

The background features a light gray molecular structure with spheres and connecting lines. In the top right corner, there is a large, stylized magenta 'A' shape. The main text is positioned in the upper left area.

MINASCENT[®]

CHALLENGING CHEMISTRY

**YOUR PARTNER
FOR SPECIALTY
CHEMICALS.**

www.minascent.de

DEVELOPMENT AND MANUFACTURING SERVICES

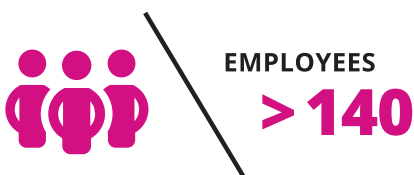
At **Minascent**, we are dedicated to producing high-quality fine chemicals that add value to our customers' end products. We support companies worldwide to manufacture standard or specialty chemical products for almost 30 years.

A team of around 140 employees is committed to develop for our partners highly valued products, innovative and highly effective processes, and new technologies. As a subsidiary of the **Minafin Group**, we are

part of a strong international network.

Our customers act in the pharmaceutical, cosmetic, animal feed and other highly specialized industry segments. To ensure we meet their high requirements on quality and supply security over the long term, we adapt our processes to the needs of our target groups. We supply high-quality fine and specialty chemicals manufactured to order as well as our catalogue products.

FACTS AND FIGURES



MANUFACTURING SERVICES

- ISO and FAMI-QS certified manufacturing site
- Multipurpose plant with broad technical capabilities and decades of expertise in challenging chemistry
- Capacity from grams to hundreds of tons of fine chemicals to support clients from early test phases to commercial launch
- Process development and scale-up, state of the art technical centre, kilo lab, pilot plant and a solid-state lab at Minakem
- Extended distillation and reaction capabilities
- Analytical laboratories are equipped with or have access to the latest instrumentation such as: Spectrophotometer, HPLC, GC, HPLC/MS, GC/MS, ICP, DSC, XRD, and NMR
- All our teams are highly trained to handle demanding custom manufacturing projects
- We offer dedicated project management to ensure smooth and seamless progression of projects



REACTIONS AND REAGENTS

Minascent has a long history in handling highly reactive materials including exothermic reactions, oxidation and hydrogenation. We have a deep knowledge of hazardous, toxic and corrosive materials and gases and the transformation of these into high-quality fine and specialty chemicals.

Minascent can handle the following reactions and reagents:

TRACK RECORD PERFORMANCE

Scale-up from Lab to Launch

Process Safety

Innovation

REACTIONS AND REAGENTS

- Organometallic chemistry using various metals
- Methylation with dimethyl sulfate
- Oxidations with hydrogen peroxide
- Reductions with hydrides, hydrogen gas or hydrazine
- Chlorinations with thionyl chloride
- Nitrations
- Pressure reactions up to 25 bar with various gases
- Protecting chemistry with DiBoc etc.
- Handling of sulfur raw materials: dimethyl sulfate, various thiols and sulfides, thiourea, sulfonyl chlorides
- Off-gas treatment of sulfur dioxide, hydrogen sulfide and other sulfur derivatives



LAB SCALE	20 grams – 200 grams
SMALL PILOT	up to 20 kg
LARGE PILOT	20 kg – 200 kg
INDUSTRIAL PRODUCTION	200 kg – 100 MT

EQUIPMENT

- Distillation laboratory for small scale production and process development
- Pilot plant with several stainless steel and glass-lined reactors between 300 – 1,200 liters, isolation/drying with Hastelloy Nutsch and stainless-steel filters
- More than 100m³ reactor capacity in labs, pilot plant and production lines
- 9 multi-purpose lines with reactor sizes between 2.5m³ and 12m³ (stainless steel, glass-lined and Hastelloy)
- Nutsch filter, filter dryer, inverted filter centrifuge, 2 Hastelloy centrifuges
- Paddle dryer, cone dryer and tray dryer
- Distillations: short path, thin film evaporator and fractionation
- Analytical laboratories equipped with state-of-the-art instruments, e.g., HPLC, GC, GC/MS, UV-VIS, IR, polarimeter, viscometer and DSC

PRODUCT LIST

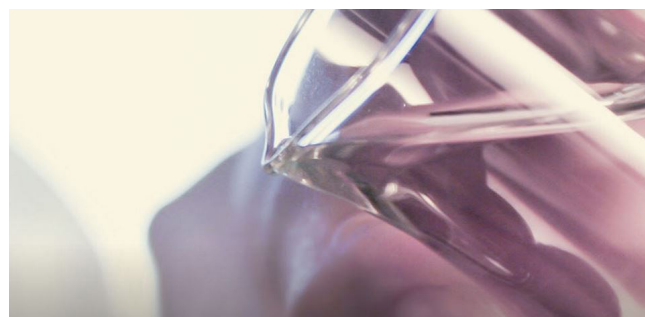


Minascent serves areas in contract manufacturing for fine and specialty chemicals and offers a portfolio of catalog products. From preparing standard formulations and custom developments to the ongoing support of our customers throughout the production process. We are constantly researching innovative solutions for the future and expanding into new markets.



