**P.M.O.G. Making Tool and Material List**

**Molding**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Item | Quantity | Source | US$ |
| ☐ | Plastic cups | 2 | Supermarket | n/a |
| ☐ | High Stength 3 Mold Making Rubber 5 lb kit | 1 | Alumilite | 107.25 |
| ☐ | Stir stick | 1 | Supermarket | n/a |
| ☐ | Heat glue gun | 1 | Ebay | n/a |
| ☐ | Heat glue sticks | Several | Ebay | n/a |
| ☐ | Steel ruler | 1 | Ebay | n/a |
| ☐ | 2-in PVC pipe (1.5-in, 2-in, and 3-in long) | 1 | Home Depot | n/a |
| ☐ | 2-in x 2-in rubber coupling | 1 | Home Depot | 4 |
| ☐ | Rubber-to-rubber mold release | 1 | Alumilite | 4 |
| ☐ | Q-tip | 1 | Supermarket | n/a |
| ☐ | Digital kitchen scale | 1 | Ebay | n/a |
| ☐ | Corrugated plastic sheet | 1 | Home Depot | n/a |
| ☐ | Synthetic modeling clay | 1 | Alumilite | 4.75 |
| ☐ | Disposable gloves | 1 | Supermarket | n/a |
| ☐ | 3D-printed P.M.O.G. body  | 1 | Shapeways | 21.61 |
| ☐ | 3D-printed P.M.O.G. tip | 1 | Shapeways | 8.73 |

**Casting (for one set of molds)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Item | Quantity | Source | US$ |
| ☐ | Super Foam 320 16 oz kit | 1 | Alumlite | 20 |
| ☐ | Flex Foam 32 oz kit | 1 | Alumilite | 30 |
| ☐ | Flex 80 16 lb kit | 1 | Alumilite | 98 |
| ☐ | 1-oz dispenser pump | 3 | Alumilite  | 16.5 |
| ☐ | Molds for chalk-filled tip | Several | n/a | n/a |
| ☐ | Molds for practice round tip | Several | n/a | n/a |
| ☐ | Molds for projectile body | Several | n/a | n/a |
| ☐ | 2-in PVC pipe (2-in long) | 4 | Home Depot | n/a |
| ☐ | 1-oz measurement cups | 8 | Alumilite | n/a |
| ☐ | Stir stick | 3 | Supermarket | n/a |
| ☐ | Plastic cup | 1 | Supermarket | n/a |
| ☐ | Rubber band | 2 | Staples | n/a |
| ☐ | UMR mold release | 1 | Alumliite | 12 |
| ☐ | Red dye 1 oz | 1 | Alumliite | 5.75 |
| ☐ | Green dye 1 oz | 1 | Alumliite | 5.75 |
| ☐ | Fluorescent yellow dye 1 oz | 1 | Alumliite | 5.75 |
| ☐ | Blue dye 1 oz | 1 | Alumliite | 5.75 |
| ☐ | 1.c.c. syringes | 4 | Ebay | n/a |
| ☐ | Microwave | 1 | n/a | n/a |
| ☐ | Flush cutter | 1 | Ebay | n/a |
| ☐ | Knife | 1 | Ebay | n/a |

**Assembling (for one set of mold)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Item | Quantity | Source | US$ |
| ☐ | Hot glue sticks | Several | Ebay | n/a |
| ☐ | Hot glue gun | 1 | Ebay | n/a |
| ☐ | Bottle of red chalk | 1 | Home Depot | n/a |
| ☐ | Flour | 1  | Supermarket | n/a |
| ☐ | 1-oz measurement cup | 1 | Alumilite | n/a |
| ☐ | P.M.O.G. projectile bodies and tips | Several | n/a | n/a |
| ☐ | Super glue  |  1 | Home Depot | n/a |
| ☐ | Adult snappers | Several | Pyrocreations | n/a |

Note:

1. 3D-printed P.M.O.G. body: <http://www.shapeways.com/product/FF5TEUB6Q/pmogv2-4c-bodyr?li=shop-results&optionId=31200328>
2. 3D-printed P.M.O.G. tip: <http://www.shapeways.com/product/LUE5JXERS/pmogv2-4c-tipr?li=shop-results&optionId=31199383>
3. Alumilite: <http://www.alumilite.com/>
4. Pyrocreation: <http://www.pyrocreations.com/>
5. The snapper utilized comes in a variety of names: Pop-pop, Mandarin Snaps, Adult Snaps, and etc. It generally have the size and shape of a small fire cracker, but the fillings only contain gravel impregnated with a minute quantity of silver fulminate (~0.0008 grams) of silver fulminate. The Consumer Product Safety Commission (CPSC) reported that a snapper exhibited only one-eighth of the explosive pressure of a fire cracker of similar size (0.85 psi vs. 6.5 psi), and it was so weak that CPSC found it unnecessary to assess the shrapnel injury potential: <http://www.cpsc.gov/Global/Research-and-Statistics/Injury-Statistics/Fuel-Lighters-and-Fireworks/2012fwreport.pdf>. P.M.O.G. Armory’s test showed that the snapper can be detonated against human skin without causing burns or any other injuries: [http://youtu.be/7eJhs5I0U0c?t=7m52s](http://youtu.be/7eJhs5I0U0c?t=7m52s" \t "_blank). The snapper is considered as novelty firework and its use is not regulated in most states except NJ, NY, DE, and MA. However, due to some political-motivated advocacy, the snapper in question has been regulated as consumer firework in some municipalities, and made illegal to use. Beside legal ambiguity, users should also be aware that insurance companies may still prevent its use in users’ fields. Users should consult the field owners to gain permissions to use it in games. In order to avoid potential legal pitfalls, I’d recommend selling the pyrotechnic impact fuse, chalk-filled projectiles as DIY kits WITHOUT the snappers.
6. Super Foam 320 16 oz kit is good for making 78 tips
7. Flex Foam 32 oz kit is good for making 78 tips
8. Flex 80 16lb kit is good for making 252 bodies