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Change Chemistry Technology Needs List

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FUNCTION	CODE	DESCRIPTION
Adhesives	ADH.01	Bonding agents without the use of methylene diphenyl diisocyanate (MDI) and toluene diisocyanate (TDI), generally used in paints, coatings, foams, glues, composite woods and flooring
	ADH.02	MEK-free primers/adhesives
	ADH.03	Reversible/switchable adhesives for applications including recycling/recovery, industrial electronics pick-and-place processes, short-term silicon wafer bonding, feet for climbing robots
	ADH.04	Solvent-free, water-based adhesives that do not rely on chloroprene monomer, including applications such as foam to foam, foam to polymer, foam to wood, and metal to metal capabilities in high humidity climate conditions, especially in healthcare
	ADH.05	Wood adhesives that do not contain added formaldehyde
Battery Technologies	BAT.01	Cobalt-free batteries that are environmentally (GreenScreen® Benchmark 2 or higher) and socially sustainable
	BAT.02	EGDME (1,2-dimethoxyethane)-free batteries that are GreenScreen® Benchmark 2 or higher
Blowing Agents	BLO.01	Blowing agents for wire and cable insulation without the use of azodicarbonamide (ADC)
Chelating Agents	CHE.01	Biodegradable chelating agents for personal care and household products including dishwashing and laundry detergents
Coating Materials	COA.01	Coating materials with temperature dependent thermal properties
	COA.02	Coating materials that do not contain perfluorinated and polyfluorinated compounds
	COA.03	Isocyanate-free polyurethanes
	COA.04	Nano-cellulose materials with improved transparency in coating applications
Colorants	COL.01	Polychlorinated Biphenyl alternatives for pigments that are GreenScreen® Benchmark 2 or higher
	COL.02	Titanium Dioxide pigments with a non-toxic morphology
Conditioning Agents	CON.01	Alternatives for cationic poly-electrolytes (quaternary ammonium derivatives or polyquaterniums), generally used as conditioning agents for skin and/or hair cleansing products, that are biodegradable and have low ecotoxicity
	CON.02	Hair conditioning agents that are naturally derived
	CON.03	Mineral oil alternatives that are biodegradable and/or natural origin oils
	CON.04	Non-silicone ingredients for beauty and personal care products
Corrosion Inhibitors	COR.01	Environmentally compliant alternatives to replace chromates and other heavy metals
Cross Linking Agents	CLA.01	Low toxicity cross linking agents for polymers
Elastomers	ELA.01	Alternative to silicones in personal care products
Flame Retardants	FLR.01	Non-halogenated flame retardants for polyolefins/ thermoplastics for a variety of applications including indoor and outdoor furniture, electronics, and non-wovens and other textile fabrics

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Foaming Agents	FOA.01	Biodegradable alternatives for sodium lauryl ether sulfate (SLES) for cleaning products
Fragrances	FRA.01	Fragrance raw materials that are non-sensitizing with a low risk of biodiversity loss
Fungicides	FNG.01	Bio-inspired adjuvants for fungicides that have a benign toxicological profile
Hardening Agents	HAR.01	Alternatives to Bisphenol A for use in the manufacture of polycarbonate and printed circuit board substrates that are GreenScreen® Benchmark 2 or higher (not Bisphenol S or Bisphenol F)
Plasticizers	PZR.01	Non-phthalate plasticizers for electronic products (e.g., cords, cables); cleaning products; beauty and personal care products; office products; home improvement (e.g., flooring, sealants, paints, etc.); and textiles
Polymers	PMR.01	Non-halogenated V-0 rated* injection molded plastics*UL94 Flammability Testing Standard and Ratings
Preservatives & Antimicrobials	PRE.01	Antimicrobials and preservatives that are non-sensitizing at levels needed for preservation for personal care and cleaning products, baby products, office products, and electronics (e.g., keyboards, mouse)
	PRE.02	Antimicrobials or technologies that are non-biocidal (do not require registration per the Biocidal Products Regulation [BPR, Regulation (EU) 528/2012])
Recycling Technologies	REC.01	Recyclable latex for carpet backing
	REC.02	Recycling technologies for textile blends, including those containing spandex
Resins	RES.01	Bio-based building blocks (monomers) for resin synthesis – particularly acrylates
	RES.02	Bio-based resin technologies for high physical durability coatings
	RES.03	Water-based resins for low temperature coating applications
Rheology Modifiers & Film Formers	RHE.01	Biodegradable alternatives for polyacrylate-based chemistry, generally used as rheology modifiers or film formers for household and personal care products
Solvents	SLV.01	Alternatives to N-Methyl-2-Pyrrolidone (NMP) that do not include γ-Butyrolactone (GBL), Dimethyl Sulfoxide (DMSO), or Dimethylacetamide (DMAc) for applications including wafer nano manufacturing, paint and ink removers, and graffiti removers
	SLV.02	Solvents, especially those with applications in formulated consumer products, coatings, textiles
Surfactants	SUR.01	Surfactants for laundry products that can remove hydrophobic soils
	SUR.02	Surfactants that are amphiphilic, especially alternatives to ethoxylated materials
	SUR.03	Surfactants that are anaerobically biodegradable
	SUR.04	Surfactants that are bio-based with low aquatic toxicity for cleaning and personal care products
UV Filters	UVF.01	UV Filters/ light stabilizer ingredients with low aquatic toxicity
Water & Stain Repellants	WSR.01	Perfluorinated and polyfluorinated compound-free (PFC-free) water and oil repellant surface treatments for apparel and footwear, carpeting, food packaging, indoor and outdoor furniture, and home improvement (e.g., paints and coatings)
	WSR.02	Non-silicone water repellants for use in cosmetics, such as mascara

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