



Overview of DuPont Company & Refrigerants Business

Visit of Russia Delegation

April 9th 2013, Meyrin Innovation Center



DuPont Refrigerants. The Science of Cool.™



CORE VALUES

Safety and Health

We share a personal and professional commitment to protecting the safety and health of our employees, our contractors, our customers and the people of the communities in which we operate.

Environmental Stewardship

We find science-enabled, sustainable solutions for our customers, always managing our businesses to protect the environment and preserve the earth's natural resources both for today and for generations into the future.

Highest Ethical Behavior

We conduct ourselves and our business affairs in accordance with the highest ethical standards and in compliance with all applicable laws, striving always to be a respected corporate citizen worldwide.

Respect for People

We treat our employees and all our partners with professionalism, dignity and respect, fostering an environment where people can contribute, innovate, excel.

The Purpose of DuPont

**WE ARE A
MARKET-DRIVEN
SCIENCE COMPANY**

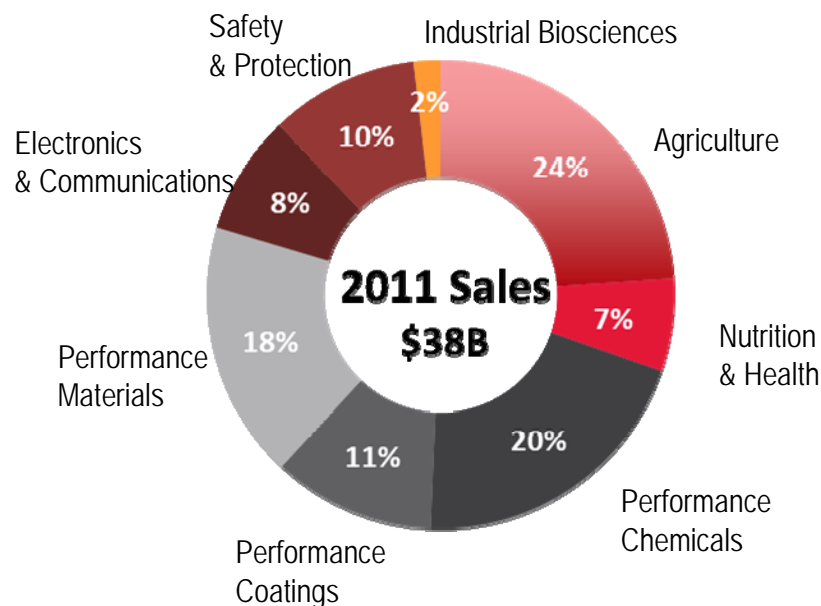
DuPont is a science company. We work collaboratively to find sustainable, innovative, market-driven solutions to solve some of the world's biggest challenges, making lives better, safer, and healthier for people everywhere.



DuPont Long-Term Growth Profile

7% Sales CAGR

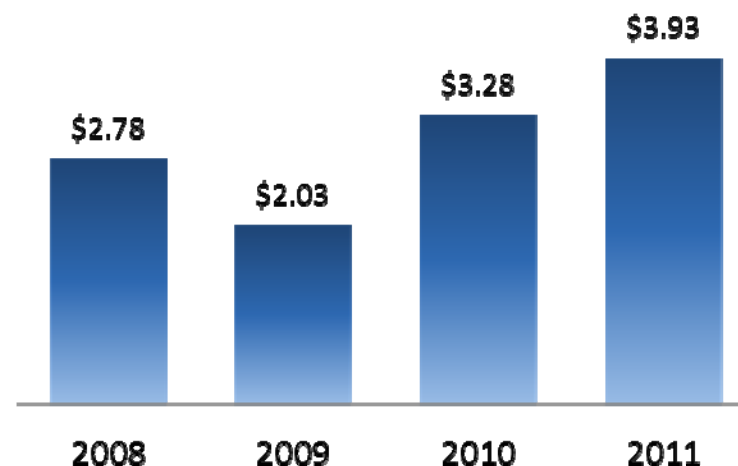
- Food / energy / protection trends
- New products and applications
- Building on our success in developing markets



12% EPS CAGR*

- Innovation
- Differential management
- Ongoing productivity
- Margin expansion

Earnings per Share*



* Excludes significant items. Refer to company website for detailed reconciliations of non-GAAP measures

DuPont 2011 Segment Sales



* Total company sales exclude transfers and sale of Performance Coatings

Integrating Our Science & Technology to Find Solutions



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Engineering, Analytical Science, Scientific Computing, Modeling & Simulation, Toxicology, Environmental Science, Regulatory Science, Application Development

DuPont: Chemical Industry Innovations through Material Science

DuPont uses its deep expertise in material science to make a vital impact on virtually every major industry, from agriculture and construction to transportation and communications.

Through our collaboration with leading companies worldwide, we help transform markets by delivering innovative solutions that address critical global challenges, and enable many of the modern technologies used around the world every day.



About DuPont Fluorochemicals

We invented the first fluorochemicals over 82 years ago in 1930.

DuPont is the # 1 fluorochemical player in the world.