Di-Boc

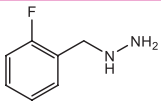
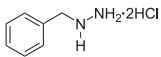

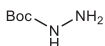
Minascent offers the protecting group Di-*tert*.butyl dicarbonate as pure Di-Boc, as a tailor-made Di-Boc solution, and as a Di-Boc derivative and other custom-made Boc-protected amine. Please contact us for your specific request.



CAS No.	PRODUCT NAME	CHEMICAL NAME	STRUCTURE
24424-99-5	Di-BOC	Di- <i>tert</i> -butyl dicarbonate (Di-BOC) & custom-made solutions	
79099-07-3	Boc-Piperidone	<i>N</i> -Boc-4-piperidone	
57260-71-6	Boc-Piperazine	<i>N</i> -Boc-piperazine	
144978-12-1	Boc-Pyr-OEt	<i>N</i> -Boc-pyroglyutamic acid ethyl ester	
13726-69-7	Boc-Hydroxyproline	<i>N</i> -Boc-trans-4-Hydroxy-L-Proline	
11652-20-1	Boc-glycinate	<i>N</i> -Boc-Gly-OtBu	
870-46-2	Carbazate	<i>tert</i> -butyl carbazate	

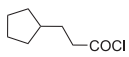




Hydrazine Chemistry

We conduct reactions with hydrazine and offer derivatives such as alkyl and aryl-hydrazines, hydrazides and pyrazoles.

CAS No.	PRODUCT NAME	CHEMICAL NAME	STRUCTURE
51859-98-4	Flubin	2-Fluorobenzylhydrazine	
20570-96-1	Benzylhydrazine	Benzylhydrazine dihydrochloride	
624-84-0	Formylhydrazine	Formylhydrazine	
870-46-2	Carbazate	<i>tert</i> -butyl carbazate	

Acid derivates



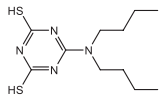
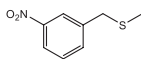

Minascent produces a range of specialty acid derivates.

CAS No.	PRODUCT NAME	CHEMICAL NAME	STRUCTURE
104-97-2	CPPC	3-Cyclopentylpropionyl chloride	
4023-34-1	CPCC	Cyclopropanecarbonyl chloride	
3779-29-1	Diester / CBDCE	1,1-cyclobutanedicarboxylic acid diethyl ester	
3721-95-7	Cybus	Cyclobutanecarboxylic acid	
55561-02-9	Thiopivalic acid	Thiopivalic acid	



Sulfur Chemistry

Our expertise in sulfur chemistry includes typical reactions such as Michael additions as well as nucleophilic and electrophilic substitutions on aromatic molecules.

CAS No.	PRODUCT NAME	CHEMICAL NAME	STRUCTURE
766-92-7	Benzyl methyl sulfide	Benzyl methyl sulfide	
14094-12-3	Sulfone	<i>tert</i> -butyl methyl-sulfone	
29529-99-5	Triazine	2-Dibutylamino-4,6-dimercaptotriazine	
51392-54-2	MNBS	Methyl <i>m</i> -nitrobenzyl sulfide	
55561-02-9	Thiopivalic acid	Thiopivalic acid	



Selenium Chemistry

Minascent has extensive experience using selenium (solid), organometallic selenium salts such as MeSeLi, and selenium dioxide as oxidizing agents.

Particularly suitable for pharmaceuticals due to its high degree of purity.



PRODUCT LIST



Other specialty chemicals

Minascent has a broad product portfolio of specialty chemicals.

CAS No.	PRODUCT NAME	CHEMICAL NAME	STRUCTURE
625-84-3	DMP	2,5-Dimethylpyrrole	
22104-62-7	DMAB	4-(Dimethylamino)-3-methyl-2-butanone	
136-77-6	Hecinol	4- <i>n</i> -Hexylresorcinol	
5396-38-3	TBA	4- <i>tert</i> -Butylanisole	
442200-41-1	Crosslinker	<i>N,N'</i> -Diethyl-1,3-bis(acrylamido)-propane	
65193-87-5	Cyanoacetate	(2-Cyanoethyl) acetoacetate	
95306-64-2	Pyridinon	4-Amino-5-methylpyridin-2-on	
42882-31-5	NEA	1-(1-Naphthyl)ethylamine	
85633-96-1	CNK-Acid	4-(4-Chloro-3-nitrophenyl)-3-methyl-4-oxo-butanoic acid	
533-31-3	Sesamol	3,4-(Methylenedioxy)phenol	



Do you have special requirements?
As your specialty chemicals expert, we look forward to providing you with a customized solution!
Let's discuss your specific needs in person.

