

ICL-IP Terneuzen BV in the Netherlands is a chemical production company specialising in the production of flame retardants, fine chemicals, biocides and inorganic chemicals. We offer contract manufacturing services for chemicals and blends. Our plant operates batch wise processes in a continuous mode, seven days per week.

We offer our bromine recovery installation for the work-up of bromine containing waste streams. A separate leaflet "Processing bromine containing waste streams" is available.



General

TECHNICAL EXPERTISE:

Bromination, hydrobromination, bromine recovery, sulphonation, phosphorylation, allylation, nucleophilic substitution, crystallisation, esterification, operations with acrylic acid, acrylonitrile and flammable solvents.

WE OFFER:

The use of our multi-purpose equipment, pilot plant facilities and assistance in process development. Investment in dedicated installations is possible.

Reactor capacity

All vessels are suitable for reactions and blending activities.

- Glass lined reactors : 1.600 – 16.000 litres (different sizes available)
- Stainless steel reactors : 1.800 – 28.000 litres (different sizes available)

Other processing equipment

- Centrifuges 316L, peeler type
- Centrifuges 316L, inverting filter type Heinkel
- Vacuum dryers 316L, type Nauta 2 m³ and 3,5 m³
- Fluid bed dryer, 4 m²
- Sulzer packing (Melapack, 20 trays) and Durapack (glass, 7 trays)
- Drum flaker, 316L
- Schenk centrifugal discharge filter
- Storage tanks 25 m³ HDPE, PP and PVDF
- Storage tanks 316L, 10 m³, 60 m³, 30 m³
- Glass lined storage vessels
- Vessel with Ekato Internig agitator for mixing and crystallisation 316L
- HBr/HCl scrubbing facilities

Raw material and product storage capacity

- Stainless steel 316L storage tanks, 60 m³, 30 m³
- PVDF lined tanks, 25 m³
- Container storage (heated if needed)

Utilities

- Steam up to 10 bars
- Cooling water
- Glycol based cooling system
- Nitrogen supply to all installations
- Utility materials: standard acid and caustic feed systems, ammonia, demineralised - and soft water
- Compressed air system
- Vacuum systems per installation
- Temperatures up to 190°C

Laboratory and pilot facilities

Laboratory facilities:

- GC, HPLC, TOC, headspace analyses, ion chromatography, FTIR, DSC, TGA.
- Particle size by microscope and Malvern laser diffraction.
- Titrations, Karl Fisher, Halogen dryer.
- Powder behaviour measurements.
- Quality Control in full shift system.

Pilot facilities:

- For trouble shooting assistance, 2 - 10 - 25 litre scale reactors available.

Environmental facilities

Installations are equipped with condensing, active carbon-based solvent recovery systems and a catalytic burner system for final air treatment. For waste water, physical chemical, active carbon-based, biological treatment facilities, combined with membrane technologies are in operation. Liquid waste by-product streams can be treated in our incineration system, equipped with a bromine recovery system.

Work-up of brominated waste

Capability for upgrading bromine-containing streams.

Capability for incineration of bromine containing liquid waste streams, combined with bromine recovery.

Logistics

ICL-IP Terneuzen is located near the major industrial areas of Rotterdam, Antwerp and Ghent.

We have both outdoor and indoor storage facilities available, loading and unloading docks for lorries and railway carriages, including a 20 ft forklift for containers.

A jetty for loading and unloading of ships is at your disposal, as well as facilities for both the filling and emptying of drums and IBC's.

Permits & management systems

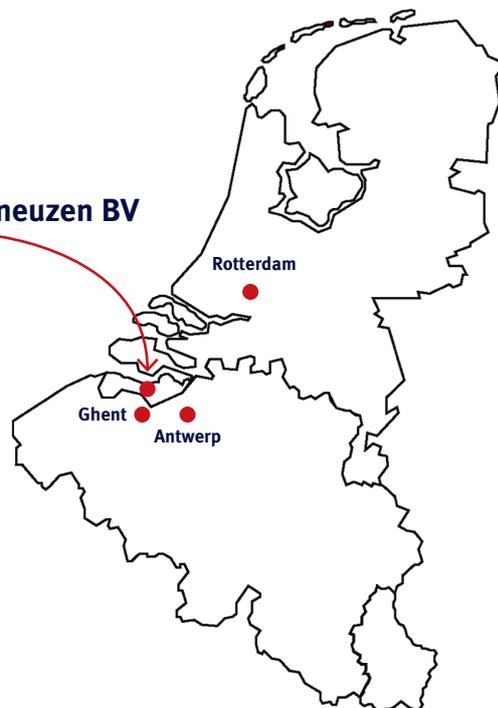
ICL-IP Terneuzen is a chemical company and holds permits in accordance with SEVESO- and IPPC-guidelines.

ICL-IP Terneuzen BV is certified in accordance with the quality standards mentioned below:

- ISO 9001
- Environmental standard ISO 14001
- Safety standard OHSAS 18001
- Energy standard ISO 50001

All our engineering activities are preceded by an in-depth safety study carried out by our HAZOP-team.

ICL-IP Terneuzen BV



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