



Allgemeine 

Precious Metals and Chemistry

Silver catalysts and silver gauzes



Your Partner for Precious Metals

For over a century, Allgemeine Gold- und Silberscheideanstalt AG, Pforzheim/Germany, has specialised in the recovery of precious metals and in manufacturing precious metal semi-finished products. Especially for its customers in the chemical industries, Allgemeine can offer high-quality silver catalysts and silver gauzes.

Silver catalysts for formaldehyde production

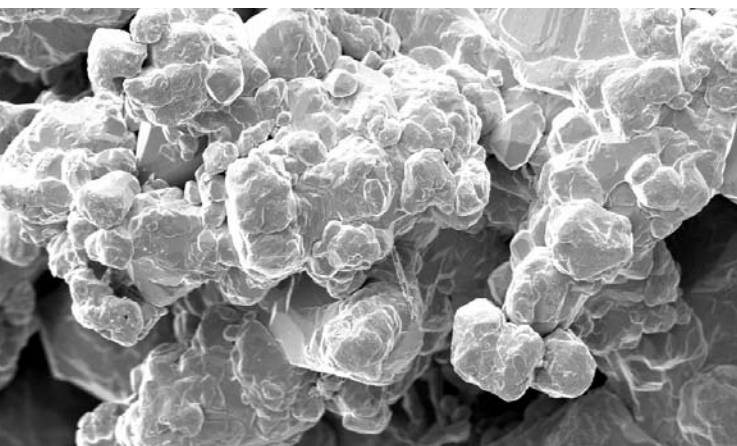
Consequent material and process improvement in the field of silver catalyst (purity $\geq 99.99\%$) have resulted in a high quality standard with an outstanding economic efficiency. Best test results regarding purity, surface structure, bulk density and durability attest to the customised process improvements for formaldehyde production that Allgemeine has achieved.

With its own refining facilities, Allgemeine can offer the entire precious metal cycle and thus make used silver catalyst directly available for the customer again. Allgemeine is certified according to DIN EN ISO 9001, 14001, and as a specialist reprocessing company.

Your benefits:

- spherical shape → high mechanical strength, hence longer bed life of the catalyst
- light bulk density → longer bed life (up to 9 months), low pressure drop
- high surface area ($> 55 \text{ mm}^2/\text{g}$) → high Methanol conversion into formaldehyde, little side products
- high purity (silver catalyst $\geq 99.99\%$)

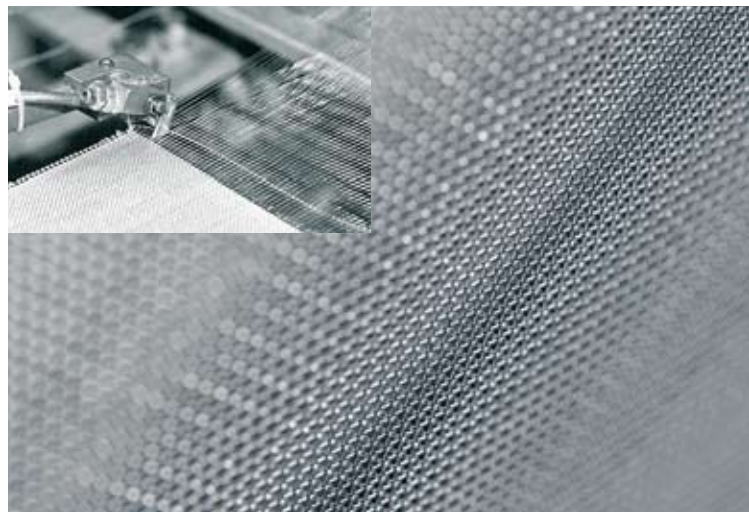
SEM micrograph: Allgemeine silver catalyst



Silver gauzes

Silver gauzes and silver crystals are used as catalysts in the selective oxidation of methanol to formaldehyde. By continuously optimizing the physical properties of both silver catalysts and silver gauzes we supply our customers with innovative products whose technological development guarantees a high level of efficiency. Silver catalysts with low bulk density and silver gauzes with various mesh widths and wire diameters complete our range of products and ensure that we meet the specific needs of each individual application.

