determination of blood haemoglobin according to the Recommendation of the International Committee for Standardisation in Haematology (ICSH). This product is suitable for Manual use.

Cat. No.
HG 1539    R1. Reagent (Conc.) 5 x 100 ml
5 x 100 ml

COLORIMETRIC METHOD

PRINCIPLE
Haemoglobin is first oxidized by potassium ferricyanide into methaemoglobin which is converted into cyanmethaemoglobin by potassium cyanide. The absorbance of the cyanmethaemoglobin is monitored at 540 nm.

SAMPLE MATERIAL
Whole blood.

REAGENT COMPOSITION

<table>
<thead>
<tr>
<th>Contents</th>
<th>Concentrations in the Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Ferricyanide</td>
<td>0.61 mmol/l</td>
</tr>
<tr>
<td>Potassium Cyanide</td>
<td>0.77 mmol/l</td>
</tr>
<tr>
<td>Potassium Phosphate</td>
<td>1.03 mmol/l</td>
</tr>
<tr>
<td>Surfactant</td>
<td>0.1 % v/v</td>
</tr>
</tbody>
</table>

SAFETY PRECAUTIONS AND WARNINGS
For in vitro diagnostic use only. Do not pipette by mouth. Exercise the normal precautions required for handling laboratory reagents.

Extreme care should be taken with the haemoglobin reagent as it contains cyanide which is poisonous. In case of contact with skin or mucous membranes drench the affected area with water. Remove any affected clothing and place in the open air. If ingested administer amyl nitrate, give water to drink, and obtain immediate medical attention. Do not induce vomiting.

Health and Safety data sheets available on request.

The reagents must be used only for the purpose intended by suitably qualified laboratory personnel, under appropriate laboratory conditions.

STABILITY AND PREPARATION OF REAGENTS
Dilute 1 volume of the reagent with 9 volumes of distilled water. Alternatively, dilute the contents of one bottle of reagent with 900 ml of distilled water. The undiluted reagent is stable up to the expiry date specified when stored at +2 to +8°C. The diluted reagent is stable for at least 6 months at +15 to +25°C when stored in a tightly closed dark bottle. Discard the solution if discoloured or darkened.

STABILITY AND PREPARATION OF REAGENT WITH RANSEL ASSAY
Dilute 1 volume of the Haemoglobin reagent with 24 volumes of redistilled water. Store protected from light. Stable for 6 months or to expiry date, whichever is the shortest, when stored at +15 to +25°C.

MATERIALS PROVIDED
Reagent (Conc.)

NOTE
The absorbance of cyanmethaemoglobin can be read within 24 hours providing the test tubes are kept stoppered.

If measurements can not be taken at 540 nm with a band width of less than 1 nm, a calibration curve should be prepared with a set of cyanmethaemoglobin standards.

PROCEDURE

Wavelength: 540 nm (Hg 546 nm)
Cuvette: 1 cm light path
Temperature: 20 -25°C
Measurement: against distilled water

Pipette into test tubes:-

Blood Sample 20 µl
Diluted Reagent 5.0 ml

Rinse the pipette used for the blood sample a few times with the reaction mixture. Mix and read the absorbance of sample (Asample) against distilled water after 3 minutes.

CALCULATION
Haemoglobin Concentration = Asample x 22.82 (mmol/l)
Haemoglobin Concentration = Asample x 36.77 (g/dl)

NORMAL VALUES(1)

<table>
<thead>
<tr>
<th></th>
<th>mmol/l</th>
<th>g/dl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>8.7-11.2</td>
<td>14-18</td>
</tr>
<tr>
<td>Females</td>
<td>7.5- 9.9</td>
<td>12-16</td>
</tr>
</tbody>
</table>

It is recommended that each laboratory establish its own reference range to reflect the age, sex, diet and geographical location of the population.

LINEARITY
This method is linear up to 21 g/dl.

REFERENCES