



Toxics Use Reduction Institute

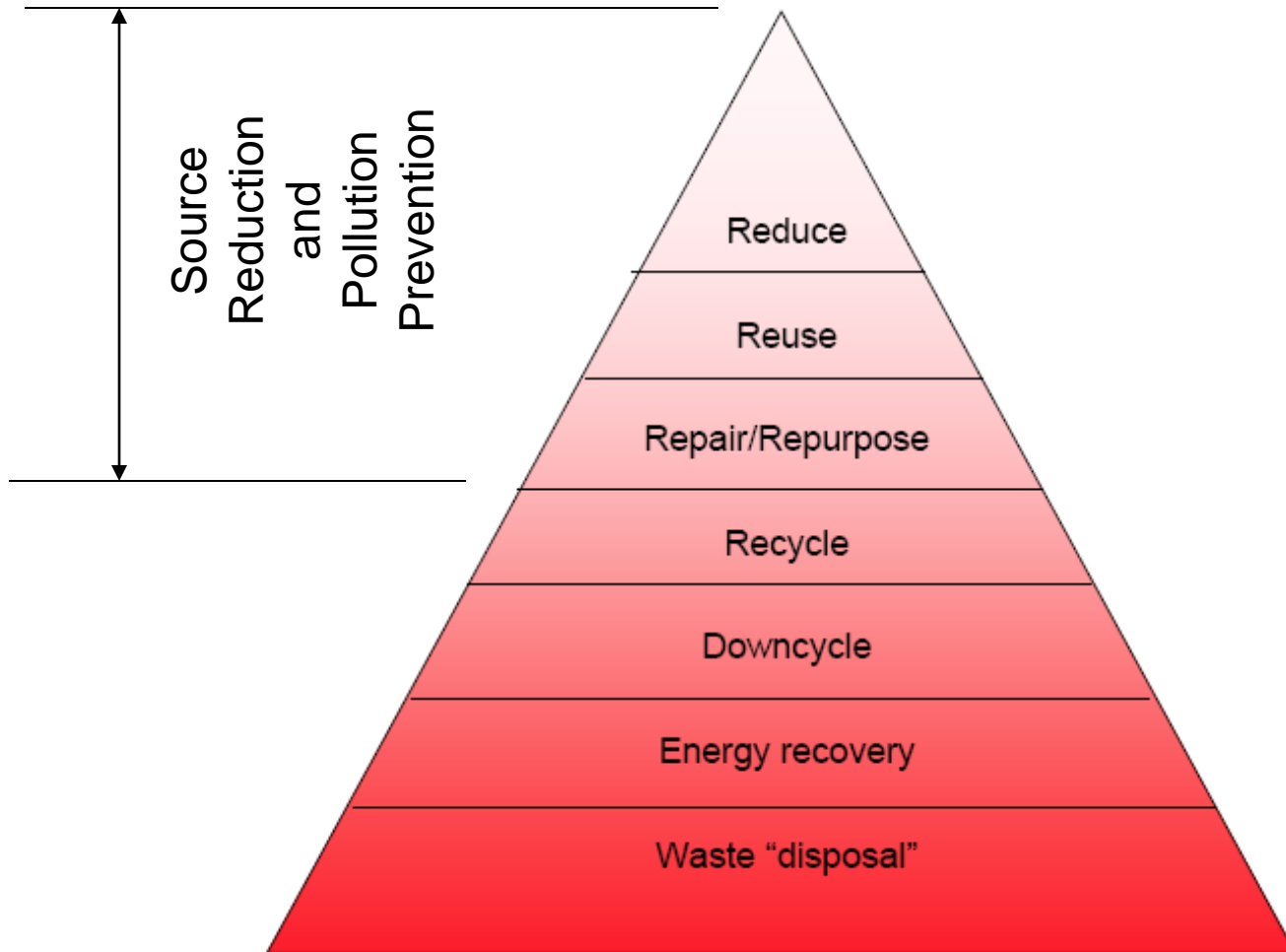
Where in the hierarchy is **Source Reduction?**

