Reducing PVC and DEHP in IV bags

Sustainable procurement quick guide

Health Care Without Harm

Health and environmental benefits

Avoiding PVC avoids the release and generation of highly toxic chemicals

- PVC is derived from highly toxic chemicals including vinyl chloride, a known human carcinogen. Every step in the production of PVC involves the use of chemicals of high concern. PVC can also result in the formation of highly toxic chemicals if medical devices are burned resulting in potentially hazardous exposures to those chemicals in the workplace and in communities during manufacture and disposal. Chemicals of concern include, but are not limited to, carcinogens, reproductive toxicants, and endocrine disruptors.

Avoiding PVC avoids a recycling challenge

- Recycling PVC is challenging and can hinder the recycling other kinds of plastic. Recycling PVC can contaminate recycled plastics with PVC additives.

Avoiding PVC products reduces exposure to harmful plasticizers for the most vulnerable patients

- Plasticizers can be as much as 40% by weight of a PVC product. They have been demonstrated to leach from medical devices and result in direct patient exposure.
- Many government agencies have concluded that some patients are likely to be exposed to potentially unsafe amounts of DEHP while receiving medical care including sick infants treated in neonatal intensive care units.
- Reducing PVC and DEHP reduces exposures to reproductive and endocrine disrupting chemicals to neonates and other vulnerable populations.

Position statement

Health Care Without Harm recommends health care facilities avoid PVC and DEHP and replace them with safer alternatives without compromising patient safety or care.

Health Care Without Harm target goal

PVC & DEHP elimination goal for IV bags

- Eliminate PVC and DEHP-containg IV bags

Procurement criteria

Priority criteria

- Products shall not contain polyvinyl chloride (PVC)
- Products shall not contain di (2-ethylhexyl phthalate) (DEHP). The total concentration must not exceed 0.1% by weight in any separate part of the offered equipment.

Additional criteria

- Products shall not contain other phthalates. The total concentration must not exceed 0.1% by weight in any separate part of the offered equipment.
- Bisphenol A (CAS No. 80-05-7) shall not be added. Impurities/residues shall not be present in amounts over 0.01% by weight in any individual part of the product.
- Vendors shall provide periodic spend reports for PVC/DEHP-free products to support measuring success.

Alternatives to PVC/DEHP products

Nordic Swan Label

- Includes disposable bags, tubes and accessories for health care. The label covers more than sixty product categories. Medical products do not contain PVC or plasticisers.

Health Care Without Harm

- Health Care Without Harm Europe's Safer Medical Devices Database covers a range of products and lists alternatives that do not contain PVC, phthalates, and BPA.

Health Care Without Harm

- Health Care Without Harm US' lists of target products that do not contain PVC and DEHP. The report Alternatives to Polyvinyl Chloride (PVC) Medical Devices for the Neonatal Intensive Care Unit (NICU) lists products that do not contain PVC or DEHP used in a NICU.

National Agency for Public Procurement Sweden

- This site provides substitution lists for hazardous substances in the healthcare sector.

General Services Administration US

- The US GSA Sustainable Facilities Tool database contains some medical product lists that do not contain PVC and DEHP.

Case studies

- Vienna Hospital Association, Stockholm County Council, page 16.
- Na Homolce Hospital Czech Republic, page 17.

Broader PVC and DEHP elimination goal

Eliminate PVC and DEHP from at least two high-priority product categories

High priority categories: Defined by the potential for exposures and the availability of safer alternatives.

- Breast pumps and accessories.
- Enteral nutrition products.
- Enteral tubes.
- General urological products.
- Gloves. Parenteral infusion devices and sets.
- Respiratory therapy products.
- Vascular catheters.

Additional information

- Health Care Without Harm's analysis | Polyvinyl chloride in health care: A rationale for choosing alternatives.
- Health Care Without Harm Europe | Safer Procurement resources.
- Health Care Without Harm Europe | Non-toxic Healthcare: Alternatives to hazardous chemicals in medical devices: Phthalates and Bisphenol A (Second edition, 2019)
- Health Care Without Harm Latin America | Chemical Substances resources.
- Health Care Without Harm US | Safer Medical Products resources.