

NanAucat™ Gold Oxidation Catalyst

Tomorrow's solutions for today's problems



Premier Chemicals

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Premier Chemicals in Partnership with **3M** Delivering Gold Nano Catalysts

Premier Chemicals are proud to announce they have entered into a distribution partnership with the 3M Corporation which will see Premier Chemicals offering the 3M Gold Catalyst under the brand name NanAucat™.

3M are an Industry leader in filtration technology and have a history of developing world class products to help protect workers from hazardous particulates and gaseous vapours in the work environment. Premier Chemicals are well placed to deliver this product to market and build their portfolio of cutting edge technologies for the purification of breathable and industrial gases.

Introducing Gold

The ability of Gold to act as a highly efficient catalyst in a wide range of chemical reactions has been known and understood for many years. This fundamental understanding of the catalytic properties of gold has led to more and more diverse applications for gold being developed. These applications were historically industrial in nature but with the growth of high technology industries and an understanding of how these catalysts can be used to control gaseous emissions, demand for gold has risen and gold is now used in many very diverse and complex fields.

Premier Chemicals NanAucat™ made by 3M

NanAucat™ is an immobilised gold particle catalyst on carbon substrate. This highly efficient catalyst design can outperform other commercially available technologies removing carbon monoxide in some of the most challenging environments. The uses of NanAucat™ go beyond Carbon Monoxide removal and there is more research going on in varying fields to realise the full potential of the catalyst.

Carbon Monoxide is a serious danger to health wherever it is found and the elimination of Carbon Monoxide with NanAucat™ is readily achievable.

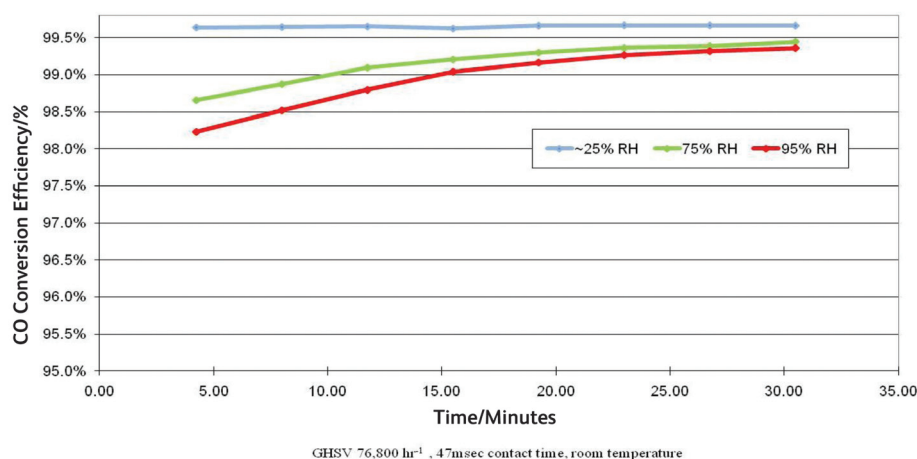
Key Strengths of NanAucat™ Technology

- Efficient removal of CO at high humidity even at ambient temperature and below.
- High efficiency leading to reduced weight or volume of catalyst required compared with other commercially available catalysts.
- Effective against both high and low concentrations of Carbon Monoxide.
- Activated carbon support retains capability for physical adsorption.

Specification

Support Material	Non-porous amorphous carbon
Apparent (Bulk) Density	440-480 grammes/litre
Form / Particle size	Granular / 12-20 Mesh (0.84-1.68mm)
Precious Metal Loading (Au)	0.6 % w/w +/- 0.1
CO Removal Efficiency*	>97.5 %

NanAucat™ - Carbon Monoxide Conversion Performance at Different Humidities



Applications

- Rescue chambers
- Subsea welding
- Breathable Air lines
- UHP Gas Production
- Military vehicle air
- Submarine Atmospheres
- Cabin Air Purification
- Indoor Air Purification
- Sealed CO₂ lasers
- Collective Protection
- Compressors
- Cryogenics
- Ozone Destruction
- Aerospace
- Flue gases

Gas Purification

Premier Chemicals specialise in the supply of media for the treatment and purification of industrial and breathable gas. Through our wide range of global partners we constantly build our product knowledge to remain an innovative partner to our clients around the world. Through this customer focused flexible approach we have built an enviable reputation as a solution provider in this field.

Carus® Products

Premier Chemicals are a supplier of Carus' products which are widely used for air purification in municipal and industrial applications. CARULITE® catalysts are a series of environmental catalysts that are used in breathing air purification, exhaust gas treatment, and process gas purification.

CARULITE® catalyst applications include:

- The destruction of ozone emissions from various sources including water off-gas, corona treaters, printers and copiers.
- The destruction of deadly carbon monoxide in escape mask filters, in compressed breathing air purification, in life support systems in submarines and in cryogenic gas purification.
- The destruction of volatile organic compounds (VOC) emitted from printing and coating operations as well as the destruction of toxic ethylene oxide (EtO) gas used in sterilisation processes.

Oxidation Catalysts

Premier Chemicals are a leading supplier of precious metal catalysts for a wide a range of applications and are the leader in the supply of Gold nano-particulate catalysts. Our unique knowledge and experience in both precious and transition metal catalysts and technologies underpins Premier Chemicals' development of leading edge products and services for the catalyst market worldwide.

Platinum Catalyst - Highly active Platinum metal catalyst for removal of contaminants in gas streams that is available in granular and monolithic supports most suited to high temperature applications.

Precious Metal Catalyst applications

- Gas purification in submarines
- Production of UHP Gases
- Breathable gas purification in hyperbaric welding environments
- Mine refuge breathable air scrubbing
- Removal of Carbon Monoxide in sealed CO₂ lasers
- Face masks
- Collective protection
- High performance applications
- Syngas
- Flue gas
- Catalytic burners
- VOC abatement



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About us

Based in the UK, Premier Chemicals are a customer focused business in our core business areas - Calcium Chloride supply and Gas Purification. We are committed to improving service standards to our clients through our knowledge of leading technologies, flexible packaging solutions and our customer focus.



Premier Chemicals

For more information email us at info@premchemltd.com or sales@premchemltd.com or visit our website www.premchemltd.com