✓ analyzed
X not available

I

4 Analyzed by DTA
0 Samples taken out

FINAL REPORT

# X-RAY POWDER DIFFRACTION ANALYSES OF COMMERCIAL COSMETIC POWDERS

| Sample | Talc | Chlorite | Phlogopite | α-Quartz | Dolomite | Calcite | Tremolite | Chrysotile | Other Species |
|---|---|---|---|---|---|---|---|---|---|
| X1 | ? 70% | 3% | 7% | n.d. | n.d. | n.d. | n.d. | n.d. | |
| 2 | 100% | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | |
| X3 | 99% | n.d. | 1% | n.d. | n.d. | n.d. | n.d. | n.d. | |
| 4 | 100% | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | |
| 5 | 95% | 2% | 3% | n.d. | n.d. | n.d. | n.d. | n.d. | |
| X6 | 80% | 2% | 5% | n.d. | n.d. | n.d. | n.d. | n.d. | Calcite |
| 7 | 86% | 7% | 2% | 3% | 2% | n.d. | n.d. | ? | |
| X8 | 95% | 2% | 3% | n.d. | n.d. | n.d. | n.d. | n.d. | |
| 9 | 89% | 7% | 2% | 2% | n.d. | n.d. | n.d. | n.d. | |
| 10 | 93% | 3% | 2% | 2% | n.d. | n.d. | n.d. | n.d. | |
| 11 | 90% | 2% | 2% | 4% | 2% | n.d. | n.d. | n.d. | |
| 12 | 100% | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | |
| 13 | 60% | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | Talc |
| 14 M | 31% | 50% | 2% | 10% | 7% | n.d. | n.d. | n.d. | |
| 15 | 100% | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | |
| 16 | -- | -- | -- | -- | -- | -- | -- | -- | Kaolin, Starch |
| X17 | 60% | 30% | 4% | n.d. | 6% | n.d. | n.d. | n.d. | |
| 18 A M | 30% | 4% | 2% | 2% | 2% | n.d. | n.d. | n.d. | |
| 19 | 97% | 1% | 2% | n.d. | n.d. | n.d. | n.d. | n.d. | |
| 20 | 35% | 60% | 1% | 4% | n.d. | n.d. | n.d. | n.d. | |
| 21 | 67% | 25% | 2% | 3% | 3% | n.d. | n.d. | n.d. | |
| 22 | 59% | 35% | 1% | n.d. | 5% | n.d. | n.d. | n.d. | |
| 23 | 42% | 50% | 2% | 3% | 3% | n.d. | n.d. | ? | |
| X24 | 94% | 1% | 2% | 3% | n.d. | n.d. | n.d. | n.d. | |
| 25 | 95% | 2% | 3% | n.d. | n.d. | n.d. | n.d. | ? | |
| 26 M | 95% | 1% | 4% | n.d. | n.d. | n.d. | n.d. | ? | |
| X27 | 78% | n.d. | 2% | n.d. | 20% | n.d. | n.d. | n.d. | |
| 28 | 20% | 1% | n.d. | n.d. | n.d. | 10% | n.d. | n.d. | K |
| 29 | 94% | n.d. | 2% | n.d. | 2% | n.d. | n.d. | n.d. | K |
| X 30 | 97% | 1% | 2% | n.d. | n.d. | n.d. | n.d. | n.d. | |
| 31 | 47% | 50% | 2% | 3% | 8% | n.d. | n.d. | n.d. | |
| 32 | 80% | 7% | 3% | 2% | 8% | n.d. | n.d. | n.d. | |

