



PETROCHEM
CARLESS

Printing Ink Distillates



PARASET™

Paraset[™] products are a range of high quality printing ink distillates that allow ink-makers to create the ideal lithographic ink for most printing applications.



Petrochem Carless is one of the world leaders in speciality printing ink distillates used in the production of lithographic inks.

Industry issues

Petrochem Carless Paraset products are a range of printing ink distillates. Aimed specifically at the lithographic ink market, they provide the ink-maker with the choice and combination of characteristics to meet the requirements of a particular ink formulation.

In selecting a Paraset product for a particular ink, the ink-maker will look to 'cross-match' key parameters to meet particular performance requirements. This usually involves balancing the drying characteristics and solvency power of the distillate. Solvency is controlled by the distillate's aromatic/ naphthenic content and the boiling range.

Boiling Range

The boiling range of the Paraset is critical as it determines the drying characteristics, solvency and viscosity of the final ink. In most cases, the distillate chosen needs to be a 'narrow cut' to

give controlled and precise drying without a long 'tail' that would occur with wider fractions. The type of ink and the drying process during printing, also dictates the requirement for boiling range. Refinery controlled distillation of specific feedstocks, provides the engineered precision necessary within this process.

Aromatics

Varying the aromatic content of distillate affects the solvency strength, which in turn affects factors such as 'tack' and viscosity of the final ink. The aromatic level is also important for more sensitive printing applications such as food packaging where taint or odour, are critical. Suitability for use with the formulation's resin system is also a crucial area.

Aniline Point

This is a standard way of measuring the solvency strength of solvents and

distillates. The aniline point is affected by a combination of factors including aromatic content, boiling range and naphthenic content. The higher the figure, the lower the solvency power.

Commitment

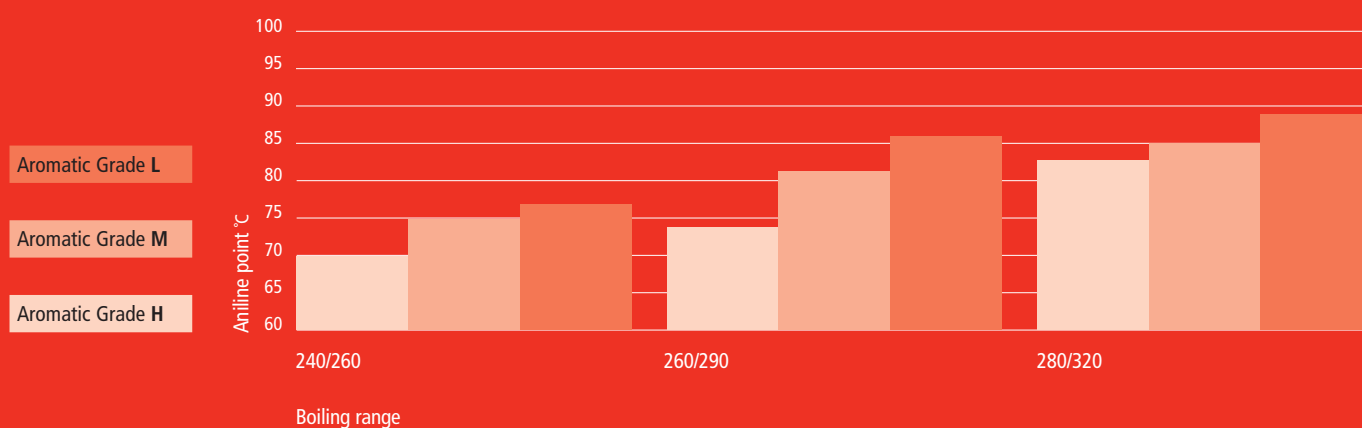
Petrochem Carless Paraset distillates are produced from specifically selected feedstocks and dedicated refining processes, designed to provide ink-makers with a number of significant benefits. Produced by distillation rather than blending, this helps achieve a consistently even drying curve for the final ink and gives ink-makers much greater control over the drying rate of the formulated ink.

