The Ether: Beryllium Dichloride & Ionization Energy

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Abstract

First Ionization Energy is that quantity of energy required removing the first electron from an atom making it an ion. In this paper, we consider why Beryllium Dichloride is the compound selected by the efficient universe to make up what has historically been called “the Ether.”

Keywords: Ionization Energy; Beryllium Dichloride; Ether; Gravity

Introduction

In a previous paper, I suggested that the Ether is Beryllium Dichloride. I provided no explanation as to why this would be selected by the efficient universe. In this paper, I consider the reasons that BeCl2 make up the universal ether.

If we consider the Electro negativity of the elements in the periodic table beginning with Hydrogen, skipping Helium because it’s a Nobel Gas, moving to Lithium, then Beryllium, and their ionic pairs, we see that the lowest ionic compound is formed when we reach BeCl2. Beryllium Dichloride has a difference of electro negativity of 1.7 -the beginning of ionic compounds. So what else is there about Beryllium Dichloride?

The geometry of the molecules leads itself to AT Math. The failure plane is 60 degrees, or actually 1 radian (57.29 degrees.). Hydrogen at atomic radius 0.037 is far too small compared to Chlorine. Hydrogen Fluorine is more reasonable when geometry is considered. However, this compound does not have the lowest electro negativity difference. Beryllium Dichloride does.
<table>
<thead>
<tr>
<th>Compound</th>
<th>ElectroN.</th>
<th>ElectroN</th>
<th>Delta</th>
<th>First Ion. Energy</th>
<th>Sum</th>
<th>Min.</th>
<th>Max.</th>
<th>$1/\sin \theta = G x (I.E.^2)$</th>
<th>$1/\sin \theta = G x (I.E.^2)$</th>
<th>SUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>HF</td>
<td>2.2</td>
<td>4.0</td>
<td>1.8</td>
<td>1310/1682</td>
<td>2992</td>
<td>1310</td>
<td>1682</td>
<td>0.30378</td>
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<td></td>
</tr>
<tr>
<td>HCl</td>
<td>2.2</td>
<td>3.2</td>
<td>1.0</td>
<td>1310/1255</td>
<td>2565</td>
<td>1255</td>
<td>1310</td>
<td>0.5008</td>
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<td></td>
</tr>
<tr>
<td>LiF</td>
<td>1.0</td>
<td>4.0</td>
<td>3.0</td>
<td>523/1682</td>
<td>2205</td>
<td>523</td>
<td>1682</td>
<td>0.30378</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LiCl</td>
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<td>3.2</td>
<td>2.2</td>
<td>523/1255</td>
<td>1778</td>
<td>523</td>
<td>1255</td>
<td>0.0546</td>
<td>0.3142</td>
<td>0.8602</td>
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<td>BeO</td>
<td>1.5</td>
<td>3.5</td>
<td>2.0</td>
<td>900/1314</td>
<td>2214</td>
<td>900</td>
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<td>523</td>
<td>1314</td>
<td>0.4977</td>
<td></td>
<td></td>
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<tr>
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<td>4.0</td>
<td>2.5</td>
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<td>900</td>
<td>1682</td>
<td>0.30978</td>
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<tr>
<td>BeCl2</td>
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<td>3.2</td>
<td>1.7</td>
<td>ionic</td>
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<td>900</td>
<td>1255</td>
<td>0.5456</td>
<td>0.1061</td>
</tr>
</tbody>
</table>

Table 1 Electro negativity of beginning ionic compounds

Go=Pi/Ln 1.618

Next we consider the ionization energy. BeCl2 has first ionization energy of approximately 1.5 kJ/ atom. When we consider gravity from the Energy -time plot (Figure 1). The volume of the shape illustrated is $4/3 x (0.502) = 0.667=G$

![Figure 1 Energy time plot x space yielding volume=gravity](image-url)
First Ionization Energy:

Be: 900 kJ/mole

\[ \frac{900 \text{ kJ/mole}}{6.023 \times 10^{23} \text{ atoms/mol}} = 1.49427 \text{ kJ/atom} \approx 1.5 \]

= 6.69 atoms/kJ

\~G = 6.67

Cl:

1255 kJ/mol ÷ 6.023 atoms/mol

= 208.63

Cl₂:

2 x 208.63

= 416.73

Now, from Figure 1:

\[ E \cdot t \cdot s = G \]

\[ E \cdot t \cdot |E| \cdot |t| \cdot \sin \theta = G \]

\[ E^2 t^2 \sin \theta = G \]

Let E = 1 & t = 1

\[ \frac{1}{\sin \theta} = \frac{1}{G} \]

= 1.5

= Mass Gap

\[ \theta = 41.8 \]

= 116 rads

= No. of stable elements.

Cl First Ionization energy = 1225
\[ \frac{1}{E^2 \times t^2 \times \sin \theta} = G = 6.67 \]

\[ \frac{1}{\sin \theta} = \frac{2}{3}(1.225)^2 = 1.0003 \]

\[ \theta = 88.59^\circ \approx \varepsilon_0 \text{Permittivity} \]

At Theta=90 degrees:

Mom=1-sin 1

\[
\sin \theta - \sin 1 = \text{Moment}
\]

\[-\sin 1 = \text{Mom.} \quad -\sin \theta \]

Fd=\sin 1 - \sin 1 = 0

When \( \sin 90 = 1; \cos 90 = 0 \)

Momentum \( P = \text{Moment} \)

\( M_v = F_d \)

\( M_v = M_{ad} \)

\( \frac{v}{a} = 1 = d \)

The atomic radius of Cl is 0.99 Angstroms.

\( V_{ol} = \frac{4}{3}\pi R^3 \)

\[ = \frac{4}{3}(\pi) 1^3 \]

\[ = 418 \]

\[ = 0 \]

Cl:

1255 kJ/mol

\[ 1255/6.023 \times 10^{23} = 418.333 \]

\[ = 0 \]

**Conclusion**

So we see that free ionization energy of Beryllium and Chlorine are determined by the most efficient makeup of the enther.
References
