

# FluoroCouncil Briefing to Architectural Coatings Industry

January 2015



**FluoroCouncil**  
Global Industry Council  
for FluoroTechnology

# Architectural Coatings and Long-chain Fluorinated Surfactants\*

- PFOA is a biopersistent chemical under significant global regulatory and NGO pressure.
- PFOA is emitted to the environment in the production of fluoropolymers *in some instances*.
- Architectural coatings incorporate fluoropolymers in multiple ways.
- Sourcing decisions can tie the architectural coatings industry to PFOA.

\* Long-chain fluorinated surfactants include PFOA and PFNA

# FluoroCouncil Overview

- **Major global fluoropolymer producers\* that have transitioned away from use of PFOA and other long-chain chemicals in fluoropolymer production**
  - Developed alternative chemistries with improved environmental and biological profiles
- **FluoroCouncil Member Companies**
  - Archroma Management LLC
  - Arkema France\*
  - Asahi Glass Co., Ltd.\*
  - Daikin Industries, Ltd.\*
  - DuPont Company\*
  - Solvay Specialty Polymers\*

# Purpose of Today's Discussion

- Provide overview of
  - PFOA in the architectural coatings industry
  - Potential environmental implications
  - Regulatory pressures
- Discuss approaches to effectively outreach to industry and supply chain

# Fluoropolymers and Architectural Coatings Factory Applied to Metal (PVDF)

- **Key Uses**

- Windows, doors, curtain wall systems, column covers, louvers/sunscreens, skylights, signage, store fronts, railings, mullions
- Industrial wall panel systems, roofing panels, mansard roofing, soffit, pre-engineered buildings



- **Key Properties**

- Outstanding color and gloss retention, chalk resistance, and corrosion and abrasion resistance.

- **Key Benefits**

- Superior weatherability. Long term durability. Mold and mildew resistant. Dirt pick-up resistance. Meets AAMA 2605 standard.

# Fluoropolymers and Architectural Coatings Field Applied to Metal (PVDF and FEVE)

- **Key Uses**

- Stadiums, commercial buildings, water tanks, sports complexes, storage tank interiors, bridges, museums, schools, fascias, marine applications, metal restoration



- **Key Properties**

- Superior color and gloss retention, graffiti resistant, chemical and abrasion resistant

- **Key Benefits**

- Fast dry; ambient temperature cure; airless, conventional spray, and brush and roll application, superior weatherability, long term durability, mold and mildew resistant, dirt pick-up resistance, meets AAMA 2605 standard.

