



Properties of the four most popular drycleaning solvents

There are currently 4 viable drycleaning solvents available for the UK market, with the most popular solvent by far being Perchloroethylene which represents over 90% of all new drycleaning machinery sales utilising this solvent. In addition, water is an additional cleaning medium.

Hydrocarbon solvents and siloxane solvents such as Green Earth have also been introduced in the UK, with a fourth solvent, Rynex being another alternative, but as far as we are aware, there are no installations of a drycleaning machine using Rynex in the UK.

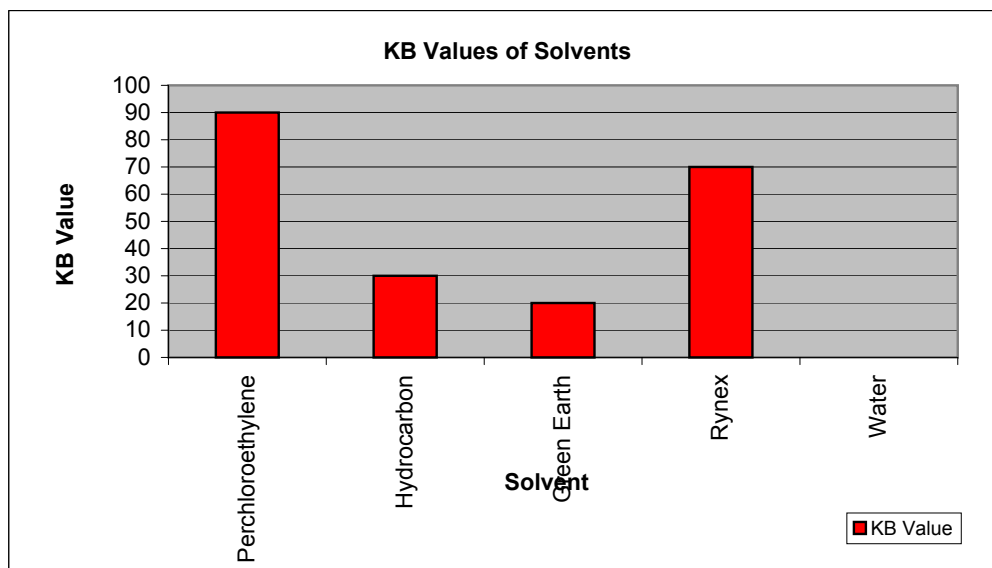
All Drycleaning Solvents have different qualities, and their suitability as a solvent must be judged in the light of what type of garment they are expected to clean and the and the particular circumstances of the drycleaner.

Please use the charts on the following pages to judge what solvent will be best suited for your needs.

Kari-Butanol Value

Perhaps the best judge of a solvent's "cleaning power" is using a measurement called the "Kari-Butanol" (KB) value. KB is the acronym for Kari-Butanol and in the drycleaning world it is a test of a solvent's power to dissolve greases. Numeric values range from 1 to 400. Low numbers indicate the solvent is a weak cleaner, while high values (up to 100 in drycleaning) reveal the solvent is an effective cleaner. However you must understand that the higher the KB Value, the more risk there is when processing very delicate items. Conversely a low KB value represents a different situation where you might be expected to carry out far more laborious spotting prior to processing the garment and potentially some additional spotting after the garment has been removed from the drycleaner.

Solvent	KB Value
Perchloroethylene	90
Hydrocarbon	30
Green Earth	20
Rynex	70
Water	0





Specific Gravity

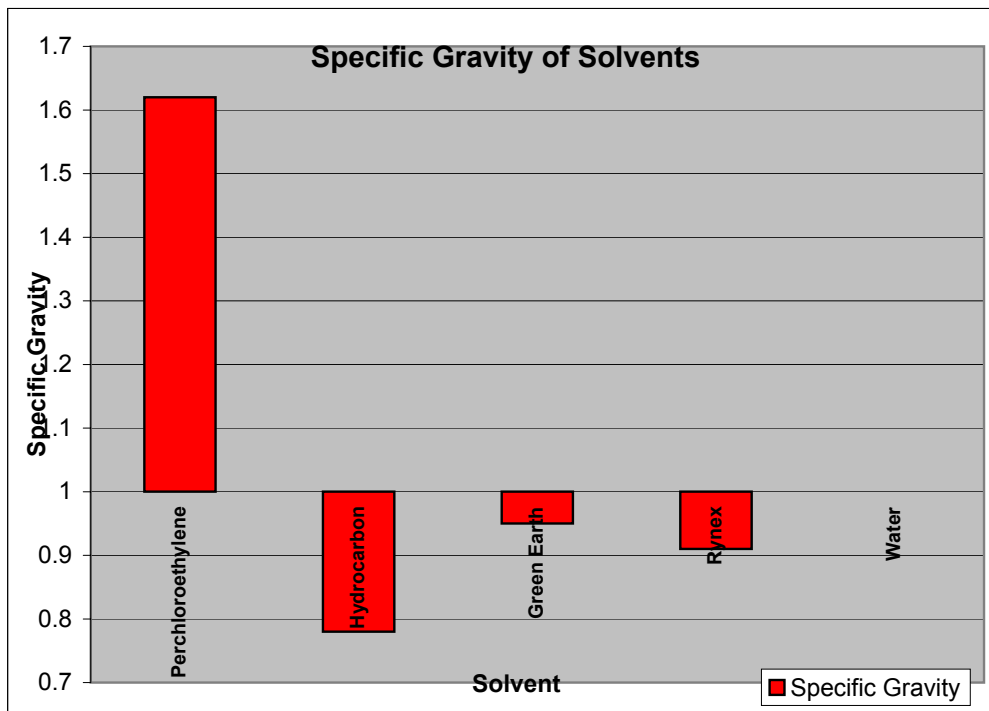
The Specific Gravity of a Solvent relates simply to the weight of the solvent when compared to Water. Water has a Specific Gravity of 1 and a solvent is either lighter or heavier than water. If the solvent is lighter than water, then it will have a Specific Gravity of less than 1 and conversely if it is heavier than water, it will have a Specific Gravity greater than 1.

This is important in drycleaning as the weight of the solvent affects the amount of mechanical action the garments being cleaned are subjected to. The heavier the solvent, the more mechanical action a solvent will impart on the garment.

A heavy mechanical action might be fine for robust garments such as overalls, suits and general day to day cleaning, but not for very delicate garments where less mechanical action is required. On the flip side, a solvent with a low Specific Gravity might be great for very delicate items but not for heavily soiled garments.

As a note, the problems of a high Specific Gravity solvent (such as Perchloroethylene) being too aggressive mechanically can nowadays be overcome by controlling the action of the drum of a well specified drycleaning machine using a drive Inverter.

Solvent	Specific Gravity
Perchloroethylene	1.62
Hydrocarbon	0.78
Green Earth	0.95
Rynex	0.91
Water	1





Surface Tension - measured in Dynes/cm

This is a measure of the ability to wet a fabric. The lower the surface tension, the easier it is to wet a fabric. Perc has a low surface tension of 32 dynes/cm which allows it to easily penetrate fibres rapidly and allow effective cleaning. Hydrocarbon, Green Earth and Rynex have lower Surface Tensions than Perc.

Solvent	Surface Tension
Perchloroethylene	32
Hydrocarbon	25
Green Earth	18
Rynex	24
Water	73