| Sample | Talc | Chlorite | Phloge-pite | α-Quartz | Dolo-mite | Calcite | Tremo-lite | Chryso-tile | Other Species |
|---|---|---|---|---|---|---|---|---|---|
| 33 | 55% | 40% | 2% | n.d. | 3% | n.d. | n.d. | n.d. | |
| X34 | 78% | 7% | 4% | 3% | 8% | n.d. | n.d. | n.d. | |
| 35A | 78% | 5% | 2% | 10% | 5% | n.d. | n.d. | n.d. | |
| 36 | 81% | 4% | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | Mica |
| 37A | 38% | 50% | 5% | n.d. | 7% | n.d. | n.d. | n.d. | |
| 38A | 87% | 5% | 4% | 2% | 2% | n.d. | n.d. | n.d. | |
| 39 | 94% | 3% | n.d. | 3% | n.d. | n.d. | n.d. | n.d. | |
| 40 | 67% | 25% | n.d. | 3% | 5% | n.d. | n.d. | n.d. | |
| 41 | 33% | 8% | 2% | 2% | 5% | n.d. | n.d. | n.d. | |
| 42A | 89% | 6% | n.d. | n.d. | 3% | 2% | n.d. | n.d. | |
| X43 | 97% | n.d. | n.d. | 3% | n.d. | n.d. | n.d. | n.d. | |
| 44 | -- | -- | -- | -- | -- | -- | -- | -- | ZnO, Kaolin |
| 45 | 66% | 30% | n.d. | n.d. | 4% | n.d. | n.d. | n.d. | |
| 46 | 48% | 40% | n.d. | 5% | 7% | n.d. | n.d. | n.d. | |
| 47 | 98% | n.d. | n.d. | n.d. | n.d. | 2% | n.d. | n.d. | |
| 48 | 88% | 4% | 2% | 2% | 4% | n.d. | n.d. | n.d. | |
| 49 | 100% | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | |
| 50A | 95% | 5% | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | |
| 51 | 100% | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | |
| 52A | 87% | 8% | 2% | 3% | n.d. | n.d. | n.d. | n.d. | |
| 53A | 90% | 4% | 2% | 2% | 2% | n.d. | n.d. | n.d. | |
| 54 | 87% | 3% | 4% | n.d. | 4% | n.d. | n.d. | (?) | |
| 55 | 80% | 15% | n.d. | 5% | n.d. | n.d. | n.d. | n.d. | |
| 56A | 90% | 7% | n.d. | 3% | n.d. | n.d. | n.d. | n.d. | |
| 57A | 80% | 15% | n.d. | n.d. | 5% | n.d. | n.d. | n.d. | |
| 58A | 96% | n.d. | n.d. | 4% | n.d. | n.d. | n.d. | n.d. | |
| 59A | 90% | n.d. | n.d. | 3% | n.d. | n.d. | n.d. | n.d. | Starch |
| 60A | 60% | 30% | n.d. | n.d. | 7% | 2% | n.d. | n.d. | ZnStear. |
| 61A | 38% | 40% | n.d. | 4% | 18% | n.d. | n.d. | n.d. | |
| 62A | 85% | 2% | n.d. | 3% | n.d. | 10% | n.d. | n.d. | |
| 63A | 87% | 2% | 2% | 4% | n.d. | n.d. | 5% | n.d. | ☆ |
| 64A | 80% | 5% | 3% | 2% | 3% | n.d. | n.d. | n.d. | ZnStear. |
| 65A | 78% | 15% | n.d. | n.d. | 4% | n.d. | n.d. | n.d. | ZnStear. |
| 66 | 84% | 5% | 3% | 3% | 3% | n.d. | n.d. | 2% | ○ |
| 67 | 78% | 15% | n.d. | n.d. | 5% | n.d. | 2% | n.d. | ☆ |
| 68A | 80% | 15% | n.d. | n.d. | 5% | n.d. | n.d. | n.d. | |
| [illegible] | [illegible] | 15% | n.d. | n.d. | n.d. | 2% | n.d. | n.d. | |

