## **CONCEPT:** ACID IDENTIFICATION

The most common feature of an acid is that many possess an $H^+$ ion called the _____ .

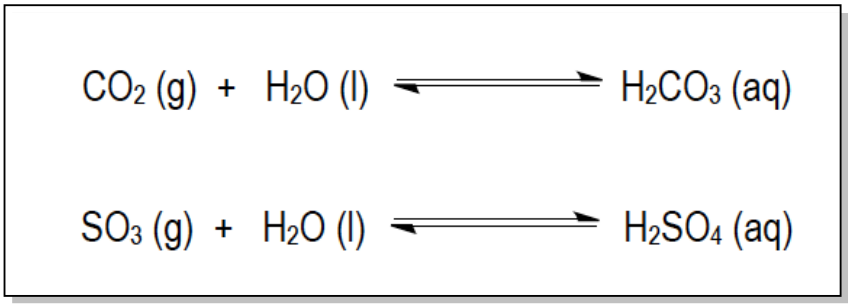
When it comes to acids there are **2 MAJOR TYPES** that exist:

_____ are acids where the $H^+$ ion is attached to an electronegative element.

- These types of acids lack the element _____ and usually possess no _____ .
- The most common type of these particular acids are the haloacids: _____ , _____ , _____ **&** _____ .

_____ are acids that contain the _____ , _____ **&** _____.

- They are created by the hydration of nonmetal oxides.




**EXAMPLE:** Which of the following compound(s) **cannot** be classified as an acid?

a) $H_2Se$ b) HOCN c) $HN_3$ d) $C_3H_8$ e) All are acids.

## **CONCEPT:** IONIC SALTS

When an acid neutralizes a base an ionic compound called a _____ is formed. These solutions can be neutral, acidic or basic, depending on the acid-base properties of the cations and anions formed.

### Cations ⊕

- Transition Metals
  ___ or higher charge will be acidic, less than ___ will be neutral
  $TiBr_2$ ⟶
- Main Group Metals
  ___ or higher charge will be acidic, less than ___ will be neutral
  $GaI_3$ ⟶
- Positive Amines
  Positively charged amines are acidic
  $NH_4NO_2$ ⟶

### Anions ⊖

- Add an $H^+$ to the anion and if you create a weak acid then your negative ion is basic.
  KF ⟶ $\xrightarrow{H^+}$
- Add an $H^+$ to the anion and if you create a strong acid then your negative ion is neutral.
  LiBr ⟶ $\xrightarrow{H^+}$

### Amphoteric

- Acidic
  $HSO_4^-$ $HSO_3^-$ $H_2PO_4^-$
- Basic
  $HCO_3^-$ $HS^-$ $HPO_4^{2-}$