# Gas mixture and flow estimates

The gas mixture is Argon/isobutane (95/5) with the following purities:

Isobutane 99.995 % Research grade. Argon 99.9999 % Nano Chem. grade.

Liquid phase analysis Guaranteed specifications

|  |  |  |  |
| --- | --- | --- | --- |
| Nitrogen | < 10 ppm | Carbon Dioxide | < 0.1 ppm |
| Oxygen | < 2 ppm | Carbon Monoxide | < 0.1 ppm |
| Other Hydrocarbons | < 45 ppm | Nitrogen | < 1 ppm |
| Sulfur | < 1 ppm | Oxygen | < 0.5 ppm |
| Water | < 2 ppm | THC | < 0.1 ppm |
|  |  | Water | < 1 ppm |

The mixture is be delivered by [Matheson](http://www.mathesongas.com) gas in a 1F cylinder (38 cm∅, 144 cm length) with a total inner volume of 108.4 liters. The maximum pressure is 240 psi (16.33 atm).

The corresponding volume at normal conditions is 69 cf (1953.86 liters)

Volume of the gas chamber is approximately ~10.5 liters

Assuming that pressure=1 atm

|  |  |
| --- | --- |
| Flow rate | Duration of the gas cylinder (h/days) |
| 5 l/h | 390 / ~16 |
| 1 l/h | 1953 / ~80 |
| 0.5 l/h | 3906 / ~160 |
| 5 l/min | 390 min / ~6.5 h |
| 1 l/min | 1953 min / ~32.56 h |