

Complete the following table.

Formula	Ionic or molecular	Salt, acid, base, or covalent?	# of total ions	Name
H ₂ SO ₄	M	Acid	0	Sulfuric acid
RbCl	I	Salt	2	rubidium chloride
CCl ₄	M	Covalent	0	Carbon tetrachloride
FeO ₂	I	Salt	2	Iron(II) oxide
CuSO ₄	I	Salt	2	Copper (II) sulfate
AgNO ₃	I	Salt	2	Silver nitrate
Al ₂ (CO ₃) ₃	I	Salt	5	Aluminum carbonate
KOH	I	base	2	Potassium hydroxide

Classify the following bonds as ionic, polar covalent or nonpolar covalent

Polar cov	S-C
Polar cov	Cl-H
Non-polar cov	Cl-Cl
Non-polar cov	Br-Br

Ca - S ionic

How many grams of calcium are there in 1.34 moles of calcium?

$$1.34 \text{ mol Ca} \times 40.1 \text{ g/mol Ca} = 53.7 \text{ g}$$

How many moles are there in 112.0 grams of NaCl?

$$112.0 \text{ g} \times \frac{1 \text{ mol NaCl}}{58.5 \text{ g}} = 1.91 \text{ mol NaCl}$$

How many atoms of hydrogen are in 123 moles of hydrogen?

$$123 \text{ mol H} \times 6.02 \times 10^{23} \text{ atoms/mol H} = 7.41 \times 10^{25} \text{ atoms}$$

What is the formula and name for the compound that forms between the following elements?

Sodium and nitrogen: Na₃N Sodium Nitride

Magnesium and sulfur: MgS Magnesium sulfide

Mg²⁺ S²⁻
Na⁺ N³⁻
Mg²⁺ S²⁻