

# Stoich v.45

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*Thanks for downloading my program . . .*

- I -Introduction
- II -Terms of Use
- III -Features
- IV -How to use
- V -Version History

## I -Introduction

Stoich is a chemistry BASIC program for the TI-89 that can help solve stoichiometry problems. So far, Stoich v0.45 is the most complete stoichiometry solver with the smallest size. Hope that you will find Stoich useful.

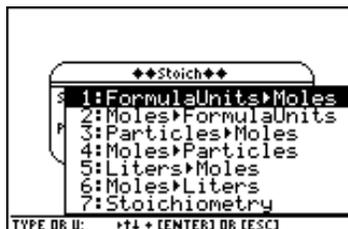
## II -Terms of Use

- \*This program is a FREEWARE so do not even try to make a profit out of it.
- \*For optimum performance of the program please do not modify anything.
- \*Any parts of this program can be used freely but remember to give me credit.

## III -Features

\*Conversions:

- Formula Units >> Moles
- Moles >> Formula Units
- Particles >> Moles
- Moles >> Particles
- Liters >> Moles
- Moles >> Liters



\*Stoichiometry Solver

## IV -How to use

To install Stoich, just send the file **stoich.89p** to your calculator. To understand more about the features in Stoich, please read the examples below.

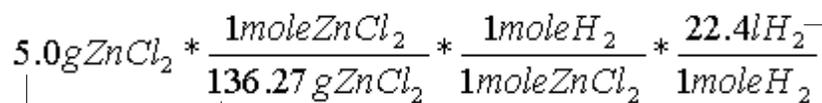
*This example applies to the conversion units:*

$$180 \text{ gCu} * \frac{1 \text{ moleCu}}{63.55 \text{ g / mole}}$$

The diagram shows a flow from a chemical equation to a calculator screen. The equation is  $180 \text{ gCu} * \frac{1 \text{ moleCu}}{63.55 \text{ g / mole}}$ . Arrows point from the "180" and "63.55" in the equation to the calculator screen. The calculator screen shows the input: "Enter given formula unit(s): 180" and "Enter amount of formula unit per mole: 63.55". An arrow points from the calculator screen to the program's output screen. The output screen shows: "180", "Enter amount of formula unit per mole: 63.55", "The answer is:", "2.83241542093e0", and "mole(s)".

This example applies to the Stoichiometry unit:

The equation from below wants to find how many liters of Hydrogen gas produced from the reaction of 5.0g of Zinc Chloride.



Stoichiometry

Enter Given: 5.0

Enter Given/mole: 136.27

Enter molar ratio: 1/1

Enter wanted: 22.4

Enter=BK ESC=CANCEL

MAIN DEG APPROX FUNC 1/30

The answer is:  
8.21897703089E-1

MAIN DEG APPROX FUNC PAUSE

Hope that you found the examples useful. One thing that needs to be remembered is that Stoich will give your answer in FLOAT mode, so you need to adjust your answers to the right significant units manually

## V –Version History

V0.1 (not published) My second BASIC program. Contain conversion from Formula Units to Mole and vice versa. Size:1454 bytes

V0.2 (First version to be published) Added conversion from Particles to Mole and vice versa. Size:1981 bytes

V0.3 (Published) Added conversion from Liters to Mole and vice versa. Size: 2207 bytes

V0.4 (Not Published) Added Stoichiometry solver. Size:2520 bytes

V0.45 (Published) Added manual in Acrobat file format. Size of 2393 bytes.

If you find any bugs or have ideas for my program, please feel free to contact me.