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The Innovation Engine of India

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The Innovation Engine of India

Union Minister Dr Jitendra Singh says, India has the potential to be a Green Hydrogen exporter: Addresses the International Conference of Green Hydrogen 2023 organized by Government of India

CSIR

7th July , 2023

Union Minister of State (Independent Charge) Science & Technology; MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr Jitendra Singh today said that India has the potential to be a Green Hydrogen exporter.

Addressing the International Conference of Green Hydrogen 2023, Dr Jitendra Singh said, Prime Minister Shri Narendra Modi approved the launch of the National Green Hydrogen Mission with a budgetary outlay of about 2.4 billion dollars and it reflects India's firm resolve address the difficult challenges of de-carbonization on our pathways to Net Zero in 2070.

Dr Jitendra Singh pointed out the painstaking efforts undertaken over the last two years since the Prime Minister had announced India's intention to create a dedicated mission for Green Hydrogen culminating in the announcement of the National Green Hydrogen Mission in January this Year. The Minister said, India has been at the forefront of the global narrative for fighting climate change and has done far more than what would be a commensurate response that would be called for on account of our historical or even our current per capita carbon emissions.

Dr Jitendra Singh said, India is uniquely poised to emerge as a prominent global leader in production of Green Hydrogen not just on the basis of its abundant renewable energy resources and the benefits of one of the world's lowest costs of regeneration, but also because of its R&D ecosystem and the framework designed for R&D in cross-cutting sectors of hydrogen production, transport, electrolyze manufacturing, support infrastructure, fuel cell EVs, storage and utilisation.

Dr Jitendra Singh said, as Minister for Science and Technology, it's wonderful to see the positive synergy between the private sector and academic institutions and he hoped that this translates into effective collaboration in every field of research required in the expansion of possibilities of Green Hydrogen.

Dr Jitendra Singh also pointed out that Hydrogen Mission has great potential for job generation through the Startup ecosystem as India has emerged number three in the world with about one lakh startups and 100 odd Unicorns in various sectors including in cutting edge science frontiers. He said, Indian Startup system proposed to create a mechanism for harnessing proactive support of Banking Finances.

Dr Jitendra Singh informed that a draft R&D Roadmap for Green Hydrogen Ecosystem in India has been released and thanked Professor Ajay Sood, Principal Scientific Advisor and his team and the Ministry of New and Renewable Energy For this milestone. A public-private partnership framework for R&D called the Strategic Hydrogen Innovation Partnership or SHIP will be facilitated under the Mission. The Framework will entail creating a dedicated R&D fund, with contributions from Industry and Government institutions, the Minister added.

The R&D programme under the Mission will seek to develop globally competitive technologies in various segments. Consortium-based approach and leveraging the strengths of each institution/industry will be encouraged. The Minister said India will also leverage the inherent strengths and technological experience of institutions such as BARC, ISRO, CSIR,

IITs, IISc and many more and expressed confidence that this will see some path breaking research that will come out of the exercise and create huge multiplier effects on the domestic green hydrogen manufacturing sector in this decade and the next.

Dr Jitendra Singh said, it is encouraging to see that the Conference has provided a platform for all stakeholders to come together and deliberate on the great global challenges facing humanity in the form of climate change and to discuss one of the most promising pathways for decarbonizing hard to abate sectors through green hydrogen.

The variety of speakers was an excellent mix of technical experts, scientists and private sector practitioners, as well as public policy experts, internationally reputed innovators and offtake industries and it brought to fore the exemplary need to create such platforms for industry academia collaboration.

In his address, Professor Ajay Sood said, Green Hydrogen is here to stay and informed that so far 16 nations have announced Green Hydrogen Mission Plans. He said, an integrated approach is needed to minimise failure to this Mission and it should be looked at from five viewpoints-technical, commercial, regulatory, product integration and logistics.

Published in:
Pib

Gujarat Alkalies and Chemicals Limited (GACL) Flags Off the first dispatch of import substitute Hydrazine Hydrate and Purified Phosphoric Acid

CSIR-IICT 10th July , 2023

VADODARA, India, July 10, 2023 /PRNewswire/ -- Gujarat Alkalies and Chemicals Limited (GACL), one of the leading chlor-alkali majors in the country, flagged off the first lot of Hydrazine Hydrate (80%) and Purified Phosphoric Acid (85%) on 8th July 2023. The flagging off was done by Shri Swaroop P. IAS, Managing Director of GACL, Shri Nitin Shukla, Independent Director-GACL, Dr. D Srinivasa Reddy, Director, CSIR-Indian Institute of Chemical Technology – Hyderabad (CSIR-IICT) in the presence of GACL & CSIR-IICT Teams and other dignitaries. Shri Rajiv Lochan Jain, Independent Director-GACL and Shri S B Dangayach, Independent Director-GACL graced the occasion by virtual presence.

