WHY SO MANY SOLVENTS?

In many manufacturing processes, demands on the solvent family tree are complex because the properties required to handle, so why are there so many industrially important solvents?

Water is easily available and is simple and safe to handle, so why are there so many industrially important solvents?

The easy answer is that not everything dissolves in water. However, the choice of solvent is governed by evaporation rate, boiling point, viscosity, surface tension and many other factors that affect the thousands of industrial processes that need solvents.

WHY SO MANY SOLVENTS?

The solvent family tree is a useful way to categorise the many different solvents. Each branch of the tree has its own characteristics that make it suitable for a specific application.

THE HYDROCARBON AND HYDROCARBON SOLVENTS FAMILY TREE

The most common group of solvents manufactured by reaching the operation of an oil refinery or petrochemical plant is the hydrocarbons. These solvents are usually derived from crude oil and are widely used in many different applications due to their low cost and ease of use.

THE ALCOHOL FAMILY

The alcohols are produced from crude oil and are used in a wide range of industrial processes. They are characterised by their molecules containing only hydrogen and carbon and have a high solubility in water.

THE KETONE FAMILY

The ketones are another group of solvents that are produced from crude oil. They are characterised by their molecules containing only hydrogen, carbon and oxygen and have a high solubility in water.

THE ESTER FAMILY

The esters are produced from crude oil and are used in a wide range of industrial processes. They are characterised by their molecules containing only hydrogen, carbon, oxygen and a hydroxyl group and have a high solubility in water.

THE GLYCOL ETHER FAMILY

The glycol ethers are produced from crude oil and are used in a wide range of industrial processes. They are characterised by their molecules containing only hydrogen, carbon, oxygen and a hydroxyl group and have a high solubility in water.

THE AROMATIC HYDROCARBON FAMILY

The aromatic hydrocarbons are produced from crude oil and are used in a wide range of industrial processes. They are characterised by their molecules containing only hydrogen and carbon and have a high solubility in water.

THE PARAFFIN FAMILY

The paraffins are produced from crude oil and are used in a wide range of industrial processes. They are characterised by their molecules containing only hydrogen and carbon and have a high solubility in water.
"The Solvents Family" is a result of cooperation between the European Solvents Industry Group (ESIG) and the Solvents Industry Association (SIA).

For further information on solvents in Europe, please visit www.esig.org or contact:

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**THE SOLVENTS FAMILY**

- **ALCOHOLS**
  - Isopropanol
  - Butanol
  - Ethanol

- **ETHERS**
  - Diethyl ether

- **ESTERS**
  - Ethyl acetate
  - Isopropyl acetate
  - Butyl acetate

- **AROMATICs**
  - Toluene
  - Xylene
  - C9-C10 aromatic

- **PARAFFINIC**
  - n-Paraffins
  - Isoparaffins

- **HYDROCARBON SOLVENTS**
  - Naphtha

- **RAW MATERIALS**
  - Natural gas
  - Crude oil

- **HYDROCARBON SYNTHESIS**
  - Hydrocarbon fractions

- **OXGENATED SOLVENTS**
  - Butanol
  - Isopropanol

- **ALKANES**
  - White spirit
  - Dearomatised hydrocarbons
  - Light fractions (e.g. Hexane)

- **GLYCOL ETHERS**
  - Methoxy propanol
  - Butyl glycol

- **GLYCOL ETHER ESTERS**
  - Methoxy propyl acetate
  - Butyl glycol acetate

- **ALKANES**
  - n-Paraffins
  - Isoparaffins

- **HYDROCARBON EXTRATION**
  - Crude oil

- **ETHYL ETHER EXTRATION**
  - Diethyl ether

- **PROPANE EXTRATION**
  - Propylene oxide

- **AXES**
  - White spirit
  - Dearomatised hydrocarbons
  - Light fractions (e.g. Hexane)