



Why Use 3M™ Novec™ HFE-72DE Fluid to replace Trichloroethylene?

1 Trichloroethylene is Classified as a Category 2 Carcinogen. R-45 Risk Phrase - May Cause Cancer.

2 Trichloroethylene also carries the Risk Phrases R36/38 - Irritating to eyes and skin. R67 - Vapours may cause drowsiness and dizziness.

3 Trichloroethylene is Classified as a CMR (Carcinogenic, Mutagenic or Reproductive Toxin) by the SED (Solvent Emissions Directive 1999-13-EC

Novec HFE-72DE fluid is not classed as a CMR and does not carry any of these Risk Phrases.

4 Exposure Guidelines for Trichloroethylene are :- TLV TWA 100ppm in UK, 50ppm in Ireland. PPG (A Trike Manufacturer) has established an Internal Permissible Exposure Limit (IPEL) of 5ppm 8 hr TWA and a STEL of 25ppm.

TLV TWA for Novec HFE-72DE fluid is 200ppm.

5 The Solvent Emissions Directive allows exemption below 1 (one) tonne per annum consumption for Trike and requires substitution in shortest possible time.

Novec HFE-72DE fluid has a 2 (Two) Tonne per annum exemption and no requirement to be substituted.

6 Trichloroethylene has a Global Warming Potential (GWP) of 140 (100 year ITH, IPCC 1995)

Novec HFE-72DE fluid has a GWP of 40.

7 Trichloroethylene Requires Extraction of Vapours and must comply with the emission limit of 2mg/m³.

Novec HFE-72DE fluid does not require Extraction and has an Emission Limit of 75 mg C/Nm³

8 Trichloroethylene consumes much higher volumes of Solvent.

Novec HFE-72DE fluid has beneficial properties (Surface tension, vapour pressure, viscosity, heat of vaporisation & boiling point which ensure far less solvent is used in a like-for-like comparison. In conjunction with Novec not requiring extraction, total solvent usage is reduced dramatically.

9 HFE-72DE won't clean like Trichloroethylene does...

Repeated comparative trials with Novec HFE-72DE fluid have shown no loss of cleaning performance in the vast majority of applications. Particulate cleaning is much improved with Novec, as is cleaning of blind holes and fine features.

10 Acid Acceptance, energy consumption, plant requirements...

Novec HFE-72DE fluid is inherently stable and does not need acid acceptance testing or maintenance of stabilisers. The thermal properties of HFE-72D require less energy to operate the cleaning plant.

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