

*List of Physico-chemical Symbols adopted by the Chemical Society.*  
[See J.C.S., 1921, 119, 502—512.]

1. *Mathematical Symbols.*

	Usual symbol.	Alternative symbol.
Base of natural (Napierian) logarithms .....	$e$	
Diameter .....	$d$	
Radius .....	$r$	
Ratio of circumference to diameter .....	$\pi$	
Summation .....	$\Sigma$	
Variation .....	$\delta$	
Total differential .....	$d$	
Partial differential .....	$\delta$	

2. *Universal Constants.*

Acceleration due to gravity .....	$g$	
Mechanical equivalent of heat .....	$J$	
Avogadro's constant [number of molecules in 1 gram-mole- cule (mole)] .....	$N$	
Gas constant per mole .....	$R$	
Faraday's constant (number of coulombs per gram-equiv- alent of an ion) .....	$F$	
Charge on an electron .....	$e$	

3. *General Physics and Chemistry.*

Length .....	$l$	
Height .....	$h$	
Mass .....	$m$	
Time .....	$t$	
Volume .....	$v, V$	
Density (mass per unit volume) .....	$d$	$D$
Pressure .....	$p, P$	
Concentration .....	$c, C$	
Mole fraction .....	$x$	
Critical constants: pressure, volume, temperature (centi- grade), temperature (absolute), density .....	$p_c, v_c, t_c, T_c, d_c$	
Reduced quantities: pressure, volume, temperature, density .....	$p_r, v_r, t_r, T_r, d_r$	
van der Waals' constants .....	$a, b$	
Fluidity .....	$\phi$	
Viscosity .....	$\eta$	
Surface tension .....	$\gamma$	$\sigma$
Diffusion coefficient .....	$\Delta$	
Atomic weight .....	$A$	
Molecular weight .....	$M$	
Velocity coefficient of reaction .....	$k$	
Equilibrium constant .....	$K, (K_c, K_p)$	
van 't Hoff coefficient .....	$i$	
Degree of dissociation (electrolytic, thermal, etc.) .....	$\alpha$	

4. *Heat and Thermodynamics.*

Temperature (centigrade) .....	$t$	$\theta$
Temperature (absolute) .....	$T$	
Critical temperature .....	$t_c, T_c$	
Reduced temperature .....	$t_r, T_r$	

## 4. Heat and Thermodynamics—(continued).

	Usual symbol.	Alternative symbol.
Critical solution temperature .....	$t_{cs}, T_{cs}$	
Quantity of heat .....	$Q$	
Entropy .....	$S$	
Specific heat .....	$c$	
Specific heat at constant pressure .....	$c_p$	
Specific heat at constant volume .....	$c_v$	
Ratio of specific heats, $c_p : c_v$ .....	$\gamma$	
Molecular heat .....	$C$	
Molecular heat at constant pressure .....	$C_p$	
Molecular heat at constant volume .....	$C_v$	
Latent heat per gram .....	$l$	
Latent heat per mole .....	$L$	
Maximum work (diminution of free energy) .....	$A$	

## 5. Optics.

Wave-length of light .....	$\lambda$	
Refractive index .....	$n$	$n_r$
Specific refractive power (Gladstone and Dale) .....	$r_G, [r_G]_\lambda^p$	
Specific refractive power (Lorentz and Lorenz) .....	$r_L, [r_L]_\lambda^l$	
Molecular refractive power .....	$R_G, R_L, [R_G]_\lambda^p, [R_L]_\lambda^l$	
Angle of optical rotation .....	$\alpha$	
Specific rotatory power .....	$[\alpha]$	
Molecular rotatory power .....	$M[\alpha]$	
Specific magnetic rotation .....	$[\omega]$	
Molecular magnetic rotation .....	$M[\omega]$	

## 6. Electricity and Magnetism.

Quantity of electricity .....	$Q$	
Current intensity .....	$I$	
Resistance .....	$R$	$W$
Electromotive force .....	$E$	$\epsilon$
Electrode potential, or discharge potential of an ion .....	$E$	
Electrode potential referred to the normal hydrogen or normal calomel electrode respectively, the potential of which is taken as zero .....	$E_h, E_c$	$\epsilon_h, \epsilon_c$
Normal potential, <i>i.e.</i> , the electrode potential referred to the normal hydrogen or normal calomel electrode respectively, when the solution is molecular-normal in respect of all participating substances and ions of variable concentration .....	${}^0E_h, {}^0E_c$	${}^0\epsilon_h, {}^0\epsilon_c$
Dielectric constant .....	$\epsilon$	
Conductivity (specific conductance) .....	$\kappa$	
Equivalent conductivity .....	$\Lambda$	
Equivalent conductivity at different dilutions—volumes in litres containing 1 gram-equivalent .....	$\Lambda_{10}, \Lambda_v, \Lambda_\infty$	
Equivalent conductivity of cation and of anion .....	$\Lambda_k, \Lambda_a$	
Equivalent conductivity of specified ions .....	$\Lambda_K, \Lambda_{Cl}$	
Molecular conductivity .....	$\mu$	
Velocity of cation and of anion in cm./sec. when the potential gradient is 1 volt per cm. ....	$U_k, U_a$	
Transport number of cation and of anion .....	$n_k, n_a$	
Magnetic permeability .....	$\mu$	
Magnetic susceptibility .....	$\kappa$	

