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### LIST OF SYMBOLS AND ABBREVIATIONS

AEEA 2-(2-aminoethylaminoethanol) AHPD 2-amino2-hydroxymethyl-1,3-propandiol Amine Am AMP 2-amino-2-methylpropanol AMPD 2-amino-2-methylpropandiol Number of moles of a base В  $BaCl_2$ Barium chloride BaCO<sub>3</sub> Barium carbonate  $CO_2$ Carbon dioxide  $CO_{3}^{2-}$ Carbonate ion DEA Diethanolamine DGA Diglycolamine  $E_A$ Activation Energy EAE Ethylaminoethanol Experimental exp.  $H_2O$ Water  $H_2S$ Hydrogen sulphide HCl Hydrochloric acid Henry's constant  $H_{CO2}$ HCO<sub>3</sub><sup>-</sup> Bicarbonate ion Κ Kelvin Acid dissociation constant  $K_a$ Κa Apparent acid dissociation constant

$K_i$	Equilibrium constant of species <i>i</i>
$K_{OV}$	Overall equilibrium constant
MAE	2(methylamino)ethanol
MAECOO	Carbamate ion of methylaminoethanol
$\mathbf{MAEH}^{+}$	Protonated amine
MDEA	Methyldiethanolamine
MEA	Monoethanolamine
$M_i$	Molarity of species i (mol.dm <sup>-3</sup> )
Ml	Millilitre (= $cm^3$ )
MPE	Absolute mean percentage error
$N_2$	Nitrogen gas
NaCl	Sodium chloride
NaOH	Sodium hydroxide
Р	Pressure, kPa
$P_{CO2}$	Partial pressure of CO <sub>2</sub> (kPa)
$pK_a$	$-\log_{10}K_a$
PZ	Piperazine
R	Alkyl group
$R^2$	Coefficient of determination
Т	Temperature (°C)
TEA	Trienthanolamine
theo.	Theoretical
TIPA	Triisopropylamine
$V_i$	Volume of liquid i (cm <sup>3</sup> )
VLE	Vapour-liquid equilibria
А	Loading (mol.CO <sub>2</sub> /mol.amine)