P.E.S.T.
Pest Education Services & Training

METHYL BROMIDE CT PRODUCT DETAILED EXPLANATION AND CALCULATIONS

Size of Container = Height x Width x Depth
= eg. 5m x 4m x 2m = $40m^3$
= Volume

Based on a Methyl Bromide Fumigation
Applicable Rate or Dose = $32g/m^3$

Exposure Period = 24 hours
= Obtained from Manual of Fumigation for Insect Control or as instructed by the Department of Agriculture in Australia or the importing country.

Gas Required or Dosage = Volume x Application Rate
= $40m^3$ x 32g
= 1280g

Retention Period = Obtained from Manual of Fumigation for Insect Control or as instructed by the Department of Agriculture in Australia or the importing country.

Minimum Concentration = Application rate x Retention period
= 32g x 30%
= $9.6\ g/m^3$

In well sealed enclosures that have passed a pressure test where gas loss rates are low, the best calculation is by using the arithmetic mean.

$$\text{CT Product} = \left[\frac{\text{Application rate + Minimum concentration}}{\text{Number of concentration readings}} \right] \text{x Exposure Period}$$

$$= \left[\frac{32 + 9.6}{2} \right] \times 24$$

$$= 499.2\ g\ h/m^3$$

In fumigations under gas-proof sheeting where gas loss rates are very high, the best calculation is by using the geometric mean.

$$\text{CT Product} = \sqrt{\left[\text{Application rate x Minimum concentration} \right]} \text{ x Exposure Period}$$

$$= \sqrt{\left[32 \times 9.6 \right]} \times 24$$

$$= 420.65\ g\ h/m^3$$