FUMED SILICA SAMPLES READY AND AVAILABLE TO BE SENT TO THIRD PARTIES

MONTREAL, Canada, July 27th, 2023 — HPQ Silicon Inc. ("HPQ" or the "Company") (TSX-V: HPQ) (OTCQB: HPQFF) (FRA: O08), a technology company specializing in green engineering processes for silica and silicon material production, is pleased to provide shareholders with an update of the latest milestones reached on the Fumed Silica Reactor ("FSR") development project being spearheaded by its wholly owned subsidiary, HPQ Silica Polvere Inc. ("HPQ Polvere"), in partnership with technology provider PyroGenesis Canada Inc. (TSX: PYR) (NASDAQ: PYR) (FRA: 8PY) ("Pyrogenesis").

HPQ Polvere Fumed Silica Reactor A One Step Technology To Transform Quartz (SiO_2) Into Fumed Silica

On May 17th, 2023, HPQ Polvere announced the successful lab-scale production of Fumed Silica using raw quartz (SiO_2) as feedstock in one step, utilizing our proprietary reactor technology. Subsequent tests conducted throughout June and July achieved the following additional key milestones:

1. Generated Fumed Silica material exhibiting structural characteristics similar to commercial grade fumed silica, falling between grade Aerosil 150 and Aerosil 200 when compared under Transmission Electron Microscopy (TEM) [1] (see Figure 1 below).
2. Produced nearly one (1) kilogram of Fumed Silica powder, enabling HPQ Polvere to start sending samples to interested third parties for testing.

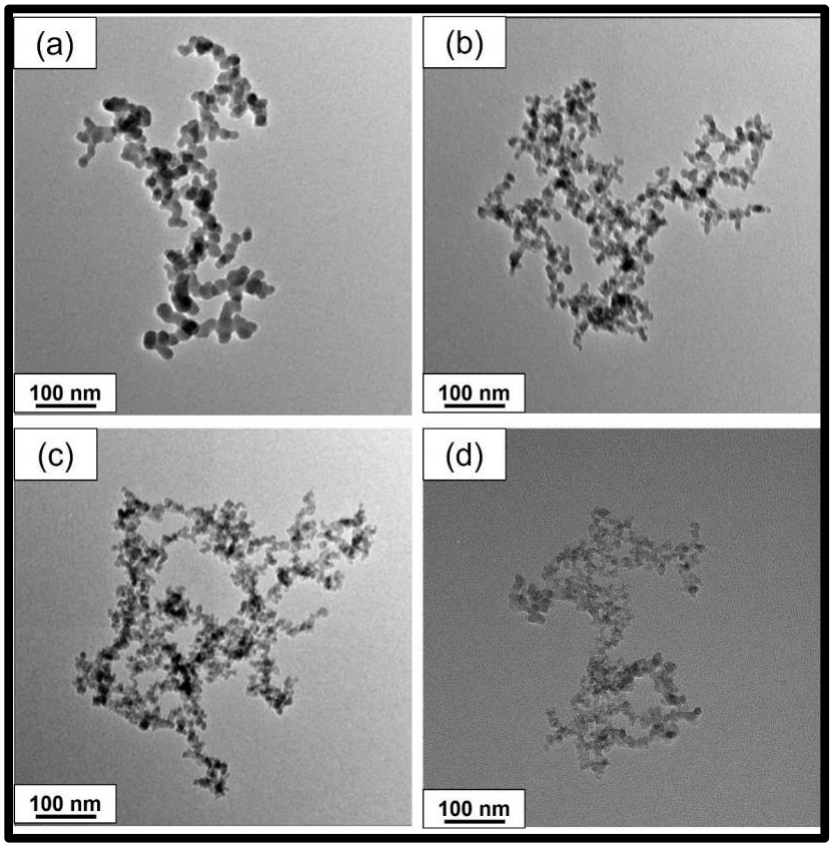

Figure 1. TEM images of fumed silica, (a) commercial grade Aerosil 90, (b) commercial grade Aerosil 150, (c) commercial grade Aerosil 200, these 3 images are from a scientific paper [2] and (d) HPQ Silica Polvere material.

"*In May 2023, we aimed to produce sufficient commercial grade Fumed Silica to send samples to potential clients. Achieving this milestone is a great accomplishment for the Silicon project development team at technology provider PyroGenesis,*" said Mr. Bernard Tourillon, President and CEO of HPQ Silica Polvere Inc and HPQ Silicon Inc. "*The HPQ Fumed Silica initiative embodies our commitment to green engineering processes [3] and is evolving into a strong stand-alone business".*

Fumed Silica and its Markets

Fumed silica (Pyrogenic Silica) is a microscopic white powder with high surface area and low bulk density. Its commercial applications encompass various industries including personal care, pharmaceuticals, agriculture (food & feed), adhesives, sealants, construction, batteries gel, automotive and more.

Worldwide demand for fumed silica in 2017 was 317,000 tonnes (t) worth US$ 1.6 Billion (B). The market was estimated to grow at 6% CAGR and reach an estimated volume of 424,300 t, worth about US $ 2.2 B in 2022 [4].

While the worldwide aggregated selling price in 2017 was US$ 5.06 per kg, and the estimated aggregated selling price in 2022 is around US$ 5.33 per kg [4], the selling price varies according to the final usage of the Fumed Silica and location where sold. That is why in 2017, in the United States, the highest purity material used in pharmaceutical applications sold for US$ 10.29 per kg [6], in sealant applications for US$ 8.48 per kg [7] and in battery gel applications for US$ 7.06 per kg [8].

