how many formula units are there in 24 grams of FeCl3

Solution. It is known that 1 mole of a substance contains 6.02×10^{23} formula units. Then, 24 grams FeCl$_3$ make up: $\frac{m(FeCl_3)}{M(FeCl_3)} = \frac{24}{162.5} = 0.15$ moles. Then, 24 grams of FeCl$_3$ make up $0.15 \times 6.02 \times 10^{23} = 9 \times 10^{22}$ formula units.

Answer: 9×10^{22} formula units.