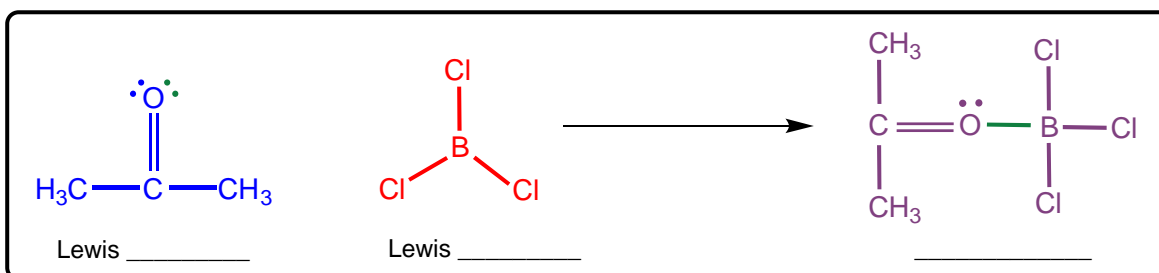


CONCEPT: LEWIS ACIDS AND BASES

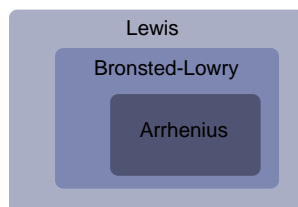
- The third acid-base definition was introduced in 1920s by *Gilbert N. _____*, an American chemist.

Lewis Acids and Bases			
Compound	Definition	Characteristics	Examples
Lewis Acid	Electron pair _____	<ul style="list-style-type: none"> H⁺ or _____ metals 	H ⁺ , Li ⁺ , K ⁺ , Mg ²⁺ , B ³⁺ , Al ³⁺
		<ul style="list-style-type: none"> Central element has less than ____ valence electrons - Includes group ____A, ____A and transition metals 	2A: MgCl ₂ 3A: AlBr ₃ Transition metal: NiCl ₂
Lewis Base	Electron pair _____	<ul style="list-style-type: none"> Presence of a _____ 	(CH ₃) ₂ C=Ö ÑH ₃
		<ul style="list-style-type: none"> Presence of a _____ charge 	OH ⁻ N ₃ ⁻ CN ⁻ HS ⁻

- **Adduct:** _____ of Lewis base and acid reaction.



- All Bronsted-Lowry acids and bases are also _____ acids and bases
- However, many Lewis acids and bases are _____ classified as acid or base under Bronsted or Arrhenius models



EXAMPLE: Identify each of the following as Lewis acid or base, Bronsted-Lowry acid or base, or both.

- | | |
|---------------------------|--|
| a) Co ²⁺ _____ | c) CH ₃ CONH ₂ _____ |
| b) HNO ₃ _____ | d) CO ₃ ²⁻ _____ |

PRACTICE: Identify the Lewis acid and Lewis base in the following reaction.

