



FOR IMMEDIATE RELEASE

**AGC Develops AMOLEA™, a New Refrigerant for Air-conditioning Systems
with a Low Environmental Impact of About One-sixth that of Conventional Products**

Tokyo, March 19, 2014—AGC (Asahi Glass Co., Ltd.; Head Office: Tokyo; President & CEO: Kazuhiko Ishimura) announces that it has successfully developed AMOLEA™, a new refrigerant for air-conditioning systems that can reduce the global-warming potential (hereinafter “GWP^{*1}”) to about one-sixth that of conventional products, while delivering equivalent performance to the conventional hydrofluorocarbon (HFC)^{*2}-410A. AGC aims to launch commercial production in 2016, and will promote the development of refrigerants with even lower environmental impacts from global warming.

Application of HFC, which is used as a refrigerant for air-conditioning systems and automobiles, is being reexamined globally due to its high GWP and large environmental load. Regulations have already been imposed on HFC in Europe and the use of HFC is to be restricted in Japan beginning in 2015. In addition, the United Nations is considering limits on its use.

In line with this trend toward restricting the use of HFC, some manufacturers of room air-conditioning systems and professional-use air-conditioning equipment have begun to adopt alternative refrigerants such as HFC-32. Meanwhile, there are needs for refrigerants with a lower GWP from the viewpoint of preventing global warming.

AMOLEA™ is an environmentally responsive mixed refrigerant^{*3} whose main ingredient is hydrofluoroolefin (HFO^{*4})-1123, which has an extremely low GWP, and AGC worked on its development as part of a NEDO^{*5}-subsidized project. The new refrigerant, with a very low GWP of about half that of a possible alternative refrigerant—HFC-32—(about one-sixth of GWP of the conventional refrigerant HFC-410A), while providing equivalent performance to conventional refrigerants, will achieve both low GWP and energy efficient economic performance.

The AGC Group will accelerate its efforts to commercialize new refrigerants and focus on developing refrigerants with even lower GWP. In cooperation with equipment makers, the Group will contribute to the early provision of air-conditioning systems with significantly low environmental loads.

*1 Abbreviation of Global Warming Potential

*2 Used as an alternative to chlorofluorocarbon because it is chlorine free and a non-ozone depleting substance, but causes greenhouse effects equivalent to chlorofluorocarbon.

*3 Refrigerants made from two or more refrigerants in an optimal combination to meet required performance when in use.

*4 Double-bonded fluorine compound with a significantly low global warming potential compared to that of chlorofluorocarbon and an alternative to chlorofluorocarbon.

*5 New Energy and Industrial Technology Development Organization

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< Reference >

1. Comparison of refrigerants for use in air-conditioning equipment

	Conventional refrigerant (HFC-410A)	AGC's new refrigerant AMOLEA™ (main component: HFO-1123)	Alternative refrigerant (HFC-32)
Impact on ozone layer	None	None	None
Comparison of GWP *GWP of HFC-410A is set at 1	1	About 1/6	About 1/3
Remarks	Restrictions will be strengthened in advanced countries from 2015.	Commercial production scheduled for launch in 2016.	