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| PRODUCT | RECTIFIED EXTRA NEUTRAL ETHANOL – C₂H₅OH |
| SPECIFICATION REFERENCE | E3/S8 |

DESCRIPTION: A high purity, natural alcohol derived from sugar cane

| TEST | UNITS | SPECIFICATION LIMIT |
|-----------------------------------|--|---|
| Appearance | | The material shall be clear, colourless and free from suspended matter. |
| Alcohol Content | % v/v at 20°C | 96,4 (Min) |
| Odour and taste | | Having no extraneous odour or taste other than a trace odour or taste of the raw material. |
| Density | kg/m ³ at 20°C | 805,9 (Max) |
| Density | kg/m ³ at 25°C | 801,7 (Max) |
| Relative Density | g/cm ³ | 0.805 – 0.812 |
| Residue on Evaporation | ppm (m/v) | 25 (Max) |
| Water miscibility | | Complete |
| Esters | ppm (m/m) as Ethyl Acetate | 30 (Max) |
| Acidity | ppm (m/m) as Acetic acid | 20 (Max) |
| Permanganate Time (Barbet) | Minutes | 25 (Min) |
| Aldehydes | ppm (m/m) as Acetaldehyde | 4 (Max) |
| Methyl Alcohol | ppm (m/m) | 30 |
| Higher Alcohols (GC) | ppm (m/m) as N-Propanol, Iso-Butanol, N-Butanol and Iso-Amyl alcohol | 5 (Max) in total |
| Furfural | ppm (m/m) | 5 (Max) |
| Absorbance | | The absorbance curve is smooth 0.4 (Max) @ 240nm 0.3 (Max) @ 250nm to 260nm 0.1 (Max) @ 270nm to 340nm |
| Benzene Content | ppm (m/m) | Absent |

Product complies with the BP 2018, EP 9.0 (01/2015:1317) , USP 41 and FCC 10

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| REVIEWED BY: | L. Mudaly (SHEQ Manager) | DATE: | April 2019 |
| AUTHORISED BY: | A. Govender (Quality Manager) | DATE: | April 2019 |