Liz Harriman

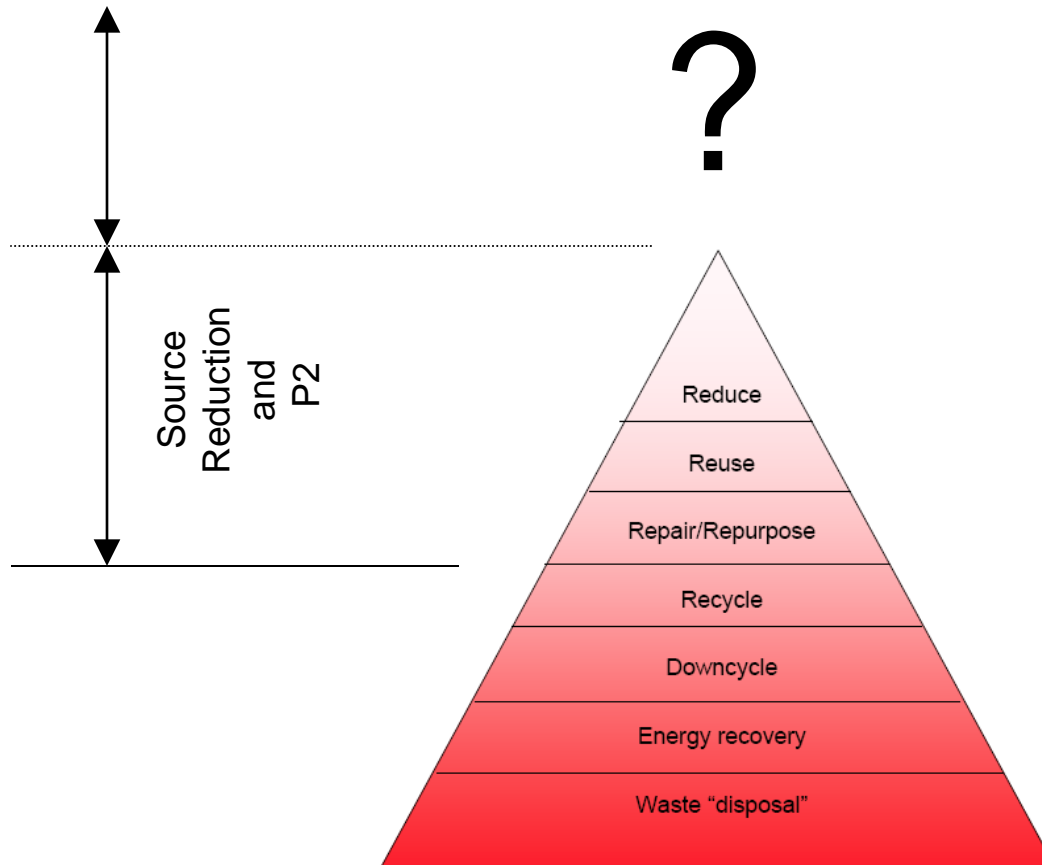
Massachusetts Toxics Use Reduction Institute
University of Massachusetts Lowell