MINASCENT IS PART OF THE MINAFIN GROUP.



Minafin is a group of global fine chemical developers and manufacturers and has an industrial presence in 5 countries, comprising 7 factories and 6 R&D labs.

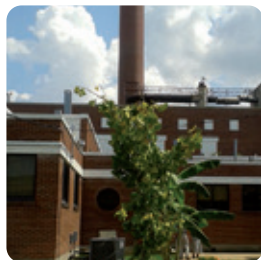


MINASCENT
CHALLENGING CHEMISTRY

Leuna, DEU

Challenging Chemistry

Small & Large scale manufacturing



PENNAKEM
RENEWABLE RESOURCE CHEMISTRY

Memphis (TN), USA

Our green arm,

Chemicals from renewable sources

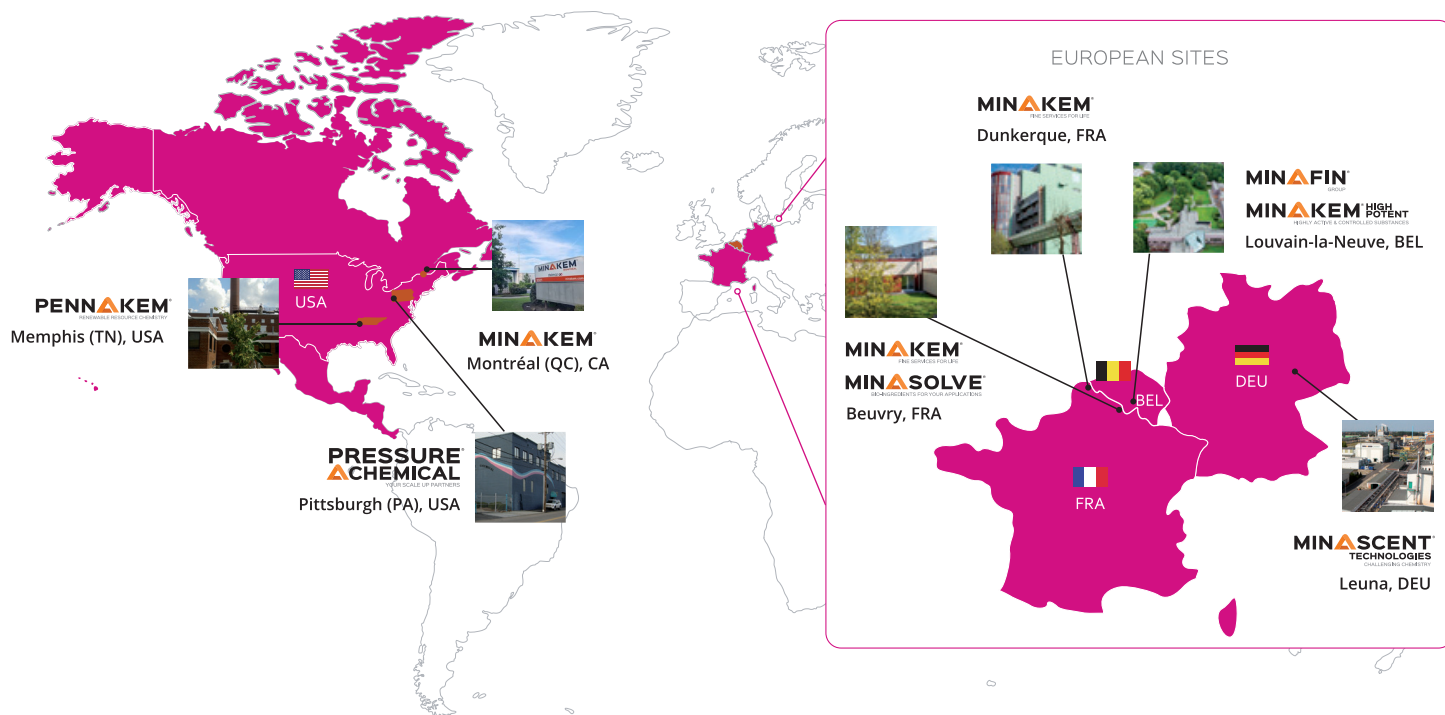


**PRESSURE
CHEMICAL**
YOUR SCALE UP PARTNERS

Pittsburgh (PA), USA

Your scale up partner

Minascent Technologies and Pressure Chemicals are part of the Challenging Chemistry Division within the Minafin Group.



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