



PETROCHEM
CARLESS

Processing & Blending



CUSTOM

Custom processing offers oil, chemical and petrochemical companies flexible use of the skills, capacity and advanced production capabilities of Petrochem Carless's Harwich refinery. It provides manufacturers and suppliers with a cost-effective way of satisfying a range of challenges - from supply of one-off products to developing new products and coping with peaks in demand.

Custom processing offers you the know-how and production capabilities of one of Europe's most advanced refineries to help build your business.

Producing one-off products or coping with occasional high demand can cause oil and chemical companies considerable problems. Processing plant is at its most efficient when it is scaled and resourced to handle predictable quantities of regular products. Re-equipping and re-calibrating processing lines, or maintaining spare capacity to cope with peaks in demand is often simply uneconomic. A further challenge is that producing a new product may require expertise and specialist equipment that cannot be sourced in-house.

Petrochem Carless solves these problems for oil, chemical and petrochemical clients by providing flexible, high quality custom processing at its Harwich refinery.

With its sophisticated distillation and solvent extraction plant and 600,000 tonne per annum capacity, Harwich is capable of producing large scale quantities of products to precise specifications, tailor made to customer requirements. In addition, a custom blending facility, an on site £2m laboratory and R&D centre, plus Petrochem Carless's proven wide-ranging manufacturing expertise offers customers everything they need to develop new products.



Petrochem Carless custom processing and blending offers you:

- World leading resources to help you develop new products or processes.
- Pilot plant testing, replicating operation of all major production processes.
- Large or small scale production of solvent, distillation and other products, up to 600,000 tonnes per annum.
- Complete customer confidentiality at all times.

Fast turnaround and delivery

Harwich is on the east coast of England within easy shipping distance of the major oil and chemical refineries of Europe. Jetty facilities within the site, capable of handling 10,000 tonne ships, mean the refinery can receive and re-deliver feedstocks and products direct to sea-going vessels minimising handling delays. Modern rail siding and road loading points offer similar direct links into the UK's transport infrastructure and as a further efficiency advantage, Petrochem Carless can collect or deliver feedstocks or finished products using road, rail and sea.

Flexible supply

The Harwich refinery has 175 storage tanks – ranging from 12m³ sizes to 15,000m³ - offering customers access to appropriate quantities of product, as and when they need it. Total storage capacity is over 170,000m³ and heated storage is also available.

All storage and distribution meets ISO9002 quality standards.

Comprehensive, versatile processing units

The Harwich refinery offers distillation at pressures between 2 barg and full vacuum distillation and solvent extraction using n-Methyl Pyrrolidone. Further chemical treatments can be provided to remove trace impurities and to improve product odour.

Key benefits include:

- Continuous operation – 24 hours, 365 days per year
- Continuous or batch processing – up to 35 tonnes/hour
- Experience of over 100 products and intermediates
- Flexible multi-skilled, multi task 100-strong workforce
- Advanced three column vacuum distillation plant – minimising product degradation at high temperatures and increasing range of usable feedstocks.



Access cost-effective production facilities – by lease, licence or other agreement.

Batch distillation

Three batch distillation columns converting naphthas to light gas oils, which can be coupled together or operated independently in semi or continuous mode.

	Batch
Capacity	two 90m ³ col, one 45m ³ col
Pressure	2 barg – FV
Throughput	>3metric tonnes per hour

Continuous distillation

Two three stage columns - one North Sea gas condensate feedstock, one gas oil aromatic feedstock.

	Continuous - gas oil aromatic
Throughput	>250,000mt per annum
Heating medium	synthetic thermal fluid 5.8Mw heater up to 345°C
Vacuum	up to 10 mbars abs by positive displacement pump

	Continuous - North Sea gas
Throughput	>250,000mt per annum
Heating medium	two 300°C mineral oil heaters, each rated at 3.6Mw

Solvent extraction

Using n-Methyl Pyrrolidone to dearomatise naphthas and kerosines.

	Solvent extraction
Extraction & Distillation	seven columns with operating pressures up to 4 barg and vacuum
Heating medium	steam 15 barg and 10 barg

Chemical treatments

These include:

- Perco sweetening
- Soda lime



Custom blending and R&D

Petrochem Carless is the market leader in many fluids sectors and has an outstanding track record in developing special blends and formulations that solve particular industry challenges. Petrochem Carless innovations are driving up performance standards, improving handling and workspace protection, and minimising environmental impacts across a range of industries – from mining to printing and automotive to aerospace manufacturing.

These product development skills are available to customers under licence or other forms of agreement, together with the considerable R & D, laboratory and production resources needed to make new products possible.

Specialist blending plant

The Harwich refinery and specialist blending facilities at Grove and Gunness terminals have some of the most modern facilities of their kind in Europe.

The Grove and Gunness blending, drumming and container handling facilities include:

- Stainless steel blending equipment for low flash products.
- Gravimetric and volumetric drumming lines.
- Extensive drum storage.

The Harwich site has a range of advanced features to ensure product

integrity including:

- Nine formulation tanks of different volumes, each completely segregated and independent from the main area of the refinery.
- Separate pumps and blending jets for each tank, preventing any possibility of cross-contamination
- Highly accurate radar-based gauging systems and computer assisted blending delivering precision of 1 part in 3000.

Industry-leading R&D

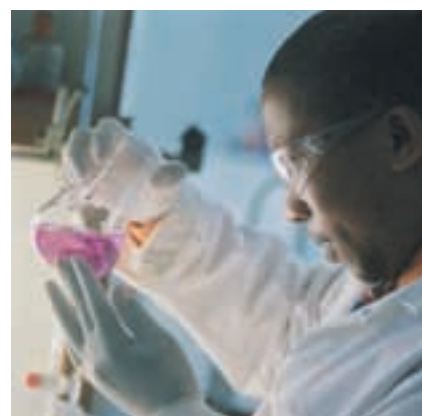
The company's laboratories at Harwich and the Grove and Gunness technical

centre are equipped with over £2.5m petrochemical testing and analytical apparatus including:

- Mass spectrometry.
- 15 gas chromatographs.
- 2 high pressure liquid transform chromatographs.
- Fourier Trans Infrared equipment.
- Atomic absorption, ultraviolet and infrared equipment.

And apparatus to deliver:

- Microcoulometry.
- Thermal desorption.
- X-ray analysis.
- Differential scanning calorimetry.
- Headspace analysis.



Petrochem Carless custom blending and custom R&D adds world-leading fluids knowledge and experience to your product development team.



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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