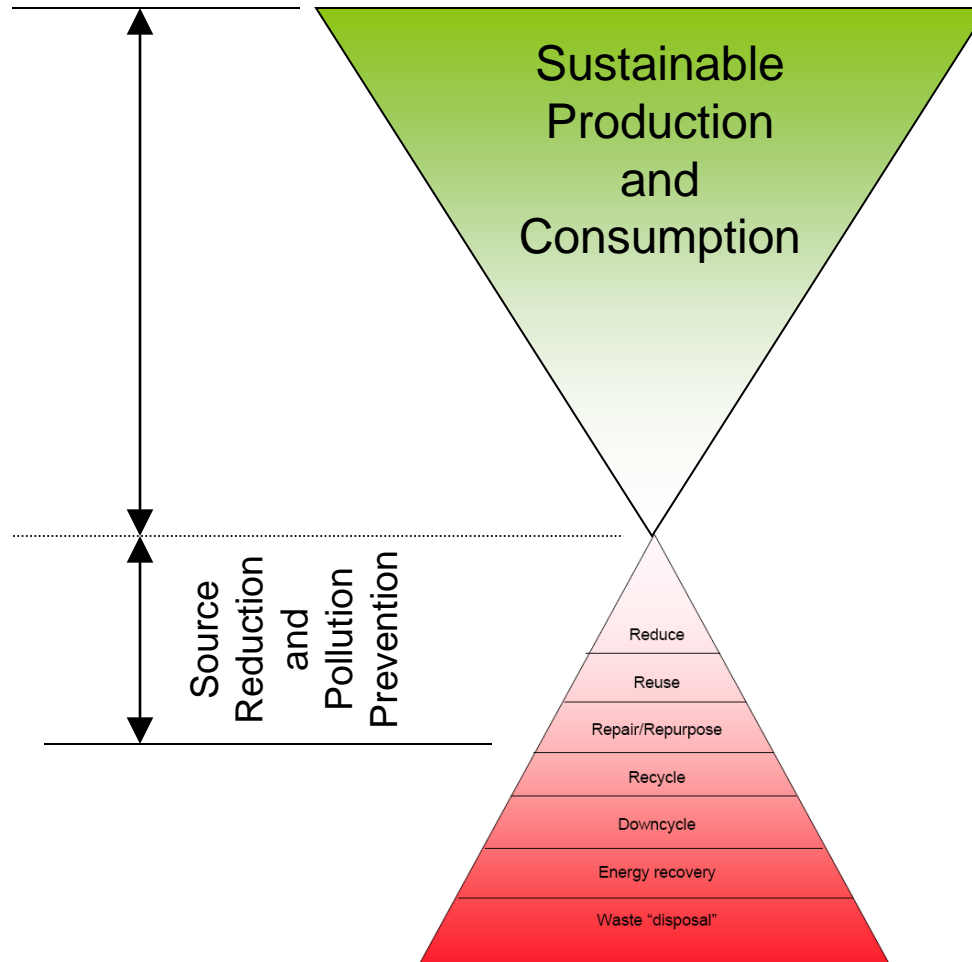
Waste Management Hierarchy



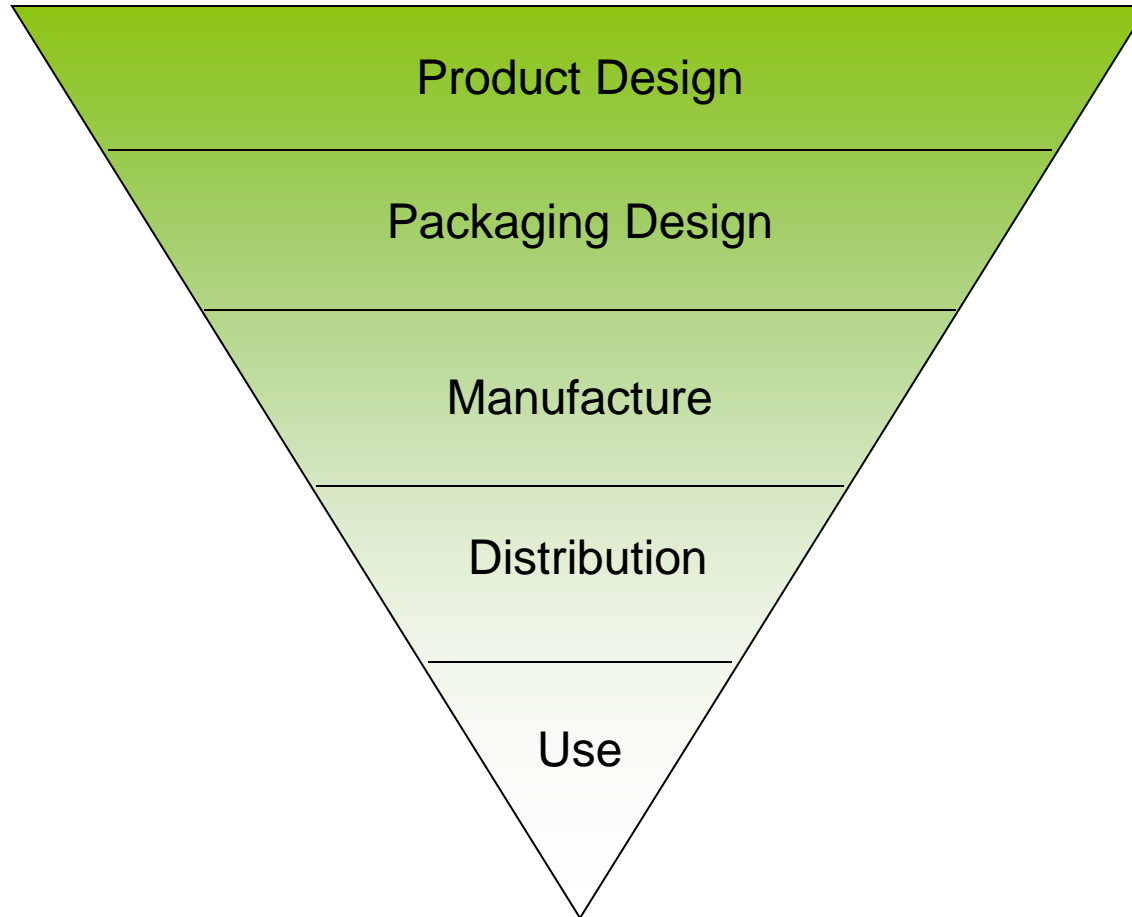
What's above the Waste Management Hierarchy?



