

OVERVIEW : PVC MANUFACTURE

NOTE 1

one place
where acid
doesn't reign

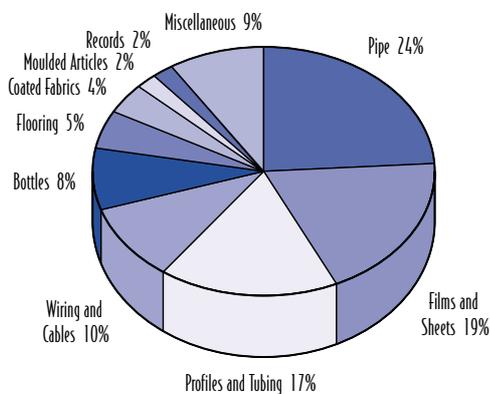


Science Supporting PVC in the Environment

The European PVC industry operates to the strictest legal

requirements and standards of safety. In fact, the industry has voluntarily gone beyond these requirements in the further interests of employees,

customers, the community and the environment. So, in the face of continued allegations about the safety of the manufacture of PVC, we'd like to put some important facts straight. This Overview Note aims to give the facts, the science and the reasoning behind why we believe PVC is entirely safe to manufacture.



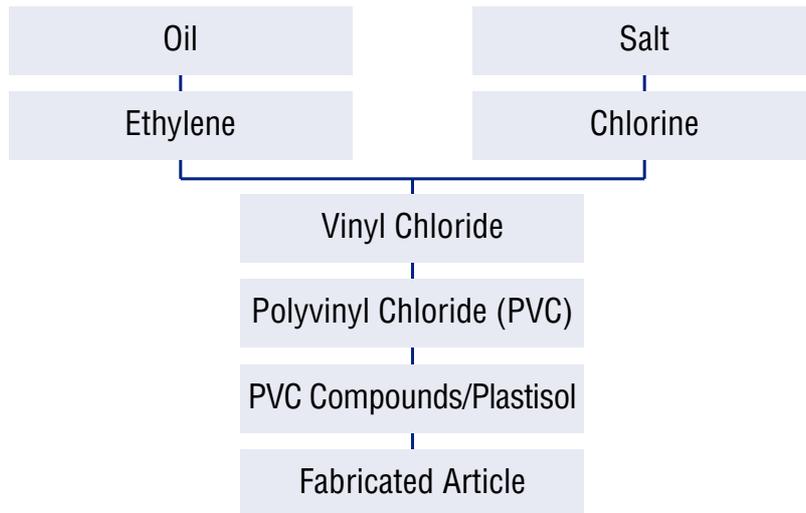
World usage of PVC

Process Controls

The manufacture of virtually every material is closely regulated to minimise its impact on human health and the environment. Members of the European Council of Vinyl Manufacturers (ECVM) accept that all production, manufacturing and disposal processes of modern industrialised society have an impact on the environment, including PVC.

In line with technology advances, production processes for PVC have been continually improved and their environmental impact steadily reduced. The European PVC industry recognises the need for ongoing environmental improvement. To this end, all members of ECVM came together in 1995 to sign an Industry Charter, which is a voluntary

From oil and salt to PVC products



agreement across the European PVC industry. It commits each company to stringent minimum standards of care for PVC production, including emission limits for aqueous effluents. The Charter in many instances establishes higher standards than those required by relevant national legislation.

Like many manufacturing processes, the production of PVC involves the use of raw materials that can be hazardous if improperly handled. In day to day operations, however, the PVC industry has a good record of safe operation.

Today's production processes reduce environmental emissions and minimise potential worker exposure to chemicals such as vinyl chloride monomer (VCM).

UK Manufacturers

In the UK, producers of PVC are subject to tight regulatory controls by both the Environment Agency

and the Health & Safety Executive covering the safety of employees, local communities and the environment. The polymerisation of vinyl chloride, the starting monomer used to manufacture PVC, is subject to Integrated Pollution Control regulations. Hydro Polymers Ltd and EVC (UK) Ltd, the two producers of PVC in the UK, fully adhere to independently accredited environmental management systems and are authorised by the Environment Agency to operate such processes. The polymerisation process is also subject to the Control of Major Accident Hazard (COMAH) regulations. In addition, both companies are subject to many other sets of regulatory criteria such as Statutory Instruments covering specific aspects to which they comply, often by wide margins of safety.

The manufacture of PVC takes place in sealed vessels and the major UK plants are open to inspection by the relevant



authorities and other interested parties by appointment. They are routinely inspected by the Environment Agency. The impressive health, safety and environmental record of EVC and Hydro, is publicly well documented. The following updates on investment in plant and processes will underscore the safety of PVC manufacture in the UK.

“ Based on current regulatory and scientific expertise, the statement ‘PVC is safe to manufacture’ is accurate and truthful. ”

Advertising Standards Authority, UK, 1998

Case Study 1

Hydro Polymers, based in Newton Aycliffe, County Durham, was awarded the prestigious President’s Safety Award by its parent company Norsk Hydro in 1997 for outstanding achievement to Health, Safety and Environmental Issues. The award is given to only one company each year out of a total of 200 units in over 100 countries.

Following extensive reviews of health, safety and environmental implications, the company was given approval by Darlington Borough Council to increase its PVC resin manufacturing capacity from 150,000 tonnes to 195,000 tonnes per annum. The completion of this £30 million expansion took place in June 1997 and is ‘state of the art’ in every respect.

Case Study 2

At Runcorn EVC has recently developed the VCM manufacturing capacity at a total cost of £60 million after acquiring the plant from ICI and gaining planning approval from Halton District Council on 12 February 1997. This followed the submission of the proposal to a rigorous planning approval procedure entailing three public meetings together with the review of an exhaustive environmental impact assessment by independent environmental consultants DNV Technica.



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