| Sample | Talc | Chlorite | Phlogopite | Quartz | Dolomite | Calcite | Plagioclase | Chrysotile | Other Species |
|---|---|---|---|---|---|---|---|---|---|
| S7040 | 38% | 60% | nada | 5% | 7% | nada | nada | nada | |
| S7[illegible]2 | 85% | 10% | nada | 2% | nada | nada | 5% | nada | ★ |
| S7240 | 86% | 5% | 3% | 4% | nada | 2% | nada | nada | |
| 7340 | 80% | 10% | nada | 3% | 5% | nada | nada | nada | Zn Mica ? |
| S7440 | 90% | nada | nada | nada | 5% | 5% | nada | nada | |
| 7540 | 75% | 5% | nada | nada | 15% | 5% | nada | nada | |
| 7?6 | 75% | nada | 5% | 5% | 10% | nada | 5% | nada | ★ |
| S7740 | 91% | nada | 4% | 2% | nada | nada | 3% | nada | ★ |
| S7840 | 85% | 2% | 1% | 4% | 3% | nada | 5% | nada | ★ |
| 7940 | 81% | 5% | 4% | nada | 2% | 8% | nada | nada | |
| S8040 | 50% | 40% | nada | 8% | nada | nada | nada | ? | |
| 8140 | 80% | 7% | 1% | 6% | 4% | nada | nada | ? | |
| 8240 | 78% | 12% | 2% | 4% | 3% | nada | nada | ? | |
| 834[illegible] | 84% | 6% | 5% | nada | 4% | nada | nada | ? | |
| 8[illegible]4[illegible] | 92% | 4% | nada | nada | 3% | nada | nada | ? | |
| S854 [illegible] | 86% | 5% | nada | nada | 6% | nada | nada | ? | |
| 8640 | 85% | 4% | 2% | 4% | 4% | nada | nada | ? | |
| S874[illegible] | 30% | 50% | nada | 4% | 12% | 3% | nada | ? | |
| S884 | 61% | nada | nada | 5% | 25% | nada | 4% | 5% | ★ β |
| S894[illegible] | 63% | 1% | 3% | 8% | 10% | nada | 5% | 5% | ★ β |
| S904[illegible] | 55% | nada | 3% | 7% | 25% | 2% | 3% | 5% | ★ β |
| 9[illegible] | 53% | 1% | nada | nada | 3% | 5% | nada | 5% | ✕ Mica |
| 9[illegible]4 | 64% | nada | nada | 6% | 20% | nada | 5% | 5% | β |
| 9[illegible]4 | 55% | 1% | 4% | 6% | 25% | nada | 5% | 4% | β |
| 9[illegible] | 45% | 4% | 3% | 6% | 35% | nada | 4% | ? | ★ |
| 9[illegible]4 | 86% | nada | nada | 5% | 4% | nada | 2% | 3% | β |
| 9[illegible]4 | 28% | nada | 3% | 6% | 45% | nada | 6% | 10% | β |
| 9740 | 35% | 1% | 1% | 5% | 35% | nada | 12% | 15% | β |
| 98[illegible] | 43% | nada | 3% | nada | 6% | 2% | nada | nada | Kaolinite 40% |
| 99[illegible] | 40% | nada | 3% | nada | 6% | 2% | nada | nada | Kaolinite [illegible] |
| 90[illegible] | 80 | 10% | 4% | nada | 2% | nada | nada | nada | Zn Mica ? |
| [illegible]10 | [illegible] | 8% | 3% | 7% | 4% | nada | 15% | nada | ★ |
| [illegible]4 | [illegible] | [illegible] | nada | 3% | 35% | nada | 10% | 1% | β |
| [illegible] | | 3% | nada | nada | 4% | nada | nada | nada | |
| [illegible] | | 2% | 4% | [illegible] | 3% | nada | nada | nada | |