A wealth of source reduction opportunities!



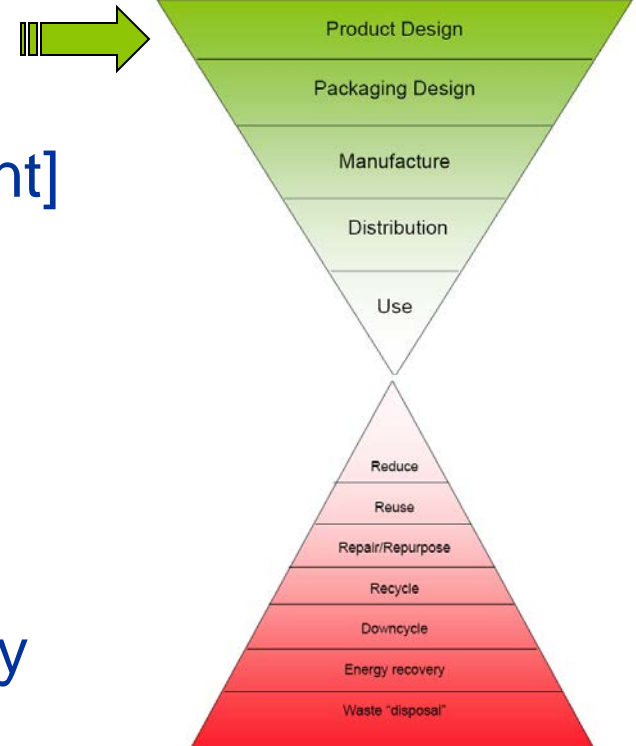
Sustainable Production and Consumption



Sustainable Production

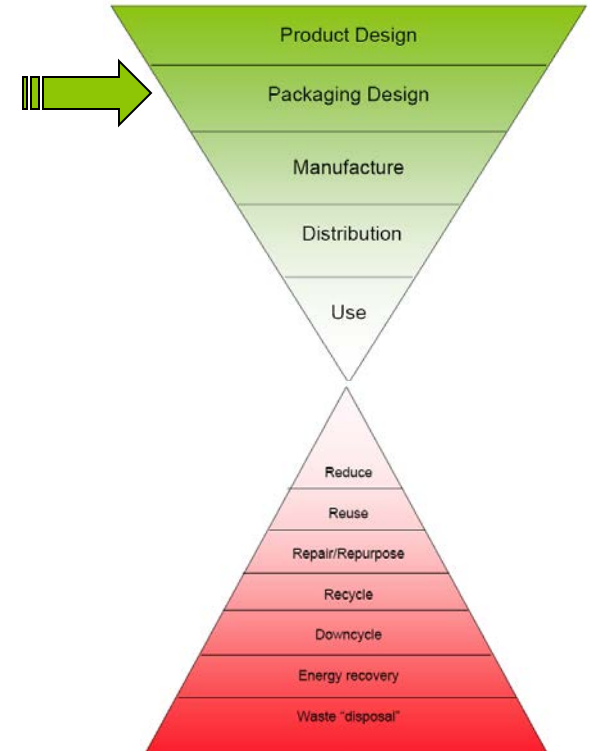
- **Product Design**

- DfE [Design for the Environment]
 - Df durability,
 - Df upgradability,
 - Df repairability,
 - Df Recyclability,
 - Df disassembly,
- Safer materials/green chemistry
- Minimize embodied energy