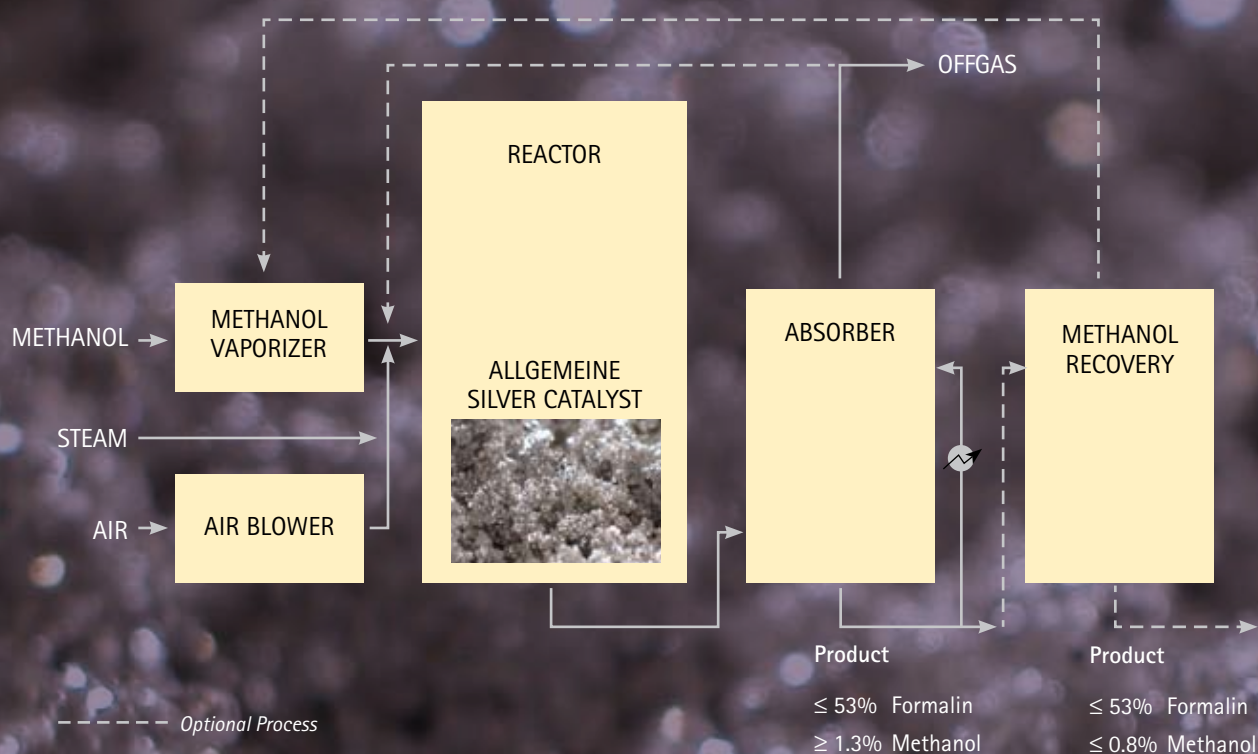
Both partners, Allgemeine and its Austrian subsidiary Ögussa, Vienna, are specialised in the production of catalysts: while Ögussa produces silver gauzes corresponding to customer requirements, Allgemeine supplies silver catalysts in various grain sizes and structures.



Precious Metal Refining

At the end of the silver catalyst's bed life, the precious metal bearing material enters Allgemeine's refining facilities. Refining and the transformation into high-quality products are a full service package. Thus Allgemeine completes the cycle of precious metals and ensures their efficient use and economical re-use for their application in the chemical industries. Our clients are offered reliability, quality and competent technical application services in all the questions on precious metal products and recycling, as well as on logistics and technological and innovative support.

Silver Catalyst Formaldehyde Process



Technical Data

SILVER CATALYST	chem. specification	standard grain sizes		bulk density g/l	service
		DIN ISO 3310 mm	mesh ASTM E11		
	Ag $\geq 99.99\%$				recycling of used silver catalyst
max. impurities	≤ 100 ppm	0.35 - 0.15	-45 + 100	≤ 3800	
	Au ≤ 10 ppm	0.50 - 0.35	-35 + 45	≤ 3300	
	Pd ≤ 10 ppm	1.00 - 0.50	-18 + 35	≤ 2300	
	Pt ≤ 10 ppm	2.00 - 1.00	-10 + 18	≤ 2000	
	Cu ≤ 25 ppm	2.00 - 0.50	-10 + 35	≤ 2400	
	Ni ≤ 5 ppm				
	Pb ≤ 5 ppm				
	Cr ≤ 5 ppm				
	Fe ≤ 5 ppm				
	Mn ≤ 5 ppm				
	Al ≤ 5 ppm				
	S ≤ 10 ppm				
	Cd ≤ 5 ppm				

Further grain sizes on request.

GAUZES	specification	product	service
	mesh/cm ² 64 wire- ϕ 0.35mm weight ca. 1650g/m ² fine silver 99.99%	further mesh widths and wire diameters as well as alloy compositions on request rectangular: breadth and length according to customer specification round: diameter according to customer specification	precious metal refining



Allgemeine
Gold- und Silberscheideanstalt AG



Kanzlerstrasse 17 | 75175 Pforzheim | Germany
Phone +49 7231 960-0 | Fax +49 7231 68740
info@allgemeine-gold.de | www.allgemeine-gold.de

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