

Solution

0.318g

60ml

$$v = m/M = 0.318/106 = 0.003 \text{ moles}$$

x moles



$v=1 \text{ mole}$

$v=2 \text{ moles}$

$$M = 2 \times 23 + 12 + 3 \times 16 = 106 (\text{g/mole})$$

$$M = 1 + 35,5 = 36,5 (\text{g/mole})$$

Proportionally

$$\frac{0.003 \text{ moles}}{1} = \frac{x}{2 \text{ moles}};$$

$$x = \frac{0.003 \times 2}{1} = 0,006 \text{ moles};$$

Molarity of the acid:

$$\frac{0.006 \text{ moles}}{60 \text{ ml}} = \frac{x \text{ moles}}{1000 \text{ ml}};$$

$$x = \frac{0.006 \times 1000}{60} = 0,1 \text{ M}.$$