Assured quality and guaranteed performance, backed up by experienced technical and development resources, provides the best possible support to our customers' individual requirements and continued development.

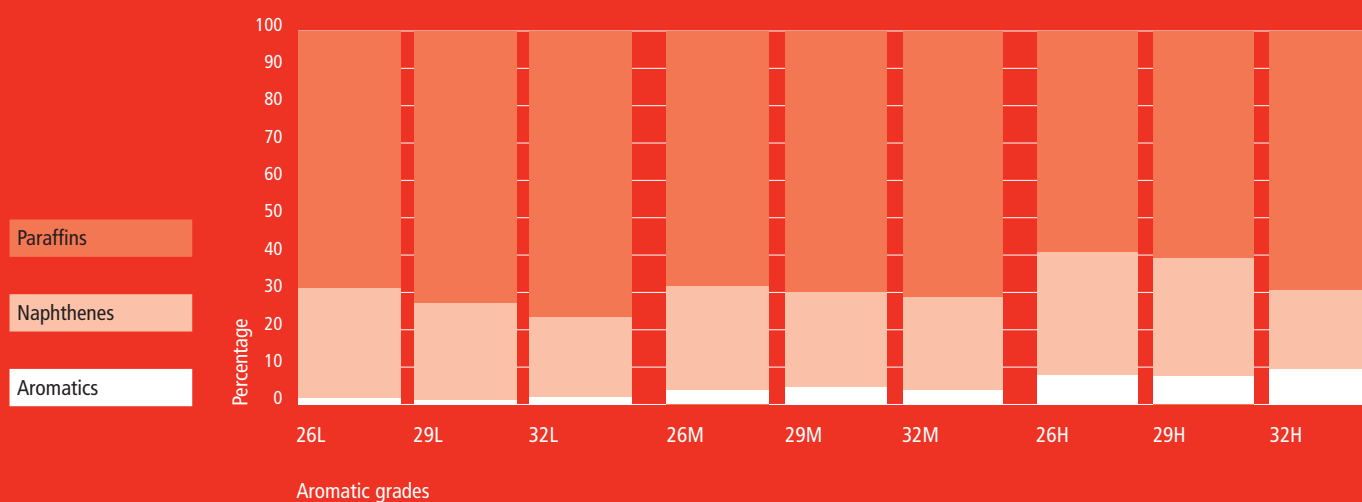
Typical properties of Paraset printing ink distillates

	ASTM	26L	29L	32L	26M	29M	32M	26H	29H	32H
Boiling Range °C	D86	238-271	259-302	280-315	238-271	260-295	281-319	238-270	256-294	280-318
Aromatics %w/w	HPLC	0.2	0.5	0.5	8.0	5.0	4.5	14.0	17.0	12.5
Density @15°C	D1298	.815	.818	.818	.816	.814	.815	.826	.832	0.836
Colour (saybolt)	D156	+30	+30	+30	+27	+26	+21	+27	+25	+15
Pour Point °C	D97	-20	-20	-18	-35	-28	-15	-40	-23	-12
Flash Point °C	D93	105	124	142	103	120	142	105	120	137
Aniline Point °C	D611	77	86	89	75	81	85	70	74	83
Sulphur ppm	IP373	<5	<5	<5	<5	<5	<5	<10	<10	<10
FDA 178.3620	FDA 178.3620	C	C	C	C	C	C	C	C	C
% VOC	1999/10/EC	45	0	0	45	0	0	45	0	0

The inter-relationship of solvency (measured by aniline point) with boiling range and aromatic content



Carbon type analysis by product



Product Range

Alcohols
Aliphatic Solvents
Amines
Aromatics
Automotive Products

Blends
Burning Oils
Chlorinated Solvents
Custom Processing
Drilling Mud Fluids

Esters
Glycols
Glycol Ethers/Esters
Ketones
Heat Transfer Fluids

Performance Fuels
Plasticisers
Printing Ink Distillates
Process Oils
Refinery Naphthas

Special Kerosines
Speciality Base Oils
White Oils
Other products

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