## Entering an Equation

Enter the equation as you see it, without capitalising the elements.

For example:
mno4-(aq) $+8 \mathrm{~h}+(\mathrm{aq})+5 \mathrm{e}-$
will produce
$\mathrm{MnO}_{4}^{-}(a q)+8 \mathrm{H}^{+}(a q)+5 \mathrm{e}^{-}$

## Reaction Arrows

=> produces a blank reaction arrow
Text can be placed above and below the arrow by placing it between the $=$ and $>$ signs. The above and below text are separated by a comma.

For example:
="above","below">
will produce

$$
\xrightarrow[\text { below }]{\text { above }}
$$

Note: The above example shows the use of quotes to produce unformatted text. See below.

## Equilibrium Arrows

<> produces an equilibrium arrow
Equilibrium arrows can have text placed above and below them in the same way as reaction arrows.

## Precipitation and Gas Evolution Arrows

1 produces a precipitation arrow
1 produces a gas evolution arrow.

## Unformatted Text

To get FX Chem to leave text alone and not format it as a chemical equation, surround the text in quotes.

For example:
ch3chch2 + hoh =h2so4,"Sulphuric Acid"> ch3chohch3
will produce
$\mathrm{CH}_{3} \mathrm{CHCH}_{2}+\mathrm{HOH} \xrightarrow[\text { Suphuruic Acid }]{\mathrm{H}_{4} \mathrm{SO}_{4}} \mathrm{CH}_{3} \mathrm{CHOHCH}_{3}$
Without the quotes, sulphuric acid would have been formatted as:

## SUIPHURIC Acid

as FX Chem tried to make chemical sense of the letters.

## Nuclear Chemistry

FX Chem uses the curly brackets (braces) to allow you to enter mass numbers and atomic numbers for nuclear chemistry.
\{mass number, atomic number\}
For example:
$\{238,92\} \mathrm{u}=>\{234,90\}$ th $+\{4,2\} \mathrm{he}$
will produce

$$
{ }_{92}^{238} \mathrm{U} \longrightarrow{ }_{90}^{234} \mathrm{Th}+{ }_{2}^{4} \mathrm{He}
$$

FX Chem understands neutrons, protons and electrons. Enter them as:
$\{1,0\} n \quad\{1,1\} p$ and $\{0,-1\} e$

## Neutrinos and Antineutrinos

Neutrinos are shown in chemical equations using the Greek letter nu. You can enter a neutrino by typing nu. An anti-neutrino is entered as nu_.

## Delta H

Typing DEH (or deh) will enter $\Delta H$ into your equation.

## Alpha, Beta and Gamma

Typing \$al, \$be and \$ga will insert the Greek letters $\alpha$, $\beta$ and $\gamma$ into your equation.

## Why Can't I Get Silicon and Cobalt?

FX Chem will correctly capitalize most elements when entered in lower case. Sometimes you will require an element such as Si or Co and FX Chem will insist on capitalizing them as SI and CO . On the rare occasions that FX Chem makes a mistake, simply capitalize the element yourself and FX Chem will leave it alone. In other words type Co rather than co.

