

Answer on Question #42341 - Chemistry - Inorganic Chemistry

Question:

What is the Lewis dot diagram for a nitrogen molecule.

Answer:

Lewis dot diagrams are diagrams that show the bonding between atoms of a molecule and the lone pairs of electrons that may exist in the molecule. A Lewis structure contains valence electrons in lone pairs represented as dots and lines to represent shared pairs in a chemical bond (single, double, triple, etc.).

Lewis structures show each atom and its position in the structure of the molecule using its chemical symbol. Lines are drawn between atoms that are bonded to one another (pairs of dots can be used instead of lines). Excess electrons that form lone pairs are represented as pairs of dots, and are placed next to the atoms.

Each nitrogen atom has 5 valence electrons – 1 lone pair and 3 unpaired electrons. These 3 unpaired electrons form triple bond when two nitrogen atoms come close to each other forming nitrogen molecule. That's why Lewis dot diagram for nitrogen molecule is:

