



CORROSIVE CHEMICALS


PROCESS  
TECHNOLOGIES  
PROVIDER







GLOBAL  
EQUIPMENT  
AND PROCESS  
TECHNOLOGIES  
PROVIDER FOR  
CORROSIVE  
ENVIRONMENTS



Since 1960, Mersen has strengthened its Process Technologies know-how, especially related to the use of HCl. The first skid-mounted turn-key solution was delivered 30 years ago in 1986.

You can rely on our extensive experience for design and manufacture of corrosion resistant process equipment and ancillaries. The home-made produced and impregnated isostatic graphite - Graphilor® - together with the in-house silicon carbide - Boostec® - materials are really key components to ensure the best corrosion resistance.



HCl BURNER AND HCl ABSORPTION  
WITH STEAM GENERATION



HCl DISTILLATION  
AND HCl GAS DRYING



# FROM PROCESS KNOW-HOW TO SKID-MOUNTED TURN-KEY DELIVERY

Mersen is a global leader combining engineering and supply of equipment for corrosive fluids.

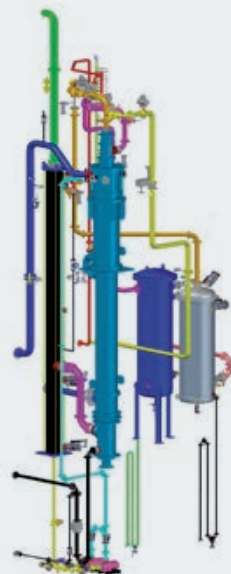
## ENGINEERING

- Conceptual design
- P&ID
- Basic/detail engineering
- Main equipment supply



## PROCUREMENT

- Instrumentation
- Piping and valves
- Automated control cabinet
- Main equipment supply



## CONSTRUCTION

- Main equipment supply
- Modular assembly includes the installation of steel structure, equipment, piping & valves, instrumentation, cabling and junctions boxes = Skid-mounted turn-key solution



## SERVICES

- Feasibility studies
- Project management
- Commissioning
- Control and monitoring
- Start-up and training
- After-sales service and maintenance solutions
- Repair and rehabilitation work



# PROCESS TECHNOLOGIES PORTFOLIO

With our innovative range of process technologies, we can provide you an engineered solution to transform your corrosive feed stock according to your requests.

PROCESS FUNCTION	TECHNOLOGY	VARIANT	H <sub>2</sub> SO <sub>4</sub>	HCl	Cl <sub>2</sub>	HBr	Br <sub>2</sub>	P <sub>2</sub> O <sub>5</sub>	Brine	Flue Gas	FeCl <sub>3</sub>
<b>Absorption</b>	by falling film			✓		✓					
	by adiabatic			✓		✓				✓	
<b>Burner</b>	with hydrogen (H <sub>2</sub> )	without heat recovery		✓	✓	✓	✓				
		with heat recovery		✓	✓						
	with methane (CH <sub>4</sub> )			✓	✓						
<b>Concentration</b>	pre-concentration	(from 0 to 38%)	✓	✓		✓		✓			✓
		(from 20-60 to 75%)	✓			✓		✓			✓
	medium concentration	(from 70 to 85%)	✓								
	high concentration	(from 85-96%)	✓								
<b>Dilution</b>			✓	✓		✓		✓			
<b>Distillation/ Desorption/ Stripping</b>	without azeotrope breaker			✓	✓	✓					
	with azeotrope breaker	Pressure Swing (=Dual pressure)		✓							
		Salt (CaCl <sub>2</sub> , H <sub>2</sub> SO <sub>4</sub> or MgCl <sub>2</sub> ) effect			✓						
<b>Gas Drying</b>	with condensers			✓		✓					
	with molecular sieve tower (Zeolite)			✓							
	with packed tower (H <sub>2</sub> SO <sub>4</sub> drying)			✓	✓						
<b>Gas cleaning / Vent treatment</b>	with caustic soda scrubber			✓	✓	✓	✓				
	with water scrubber			✓		✓	✓				
	with quench and scrubber			✓	✓					✓	
<b>Inorganic removal</b>	debromination (Br- removal)								✓		
	dechlorination (Cl <sub>2</sub> removal)		✓	✓					✓		✓
	defluorination (F- removal)							✓			
<b>Organic removal</b>	with packed tower	with Nitrogen (N <sub>2</sub> )	✓	✓		✓		✓	✓		✓
		with Air (O <sub>2</sub> +N <sub>2</sub> )	✓	✓		✓		✓	✓		✓
		with live Steam		✓		✓		✓	✓		✓
		with vacuum	✓	✓		✓		✓	✓		✓
		with Reboiler	✓	✓		✓		✓	✓		✓
<b>Production</b>	from brine						✓				
	from Fe and Cl elements										✓
	from chlorine (Cl <sub>2</sub> )			✓							
	from bromine (Br <sub>2</sub> )					✓					
<b>Temp. Control</b>	by quench			✓						✓	
	by heat exchanger package		✓	✓		✓		✓			
<b>Vaporizer</b>			✓	✓	✓	✓					
<b>Vacuum system</b>	by ejector		✓	✓	✓	✓		✓	✓		✓

# FOCUS ON SINTACLOR®

WORLD-LEADING HCl BURNER PROCESS TECHNOLOGY

## MERSEN HCl SYNTHESIS UNIT DESIGN WITH TOP BURNER "Best available design for safety and environment"

1

**HYDROGEN AND CHLORINE GAS ARE ALWAYS ABOVE THE PIPE RACK.**

- Therefore Atex area is far above the ground to maximize the safety.

2

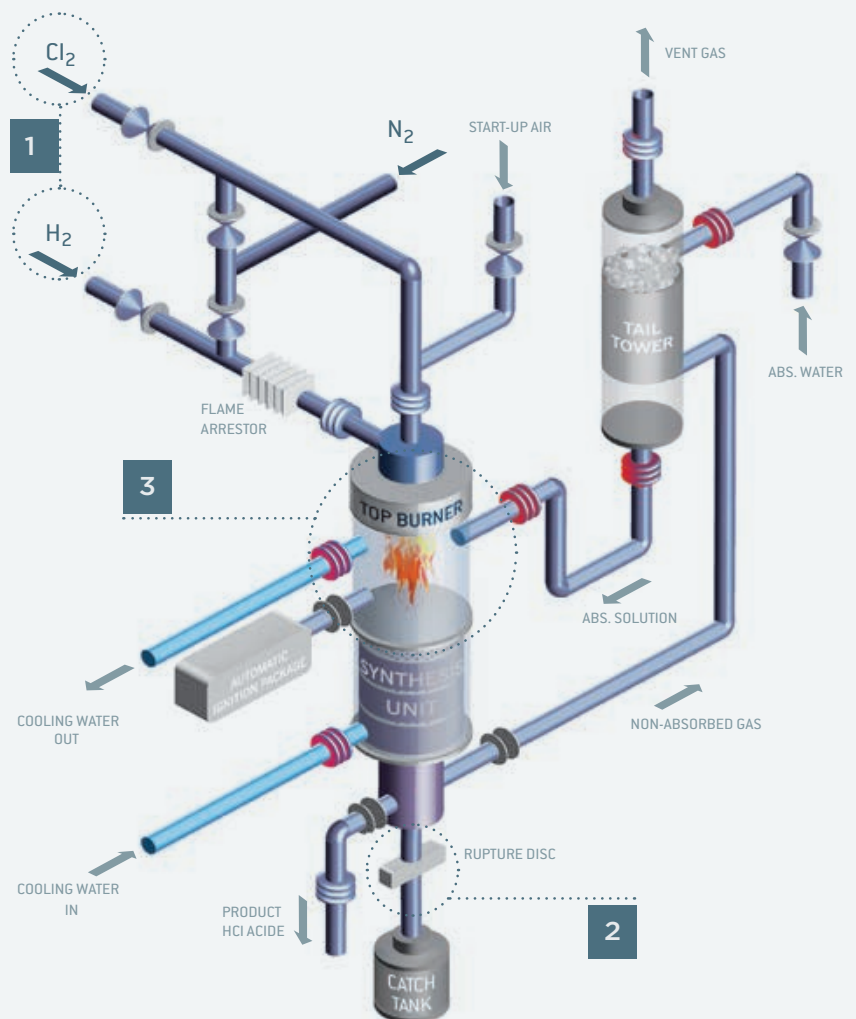
**MERSEN TOP BURNER TECHNOLOGY MINIMIZES THE DISCHARGE OF HAZARDOUS & CORROSIVE GASES (HCl, H<sub>2</sub> & Cl<sub>2</sub>) TO THE ATMOSPHERE WHEN A RUPTURE DISC BREAKS, WHEREAS BOTTOM BURNER TECHNOLOGY RELEASES ALL TO THE ATMOSPHERE.**

- If and when a rupture disc breaks, Mersen's top burner technology, by nature of design, ensures that minimal HCl gas is released to the atmosphere. HCl liquid is safely collected in a catch tank.

3

**TOP BURNER (MERSEN TECHNOLOGY) IS SAFER THAN BOTTOM BURNER TECHNOLOGY**

- The volume of explosive and corrosive gas within a bottom burner technology assembly is three to ten times that of a Mersen top burner assembly, making the Mersen design inherently much safer.



Safety

**Exclusivity** : Mersen's Burner Management System (BMS) is the only safety protection according to EN 746-2 "industrial thermo-processing equipment / Safety requirements for combustion and fuel handling systems" or NFPA 86. Mersen's BMS is TUV certified.



Global experience & references

- More than 600 Sintaclor® units in production in the world
- More than 50 skid-mounted projects managed during the last 10 years



GLOBAL EXPERT IN ELECTRICAL  
POWER AND ADVANCED MATERIALS

**EUROPE**

**FRANCE**

Mersen France Py S.A.S.  
Tel : +33 (0)3 83 81 60 81  
info.pagny@mersen.com

**GERMANY**

Mersen Deutschland  
Linsengericht GmbH  
Tel : +49 (0) 6051 71 037  
info.lsg@mersen.com

**ITALIA**

Mersen Italia S.p.A.  
Tel : +39 02 82 681 31  
ace.italia@mersen.com

**SPAIN**

Mersen Iberica fma, S.A.  
Tel : +34 93 685 7800  
contact.iberica@mersen.com

**THE NETHERLANDS**

Mersen Benelux B.V.  
Tel : +31(0)10 298 30 30  
contact.schiedam@mersen.com

**UNITED KINGDOM**

Mersen UK Teesside Ltd.  
Tel : +44 (0)1642 790100  
ace.uk@mersen.com

**RUSSIA & EASTERN EUROPE**

Tel : +7 (964) 768 14 05  
info.pagny@mersen.com

**TURKEY**

Mersen Istanbul San. Ür. A. Ş.  
Tel : +90 262 751 0262  
sales.istanbul@mersen.com

**ASIA**

**CHINA**

Mersen XIANDA  
Tel : +86 21 5752 7777  
info.xianda@mersen.com

**INDIA**

Mersen India  
Tel : +91 9845331292  
/+91 9840078844  
sales.ace.india@mersen.com

**JAPAN**

MERSEN FMA JAPAN K.K.  
Tel : +81 (3) 5368-3250  
ace.japan@mersen.com

**KOREA**

Mersen Korea Co., Ltd.  
Tel : +82 (0)2 598 0071  
sales.korea@mersen.com

**SOUTH EAST ASIA**

Tel : +91 9500041487  
graphite.sales@framet.com

**NORTH AMERICA**

**USA**

Mersen USA Salem  
Tel : +1 540 389-7535  
sales.salem@mersen.com

**Mersen USA Gonzales**

Tel : +1 225 647-6752  
graphiterepairs.gonzales@mersen.com

**AFRICA**

**MOROCCO**

Mersen Maroc S.A.R.L.  
Tel : + 212 (0) 523 38 30 12  
contact.maroc@mersen.com

**SOUTH AFRICA**

Mersen South Africa, (Pty) Ltd.  
Tel : +27 011 474 0000  
marketing.za@mersen.com

**MIDDLE EAST & AFRICA**

Tel : +33 (0)3 83 81 60 81  
Info.pagny@mersen.com

**SOUTH AMERICA**

**ARGENTINA**

Mersen Argentina, S.A.  
Tel : +54 11 49 18 21 21  
infos.latam@mersen.com

**BRAZIL**

Mersen Do Brasil, Ltda.  
Tel : +55 (11) 4529 1160  
vendas.ace.brasil@mersen.com

**CHILE**

Mersen Chile  
Tel : +56 22 621 5680  
ventas.chile@mersen.com

**COLOMBIA**

Mersen Colombia  
Tel : +57 (1) 3684588  
ace.latam@mersen.com

**MEXICO & LATIN AMERICA**

Mersen Mexico Monterrey  
Tel : +52 (81) 8127 2812  
ace.latam@mersen.com