# PFOA: A Manufacturing Plant Emissions Issue

Fluoropolymer producer using PFOA as a polymerization aid



PFOA may be emitted to environment, globally transported, present in human blood

Fluoropolymer producer NOT using PFOA

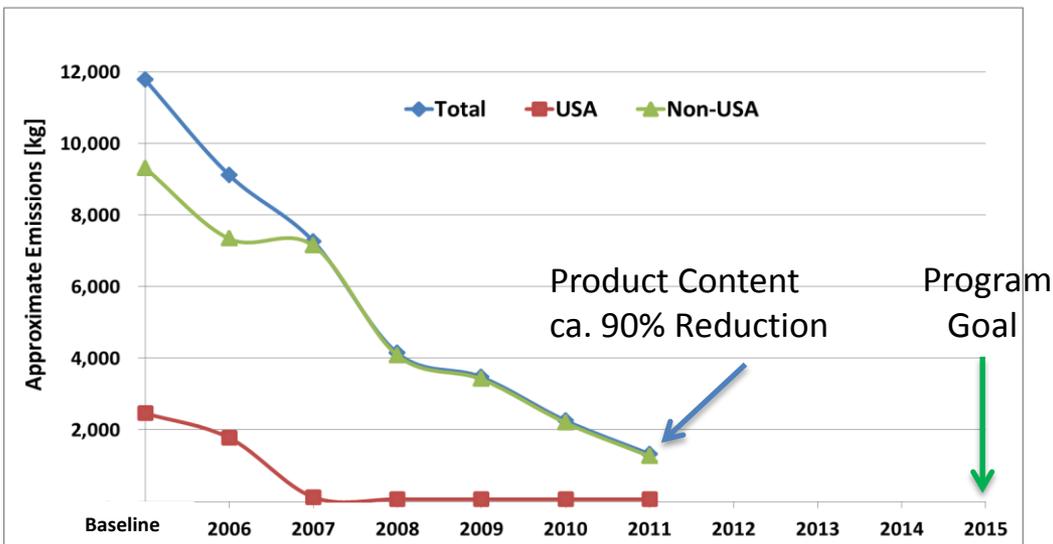
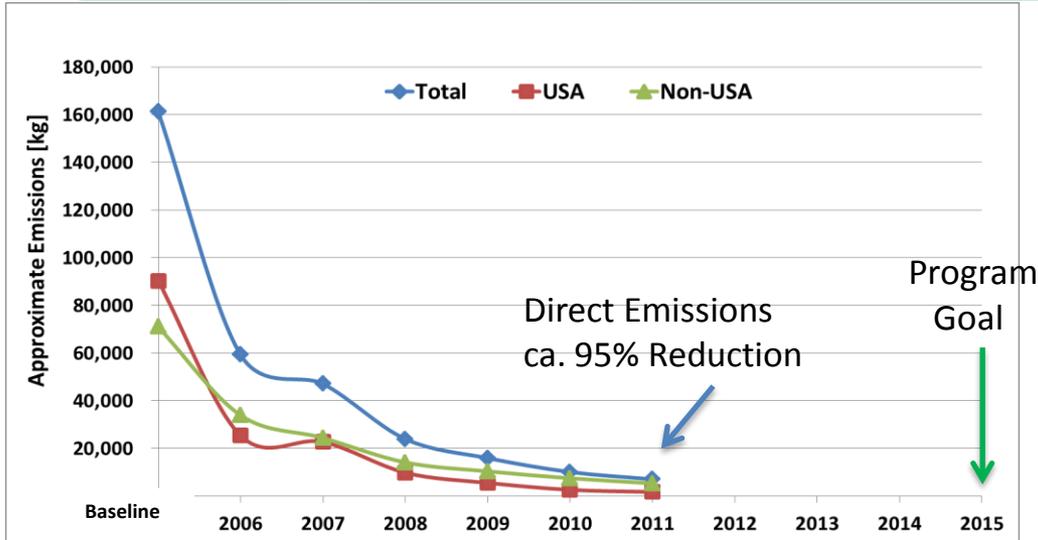


No PFOA Emissions\*

**Sourcing** of architectural coatings can contribute to ongoing environmental **emissions** and **global transport** of PFOA.

\*After a reasonable transition period

# Reductions Under PFOA Stewardship Program



- Global partnership between U.S. EPA and industry.\*
- Based on voluntary goals to eliminate PFOA from facility emissions and products by the end of 2015.
- Significant reductions – among participating companies.
- 2012-2013 data published Jan. 2015, showing further reductions.

-Source: "EPA Summary Tables" (Baseline = Year 2000 or other); some signatories report data ranges  
<http://www.epa.gov/oppt/pfoa/pubs/stewardship/>

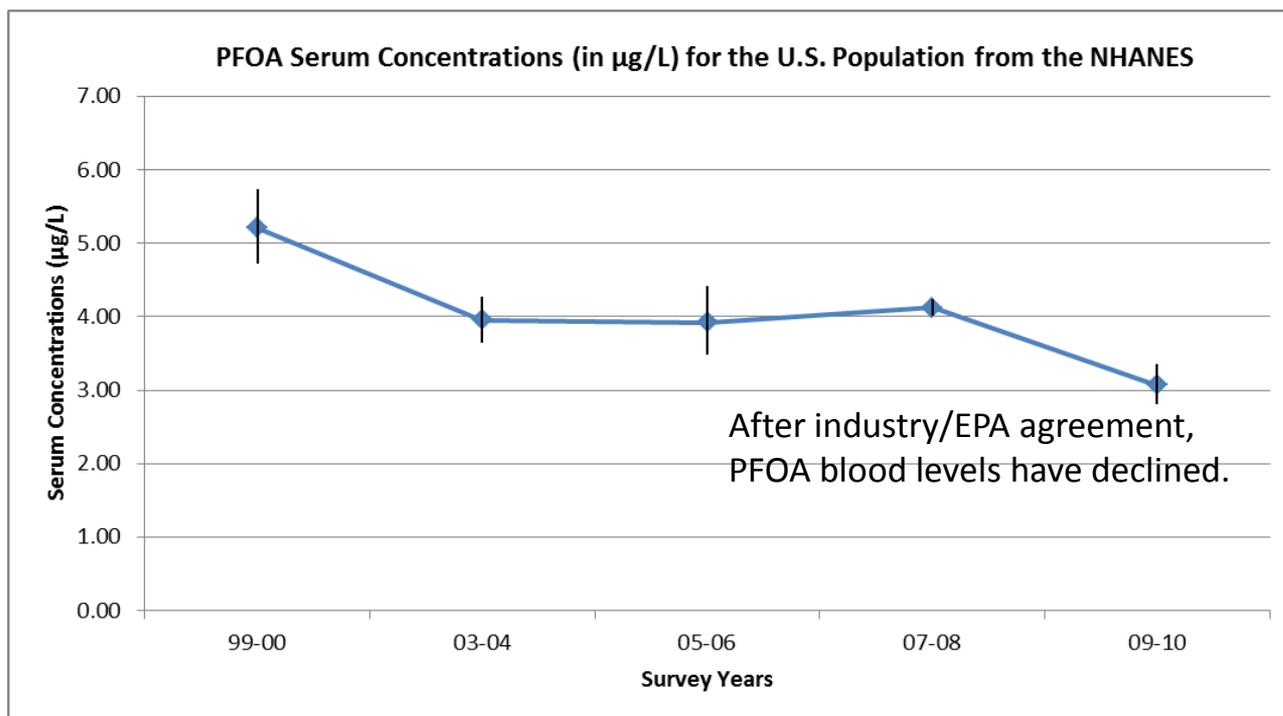
\* Not all company reporting is global.

