Summary of Plastics Toxicity Potential

Plastic Type	Feedstock	Building Blocks	Harmful Additives / Catalysts	End -of-life Potential Pathways	Functions / Applications
Polyvinyl Chloride (PVC)	Petroleum	Vinyl Chloride (carcinogenic)	Phthalates Antimony flame retardants	Landfill / incineration Recycling (dioxin formation potential)	Durability UV stability Used in construction materials
Polystyrene (PS)	Petroleum	Styrene (carcinogenic)	UV-stabilizers Brominated flame retardants Foaming agents	Landfill / incineration	Inexpensive Ability to be foamed Used in food packaging, protective packaging, building insulation
Epoxy Resins and Adhesives	Petroleum Some partially biobased	Bisphenols (endocrine disruptors) Epichlorohydrin (carcinogenic)	Bisphenols	Landfill / incineration	Used for adhesives and coatings
Polyurethanes	Petroleum Some partially biobased	Diisocyanates (toxic) Polyols (relatively safe)	Metal catalysts Foaming agents	Landfill / incineration	Elasticity/flexibility Ability to be foamed Inexpensive Used in textiles (spandex), footwear (soles), coatings, adhesives, furniture, sports equipment
Silicones	Petroleum Silica	Some toxic	Cyclic siloxanes	Landfill / incineration	Heat stability Used in cooking, food storage, gaskets, other flexible components
Polyolefins (PE, PP)	Petroleum Some biobased	Relatively safe	Uncommon	Landfill / incineration Mechanical recycling Thermal cracking	Processability Light and Strong Highest volume polymers Used in plastic films for packaging, paper coatings, apparel, plastic bottles and componentry
Polyester (PET)	Petroleum Some partially biobased	Relatively safe	Antimony catalysts	Landfill / incineration Mechanical recycling Thermal cracking	Light and Strong Used in beverage bottles, food packaging, apparel fibers, plastic bottles and componentry
PLA/PHA	Biomass	Safe	Uncommon	Compostable, biodegradable in some conditions	Lower CO_2 footprint Used in compostable food service packaging
Polysaccharides	Biomass both terrestrial and marine (seaweed)	Safe	Uncommon	Compostable and often readily biodegradable	Lower CO_2 footprint Used in compostable films, bags, and some foodservice products