



# Product Recovery (Pigging) Case Study: Croda Chemicals

**Singapore**

How Multiple HPS Pigging Systems Are  
Improving Liquid Transfer and  
Processing Operations

**HPS Product Recovery Solutions**

[www.HPS-Pigging.com](http://www.HPS-Pigging.com)



## Summary

- **HPS designed, supplied, and implemented single and double-pig systems plus piggable valve matrices for Croda Singapore.**
- **The systems were for a 'greenfield' site.**
- **They ensure highly efficient liquid transfer and processing, ensuring product waste and downtime are kept to a minimum.**
- **By minimising manual intervention, the systems also enhance safety.**
- **By saving energy, chemicals, and resources, pigging also helps towards Croda's environmental sustainability.**

## About Croda Singapore

Founded in 1925, Croda is a highly innovative company that produces speciality chemicals, ingredients, and technologies for many well-known brands.

With offices throughout the world, Croda works with a wide range of business sectors including coatings and polymers, home care, industrial chemicals, lubricants, personal care, polymer additives and others.

## Project Background

Croda Singapore manufacture specialised products for the health and beauty care industries in the Pacific Rim. These products include specialised lanolin-based surfactants, esters and other chemicals.

This was a greenfield project where several material transfers had to be accomplished, at up to 100°C, through the same pipelines.

## Why Croda Chose HPS as their Pigging Systems Provider

HPS has a strong reputation as the world's leading hygienic and sanitary pigging systems specialist and has worked with a wide variety of companies the produce homecare, lubricants, paint and coatings and other chemical products.

## The Solution

Raw materials are taken from several tanks and routed through HPS piggable valves to three distribution lines. These 3-inch trace heated lines distribute the raw materials either by an HPS single-pig pigging system to an ethylene oxide reactor or by HPS double-pig pigging systems to two sets of tank farms.

In the double-pig pigging systems, the first pig selects the tank and the second pig pushes all the remaining product into the tank at completion of the transfer.

From the reactor, the HPS double-pig pigging systems transfer the product to one of three different tank farms. The tank farm is selected using HPS 120° divert valves, whereas the actual tank is again selected by the first pig whilst the second pig pushes all the remaining product into the tank at completion of the transfer.

Finished products are taken from the tank farms through HPS piggable valve matrices, which give the flexibility to select any tank to any of the finished product packages.

These include tanker, drum filling or pastillation to provide pellets. All these lines are pigged at the end of a transfer.

In total, there are 17 launch systems, serving 13 receive systems, interconnected with 10 HPS 120° Divert Valves, from 3 x 3" HPS piggable matrices operating at up to 100°C in both Safe and Zone 1 environments.

When commissioning was complete, HPS engineers ensured Croda staff fully understood how the systems worked and were fully trained to properly and safely operate and maintain the equipment.

## The Results

Because this was a greenfield site, there are no 'before and after' statistics available.

However, the pigging systems and valve matrices ensure highly efficient liquid transfer and minimisation of product waste. Pigging also helps ensure minimum downtime and enhances safety by reducing manual intervention and the risks of incorrect operation and error.



# Contact HPS

To improve the efficiency and effectiveness of your liquid processing, contact your nearest HPS Office:

## Australasia:

### HPS Australasia

225 Main Road  
Blackwood  
SA, 5015  
Australia

T: +61 (0)8 8278 1009 E: [australia@hps-pigging.com](mailto:australia@hps-pigging.com)

## United Kingdom (Head Office):

### HPS Product Recovery Solutions

T: +44 (0) 115 925 4700 E: [info@HPS-Pigging.com](mailto:info@HPS-Pigging.com)

## USA and Canada:

### HPS LLC

T: +1 908 858 5225 E: [usa@hps-pigging.com](mailto:usa@hps-pigging.com)

## All other countries:

**We have agents throughout the world.**

Please contact the HPS head office and we will put you in touch with your local HPS representative:

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