

## TUNGSTEN POWDER

(For pyrotechnics)

MIL-T-48140 (MU)

24 April 1973

Superseding

PA – PD - 3056

26 February 1968

### Chemical Requirements

| Element          | Percent | ----- | Element           | Percent |
|------------------|---------|-------|-------------------|---------|
| Tungsten, % min  | 99.9    |       | Oxygen, % max     | 0.08    |
| Aluminum, % max  | 0.002   |       | Manganese, % max  | 0.001   |
| Cobalt, % max    | 0.002   |       | Molybdenum, % max | 0.060   |
| Chromium, % max  | 0.004   |       | Nickel, % max     | 0.005   |
| Copper, % max    | 0.002   |       | Lead, % max       | 0.001   |
| Iron, % max      | 0.025   |       | Silicon, % max    | 0.003   |
| Magnesium, % max | 0.001   |       | Tin, % max        | 0.001   |

### Particle size distribution

| Particle Size distribution | Weight Percent                     |     |                            |     |            |     |
|----------------------------|------------------------------------|-----|----------------------------|-----|------------|-----|
|                            | Type I<br>Agglomerated as supplied |     | Type II<br>De-agglomerated |     |            |     |
|                            |                                    |     | As supplied                |     | Lab milled |     |
|                            | Min                                | Max | Min                        | Max | Min        | Max |
| 0-5                        | 6                                  | 18  | ---                        | --- | ---        | --- |
| 5-10                       | 22                                 | 38  | ---                        | --- | ---        | --- |
| 10-15                      | 20                                 | 35  | ---                        | --- | ---        | --- |
| 15-20                      | 12                                 | 25  | ---                        | --- | ---        | --- |
| 20-25                      | 0                                  | 25  | ---                        | --- | ---        | --- |
| 0-1                        | ---                                | --- | 0                          | 2   | 0          | 5   |
| 1-2                        | ---                                | --- | 1                          | 5   | 2          | 12  |
| 2-3                        | ---                                | --- | 5                          | 14  | 8          | 18  |
| 3-4                        | ---                                | --- | 10                         | 20  | 12         | 24  |
| 4-5                        | ---                                | --- | 11                         | 23  | 12         | 24  |
| 5-6                        | ---                                | --- | 11                         | 21  | 8          | 18  |
| 6-7                        | ---                                | --- | 8                          | 17  | 4          | 12  |
| 7-25                       | ---                                | --- | Balance                    |     | Balance    |     |