

Environmental Impacts of Technology

Plastics



Manufacturing

Plastics EnvironmentalImpact





Manufacturing Use Disposal Degradation Migration



Plastics companies and manufacturers are responsible for over 10% of the known toxic releases into air in the U.S.

Fumes from Plastics:

- ethylene oxide
- benzene
- chromium oxide
- formaldehyde
- vinyl chloride
- styrene
- PAHs (polycyclic aromatic hydrocarbons) including fluorene, phenanthrene, acenaphthene

Other Major Players

(resulting from producing plastic from coal, natural gas, and oil)

- Sulfur dioxides
- Nitrous oxides
- Other volatile organic compounds









• eye irritation

Acute

Chronic

nose and throat damage

Spotlight on: *Formaldehyde*



PF (phenol formaldehyde) UF (urea formaldehyde) MF (melamine formaldehyde)

nose and throat cancer

- higher allergic response
- asthma
- impaired learning



nausea

Acute

Chronic

- abdominal pain
- depression
- loss of concentration and balance
- leukemia & lymphoma
- liver and nerve damage
- other blood cancers
- brain disease

Spotlight on: *Styrene*





nausea

Acute

Chronic

- abdominal pain
- depressionloss of concentration and balance
 - Ieukemia & lymphoma
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Because:

- 1. Synthetic polymers are produced from fossil fuels (oil, natural gas, and coal), and
- 2. Despite the fact that plastics can be made from natural polymers, most are made from syntheic polymers

The environmental impacts of making or producing plastics, especially toxic emissions into air, are significant.



A Poster Child for these Environmental Impacts, Making Plastic (PET) Water Bottles uses, every year:

- Hundreds of thousands of tons of plastic
- Millions of barrels of oil
- Many more liters of water than what ends up in bottles
- Substanially more toxic air emissions than that incurred by making glass bottles

Reducing Environmental Impacts

