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Category 2 – Lignin

1. Ethtec will sell lignin cake to any interested party.
2. Due to the production location (Australia) shipment quantities of from 2kg to 100kg are likely to be the most applicable, however larger quantities can be supplied.
3. Ethtec can package from 2kg to 100kg of lignin in plastic drums.
4. Packaged and by international courier.
5. The concentration of lignin in the cake produced from the Ethtec process has not been quantified. However, it is expected to be extremely high due to the efficiency of the concentrated sulphuric acid hydrolysis process performed on the feedstock.
6. Lignin is normally produced from sugar cane bagasse or from softwood (radiata pine) timber. Other lignocellulosic biomass can be processed if required.
7. Concentrated sulphuric acid hydrolysis.
8. The production plant is able to run in continuous mode to produce the desired quantity of lignin. The plant has a capacity of 60 kg/hr of dry lignocellulosic biomass feed. Lignin output is a function of the composition of the lignocellulosic biomass feed and the feed rate.
9. The lignin product has been tested for calorific value only, as Ethtec models a plant in which the lignin cake is combusted to raise energy for the production process.
10. Ethtec routinely tests lignin calorific value and mass balance for lignocellulosic sugars production.
11. The main impurity present in the lignin is feedstock solids that remain unreacted following the concentrated sulphuric acid hydrolysis process. Also present in trace amounts are sulphuric acid and lignocellulosic sugars that remain after the washing of the lignin. These are quantified through titration and HPLC analysis after re-suspension of the lignin cake.
12. No.
13. Unknown. Ethtec ‘lignin’ is the solid product remaining after concentrated sulphuric acid hydrolysis of lignocellulosic materials and washing processes.
14. No known impacts.
15. The lignin cake is typically brown in colour.
16. Ethtec will investigate production of pellets from the lignin.