Currently, India is importing Hydrazine Hydrate from Europe and other countries. Hydrazine Hydrate as an import substitute product with world-class quality will help in reducing the country's dependency on imports, thereby saving valuable foreign exchange.

GACL and CSIR-IICT, Hyderabad, have jointly received patents from India and the USA for the indigenous process to manufacture Hydrazine Hydrate (H6N2O).

Hydrazine Hydrate has applications in various industries such as Pesticides, Agrochemicals, Water Treatment, Pharmaceuticals, blowing agent in Polymer Industry, Fine Chemicals etc. GACL has established a commercial-scale plant in Dahej at an estimated cost of Rs. 405 Crores to manufacture 10,000 MTA of Hydrazine Hydrate. Hon'ble Prime Minister Shri Narendrabhai Modi had dedicated this Plant to Nation on 10th October, 2022 during the function organized by Gujarat Industrial Development Corporation (GIDC) at Amod, Bharuch.

On the other hand, India has very few manufacturers of Purified Phosphoric Acid and to meet its total demand the country imports around 35,000 MTA Purified Phosphoric Acid, annually.

Purified Phosphoric Acid has applications in various industries such as Sugar Refining, Edible Oil Refining, Beverages, and Pharmaceuticals etc. To reduce the nation's dependence on imports of this chemical, GACL has established a Purified Phosphoric Acid plant having a capacity of 33,870 MTA at Dahej.

With this flag-off, GACL has reinforced its commitment to strengthening India's quest for Make in India and to become 'Atmanirbhar Bharat.'

Gujarat Alkalies and Chemicals Limited (GACL) is a Company promoted by Government of Gujarat. The Company's journey started with its incorporation in March 1973, and its first commercial production was achieved in the year 1976. With a meagre turnover of Rs. 1.64 crores per annum in the year 1976, GACL has become one of the leading Companies in India in caustic soda industry with a turnover of more than Rs. 4000 crores. Today, GACL is second largest company in India in Caustic Soda market with total installed capacity of 5,85,750 Tons Per Annum. Manufacturing facilities are spread over 2 complexes at Vadodara and Dahej. From its two facilities, GACL now offers more than 35 products.

Published in:
Prnewswire

CFTRI Products Push Millet Popularity

CSIR-CFTRI

9th July , 2023

The Council of Scientific and Industrial Research (CSIR)-Central Food Technological Research Institute (CFTRI) in Mysuru released eight new millet-based products during the 'One Week One Lab' campaign on their campus, in line with the International Year of Millets-2023.

As part of the Millet Day, an exhibition on millets was organised at CFTRI. Rekha Singhal, Professor, ICT, Research Council Chairperson, CSIR-CFTRI and former CFTRI Director K.S.M.S. Raghava Rao delivered talks on the subject. CSIR-CFTRI director Dr. Sridevi Annapurna Singh presided. This was followed by a CFTRI licence meeting and a panel discussion on millets.

Millet breakfasts offer a healthy option, packed with fibre, minerals, vitamins and antioxidants. They are gluten-free, have a low glycemic index and provide sustained energy. Incorporating millet-based breakfasts into our routine supports overall well-being and allows us to explore the culinary possibilities of millets while enjoying their nutritional benefits.

They are rich in antioxidants that help protect against oxidative stress and reduce the risk of

chronic diseases such as heart disease and certain types of cancer. Millets also contain essential nutrients like iron, magnesium and B vitamins, which support energy production, brain function and overall vitality.

The launched products include

Finger Millet Instant Kesari Halva Mix, Finger Millet Instant Kichadi Mix, Millet and Multi-Millet Puttu Podi Mix, Ragi-based Malt Hydrolysate, Ready-to-eat Malted Rice-based Weaning Food, Finger Millet Instant Rava Idli Mix and Finger Millet Semolina.

Instant Kichadi Mix, Rava Idli Mix and Upma Mix

Finger millet (Ragi) grains are an excellent source of nutrients and health-promoting components, such as dietary fibre, minerals, vitamins and phenolic compounds. They offer numerous health benefits.

The utilisation of millet as food is limited due to the lack of innovative millet processing technologies at a commercial scale, which is crucial for feeding large urban populations. However, there is an increasing awareness of the nutritional value of finger millet, leading to a greater emphasis on incorporating finger millet-based products into our diets.

For Finger Millet Instant Kesari Halva Mix, Finger Millet rava and sugar are used. The Ready-to-Cook (RTC) segment share is projected to grow by 20-25 percent over the next five years.

