

'Chemical Pollution' is often given as the reason for chemophobia and in particular pollution by the exhaust gases of Diesel-engine driven trucks. The exhaust gases from the high chimneys of industrial factories are not noticeable from the ground, unless coloured yellow, when dangerous but now very rare. When the 100th anniversary of the first Diesel Engine occurred in 1994, I drew attention in my Editorial [Vol. 19 (3), p. 177 and Title 393] to the fact that the modern Diesel engine, when well adjusted and properly maintained, does not produce any pollution. Strict legal ordinances try to prevent this exhaust in the Western World.

If here, and in my review of 1996, I devote much space to discussing 'Evil Chemistry', 'Disaster Chemistry' and 'Chemical Pollution', it is to show that negative aspects of Chemistry exist and are well-known to Chemists and the public. What is hardly ever acknowledged are the enormous benefits of Chemistry which all of us enjoy to the full, living at the high standard of modern civilisation. I devoted 5 pages in my original review [ISR 21/2] to what I called 'Beneficial and Essential Chemistry' which have brought irreversible changes to all mankind. Here I can only repeat a short list of these.

As most essential I considered the refrigeration of food. That this has been, and still is, carried out by using chlorofluorocarbon compounds, which are colourless, odourless and non-toxic to man, is due to the fact that their destruction of the ozone layer surrounding our planet has only recently been discovered. Industrial research is now looking for a wider application of harmless alternative chemicals.

As most beneficial I considered the contribution of chemistry to modern sports equipment. Obvious examples are carbon-fibres embedded in polymer matrices, producing materials for racing bicycles, racing cars and tennis rackets, lighter and stronger than those originally used. Heavier chemicals had to be found to replace the now illegal ivory billiard balls, but contra, yachtsmen prefer the lighter and more flexible nylon to the heavy natural fibres for their ropes and sails. Using human sports performance enhancing chemicals, such as steroids and certain hormones, must be condemned.

Essential is the universal washing of body and clothes, whether 'natural' soap (of course chemically produced and purified through saponification) or synthetic detergents are preferred, the latter now produced industrially, as a multi-million ton product. Beneficial is the ingestion of alcoholic liquids in moderate quantities, and again chemistry, in the fermentation process transforming sweet fruit juice into alcohol, is the essential process. Because fermentation is so successful in producing wine and beer, it has remained basically unchanged since its accidental discovery thousands of years ago.