Questions

One

Lewis structure of $Si(OH)_4$

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Step #1

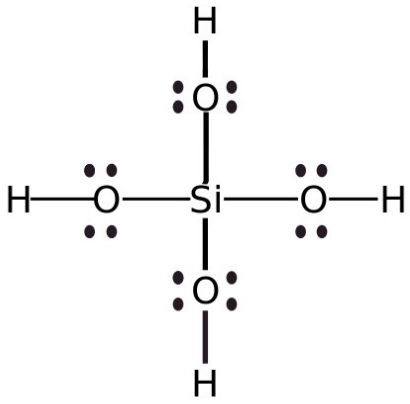
Number of electrons = 4x6 +4x1 +1x4 = 32.

Step #2

After 8 electrons are assigned to each oxygen, and single bonds are formed between each species all species have a full octet.

NOTE: As silica is a period two element overfilling of the octet is possible however any additional bond formation between the oxygen and the central silicon could only increase the formal charge and so may be discounted.

Step #3



Draw structure

Lewis structure of $Al(OH)_4^-$

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Step #1

Number of electrons = 4x6 +4x1 +1x3+1 = 32.

Step #2

After 8 electrons are assigned to each oxygen, and single bonds are formed between each species all species have a full octet. Again overfilling by creating more bonds will only increase the formal charge.

Step #3

Draw Structure

Introduction

Results