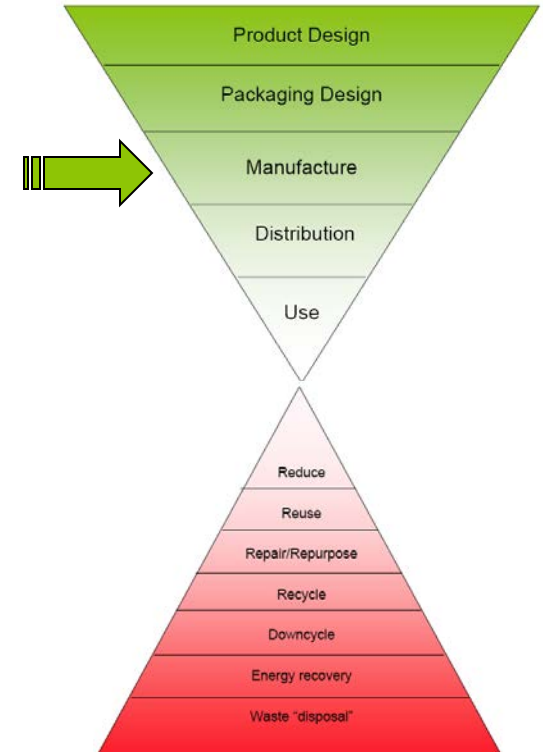
Sustainable Production

- **Packaging Design**
 - DfE
 - minimize materials
 - Recyclability
 - safer materials
 - renewable materials



Sustainable Production

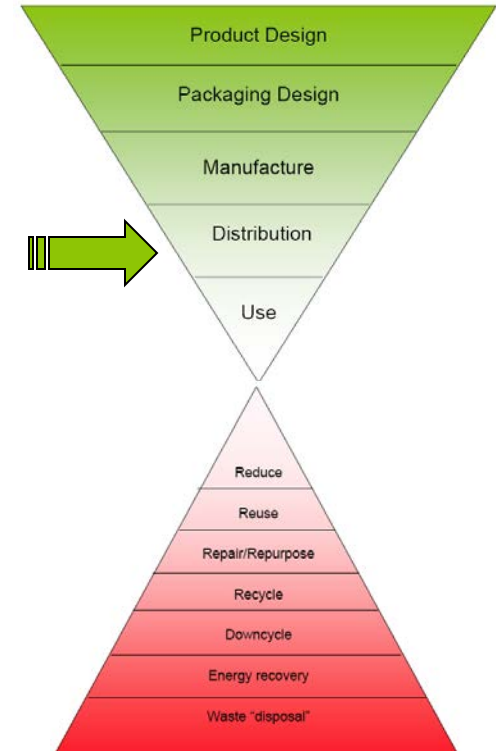
- **Manufacture**
 - Efficient processing
 - Waste prevention
 - Energy efficiency
 - Water use reduction
 - Best practices for worker health and safety
 - Reduce toxics in manufacturing process



Sustainable Production

- **Distribution**

- Minimize transportation distance
- Minimize weight
- Avoid empty trucks
 - producer responsibility (pallets/crates, product take back)
- Energy efficient transport
- Clean energy transport



Sustainable Consumption

- **Use** *educated, thoughtful consumption*

- CONSUME LESS

- Evaluate real need vs. want

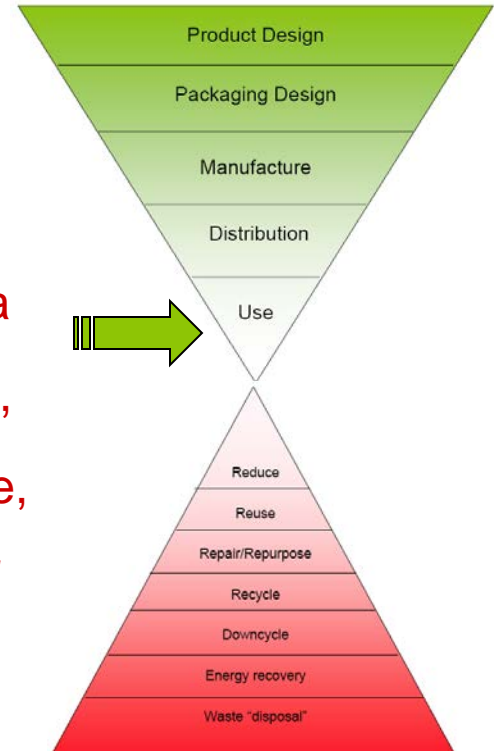
“Our enormously productive economy demands that we make consumption our way of life, that we convert the buying and use of goods into rituals, that we seek our spiritual satisfactions, our ego satisfactions, in consumption. The measure of social status, of social acceptance, of prestige, is now to be found in our consumptive patterns.” *Victor Lebow, Journal of Retailing, Spring 1955*

