

Find the mass of 100ml of carbondioxide at STP?

In order to find the mass of CO₂, we need to know number of moles.

At STP $v = V/V_m$

$V = 0.1 \text{ L}$

$V_m = 22.4 \text{ L/mol}$

$v(\text{CO}_2) = 0.1/22.4 = 0.0045 \text{ mol}$

Then we have to multiply number of moles and molar mass of CO₂

$m(\text{CO}_2) = v(\text{CO}_2) * m(\text{CO}_2)$

$m(\text{CO}_2) = 0.0045 * 44 = 0.198 \text{ g}$

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