~~0.01 kg, 1 gm/cm³ 20 cm³~~ 0.01 kg, × 1 gm/cm³ / 5 cm³

Buoyancy force force ballon,

$V_b = 1 m^3$ $\rho_b = \frac{m}{V} = \frac{15 kg}{1 m^3} = 15 kg/m^3$

$M = 15 kg$ $= 0.015 g/cm^3$

gravity of planet $g = 0.425 m/s^2$

density of methane $\rho_m = 0.4 g/cm^3 = 400 kg/m^3$

As As $\rho_m > \rho_b$, ballon will float.

So, buoyance force of ballon,

$F_b = 400 kg \times 0.425 m/s^2$

$= 170 N.$