



Why Use 3M™ Novec™ 72DE Fluid to replace Methylene Chloride or Per-chloroethylene?

- 1 Methylene Chloride & Per-chloroethylene are Classed as a Category 3 Carcinogens.
R-40 Risk Phrase - Possible risk of irreversible effects.
Methylene Chloride & Per-chloroethylene are Classed as CMRs (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.

- 2 Exposure Guidelines for Methylene Chloride & Per-chloroethylene are :-

Methylene Chloride :

100ppm TWA UK HSE EH40

50ppm TWA ACGIH (USA)

25ppm TWA OSHA (USA)

Per-chloroethylene :

50ppm TWA UK HSE EH40

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

- 3 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.

- 4 Methylene Chloride & Per-chloroethylene Require Extraction of Vapours and must comply with the emission limit of 20mg/m³.

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

- 5 Methylene Chloride & Per-chloroethylene consume 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.

- 6 HFE-72DE won't clean like Methylene Chloride & Per-chloroethylene 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.

- 7 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-72DE require less energy to operate the cleaning plant.

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