

CALCULATION CHART

1Kg	=	1000g	gram	(MASS)
1g	=	1000mg	milligrams	
1mg	=	1000mcg	micrograms	
1mcg	=	1000ng	nanograms	and 1 nanogram = 10000 picograms
1 lb	=	0.45kg		
1 stone	=	6.35kg		

1:10	means there is 1g in 10ml
1:100	means there is 1g in 100ml
1:1000	means there is 1g in 1000ml
1:10,000	means there is 1g in 10,000ml

1L (liter)	=	1000ml (milliliter)	(VOLUME)
1 millilitre	=	1000 microlitres	
1 pint	=	568ml	
50ml	=	1.8 fl. oz	

% w/v = %g in 100mls. For example, 5% w/v = 5 g in 100mls
% v/v = %ml in 100mls. For example, 5% v/v = 5mls in 100mls

Volume Needed = $\frac{\text{what you want} \times \text{volume it is in}}{\text{what you've got}}$

To convert mg into mcg multiply by 1000 and vice-versa

To convert ng to mcg, mcg to mg, mg to g, or g to kg we divide by 1000

1 mole = 1000 millimole (mmol)

To calculate IVI drops per minute

IVI Drops = 1ml = 60 drops -microdrops via Burette / paed. IVI set
 = 20 drops -macrodrops of clear fluid via adult IVI set
 = 15 drops -macrodrops of blood via a Blood adm. set

$$\text{Drops per minute} = \frac{\text{prescribed volume (ml)} \times \text{drops per ml}}{\text{Prescribed time (hrs)} \times 60}$$

Where a drug dose is prescribed in mass/weight per minute the following formula can be used

$$\text{Drops per minute} = \frac{\text{amount of drug per minute} \times \text{volume} \times \text{drops per ml}}{\text{amount of drug in infusion}}$$

Drops per minute when administering clear fluid (N/Saline), volume of 1000ml, using an adult IVI adm. Set (macrodrops = 1ml = 20drops)

1 hourly	=	333dps / min	
2	=	166	
3	=	111	
4	=	83	$\frac{\text{prescribed volume (ml)} \times \text{drops per ml}}{\text{prescribed time (hrs)} \times 60}$
6	=	55	
8	=	42	
12	=	28	
24	=	19	$\frac{1000 \text{ (mls)} \times 20 \text{ (dps)}}{6 \text{ (hrs)} \times 60 \text{ (secs)}} = \frac{20\ 000}{360} = 55\text{dps/min}$

% w/v = %g in 100mls. For example, 5% w/v = 5 g in 100ml

Example Dextrose 5, 10, 20 or 50%

5% Dext : 500ml = 5gms per 100ml = 25gm:500ml (1000ml bag = x2 = 50gm)

10% Dext: 500ml = 10gms per 100ml = 50gm:500ml

20% Dext: 500ml = 20gm per 100ml = 100gm:500ml

50% Dext: 500ml = 50gm per 100ml – 250gm:500ml