

## **Black mass Li-NMC batteries (NMC Type 622)**

Art. ID BK-AC18.10665  
Unit 40 g  
Deliverydetails No Dangerous Good /not restricted

### **Description**

The material consists of a black mass of mixed metal concentrate sourced from processed lithium-ion batteries. The nickel-manganese-cobalt (NMC) ratios appear to represent 622 NMC Type lithium-ion batteries.

| Text/Information | Analyte/Parameter | CAS number  | Concentration/Value | Unit | Method | Source |
|------------------|-------------------|-------------|---------------------|------|--------|--------|
|                  | Aluminium (Al)    | [7429-90-5] | 4,57 ± 0,09         | %    |        |        |
|                  | Carbon (C)        | [7440-44-0] | 54,21 ± 0,87        | %    |        |        |
|                  | Calcium (Ca)      | [7440-70-2] | 0,242 ± 0,022       | %    |        |        |
|                  | Cobalt (Co)       | [7440-48-4] | 2,97 ± 0,01         | %    |        |        |
|                  | Copper (Cu)       | [7440-50-8] | 0,564 ± 0,015       | %    |        |        |
|                  | Fluorine (F)      | [7782-41-4] | 1,43 ± 0,16         | %    |        |        |
|                  | Iron (Fe)         | [7439-89-6] | 0,874 ± 0,027       | %    |        |        |
|                  | Potassium (K)     | [7440-09-7] | 0,04 ± 0,005        | %    |        |        |
|                  | Lithium (Li)      | [7439-93-2] | 1,81 ± 0,02         | %    |        |        |
|                  | Magnesium (Mg)    | [7439-95-4] | 0,107 ± 0,008       | %    |        |        |
|                  | Manganese (Mn)    | [7439-96-5] | 2,84 ± 0,02         | %    |        |        |
|                  | Sodium (Na)       | [7440-23-5] | 0,29 ± 0,023        | %    |        |        |
|                  | Nickel (Ni)       | [7440-02-0] | 9,19 ± 0,06         | %    |        |        |
|                  | Phosphorus (P)    | [7723-14-0] | 0,145 ± 0,024       | %    |        |        |
|                  | Sulfur (S)        | [7704-34-9] | 0,552 ± 0,03        | %    |        |        |
|                  | Silicon (Si)      | [7440-21-3] | 0,755 ± 0,05        | %    |        |        |
|                  | Titanium (Ti)     | [7440-32-6] | 0,028 ± 0,003       | %    |        |        |
|                  | Zirconium (Zr)    | [7440-67-7] | 0,114 ± 0,018       | %    |        |        |
|                  | Arsenic (As)      | [7440-38-2] | 15,9 ± 2,9          | ppm  |        |        |
|                  | Barium (Ba)       | [7440-39-3] | 15,1 ± 2            | ppm  |        |        |
|                  | Cadmium (Cd)      | [7440-43-9] | 2,31 ± 0,42         | ppm  |        |        |
|                  | Cerium (Ce)       | [7440-45-1] | 1,66 ± 0,5          | ppm  |        |        |
|                  | Chlorine (Cl)     | [7782-50-5] | 240 ± 108           | ppm  |        |        |
|                  | Chromium (Cr)     | [7440-47-3] | 23,4 ± 3,6          | ppm  |        |        |
|                  | Dysprosium (Dy)   | [7429-91-6] | 0,17 ± 0,05         | ppm  |        |        |
|                  | Indium (In)       | [7440-74-6] | 0,18 ± 0,05         | ppm  |        |        |
|                  | Lanthanum (La)    | [7439-91-0] | 1,13 ± 0,23         | ppm  |        |        |
|                  | Molybdenum (Mo)   | [7439-98-7] | 1,21 ± 0,48         | ppm  |        |        |
|                  | Praseodymium (Pr) | [7440-10-0] | 0,21 ± 0,06         | ppm  |        |        |

|                |             |             |     |
|----------------|-------------|-------------|-----|
| Tin (Sn)       | [7440-31-5] | 1,17 ± 0,52 | ppm |
| Strontium (Sr) | [7440-24-6] | 15,7 ± 1,5  | ppm |
| Terbium (Tb)   | [7440-27-9] | <0,05       | ppm |
| Thulium (Tm)   | [7440-30-4] | <0,05       | ppm |
| Vanadium (V)   | [7440-62-2] | 7,8 ± 0,95  | ppm |
| Tungsten (W)   | [7440-33-7] | 98 ± 22     | ppm |
| Yttrium (Y)    | [7440-65-5] | 3,01 ± 0,57 | ppm |
| Zinc (Zn)      | [7440-66-6] | 759 ± 40    | ppm |