

Palchem


FINE CHEMICAL SPECIALITIES



 Confidential

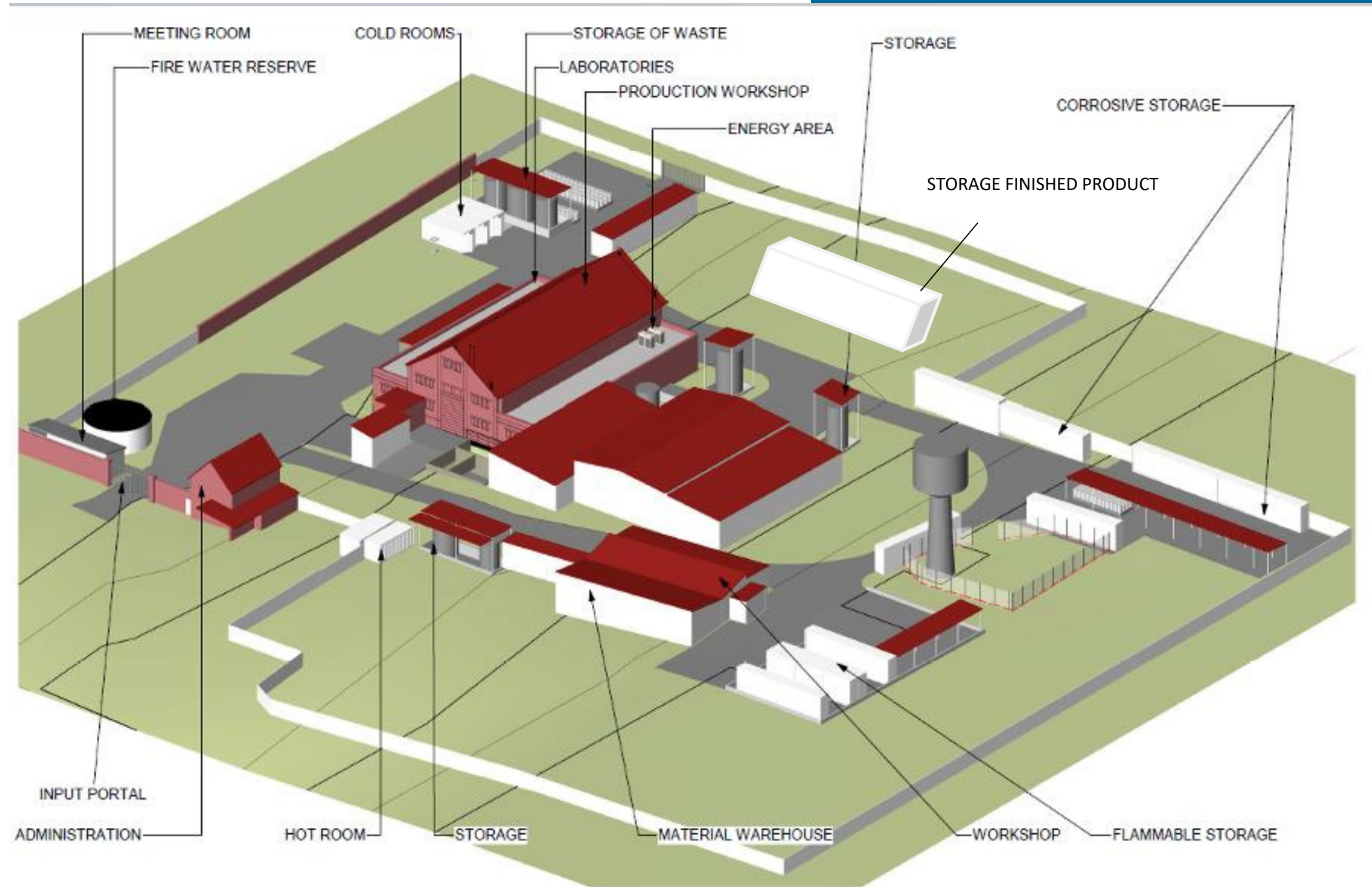
Facts and figures



- Created in **1991**
- **French** independent company 
- **1 manufacturing site** in France
- Classified **SEVESO III Low Threshold**
- Annual production : **250 to 300 MT**
- Production exported > **50%**
- 34 employees

Manufacturing site

- **PALCHEM SITE** : 20 000 m²
- **PRODUCTION** : 600 m²
- **QC LAB** : 35 m²
- **R&D** : 70 m²
- **WAREHOUSE** : 400 m²



Core businesses

We are always diversifying our techniques and services to satisfy customers' needs

CUSTOM SYNTHESIS

Manufacturing process developed internally by our R&D

► **Confidentiality Agreement**

TOLL MANUFACTURING

Process provided by customers and adapted to our facilities

► **Confidentiality Agreement**

CATALOGUE PRODUCTS : +200 COMPOUNDS

- Bromide derivatives
- Carboxylic acids derivatives

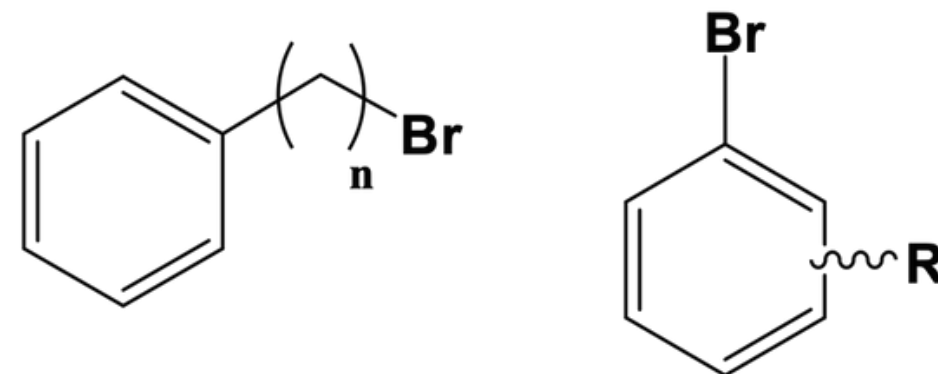
FLEXIBILITY

Flexibility on :

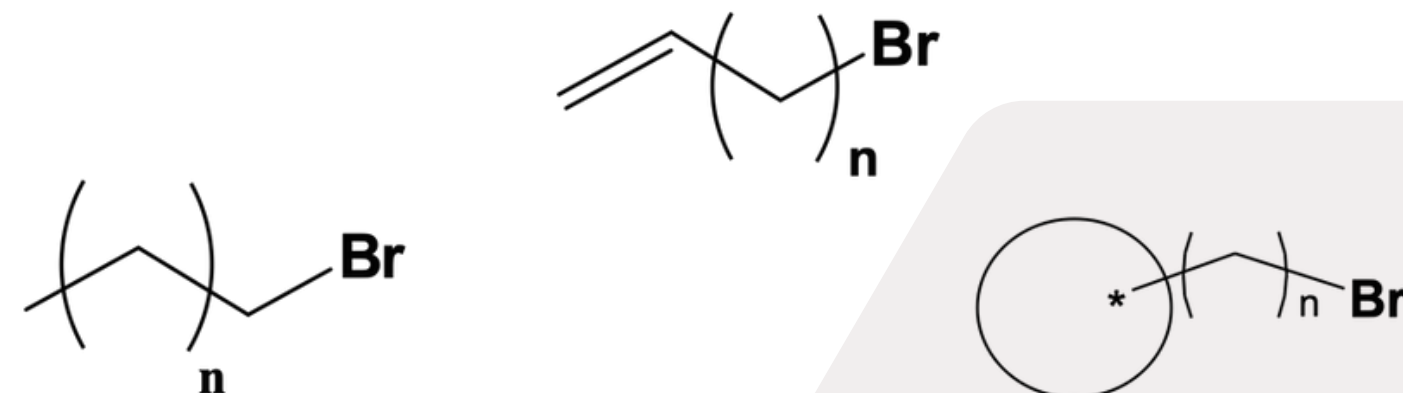
- Specifications
- Method of analysis
- Packaging unit
- Labelling
- Documentation provided (TSE, non GMO, non allergen, list of catalysts, solvents...

Catalogue products

- Arylalkyl bromides / Bromoaromatics
n = 1, 2, 3,



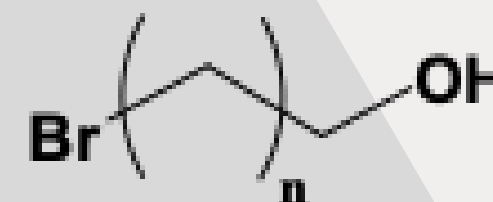
- (Di)bromoalkanes / Bromoalkenes
Bromocycloalkanes
n = 0, 1, 2, 3,



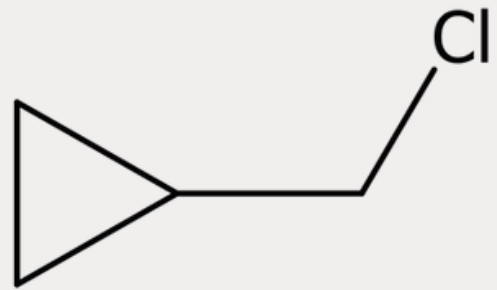
- Bromoacids / esters
n = 1, 2, 3,



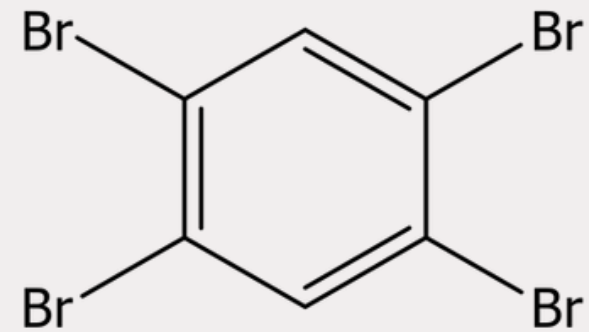
- Bromoalcohols
n = 1, 2, 3,



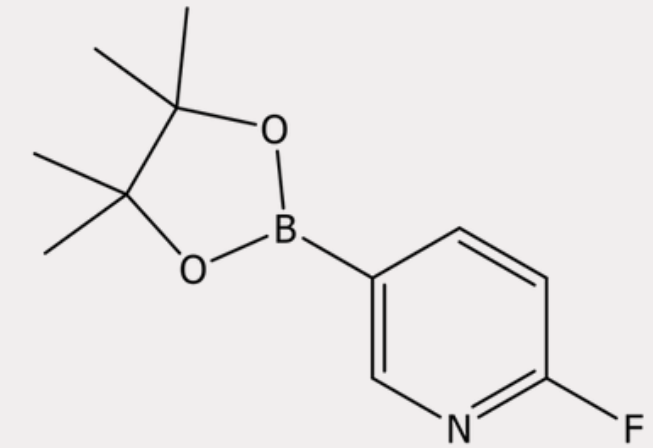
Products recently developed :



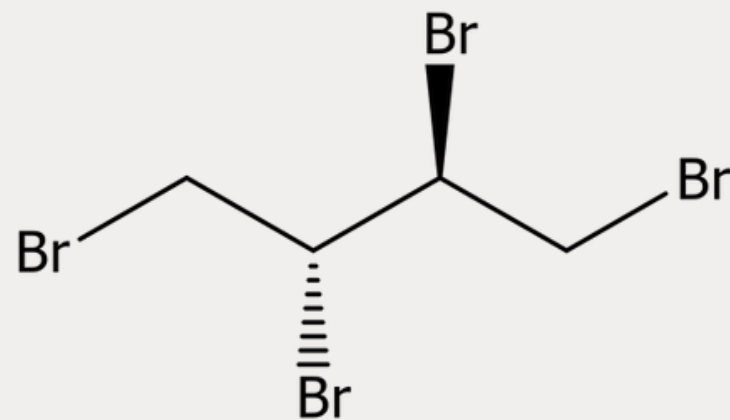
Chloromethylcyclopropane



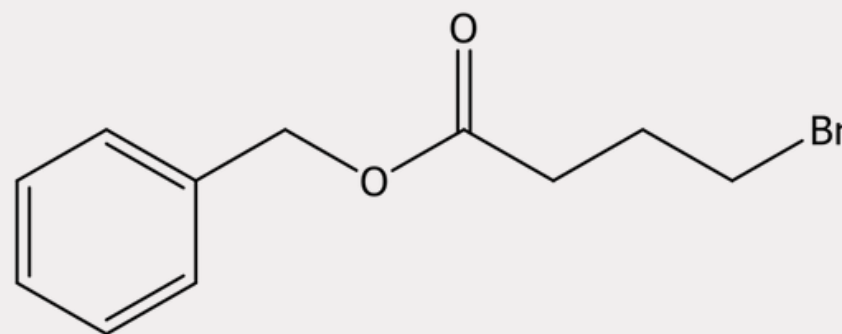
1,2,4,5-tetrabromobenzene



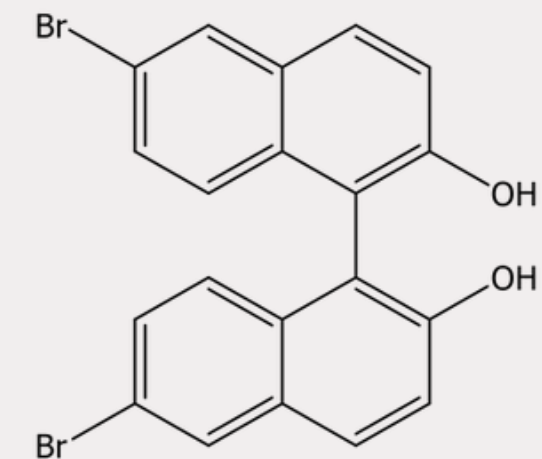
2-fluoro-5-pyridineboronic
pinacol ester acid



Meso-1,2,3,4-tetrabromobutane



Benzyl 4-bromobutanoate



6,6'-dibromo-1,1'-bi(2-naphthol)

Key technologies



Research and development



- Custom synthesis From few grams to few kg
- Optimisation of synthetic routes and process development

- **2011 : New lab equipped with 10L pilot lab reactor**

- Temperatures from – 80 to +160°C
- Vacuum until 0,5 mmHg

- **Lab equipment :**

- Autoclave (700 mL / 85 bars)
- Analytical equipment (HPLC/GC-MS/GC Headspace)
- 25L pilot lab reactor
- Microdistillation (20-100mL) and distillation equipment (200-500mL)

Pilot facilities

- **4 multi-purpose glass lined reactors:**

100, 250, 500 & 630 L (Useful Capacity: 1500 L)

- **Services**

- *Nitrogen, Argon, Vacuum until 0,5 mmHg*

Temperatures from - 80°C to + 160°C

- **Fractional distillation**
- **Packed column with semi-automatic reflux head**



Production facilities

LAST INVESTMENTS



- **Production capacity increase**

- New reactor R14 (6300L)
- New gas scrubber
- Reactor R16 (3600L)
- Reactor R17 (500L)
- Reactor R15 (1000L)



- **Safety improvements**

- Renovation of the drying room dedicated to anhydrous oxalic acid
- Set up of new risk management measures for bromine handling

- **2 brand new reactors**

- Reactor R19 (3300L)
- Reactor R21 (4500L)

- **Solids handling**

- Increased capacity for solids with two dryer filters in Hastelloy
- Improvement of the containment of solids