Millets are increasingly recognised for their nutritive value and health benefits, driving the demand for Finger Millet Instant Kesari Halva Mix. This demand is fueled by the rising need for healthy and nutritious foods, given the prevalence of lifestyle diseases.

Finger Millet Instant Kichadi Mix, Rava Idli Mix, and Upma Mix use raw materials like Finger Millet Semolina, green gram semolina, oil and spices. These products provide a healthier alternative and tap into the health and wellness segment. Finger Millet Semolina can

be used in various traditional food products like upma, rava idli, rava dosa and halva.

Puttu Podi Mix

Millet and Multi-Millet Puttu Podi Mix is a traditional South Indian dish made with coarsely ground rice, grated coconut, salt and water. It can be accompanied by sweet side dishes like palm sugar or banana or savoury options like chana masala, chutney or meat curries. The mix incorporates grits (sooji/ rava) from different millet varieties, resulting in a nutritious product.

Ragi-based Malt Hydrolysate

Ragi-based Malt Hydrolysate is derived from the malting process, which enhances taste and nutritional quality. It serves as a cereal base for instant beverages, and infant and weaning foods, and is also used in the confectionery industry. It can replace maltodextrin and act as a filling agent in the pharmaceutical industry. The hydrolysate retains the inherent health benefits associated with ragi. The raw materials used are ragi (finger millet) and barley.

Ready-to-eat Malted Rice-based Weaning Food is a modified semi-solid food designed for infants transitioning to solid foods. Ragi, with its nutritional value and malting characteristics, is a popular choice for inclusion. Supplementing with malted legumes improves the protein content. Additional ingredients like milk powder are used in production.

Published in:
Starofmysore

Dr Sandeep appointed HoD Microbiology

CSIR-IIIM

9th July , 2023

Professor (Dr) Sandeep Dogra was today appointed as new Head of Microbiology Department of the Government Medical College (GMC), Jammu. Dr Dogra took on the charge from Dr Shashi Sudhan Sharma, Principal & Dean, GMC, Jammu who had held the additional charge as HoD Microbiology. Dr Dogra is a MBBS Graduate of the GMC Jammu and has done his MD Microbiology from Mahatma Gandhi Institute of Medical Sciences, Sevagram, Maharashtra.

A passionate and decorated researcher, Dr Dogra was awarded membership of National Academy of Medical Sciences in 2013 and received prestigious FAIMER Fellowship (FAIMER Foundation, Philadelphia) from CMC Ludhiana. Later, J&K State Council for Science and Technology, Department of Science and Technology J&K awarded him J&K Young Scientist Award which was given by then Vice-President of India for his pioneer collaborative research work in the field of tuberculosis with University of California, Berkeley and McGill University, Montreal, Canada.

He later on worked with TB Association of India, ICMR, MH166, NCDC, Delhi, CSIR-IIIM, Jammu and IIT Jammu on various research projects involving tuberculosis, point-of-care diagnostics and anti-microbial drug resistance. With high-ranking research publications in JAMA, PLoS and Virology to name a few, he is on the editorial boards of many national and international research publications.

Published in:

Dailyexcelsior

MoU for Scientific cooperation between CSIR-NIO, Goa & Bangabandhu Sheikh Mujibur Rahman Maritime University, Dhaka

CSIR-NIO

8th July , 2023

CSIR-National Institute of Oceanography, Goa (CSIR-NIO) and Bangabandhu Sheikh Mujibur Rahman Maritime University, Dhaka, Bangladesh (BSMRMU) signed a Memorandum of Understanding (MoU) on Scientific Cooperation in Ocean Sciences. The MoU effective for a period of five years was signed on 07th July, 2022, by Prof. Sunil Kumar Singh, Director, CSIR-NIO and Rear Admiral Mohammad Musa, OSP, NPP, rcds, afwc, psc, PhD, Vice-Chancellor, BSMRMU.

The MoU will establish a framework for activities in the area of Ocean Sciences, which in turn, will contribute to advancement of research and development for the benefit of society at large and the outputs will contribute towards the blue economy mission between both the countries. In addition, this MoU, will strengthen cooperation in terms of capacity building and human resource development.

The MoU is the outcome of the joint coordinated efforts from Captain SM Moyeen Uddin, Dean, Faculty of Earth and Ocean Science (BSMRMU), Captain Jayant Mahadik, Naval Advisor, High Commission of India, Dhaka, Sh. Venkat Krishnamurthy, in-charge, Collaborations Desk (CSIR-NIO), Dr. Narsinh L. Thakur, Head, International S&T Affairs Group (CSIR-NIO) and Dr. Mamta Sharma, Principal Scientist, International S&T Affairs Directorate, CSIR Headquarters.

Published in:
Goemkarponn

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