| Sample | Talc | Chlorite | Phlogopite | Quartz | Dolomite | Calcite | Tremolite | Chrysotile | Other Species |
|---|---|---|---|---|---|---|---|---|---|
| 105 | 92% | 3% | 1% | 2% | 2% | n.d. | n.d. | n.d. | |
| 106 | 91% | 3% | 1% | 3% | 2% | n.d. | n.d. | n.d. | |
| 107 | 87% | 5% | 2% | n.d. | 6% | n.d. | n.d. | n.d. | |
| 108 | 81% | 10% | 2% | 2% | 3% | n.d. | (2%) | n.d. ★ | |
| 109 | 74% | 15% | 3% | 3% | 3% | n.d. | (2%) | (?) ★ | Kaolin |
| 110 | 99% | n.d. | 1% | n.d. | n.d. | n.d. | n.d. | n.d. | |
| 111 | 42% | 40% | 2% | n.d. | 15% | n.d. | (1%) | n.d. ★ | |
| 112 | ca. 60% | n.d. | n.d. | 4% | n.d. | 10% | n.d. | n.d. | Salicylic Ac., Boric |
| 113 | 75% | 15% | n.d. | 3% | 7% | n.d. | n.d. | n.d. | |
| 114 | 53% | 40% | n.d. | 3% | 4% | n.d. | n.d. | n.d. | |
| 115 | 53% | 40% | n.d. | 3% | 4% | n.d. | n.d. | n.d. | |
| 116 | 53% | 40% | n.d. | 3% | 4% | n.d. | n.d. | n.d. | |
| 117 | 42% | 35% | n.d. | (15%) | 4% | 2% | n.d. | (?) | |
| 118 | 53% | 40% | n.d. | 3% | 4% | n.d. | n.d. | n.d. | |
| 119 | 49% | 40% | n.d. | 6% | 5% | n.d. | n.d. | n.d. | |
| 120 | 46% | 40% | n.d. | (8%) | 4% | n.d. | n.d. | (?) | |
| 121 | 87% | 8% | 2% | n.d. | 3% | n.d. | n.d. | n.d. | |
| 122 | 56% | 35% | n.d. | (5%) | 4% | n.d. | n.d. | (?) | |
| 123 | 51% | 40% | n.d. | 3% | 4% | n.d. | n.d. | (?) | |
| 124 | 54% | 40% | n.d. | 3% | 3% | n.d. | n.d. | (?) | |
| 125 | 55% | 40% | n.d. | 2% | 3% | n.d. | n.d. | (?) | |
| 126 | 75% | 10% | 3% | 4% | 8% | n.d. | n.d. | n.d. | |
| 127 | 85% | n.d. | n.d. | 4% | n.d. | n.d. | n.d. | n.d. | (Boric Acid Carbodecyl.) |
| 128 | 60% | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | |
| 129 | 97% | n.d. | n.d. | n.d. | 3% | n.d. | n.d. | n.d. | |
| 130 | ca. 88% | 7% | n.d. | 2% | 3% | n.d. | (trace) | (trace) (?) | |
| 131 | ca. 92 | 3% | 3% | n.d. | 2% | n.d. | (trace) | n.d. ★ | |
| 132 | 95% | 3% | 2% | n.d. | n.d. | n.d. | n.d. | n.d. | |
| 133 | 94% | 2% | 4% | n.d. | n.d. | n.d. | n.d. | n.d. | |
| 134 | 93% | 3% | 2% | n.d. | 2% | n.d. | n.d. | n.d. | |
| 135 | 93% | 2% | 3% | n.d. | 2% | n.d. | n.d. | n.d. | |
| 136 | 89% | 4% | 3% | 2% | 2% | n.d. | n.d. | n.d. | |
| 137 | 91% | 4% | n.d. | 3% | 2% | n.d. | n.d. | n.d. | |
| 138 | 85% | 7% | 3% | 2% | 3% | n.d. | n.d. | n.d. | |
| 139 | ca. 85% | n.d. | n.d. | 2% | n.d. | n.d. | n.d. | n.d. | Pyrocatechol Boric |
| | 85% | n.d. | n.d. | 2% | 1% | n.d. | n.d. | n.d. | Salicylic Acid |

| Sample | Talc | Chlorite | Phlogopite | Quartz | Dolomite | Calcite | Tremolite | Chrysotile | Other Species |
|---|---|---|---|---|---|---|---|---|---|
| 141 ○ | 80% | n.d. | n.d. | 2% | 1% | n.d. | n.d. | n.d. | ZnStear. $MgCO_3$ |
| 142 | 79% | 7% | 5% | 4% | 5% | n.d. | n.d. | n.d. | |
| ✓143 △ | 55% | 2% | n.d. | 3% | 25% | n.d. | 5% | 10% β | |
| ✓144 △ ca. | 70% | 10% | n.d. | 6% | n.d. | n.d. | 5% | ? ★ | ZnStear. Kaolin |
| ✓145 △ ca. | 70% | 3% | n.d. | n.d. | 3% | n.d. | n.d. | 2% ✕ | ZnStear. Kaolin. ZnO |
| 146 ca. | 85% | n.d. | n.d. | 4% | n.d. | 5% | n.d. | n.d. | ZnStear. |
| 147 ca. | 85% | n.d. | n.d. | n.d. | n.d. | 5% | n.d. | n.d. | Kaolin |
| ≤148 ca. | 45% | 40% | n.d. | n.d. | 8% | n.d. | 2% | n.d. ★ | ZnStear. |
| ≤149 ca. | 50% | 10% | n.d. | 10% | 12% | n.d. | 8% | ? ★ | Kaolin |
| 150 ○ | 80% | 2% | n.d. | 5% | n.d. | 5% | n.d. | n.d. | Kaolin |
| ✓151 △ | 63% | 25% | n.d. | 2% | 10% | n.d. | n.d. | n.d. | |
| ≤152 ○ ca. | 70% | 2% | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | Pyrophyllite |
| ✓153 △ ca. | 80% | 2% | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | ZnO, Boric Acid |
| ≤154 ca. | 70% | 10% | 4% | 4% | 2% | n.d. | 2% | n.d. ★ | ZnO |
| ✓155 △ ca. | 84% | 10% | n.d. | 4% | 2% | n.d. | n.d. | ? | |
| ✓156 △ | 79% | 10% | n.d. | 6% | 3% | n.d. | 2% | n.d. ★ | |
| ✓157 △ | 63% | 2% | n.d. | 3% | 18% | n.d. | 6% | 8% β | |
| ✓158 △ | 78% | 7% | n.d. | 3% | 2% | 10% | n.d. | n.d. | |
| ✓159 △ ca. | 74% | 10% | 2% | n.d. | 4% | 10% | n.d. | ? | |
| ✓160 △ | 60% | 25% | n.d. | n.d. | 4% | 10% | n.d. | trace ✕ | |
| ✓161 | 59% | 25% | n.d. | 2% | 4% | 10% | n.d. | n.d. | |
| 162 ○ | 50% | 25% | n.d. | 2% | 5% | 10% | n.d. | n.d. | |
| ✓163 ○ | 55% | 2% | n.d. | 3% | 20% | n.d. | 10% | 10% β | |
| ✓164 △ | 92% | 3% | 2% | n.d. | 2% | n.d. | n.d. | 1% ✕ | |
| ✓165 △ | 92% | 5% | n.d. | n.d. | 2% | n.d. | n.d. | ? | |
| 166 ca. | 50% | 40% | n.d. | 2% | 8% | n.d. | n.d. | ? | |
| ✓167 △ | 76% | 10% | n.d. | n.d. | 12% | n.d. | 2% | n.d. ★ | |
| ✓168 △ | — | — | — | — | — | — | — | — | Gypsum |
| ✓169 △ | — | — | — | — | — | ca. 80% | — | — | |
| 170 ✓△ | 52% | n.d. | n.d. | 5% | 25% | n.d. | n.d. | 2% ✕ | |
| 171 | 70% | 10% | n.d. | 5% | 15% | n.d. | n.d. | n.d. | |
| 172 | 43% | 50% | n.d. | n.d. | 5% | n.d. | 2% | n.d. ★ | |
| 173 △ ca. | 99% | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | ? | |
| 174 ○ ca. | 60% | 1% | 2% | 5% | n.d. | n.d. | n.d. | n.d. | Boric Acid |