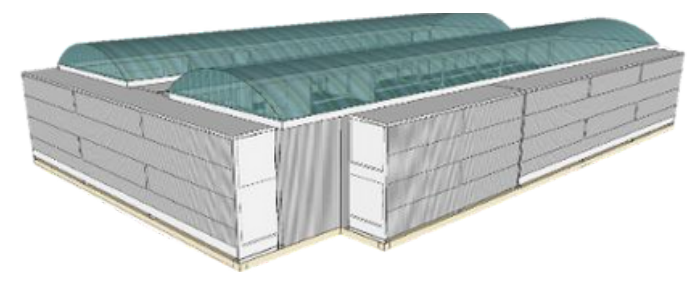
Palchem's news for 2022

Production and R&D

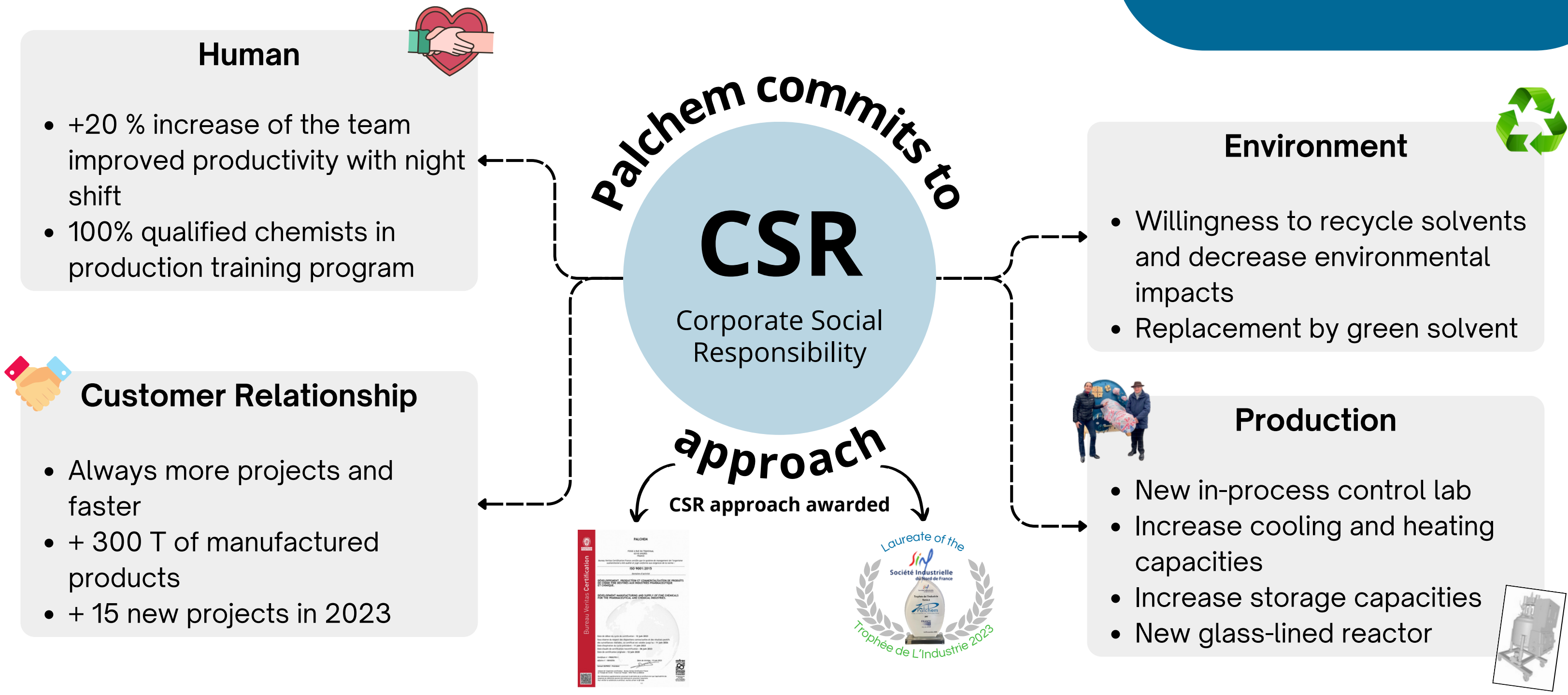
- 13 new pilots
- 70 products manufactured
- 280T of manufactured products

