

# Highlights on Aerosol History



## 1920-1950

In **1927**, Erik Rotheim, a Norwegian engineer filed the patent for what would become a phenomenal success story: the aerosol dispenser.

The successful development of mass produced aerosols occurred in the USA during the **late 40s**. It was an insecticide called the 'bug bomb' developed by Goodhue & Sullivan. American soldiers used it to fight insect borne diseases in the pacific; 50 million units were produced during World War II.

The aerosol package expanded soon after the war: in **1947**, 4.3 million units were manufactured for civilian applications. The production increased constantly and soon crossed the Atlantic Ocean to reach Europe.



## 1950-1960

Insecticides and hairsprays were the first products to hit the European market in the **early 50s**. Air fresheners, deodorants and shaving foams followed soon after. Approximately 70 million aerosols were produced in Europe during this period.



The European Aerosol Federation, better known as the FEA, was born in 1959. Its aim was to facilitate the economic and technical development of the aerosol industry at European level. First FEA headquarters were located in Zurich, Switzerland



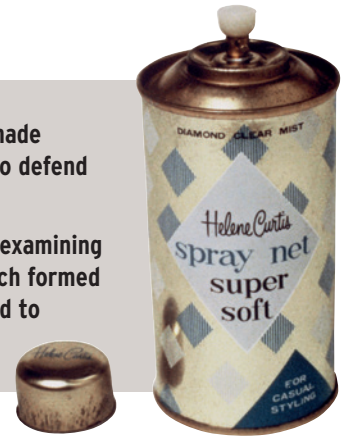
## 1960-1970

In **early 60s** and following years occurs the golden age of the aerosol industry. A wider range of products came onto the market.

Originally made from extruded aluminium container, aerosols were soon made from three-piece tinplate containers as well.

The European Economic Community creation made aerosol manufacturers co-operating in order to defend their interests at a supranational level

A "Commission" within FEA was charged with examining the aerosol issues and adopting measures which formed later the basis for a European Directive related to aerosol dispensers



## 1970-1980

Production stunted again reaching a total 2.2 billion units, an increase of 80% over the decade.

In the **late 70s**, a tidal wave of environmental concern captured the world's attention after the publication of the Molina/Rowland report on the ozone layer. Aerosol was targeted for the role that CFCs were thought to play in the thinning of the upper ozone layer, despite their relatively minor contribution to the phenomenon.



A European information center on aerosols (FEAC) is created in Brussels to inform aerosol manufacturers on the legislative issues within the European Community

The Aerosol Dispensers Directive 75/324/EEC (ADD) on the approximation of the laws of the Member States relating to aerosol dispensers is adopted on 20 May 1975

Rowland & Molina Report in 1974: CFCs are depleting the ozone layer protecting the Earth from UV- light irradiation

The Montreal Protocol, an international treaty, was signed in 1987 by 160 countries worldwide to protect the ozone layer by phasing out the production of a number of substances believed to be responsible for ozone depletion

The Aerosol Industry voluntarily stopped using CFCs in aerosol products from 1989

# 1980-1990

The aerosol industry moved away voluntarily from CFCs to alternative propellants.

European consumer aerosols (except a few medical products like asthma inhalers) have not contained CFCs **since 1989**.

A CFC free labelling was introduced in Europe.

Production during this decade rose by 35 % to reach 3 billion units.



With the enlargement of the European Union, FEA Offices were transferred in Brussels, Belgium in the beginning of the 80' and transformed into an international association

FEA was the first association, in April 1981, to sign a voluntary agreement with the European Authorities in the framework of a better environment protection



# 1990-2000

Europe leads the aerosol production worldwide.

The protection of the environment is a European key issue from **early 90s**.

Research & Development focuses on propellant, packaging and ingredients to make the aerosol a high-performing product.

The bag-on-valve aerosol expands rapidly.



Aerosol production has continued steadily and reached 4.4 billion, 48 % growth over the decade.

Empty aerosol containers are easily recyclable... A car can be built out of 20.000 recycled tinplate aerosols !

The Commission Directive 94/1/EC of 6 January 1994 adapted some technicalities of Council Directive 75/324/EEC on the approximation of the laws of the relating Member States to aerosol dispensers

FEA developed the "FEA Code of Practice on HFC use in Aerosols" in 2002 and forwards its HFC production survey to DG Environment every year

Council Regulation (EC) N° 3093/94 of 15 December 1994 on substances that deplete the ozone layer which was replaced by Regulation (EC) No 2037/2000 of 29 June 2000, which led, over several years, to a reduction of overall consumption of hydrochlorofluorocarbons (HCFC)

2009 is also the 20th anniversary of the aerosol industry's voluntary removal of CFCs !

The ozone layer is expected to recover by 2050

## 2000-2010

Aerosols package presents new shapes and is more attractive and ergonomic

Worldwide aerosol production reaches nearly 12 billion in 2008.

European aerosol production rose from an estimated 70 million units in the late 50s to 5 billion units nowadays!

**FEA has been, and still is, a reference point for authorities and the industry for its specific expertise related to aerosol dispensers**

**At the end of the 80s, the European aerosol industry voluntarily shifted from CFC propellants which depleted the ozone layer. Liquefied flammable gases were then primarily used as the propellant and FEA addressed the different issues related to consumer safety**

**FEA did pioneering work in the global harmonization of criteria for the classification of flammable aerosols. Those criteria were adopted at UN level in 2001 and implemented in EU legislation in 2008**

**FEA has been a key actor in the development of the Aerosol Dispensers Directive adopted in 1975 and modified in 1994 and 2008. This legal text is also used as a reference outside the EU**

**FEA has developed numerous standards to help the aerosol industry to place safe products on the market in an efficient way. Main FEA standards have been transposed into EN standards**

## 2010-2020

Compressed gases as propellant will be used more broadly.

The aerosol industry focuses on cheaper aerosol containers production.

Efforts are maximised to improve new systems like self-compressing bags.

Plastic aerosols will further develop on the market.

**FEA develops the concept of unique and sustainable aerosol**

**Commission Directive 2008/47/EC of 8 April 2008 amends, for the purposes of adapting to technical progress, Council Directive 75/324/EEC on the approximation of the laws of the Member States relating to aerosol dispensers**

**2009 has celebrated the 50th Anniversary of the European Aerosol Federation**



**Aerosol products are covered by transport of dangerous goods regulations. The UN Model Regulations were first produced in 1956. They serve as basic rules for the other transport modes. Rules for sea transport (IMDG Code) started in 1965; the road transport ADR first took effect in 1968 and Regulations for transport by air (ICAO TI) followed in 1984**

**U.S. standard NFPA 30B first adopted in 1990 is a reference for fire protection during manufacturing and storage of flammable aerosol products**

**FEA has been developing aerosol safety guidelines for manufacturing, storage and laboratories since 1995**

**Regulations to prevent major hazard accidents were first adopted in 1982 ('Seveso Directive'). Aerosol manufacturing and storage plants may be classified 'Seveso Sites' primarily depending on the quantity of liquefied flammable propellants contained in storage tanks and/or aerosol products**



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