AGC
Your Dreams, Our Challenge

News Release

AGC's AMOLEA™, Low-Environmental-Impact HFOs, is Awarded Minister of the Environment Award in the GSC Awards

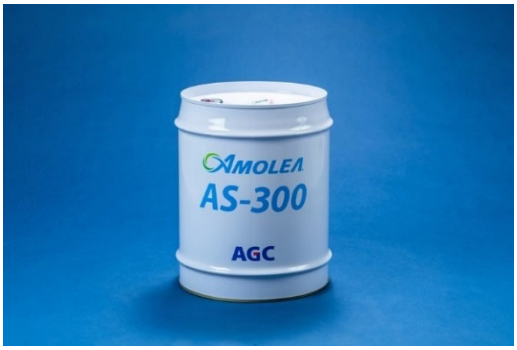
Tokyo, June 1, 2020 – AGC, a world-leading manufacturer of glass, chemicals and high-tech materials, has been awarded a JACI (Japan Association for Chemical Innovation) Minister of the Environment Award in the 19th Green & Sustainable Chemistry (GSC) Awards, which was granted in recognition of the outstanding environmental technology of AGC's AMOLEA™, low environmental impact HFO (hydrofluoroolefin)[*1] products.

GSC Awards recognize outstanding achievements that contribute to the advancement of chemistry that supports a GSC (Green & Sustainable Chemistry) approach. Among these awards, the 'Minister of the Environment Award' recognizes those that achieve the most significant contributions in reducing overall environmental impact.

Against the backdrop of today's ozone depletion problem, global warming from HFCs (hydrofluorocarbons), which are being increasingly used in place of fluorocarbons, has emerged as a new problem. This has led to a demand to develop alternative products that are able to match the original performance but with less environmental impact.

AGC's AMOLEA™ is a solvent and refrigerant brand developed under the concept of dramatically reducing Global Warming Potential (GWP)[*2] while maintaining conventional performance. AGC is currently developing three products[*3] for respective applications, with plans to further expand offerings in the future. Because HFOs readily break down in the atmosphere, they can significantly reduce Global Warming Potential while maintaining the previous outstanding performance, including safety aspects. As an example among refrigerant and foaming agent applications, replacing conventional products with AMOLEA™ products can reduce the LCA[*4] to around 1/10th. In terms of CO_2, this has the benefit of reducing greenhouse gas emissions to an equivalent of 10 million tons of CO_2 per year[*5]. AGC was awarded the Minister of the Environment Award in the 19th GSC Awards in view of the anticipated greatly lower environmental impact that could be realized in the years ahead by upgrading to this product.

Under its ***AGC plus*** management policy, the AGC Group has made a commitment to create products that add various pluses for stakeholders. Pluses for society include 'safety', 'security', and 'comfort' while pluses for customers include 'new value' and 'functionality'. AGC is dedicated to leveraging the technical strengths it has built up and refined through years of experience with fluorochemicals to continue to develop and provide products that help in reducing environmental impact.



AMOLEA™ solvent, product appearance

MEDIA INQUIRIES
Kazumi Tamaki, General Manager, Corporate Communications & Investor Relations Division
AGC Inc.
(Contact: Yuki Kitano; Tel: +81-3-3218-5603; E-mail: info-pr@agc.com)
*Handling of personal information is governed by our privacy policy.

Notes:

*1 Hydrofluoroolefin: The general term for fluorinated hydrocarbon compounds containing unsaturated bonds in the molecule. They are characterized by a shorter atmospheric lifetime and extremely low Global Warming Potential.

*2 Global Warming Potential (GWP): A coefficient that represents the effect on global warming. It refers to a figure that expresses the Global Warming Potential of greenhouse gases in relation to the baseline value of carbon dioxide.

*3 See the table below for the current series lineup.

*4 Life Cycle Assessment: A method for quantitatively assessing the environmental impact of a product or service throughout its life cycle or at a specific stage.

*5 Estimated value specific to Japan.

REFERENCE

■ AMOLEA™ Series Lineup

The AMOLEA™ Series Lineup is listed below. Further lineup expansion is planned in the future.

Generic name	Product name	Main Applications
New environmentally-friendly refrigerant	AMOLEA™ 1234yf	Refrigerant for mobile air conditioners etc.
New environmentally-friendly refrigerant	AMOLEA™ 1224yd	Refrigerant for centrifugal chillers etc, Foaming agent for various plastics
New-environmentally-friendly fluorinated solvent	AMOLEA™ AS-300	Various detergents and solvents

■ Physical properties of AMOLEA™

Generic name	AMOLEA™ products (Conventional products)	Boiling point	Global Warming Potential*	Allowable concentration**
Environmentally-friendly New refrigerant	HFO-1234yf (HFC-134a)	- 29°C (-26°C)	<1 (1,300)	500ppm (1,000ppm)
Environmentally-friendly New refrigerant	HFO-1224yd (HFC-245fa)	15°C (15°C)	<1 (858)	1,000ppm (300ppm)
Environmentally-friendly Fluorinated solvent	AS-300 (AK-225)	54°C (54°C)	<1 (380)	250ppm (100ppm)

* 5th Assessment Report: Climate Change 2013 (AR5), K. Tokuhashi, et al., J. Phys. Chem. A, 2018, 122, 3127

** Value set by AIHA (American Industrial Hygiene Association) and recommended by AGC

MEDIA INQUIRIES
Kazumi Tamaki, General Manager, Corporate Communications & Investor Relations Division
AGC Inc.
(Contact: Yuki Kitano; Tel: +81-3-3218-5603; E-mail: info-pr@agc.com)
*Handling of personal information is governed by our privacy policy.