DuPont Fluorochemicals businesses use a powerful combination of products, science and technology experience, innovation, and regional presence to provide a variety of materials and services that improve the quality of life for individuals across the globe.



DuPont Fluorochemicals Brands

DuPont™ Freon® refrigerant

DuPont™ Suva® refrigerant

DuPont™ ISCEON® refrigerant

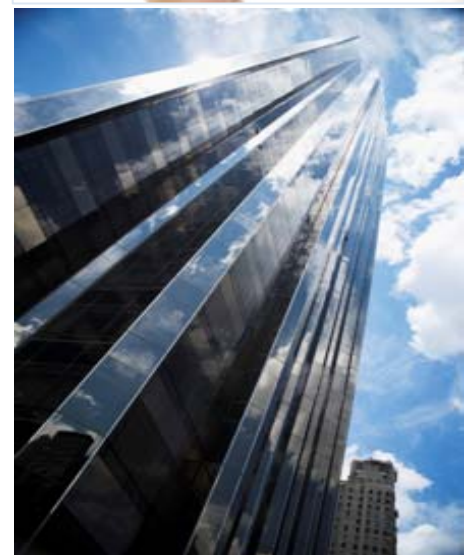
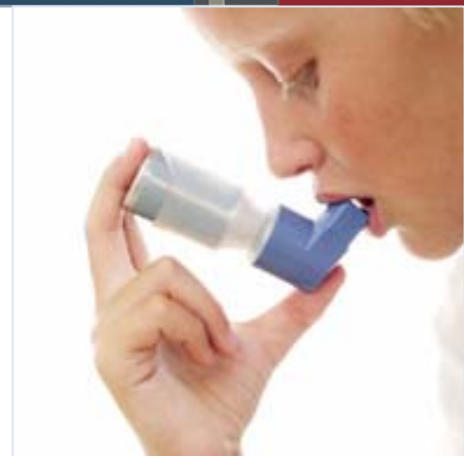
DuPont™ Opteon® refrigerant

DuPont™ Vertrel® specialty fluids

DuPont™ Dymel® propellants
(pharmaceutical and consumer applications)

DuPont™ FM-200® fire extinguishant

DuPont™ Formacel® foam expansion agents



DuPont Refrigerants Vision

We will use our science and technology, market knowledge and global reach to provide sustainable materials and solutions to enhance personal comfort, enable preservation of perishable items and improve industrial processing while reducing environmental footprints.

We are a Leader in Environmental business advocacy and Sustainable Innovation (ISCEON® and NextGen HFOs)



Fluorochemical Market Drivers

Environmental Legislation

- EU/US/Japan - “preserve” HFC-related Climate Change laws (phase-reduction not phase-out)
- New patented technologies entering the market as of 2011

Montreal Protocol Acceleration

- Retrofit Products (EU, Latin America, US)
- HCFC-22 Phase out and allocations

Cost Competitiveness is a Must

- Lean Management
- Fixed cost containment

Important new Growth Markets

- China, India, Latin America

Global Supply versus Demand

- Investment decisions supporting growing demand for new and existing products
- Raw materials that support operating facilities to nameplate capacity