Investment

- Increase distillation capacities in lab and production with new distillation / microdistillation facilities
- Upgrading production control lab
- New storage building



NEWS 2023





Environment



- Reduce environmental impact and waste production as well as consumption of raw materials
- Recycling and reusing of solvents

Palchem
 commits to the health
 and well-being of
 its customers, its team
 and our planet



Youth employment & training

- 10% of trainees & 30% employees under 30 years old
- 70% had their first job at Palchem
- Sponsorship of universities and local schools to introduce careers in the chemical industry



Senior employment

- 10% of employees of +55 years old support and training through to retirement



Decarbonation

- Local purchases
- Carbon footprint
- Raising employee awareness
- Reducing energy consumption





Quality control



- IR
- GC / Headspace GC
- HPLC
- Karl Fischer
- Automatic titrator
- GC-MS
- Oven Karl Fischer

➔ **Complex analyses (NMR, DSC...) in collaboration with local universities**

➔ **Residue on ignition and other analyses sub contracted**

Why choose



A high performance team

100% chemists from R & D,
QC and Production



QA system certified ISO 9001

Based on GMP



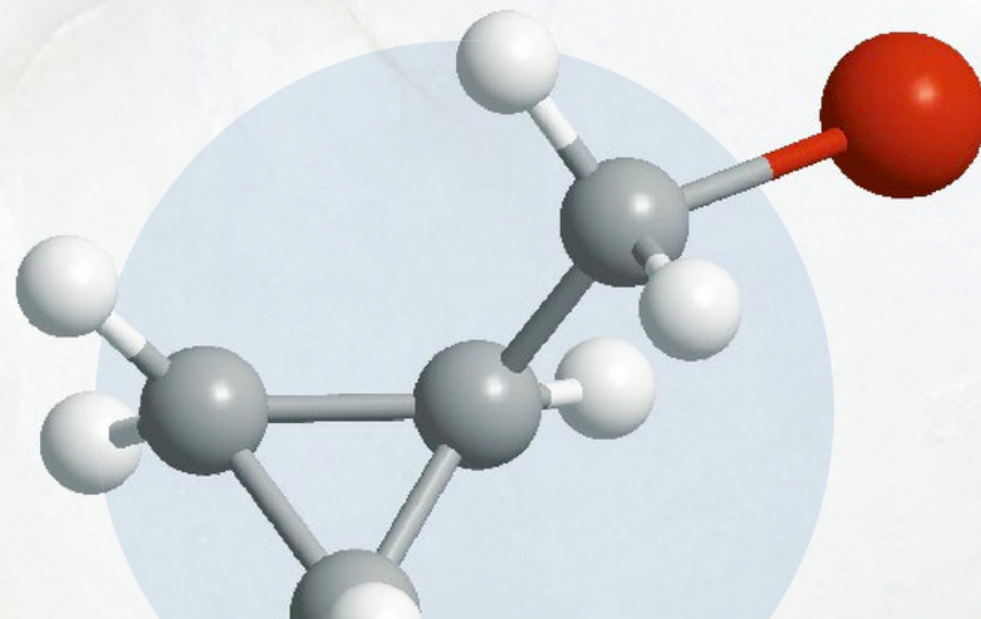
Multipurpose facilities

- Glass-lined reactors allowing a wide range of chemical reactions
- Large capacity of reactors from 100 l to 6400 l



Flexibility & Rapidity to develop New Products

- From the development (between 10-1000 kg) to the commercialization (10-100 t)
- Manufacturing & development with sustainable approach





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