- Choose Carefully

- critically evaluate marketing claims
- Choose environmentally preferable products

- Efficient use

- maintenance
- energy/water efficient operation

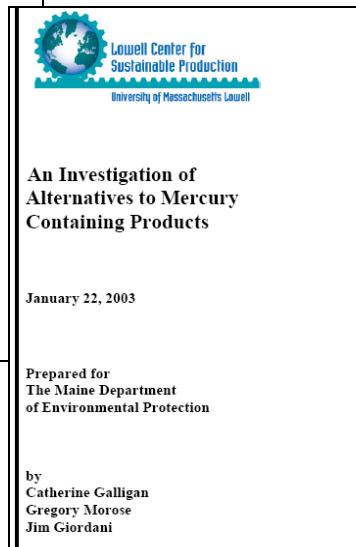
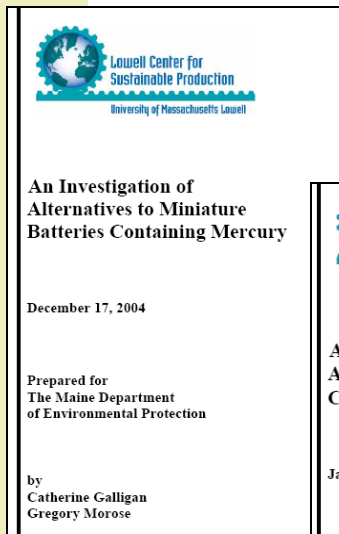


Reducing Toxics in Products

- Mercury
 - Thermostats, switches, thermometers, batteries, fluorescent lamps, amalgam
- Lead
 - Metal alloys, PVC, paints and pigments
- Solvents
 - Adhesives, paints and coatings, nail polish, automotive cleaners (brake, carburetor, etc.)

Mercury

- Interstate Mercury Education & Reduction Clearinghouse (IMERC)



Interstate Mercury Education & Reduction Clearinghouse (IMERC) Mercury-Added Products Database

Product List

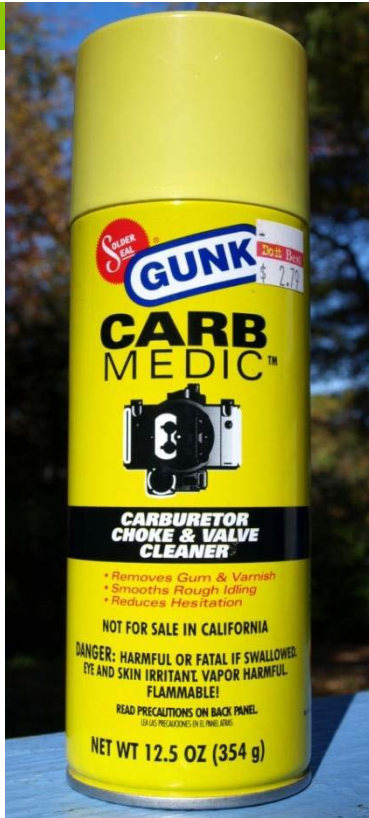
appliances | automobiles | button cell batteries | chemical compounds | computers | dental amalgam | electronics-miscellaneous | film | heating/cooling equipment | industrial machinery | lamps | LCDs/monitors/projectors | measuring devices | miscellaneous | office equipment | pumps | recreational vehicles | relays | sensors | switches | thermometers | thermostats | toys | transducer | valves |

Lead

- Jewelry
 - white metal costume jewelry
 - children's jewelry
- PVC products
 - Wire and cable
 - Toys
 - Packaging
 - Garden hoses, tools
- Paints and pigments
 - Decorated housewares and glassware