Fluorochemicals Market Trends & DuPont Strategic Thrusts

Today

Ozone depletion phase out

Montreal Protocol

Traditional HCFCs / HFCs

Traditional markets

Limited reclaim/ recycle;
Mix of one-way and
returnable refrigerant
packaging

Mature Technology

DuPont Strategic

Operational excellence

Broad portfolio of HFCs

ISCEON® retrofit

blends

Fire extinguishants

227ea

Low GWP

▪HFO-1234yf

▪FEA-1100

▪HFX-110

Blends/Other

Strong global presence

Environmental

leadership

Invest in R&D

Tomorrow

Demand for Environmental
Sustainability

International and Regional
Climate Change actions

Energy Efficient Solutions

New Fluorochemistry

Growing global demand and
Emerging market growth

Established reclaim/recycle

Responsible handling of
packaging

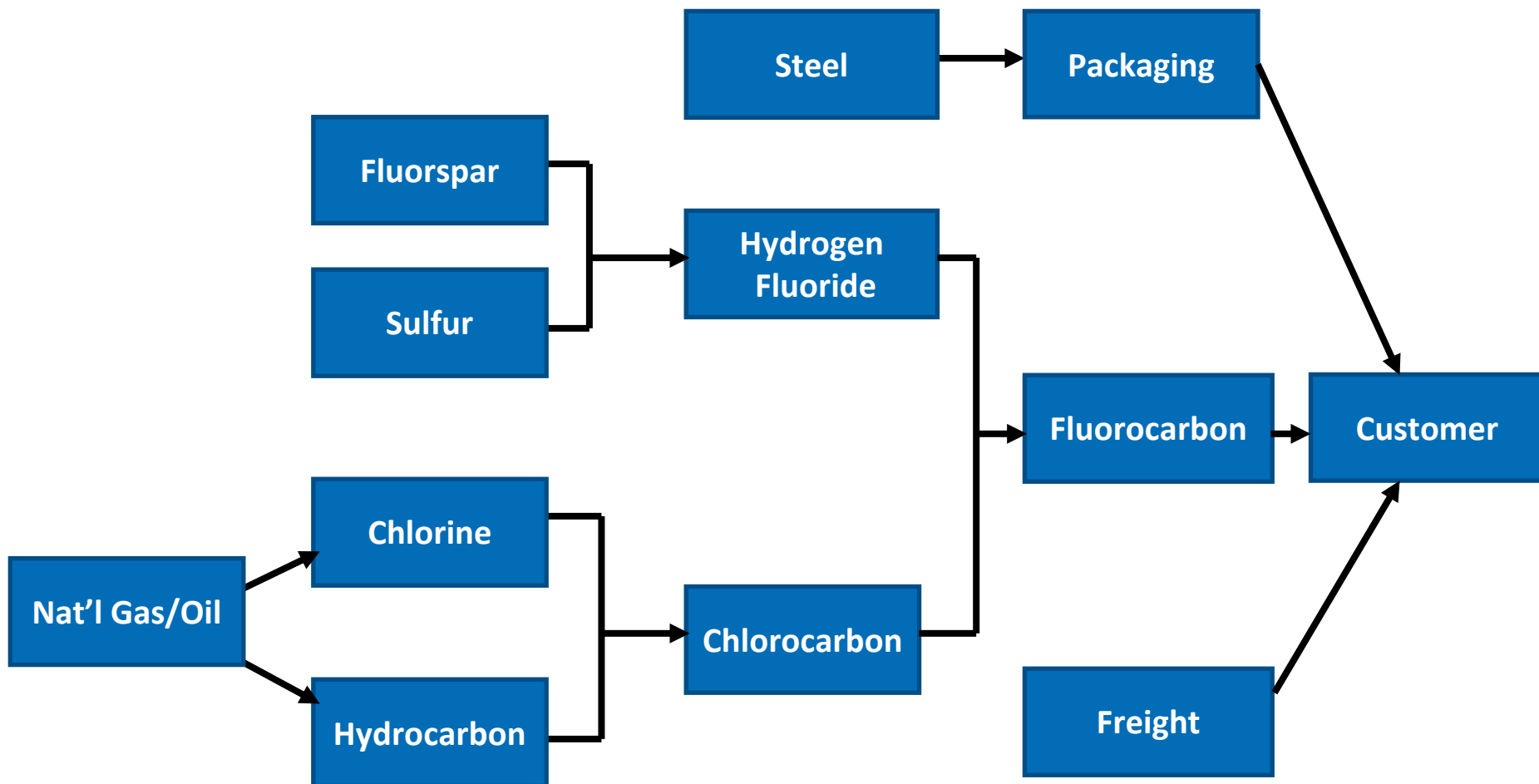
New R&D and IP

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Company or its affiliates.



The miracles of science™

Fluorochemical Supply Chain



DuPont Fluorochemicals - 1930



THE THERMODYNAMIC PROPERTIES
OF DICHLORODIFLUOROMETHANE (F-12)
The Equation of State of Superheated Vapor

Technical Paper

Number 1



Safe Refrigerants

KINETIC CHEMICALS, INC.

**DuPONT BUILDING
WILMINGTON • DELAWARE**

Aug. 25. 2010 8:08AM

No. 0927 P. 2

KINETIC CHEMICALS, INC.

Du Pont Building

Wilmington Delaware

Technical Paper No. 1

March 13, 1931

THE THERMODYNAMIC PROPERTIES OF DICHLORODIFLUOROMETHANE (F-12)

The Equation of State of Superheated Vapor

Summary:-

The equation of state of superheated vapor of dichlorodifluoromethane (F-12) has been investigated by Ralph M. Buffington and W. K. Gilkey - (Industrial and Engineering Chemistry - Vol. 23, No. 3).

The constants of a Beattie-Bridgeman equation of state for superheated dichlorodifluoromethane vapor were determined from measurements of isometrics between volumes of 1.4 and 4.2 liters per mol. In this region the isometrics are straight. The final equation is

$$p = RT(v + B)/v^2 - A/v^2$$

where $A = 23.7 (1 - 0.305/v)$ and $B = 0.59 (1 - 0.622/v)$. The units are atmospheres, degrees Centigrade absolute, and liters per gram-mol. The equation has been shown to fit the observed data with an average error of 0.5 per cent.

Method of Test and Results:-

It has become increasingly evident during the past few years that there is a real need for a refrigerant which combines favorable engineering properties with non-inflammability and non-toxicity to a greater extent than any hitherto available.

Early in the course of the development of dichlorodifluoromethane, it was realized that its practical application as a refrigerant would require the determination of its thermodynamic properties, and the construction of usable tables therefrom. In laying out the program, the aim was to provide data for the construction of tables for refrigeration use, characterized by (1) completeness in both saturated and superheated regions, (2) thermodynamic consistency, and (3) moderately high accuracy. Experimental methods were chosen accordingly, no attempts being made to secure the highest attainable precision. The required consistency was secured by making full use of thermodynamic relationships in criticizing and correlating the measurements of the various properties.