## List of Symbols, Arranged Alphabetically.

Symbol.	Name of quantity.
$A$	Atomic weight; maximum work.
$a$	Van der Waals' constant.
$b$	Van der Waals' constant.
$C$	Concentration; molecular heat.
$c$	Concentration; specific heat.
$C_p, C_v$	Molecular heat at constant pressure, and at constant volume.
$c_p, c_v$	Specific heat at constant pressure, and at constant volume.
$D$	Alternative symbol for density.
$d$	Diameter; total differential; density.
$d_c$	Critical density.
$\bar{d}$	Reduced density.
$E$	Electromotive force; electrode potential.
$e$	Base of Napierian logarithms; charge on an electron.
$E_n, E_c$	Electrode potential referred to the normal hydrogen or the normal calomel electrode, respectively, the potential of which is taken as zero.
${}^0E_n, {}^0E_c$	Normal potential, that is, the electrode potential referred to the normal hydrogen or the normal calomel electrode respectively, when the solution is molecular-normal in respect of all participating substances and ions of variable concentration.
$F$	Faraday's constant (number of coulombs per gram-equivalent of an ion).
$g$	Acceleration due to gravity.
$h$	Height.
$I$	Current.
$i$	Van 't Hoff coefficient.
$J$	Mechanical equivalent of heat.
$K$	Equilibrium constant.
$K_c, K_p$	Equilibrium constant, when molar concentrations and partial pressures respectively are employed.
$k$	Velocity coefficient of reaction.
$L$	Latent heat per mole.
$l$	Length; latent heat per gram.
$M$	Molecular weight.
$M[\alpha]$	Molecular rotatory power.
$M[\omega]$	Molecular magnetic rotatory power.
$m$	Mass.
$N$	Avogadro's constant (Loschmidt's number) or number of molecules in 1 gram-molecule.
$n$	Refractive index.
$n_+, n_-$	Transport number of cation and of anion.
$n_r$	Refractive index (alternative symbol).
$P$	Pressure.
$p$	Pressure.
$p_c, \bar{p}_r$	Critical pressure: reduced pressure.
$Q$	Quantity of heat; quantity of electricity.
$R$	Gas constant per mole; electrical resistance.
$R_G, R_L$	Molecular refractive power, according to Gladstone and Dale, and to Lorentz and Lorenz respectively.
$r$	Radius.
$r_G, r_L$	Specific refractive power according to Gladstone and Dale, and to Lorentz and Lorenz respectively.
$S$	Entropy.
$T$	Absolute temperature.
$T_c$	Critical temperature (on the absolute scale).
$T_r$	Reduced temperature (absolute).
$T_{cs}$	Critical solution temperature (absolute).
$t$	Time; temperature (centigrade).
$t_c$	Critical temperature (centigrade).
$t_{cs}$	Critical solution temperature (centigrade).
$t_r$	Reduced temperature (centigrade).
$U_+, U_-$	Velocity of cation and of anion in cm./sec. when the potential gradient is 1 volt per cm.
$V$	Volume.
$v$	Volume.
$v_c, v_r$	Critical volume: reduced volume.

*List of Physico-chemical Symbols.**List of Symbols, Arranged Alphabetically—(continued).*

Symbol.	Name of quantity.
$W$	Electrical resistance (alternative symbol).
$x$	Mole fraction.
$\alpha$	Degree of dissociation (electrolytic, thermal, etc.); angle of optical rotation.
$[\alpha]$	Specific rotatory power.
$\gamma$	Surface tension; ratio of specific heats.
$\Delta$	Diffusion coefficient.
$\delta$	Variation.
$\partial$	Partial differential.
$\epsilon$	Electrode potential (alternative symbol); dielectric constant.
$\epsilon_h, \epsilon$	Electrode potential referred to the normal hydrogen or the normal calomel electrode respectively, the potential of which is taken as zero (alternative symbols).
$\epsilon^h, \epsilon^e$	Normal potential, that is, the electrode potential referred to the normal hydrogen or the normal calomel electrode respectively, when the solution is molecular-normal in respect of all participating substances and ions of variable concentration (alternative symbols).
$\eta$	Viscosity.
$\theta$	Temperature (centigrade), (alternative symbol).
$\kappa$	Specific conductance (conductivity); magnetic susceptibility.
$\Lambda$	Equivalent conductivity.
$\Lambda_{10}, \Lambda_v, \Lambda_\infty$	Equivalent conductivity at different dilutions (volumes in litres containing 1 gram-equivalent).
$\Lambda_k, \Lambda_a$	Equivalent conductivity of cation and of anion.
$\lambda$	Wave-length of light.
$\mu$	Molecular conductivity; magnetic permeability.
$\pi$	Ratio of circumference to diameter.
$\Sigma$	Summation.
$\sigma$	Surface tension (alternative symbol).
$\phi$	Fluidity.
$[\omega]$	Specific magnetic rotation.