A Technology That Will Reduce the Cost and Environmental Footprint To Make Fumed Silica

Fumed silica is a crucial material used in various industries due to its unique properties. Conventional manufacturing processes for fumed silica rely on 2N purity Silicon Metal (Si) as a feedstock, complex procedures, high energy consumption (around 115,000 kWh per tonne produced), and the generation of hazardous by-products such as Hydrogen Chloride Gas (HCl) [9].

In contrast, the HPQ Polvere Fumed Silica Reactor directly transforms quartz into fumed silica, reducing energy requirements to only 15,000 kWh per tonne produced [10]. This technology enhances efficiency and minimizes the environmental impact and associated carbon taxes [11].

Based on testing data to date, management opinion is that using our proprietary Fumed Silica Reactor, HPQ Silica Polvere will be able to commercially produce high purity Fumed Silica for less than US$ 2.00 per kg [12]. This cost being lower than the conventional process, which relies on 2N Purity Silicon as feedstock and costs approximately US$ 7 per kg in 2023 [13].

"By adopting the Fumed Silica Reactor technology, HPQ Silica Polvere anticipates a significant advancement in fumed silica production, benefiting both the Company and the industries that rely on this essential material, and this may be why third parties are eager to evaluate the characteristics of our material for the own operations" added Mr. Tourillon.

REFERENCE SOURCES

[1] PyroGenesis Canada Inc July 24, 2023, Confidential Technical Memo entitled: Fumed Silica Lab Scale Samples Comparison with Commercial Product

[2] Mulderig, A., Beaucage, G., Vogtt, K., Jiang, H., & Kuppa, V. (2017). Quantification of branching in fumed silica. Journal of Aerosol Science, 109, 28-37.

[3] Definition from The United States Environment Protection Agency web site : "*Green engineering is the design, commercialization, and use of processes and products in a way that reduces pollution, promotes sustainability, and minimizes risk to human health and the environment without sacrificing economic viability and efficiency*".

[4] Worldwide Sales data from MarketsandMarkets 2017 "fumed silica market – global forecast to 2022" page 70.

[5] Aggregated selling price in 2017 and 2022 from MarketsandMarkets 2017 "fumed silica market – global forecast to 2022" page 70.

[6] Pharmaceutical applications sales data per regions from MarketsandMarkets 2017 "fumed silica market – global forecast to 2022" page 76.

[7] Sealant applications sales data per regions from MarketsandMarkets 2017 "fumed silica market – global forecast to 2022" page 74.

[8] Battery Gel applications sales data per regions from MarketsandMarkets 2017 "fumed silica market – global forecast to 2022" page 80.

[9] Barthel, H., Rösch, L., & Weis, J. (2005). Fumed silica-production, properties, and applications. *Organosilicon Chemistry Set: From Molecules to Materials*, 761-778.

[10] PyroGenesis Canada Inc.

[11] HPQ Silicon Inc July 13, 2023, release

[12] These numbers will be further validated and refine after the completion of the Fumed Silica Pilot Plant project follow by Conceptual and Preliminary engineering studies.

[13] Price paid by HPQ Silicon Inc for 2N silicon for its battery initiatives during Q1 2023.

About PyroGenesis Canada Inc.

PyroGenesis Canada Inc., a high-tech company, is a leader in the design, development, manufacture and commercialization of advanced plasma processes and sustainable solutions which reduce greenhouse gases (GHG) and are economically attractive alternatives to conventional "dirty" processes. PyroGenesis has created proprietary, patented, and advanced plasma technologies that are being vetted and adopted by multiple multibillion dollar industry leaders in three massive markets: iron ore pelletization, aluminum, waste management, and additive manufacturing. With a team of experienced engineers, scientists and technicians working out of its Montreal office, and its 3,800 m2 and 2,940 m2 R&D and manufacturing facilities, PyroGenesis maintains its competitive advantage by remaining at the forefront of technology development and commercialization. The operations are ISO 9001:2015 and AS9100D certified, having been ISO certified since 1997. For more information, please visit: www.pyrogenesis.com

About HPQ Silicon

HPQ Silicon Inc. (TSX-V: HPQ) is a Quebec-based TSX Venture Exchange Tier 1 Industrial Issuer.

HPQ is developing, with the support of world-class technology partners PyroGenesis Canada Inc.(TSX: PYR) (NASDAQ: PYR) and NOVACIUM SAS, new green processes crucial to make the critical materials needed to reach net zero emissions.

HPQ activities are centred around the following five (5) pillars:

1) Becoming a green low-cost (Capex and Opex) producer of High Purity Silicon (2N+ to 4N) using our proprietary ***PUREVAP™ "Quartz Reduction Reactors" (QRR)*** being developed by PyroGenesis.
2) Becoming North America's first producer of micron size High Purity Silicon (3N & 4N) powders with the assistance of NOVACIUM SAS.
3) Working to become the first producer of nano silicon materials from High Purity Silicon chunks using our proprietary ***PUREVAP™ Nano Silicon Reactor (NSiR)*** being developed by PyroGenesis.
4) Becoming a green low-cost (Capex and Opex) producer of Fumed Silica using our proprietary **FUMED SILICA REACTOR** being developed by PyroGenesis.
5) Developing a small and compact process for the on-demand production of hydrogen via hydrolysis of Silicon and other materials.

For more information, please visit HPQ Silicon web site.

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