

Lab Specs: Butane Lab (Due by May 16, 2018) Can email, Google Docs, or hard copy.

Type-written/Hand-written or both (as long as it's neat!)

- *Title (5 pts)*
- *Purpose (5 pts)*
- *Procedure: Short summary of what you did (5 pts)*
- *Data (10 pts)*
- *Calculations for converting pressure, volume, and temperature to correct units (10 pts)*
- *Use Ideal Gas Law to find "n" (show work) (5 pts)*
- *Calculate your molar mass of butane from the lab (5 pts) (show work)*
- *Do a percent error comparing your molar mass of butane to the real molar mass of butane (periodic table). (5 pts)*
- *Questions from lab report (15 pts)*
- *Conclusion summarizing main points and three sources of error explained (15 pts)*
- DATA: mass of lighter before gas collection \_\_\_\_\_g
- mass of lighter after gas collection \_\_\_\_\_g
- mass of butane collected \_\_\_\_\_g
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- volume of gas \_\_\_\_\_mL
- 
- Temperature \_\_\_\_\_°C
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- Barometric Pressure \_\_\_\_\_mm Hg
- Vapor Pressure of water at observed temp. \_\_\_\_\_mm Hg
- Pressure of Dry Butane (barometric – vapor) \_\_\_\_\_mm Hg

**FOLLOW YOUR BALLOON LAB ON CALCUALTIONS (JUST SUBSTITUTE BUTANE DATA) MAKE SURE YOUR UNITS ARE CORRECT!!! USE  $R = 0.0821 \text{ atm-L/mol-K}$**

Water Vapor Pressure Table:

Temperature °C	Vapor Pressure mm Hg	Temperature °C	Vapor Pressure mm Hg
10	9.209	26	25.209
11	9.844	27	26.739
12	10.518	28	28.349
13	11.231	29	30.043
14	11.987	30	31.824
15	12.788	31	33.695
16	13.634	32	35.663

<b>17</b>	<b>14.530</b>	<b>33</b>	<b>37.729</b>
<b>18</b>	<b>15.477</b>	<b>34</b>	<b>39.898</b>
<b>19</b>	<b>16.477</b>	<b>35</b>	<b>42.175</b>
<b>20</b>	<b>17.535</b>	<b>36</b>	<b>44.563</b>
<b>21</b>	<b>18.650</b>	<b>37</b>	<b>47.067</b>
<b>22</b>	<b>19.827</b>	<b>38</b>	<b>49.692</b>
<b>23</b>	<b>21.068</b>	<b>39</b>	<b>52.442</b>
<b>24</b>	<b>22.377</b>	<b>40</b>	<b>55.324</b>
<b>25</b>	<b>23.756</b>	<b>41</b>	<b>58.34</b>

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