# Current Fluoropolymer Production

- Stewardship Program fluoropolymer producers in US, EU and Japan not using PFOA.
- Locally-based fluoropolymer producers outside of US, EU and Japan (e.g., Chinese) may still manufacture, use, and emits PFOA.
- No product performance differential in the final coating after switching to alternative polymerization aids.

# Why Sourcing Matters

- Major global fluoropolymer producers in voluntary agreement with US EPA to stop using and emitting PFOA.
- Other producers (namely in China) not in the voluntary agreement are still using and emitting PFOA.
- Although US & global population blood levels of PFOA have been declining (and continues to decline) – global transport of non-Stewardship Program PFOA emissions could mean levels increase.
- Sourcing fluoropolymers made with PFOA contributes to emissions.



US Department of Health and Human Services, Centers for Disease Control and Prevention

“Fourth National Report on Human Exposure to Environmental Chemicals”; Updated September 2013; p. 214

[http://www.cdc.gov/exposurereport/pdf/FourthReport\\_UpdatedTables\\_Sep2013.pdf](http://www.cdc.gov/exposurereport/pdf/FourthReport_UpdatedTables_Sep2013.pdf)

# PFOA U.S. Regulatory Status

- 2009 EPA Action Plan to stop use of Long-Chain Perfluorinated Chemicals (LCPFCs).
- October 2013 Significant New Use Rule (SNUR) issued for all new uses of LCPFCs for carpets (stain resist treatments), including imports.
- January 21, 2015 - EPA proposed SNUR which intends to cover remaining uses of these chemicals. SNUR does not cover “import of fluoropolymer dispersions and emulsions, and fluoropolymers as part of articles, containing PFOA or its salts....” (considered ongoing use).

# PFOA EU Regulatory Status

- **Harmonized Classification and Labeling**
  - December 2011, Classification of PFOA as Carcinogenicity 2, Reproductive Toxicity 1B as of January 1, 2015
- **Substance of Very High Concern**
  - PFOA listed as SVHC
- **Restriction of Marketing and Use**
  - Restriction proposal for PFOA and related substances published for public consultation on December 17, 2014 (bans production, sale, use or import in EU)

# Other Regulatory Activity

- **Canada** – In 2013, published a Risk Management Approach document that proposes the prohibition of PFOA and related long-chain chemicals through regulation, which would prohibit their manufacture, use, sale, offer for sale, import and export.
- **Norway** – Enacted effective ban on PFOA in consumer products as of June 1, 2014 (effective January 2018 for sale/import of products documented/ manufactured before June 1, 2014).
- **Sweden** – Ongoing work on new EU and national regulation on hazardous substances in textiles; proposal for hazardous chemical tax on consumer goods.
- **Denmark** - Chemical Action Plan 2014-2017 “perfluorinated substances” are priority ‘group’, List of Undesirable Substances (LOUS) includes PFOA.
- **China** – Designated processes using PFOA and other long chain perfluorinated materials as a “highly polluting industry.”

# Architectural Coatings and PFOA Emissions

- Sourcing coatings made with fluoropolymers produced with PFOA contributes to PFOA emission to the environment.
- PFOA emissions may be globally transported.
- Global regulatory and lawmakers' attention to PFOA is growing.
- EPA and others are working to find options for identifying fluoropolymer products that were not manufactured with PFOA and other LCPFCs.

# Architectural Coatings Sourcing and PFOA Emissions

- How do we best engage the architectural coatings industry to help them to reduce use and emissions of PFOA in the supply chain?