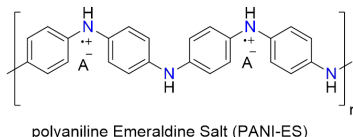




## Certificate of Analysis

### Structure:



|                          |   |
|--------------------------|---|
| <b>Product Number</b>    | BM1720  |
| <b>Batch Number</b>      | M17201802   |
| <b>Product Name</b>      | Polyaniline-dinonylnaphthalenesulphonic acid, 50% solution in toluene |
| <b>CAS Number</b>        | 178274-40-3   |
| <b>Molecular Formula</b> | (C <sub>6</sub> H <sub>5</sub> N) <sub>n</sub>                        |
| <b>Molecular Weight</b>  | 50000 g / mol   |

| ANALYSIS  | SPECIFICATION  | RESULTS   |
|---|--|---|
| <b>Appearance</b><br><b>GPC</b><br><br><i>M<sub>n</sub> = 31183</i><br><br><i>M<sub>w</sub> = 42673</i><br><i>Poly dispersity = 1.37</i><br><b>Conductivity</b><br><i>(thickness = 8.42 μm)</i> | Dark green to black solution<br><i>report result</i><br><br><br><br><br><br><i>report result</i>   | Dark green solution<br><i>MP = 35840</i><br><br><br><br><br><br><i>Conductivity (untreated) = 3.08 10<sup>-5</sup> S/cm</i> |
| <b>Notes</b>  | <i>Note that the value for concentration includes PANI(DNNSA)0.5 along with excess DNNSA (1.0 eq based on aniline) and residual 2-butoxyethanol.</i> |   |
| <b>Storage Conditions</b>   | <i>Store ≤ 25°C</i>  |   |

Prepared by:

*Signature*

Mousa Asadi

23/03/2018

*Print Name*

*Date*

Checked by:

*Signature*

Justine Walter

26/03/2018

*Print Name*

*Date*

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