FOR IMMEDIATE RELEASE

AGC Develops AMOLEA™yd, New Refrigerant Grade with Low Global Warming Potential

Tokyo, February 16, 2016—AGC Asahi Glass (AGC), a world-leading manufacturer of glass, chemicals and high-tech materials announced today that it has successfully developed AMOLEA™yd, a new refrigerant grade for AGC's AMOLEA™ brand lineups. This newly developed product is a refrigerant with low global warming potential (GWP), designed for use in centrifugal chillers, binary cycle generators, and waste heat recovery heat pumps. It has superior energy-saving performance as observed compared to existing products in the market. AMOLEA™ is a next-generation solvent and refrigerant brand developed by AGC under the concept of "dramatically reducing GWP with superior performance." AGC aims for the commercial production of AMOLEA™yd by the end of 2017 and will continue to develop refrigerants that tackle global warming.

AMOLEA™yd is a non-flammable refrigerant that consists of HCFO-1224yd (Z). With a particular focus on this HCFO*[1]-based chemical substance, AGC had worked on physical-property assessment and production technology development as a part of New Energy and Industrial Technology Development Organization (NEDO)'s subsidized project, and successfully developed a "new" refrigerant that will replace conventional refrigerants in the market.

Performance Comparison with Conventional Product (HFC-245fa)

- Refrigeration performance and stability: Equal or superior
- Global warming potential (GWP): 1/100 or less
- Boiling point and other physical properties: Extremely similar

In addition to its excellent performance, AMOLEA™yd can be retrofit into existing facilities without large investments. Furthermore, it has been observed that AMOLEA™yd has superior energy-saving performance as compared to existing products in the market. Going forward, AGC will present the progress and developments of AMOLEA™yd at international conferences. (The details of the above-mentioned performance comparison will be presented at the HVAC& R Japan 2016, starting February 23 in Japan.)

Under the management policy ***AGC plus***, the AGC Group strives to contribute to the early realization of environmentally-friendly freezers, refrigerators and air-conditioners by closely cooperating with equipment manufacturers who have been proactively working on environmental issues.

*[1]: HCFO is a double-bonded fluorine compound with a significantly low global warming potential compared to that of chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and hydrofluorocarbons (HFCs).

Media Contact

Junichi Kobayashi, General Manager, Corporate Communications & Investor Relations

AGC Asahi Glass Co., Ltd.
(Contact: Tomoko Komazaki ; Tel: +81-3-3218-5603; E-mail: info-pr@agc.com)

Hydrofluorocarbon (HFC), used as air-conditioner and automotive refrigerant, has a high GWP, causing a significant environmental burden on the natural environment. Some developed countries such as Japan, the United States, and European countries, have already started their own initiatives to control the use of the HFC-based chemical substances, and international discussions have been underway in an attempt to set up global regulations that include emerging countries. Following the production technology development of low-GWP refrigerants for automotive use (HFO-1234yf) and the development for air-conditioners (AMOLEA™HFO-1123), AGC will continue the development of low-GWP refrigerants.

Dramatically reducing GWP with superior performance

■HVAC&R Japan 2016—Heating, Ventilating, Air Conditioning an Refrigerating Expo—

Dates: Tuesday, February 23 to Friday, February 26, 2016

Venue: Tokyo Big Sight, Japan

URL：http://www.hvacr.jp/en/

AGC's presentation:

Date: 10:00 – 10:30 Thursday, February 25

Theme: Next Generation Low-GWP Refrigerants "AMOLEA™"

■AGC's press releases on refrigerant products

・AGC to Supply Honeywell with HFO-1234yf—New-generation Automobile Refrigerant (January 2014)
http://www.agc.com/english/news/2014/0123e.pdf

・AGC Develops AMOLEA™, a New Refrigerant for Air-conditioning Systems with a Low Environmental Impact of About One-sixth that of Conventional Products (March 2014)
http://www.agc.com/english/news/2014/0319e.pdf

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