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Cite this: *Soft Matter*, 2015, 11, 2313

DOI: 10.1039/c5sm90032h

www.rsc.org/softmatter

Correction: Tap density equations of granular powders based on the rate process theory and the free volume concept

Tian Hao*

Correction for 'Tap density equations of granular powders based on the rate process theory and the free volume concept' by Tian Hao *et al.*, *Soft Matter*, 2015, DOI: 10.1039/c4sm02472a.

The authors regret the following errors in eqns (23), (24) and (26). The corrected equations are shown below.

The section on page 4

The energy flowing from the shaker to the powder³⁶ is:

$$E(t) = \frac{M_g L_0 \omega}{\pi} \quad (23)$$

where M_g is the weight of powder. The total energy flowing to the powder after a series of tapping processes with the tapping number, n , may be expressed as:

$$E = nE(t) = \frac{nM_g L_0 \omega}{\pi} \quad (24)$$

should be corrected to

The energy flowing rate from the shaker to the powder³⁶ is:

$$E(t) = \frac{Mg L_0 \omega}{2\pi} \quad (23)$$

where Mg is the weight of powder. The total energy flowing to the powder after a series of tapping processes with the tapping number, n , may be expressed as:

$$E = nE(t)t = nMgL_0 \quad (24)$$

where t is the time spent for one tap.

The sentence on page 5

Substituting eqn (24) into eqn (25) yields:

$$k = A \exp \left[- \left(\frac{nMgL_0 \omega}{\pi RT} \right)^\beta \right] = A \exp \left[- \left(\frac{n}{\tau} \right)^\beta \right] \quad (26)$$

where τ is a constant of $\tau = \pi RT / (MgL_0 \omega)$

should be corrected to

Substituting eqn (24) into eqn (25) yields:

$$k = A \exp \left[- \left(\frac{nMgL_0}{RT} \right)^\beta \right] = A \exp \left[- \left(\frac{n}{\tau} \right)^\beta \right] \quad (26)$$

where τ is a constant of $\tau = RT / (MgL_0)$.

The Royal Society of Chemistry apologises for these errors and any consequent inconvenience to authors and readers.