Solvents

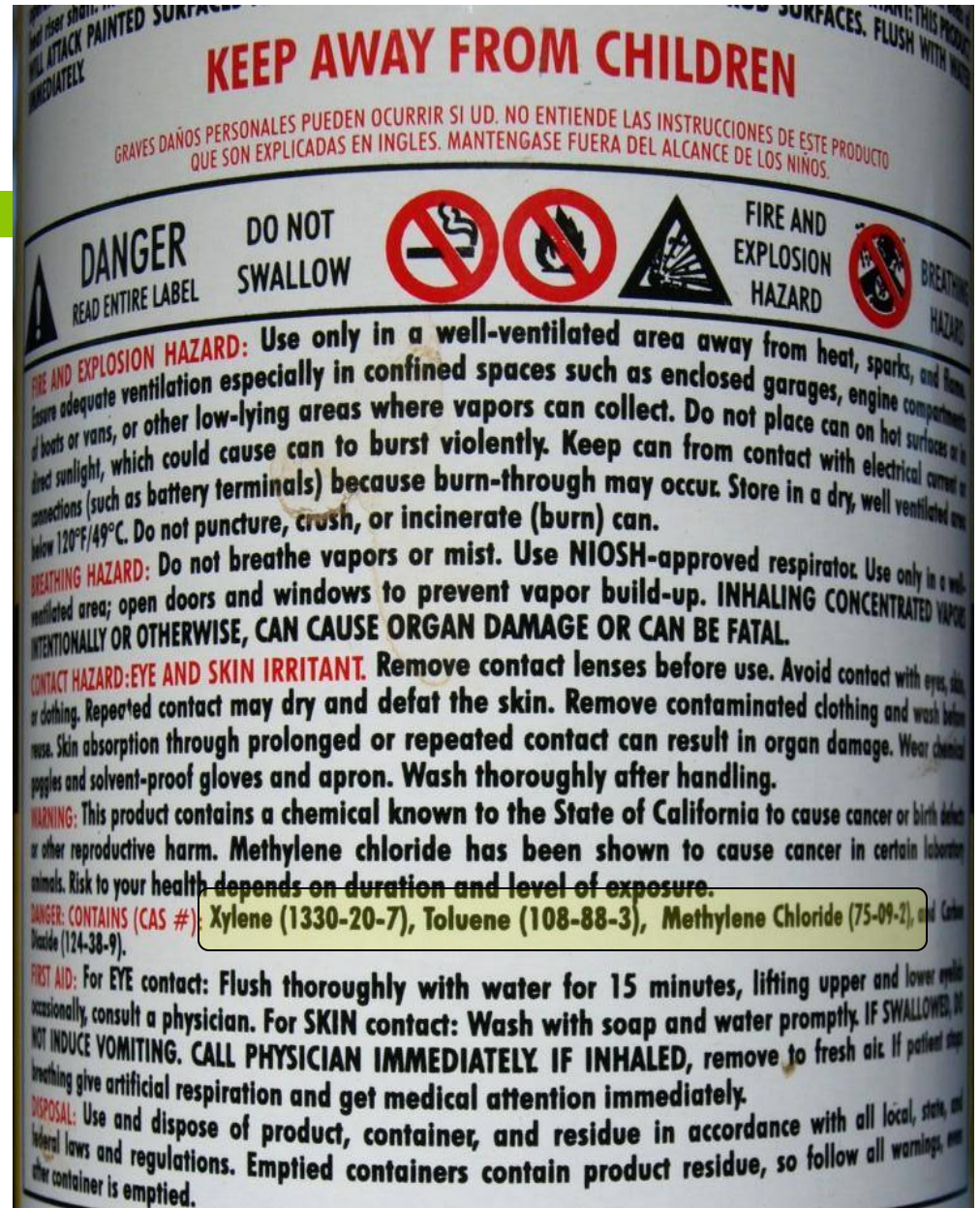


Dichloromethane 40.0 - 70.0%

Ethylbenzene 1.0 - 5.0 %

Toluene 15.0 - 40.0%

Xylene (mixed isomers) 15.0 - 40.0%



Thank-you

- Contact Info:

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