

Agent	Common Sources	Metals	Organic artefacts	Minerals and Rocks	Ceramics and Vitreous materials	Rubbers	Modern polymers
			Oxidative	-reductive	(redox)		
Oxygen O ₂	All around us					Isoprene(natural rubber), chloroprene(artificial rubbers)	Polyurethanes(specially as foam)
Ozone O ₃	Electrostatic discharge(printers, photocopiers, and some solid-state devices, high energy radiation interactions with air or oxygen)		Cellulosics (including paper and cotton)			Isoprene, chloroprene, neoprene	Polyurethanes(specially as foam)
Nitrogen oxides NO _x	Combustion engines and industrial emissions, decomposition of urethane and cellulose nitrate films		Cellulosics, silk, wool, linen, and textiles in general	Stone building materials such as sandstone and limestone. NO _x will greatly accelerate reactions with SO ₂		Isoprene, chloroprene, neoprene	Cellulose nitrate. At high exposure also for: cellulose acetate, and epoxies
Sulfur dioxide SO ₂	Combustion engine and industrial emissions		High sensitivity: cellulosics. Medium sensitivity: vegetable tanned leathers and wools	Stone building materials such as sandstone and limestone		Chloroprene, neoprene	Nylons and (at high exposure) polypropylene
Peroxides ROOR'	Released during oxidative polymerisation of films	Copper, iron, lead	Cellulosics			Isoprene, chloroprene, neoprene	At high exposure for: epoxies, nylons, polypropylene, polystyrene and polyurethanes
Hydrogen sulphide H ₂ S, carbonyl sulphide OCS	Biodegradation of sulphur containing proteins, breakdown of vulcanised rubber and wool, bio effluence (H ₂ S); biochemical and geochemical processes, breakdown of wool(OS)	High sensitivity: silver, copper, Medium sensitivity: brasses, aluminium					At high exposure for: nylons and polyurethanes
Aldehydes chiefly methanal (formaldehyde)H ₂ CO, and ethanal (acetaldehyde) CH ₃ CHO	Wood products, such as block boards and MDF	High sensitivity: leads, brasses, bronzes. Medium, sensitivity: aluminium, copper, silver	Newsprint paper		Glass at exposure to high concentration	Chloroprene neoprene	At high exposure for: cellulose acetate, PVC, and polystyrene
				Acid -Base			
Carboxylic acids, R-COOH, chiefly ethanoic (acetic) acid CH ₃ COOH and methanoic (formic)acid CHOOH	Wood products, such as block boards and MDF, some silicone sealants, and produced during the breakdown of polyvinyl acetate films	High sensitivity: lead and bronze. Medium sensitivity: copper, brass, cadmium, iron, aluminium, magnesium, and zinc	Cellulosics	Shells, coral limestone, etc. Bones are also affected when the pollutant is present in high concentrations.	Ceramics containing soluble salts	Chloroprene neoprene	Cellulose acetate and polyvinyl acetate (emitting ethanoic acid on breakdown, accelerating the reaction). Reactions are accelerated by some metals
Mineral acids: hydrochloric acid HCl, phosphoric	Used as catalyst in some	Aluminium, brass, copper,	Adversely affect most organic and inorganic	Dissolve in strong acids		Chloroprene, neoprene	At high exposure for: cellulose

acid H ₃ PO ₄ , sulphuric acid H ₂ SO ₄ nitric acid HNO ₃	"formaldehyde free" wood products, potentially released during the breakdown of chlorinated additives and chlorinated films such as PVC, oxidation and hydration products of SO ₂ and NO _x	iron, nickel	artefacts				acetate, cellulose nitrate, nylons, PVC, and PVDC. Reactions accelerated by some metals (Fe, Zn)
Nitrogen compounds, chiefly amines RR'R"N, and ammonia, NH ₃	NH ₃ used in many cleaning systems and emitted by concretes during solidification	Aluminium, bronzes, copper, and iron			Ceramics (for NH ₃)		PVC, poly (vinylidene chloride) PVDC, polystyrene, and polyurethanes
				Solvents			
Toluene C ₆ H ₅ CH ₃ and other organic solvents	Release from solvent bases systems (paints, coatings, etc)					Chloroprene, neoprene	At high exposure for: acrylics, epoxies (particularly sensitive to CS ₂) PVC, polyethylene, polypropylene, and polystyrene
Acetates, CH ₃ COO-R	Released during the curing of some protective films	Mainly Zinc but also copper					At high exposure for: acrylics, cellulose nitrate, cellulose acetate, epoxies (particularly to ethyl acetate), PVC, polyethylene, and polystyrene
Stryrene (ethenlbenzene), C ₈ H ₈	Often present as solvents in polyesters	Lead (when present in high concentrations)	Suspected of discolouring and staining fabrics on prolonged exposure				
Water, H ₂ O		Copper, iron, lead, bronze, brass, etc. Reaction greatly accelerated in the presence of acids	Paper, cotton, etc	Mineral hydrates are very sensitive to changes in vapour concentrations. Reaction rates for many minerals increase with vapour concentration	Ceramics containing soluble salts, corroded glass		Cellulose nitrate, cellulose acetate (reactions greatly accelerated in acidic conditions)