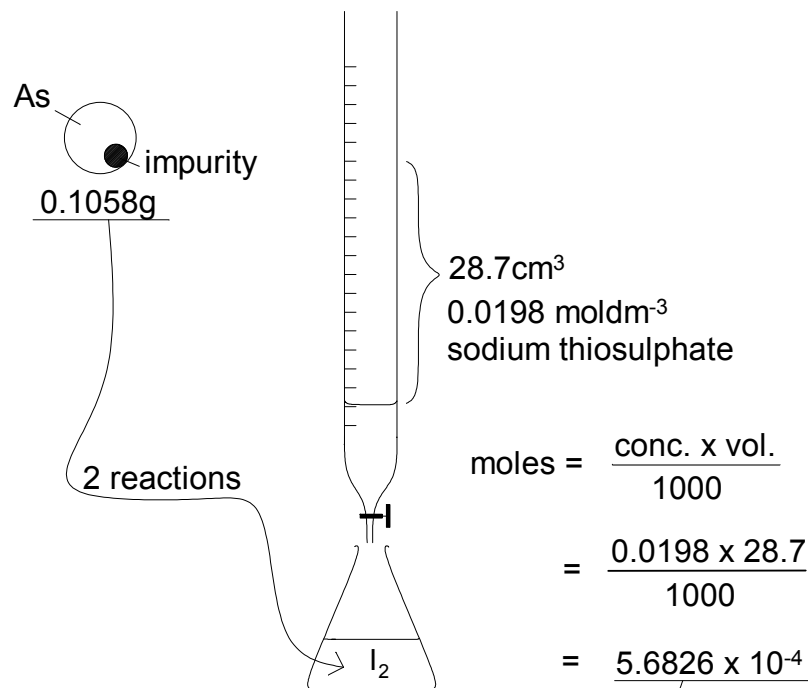


Titration of Arsenic Acid and Iodide

Arsenic can be oxidised to arsenic(V) acid, H_3AsO_4 .
This acid oxidises I^- ions to I_2 , which can be estimated by titration against a standard thiosulphate solution.



If 0.1058g of a sample containing arsenic required 28.7cm³ of a 0.0198 moldm⁻³ solution of sodium thiosulphate in the final titration, what is the percentage of arsenic in the sample?



Equation	$2\text{Na}_2\text{S}_2\text{O}_3 + \text{I}_2 \longrightarrow \text{Na}_2\text{S}_4\text{O}_6 + 2\text{NaI}$
Ratio	2 : 1
Moles	$5.6826 \times 10^{-4} : 2.8413 \times 10^{-4}$

→ = moles As

$$\begin{aligned} \text{mass} &= \text{moles} \times \text{RAM} \\ &= 2.841 \times 10^{-4} \times 75 \\ &= 0.0213 \text{ g} \end{aligned}$$

$$\begin{aligned} \% &= \frac{0.0213}{0.1058} \times 100 \\ &= \underline{\underline{20.1\%}} \end{aligned}$$