| Sample | Talc | Chlorite | Phlogopite | α-Quartz | Dolomite | Calcite | Tremolite | Curvesite | Other Species |
|---|---|---|---|---|---|---|---|---|---|
| 175 | ca. 86% | 3% | n.d. | 10% | n.d. | n.d. | n.d. | ? | |
| 176 | ca. 79% | 3% | 2% | 15% | n.d. | n.d. | n.d. | ? | |
| 177 | 84% | 10% | 4% | 2% | n.d. | n.d. | n.d. | n.d. | |
| 178 | ca. 50% | 20% | 2% | 5% | 4% | n.d. | n.d. | ? | Kaolin |
| 179 | 97% | n.d. | n.d. | 3% | n.d. | n.d. | n.d. | n.d. | |
| 180 | 88% | n.d. | n.d. | n.d. | 12% | n.d. | n.d. | n.d. | |
| 181 | ca. 70% | n.d. | n.d. | n.d. | n.d. | 10% | n.d. | n.d. | Kaolin |
| 182 | ca. 40% | 25% | 15% | n.d. | n.d. | n.d. | n.d. | ? | ZnO |
| 183 | ca. 76% | 10% | n.d. | n.d. | 2% | 10% | 1% | ? ☆ | |
| 184 | 93% | 2% | n.d. | 2% | n.d. | n.d. | 3% | n.d. ☆ | |
| 185 | ca. 50% | 8% | n.d. | n.d. | n.d. | 25% | n.d. | n.d. | ZnO |
| 186 | ca. 50% | 5% | n.d. | n.d. | n.d. | 25% | n.d. | ? | ZnO |
| 187 | ca. 85% | 5% | n.d. | 2% | n.d. | 5% | 2% | n.d ☆ | |
| 188 | 70% | 15% | 2% | 3% | 4% | 5% | 1% | ? ☆ | |
| 189 | 72% | 12% | n.d. | 3% | 2% | 5% | 1% | n.d. ☆ | |
| 190 | ca. 82% | 12% | 2% | n.d. | 3% | n.d. | n.d. | ? | |
| 191 | 96% | 2% | n.d. | n.d. | 2% | n.d. | n.d. | n.d. | |
| 192 | 100% | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | |
| 193 | ca. 93% | 2% | n.d. | 2% | 2% | n.d. | n.d. | ? | ZnStear |
| 194 | ca. 94% | 2% | n.d. | n.d. | 3% | 3% | n.d. | ? | |
| 195 | 97% | n.d. | n.d. | n.d. | 3% | n.d. | n.d. | n.d. | |