



Chemical and Material Use

At GlobalFoundries (GF), we follow a proactive approach to use the least hazardous chemical that can fulfill our needs while meeting our technical and economic feasibility requirements. GF thoroughly reviews all new chemicals before their introduction to our sites and ensures that proper safeguards and material handling procedures are in place. This review is completed by subject matter experts on our Environmental, Health and Safety team.

Additionally, all chemicals introduced must be approved in compliance with the GF Specification for Banned, Restricted and Declarable Materials Management (FE-0033) which includes both regulatory and customer-driven requirements. All GF products must also meet the banned, restricted, and declarable requirements of the FE-0033 specification.

FE-0033 is also cascaded to GF suppliers, such as:

- All controlled materials supplied to GF (for use in research, development, manufacturing);
- All packing materials supplied to GF for use to ship GF products to a customer (or customer designated third party);
- All chemicals used in facilities operations;
- All direct materials and packing materials supplied to GF turnkey subcontractors and wafer foundry suppliers for product manufacture for GF.

Applicable regulatory requirements include the EU Directive on Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS Directive), its sister directives in other jurisdictions, such as China RoHS, and other legislation that regulates substances contained in products (also called “articles”), and the EU Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) provisions on the presence of designated Substances of Very High Concern (SVHCs).

GF has programs in place to obtain analytical evidence of product compliance (such as RoHS, halogen-free, antimony and beryllium requirements). We make these reports and wafer material content reports available to our customers on our GF Connect data portal.

Global EHS Policy and Standards

Our Global EHS Policy and Standards are the foundation of environmental, health and safety programs at each manufacturing location. The Global EHS Standards provide a consistent set of procedural and performance requirements that apply globally throughout the company. They cover a wide range of environmental, health and safety topics, including, but not limited to, injury and illness prevention, chemical safety and management, product compliance, resource

conservation and pollution prevention, waste management, and industrial hygiene monitoring program requirements.

Pollution prevention and resource conservation

GF focuses on pollution prevention and resource conservation to reduce chemical use and avoid waste generation. We apply the following pollution prevention hierarchy to promote pollution prevention and resource conservation:

- Source Reduction
- Reuse / Reclaim
- Recycle
- Treatment
- Land disposal

Hierarchy of controls

GF also mitigates the risk of exposure to chemical hazards by implementing the following risk-based hierarchy of controls:

- Elimination
- Substitution
- Engineering controls
- Administrative procedures
- Personal protective equipment

Banned, restricted and declarable substances

As a result of our proactive approach, we have eliminated the following chemicals and chemical classes from use in our manufacturing processes, products, and packing materials as applicable.

Substance	Use and Exception Details
Asbestos, Asbestos Materials	Prohibited from all uses.
Class I ozone depleting substances	Prohibited from all uses. Exception for sealed Facilities systems that were in use before July 1, 2015.
Class II ozone depleting substances	Prohibited from all uses. Exception for sealed Facilities systems that were in use before July 1, 2015.
Polychlorinated biphenyls (PCBs)	Prohibited from all uses.

Substance	Use and Exception Details
Polychlorinated Naphthalene's (PCN)	Prohibited from all uses.
Cadmium and its compounds	Prohibited from product and process materials.
Chromium (VI) and its compounds	Prohibited from product and process materials.
Lead and its compounds	Prohibited from product and process materials. Exception for use in applications exempted in EU RoHS Directive.
Mercury and its compounds	Prohibited from product and process materials.
Heavy Metals: Cadmium, Lead, Chromium (VI), Mercury and their related compounds	Limited to less than a total of 100 ppm in packing materials.
Polybrominated Biphenyls (PBBs) and their ethers/oxides	Prohibited from all uses.
PBDE (Polybrominated diphenyl ethers)	Prohibited from all uses.
Specific Phthalates and phthalic esters (DEHP, DBP, BBP, DIBP, DINP, DIDP, DNOP, DNHP, DIHP, DHNUP, DNEP, DIPP, DPP, and others as specified in FE-0033-01)	Prohibited from all uses.
Brominated and Chlorinated Flame Retardants	Prohibited from use in products. Exception for use of halogenated materials as flame retardants in certain post wafer fab direct materials (such as substrates / laminates and epoxy mold compounds) in older technologies qualified and in production prior to December 2017.
Certain Ethylene Glycol Ethers	Prohibited from all uses.
Certain chlorinated organic compounds	Prohibited from all uses.
Organic tin compounds (e.g. tributyl tin compounds, tributyl tin oxide (TBTO), triphenyl tin compounds)	Prohibited from all uses.
Specific Phosphorus Flame Retardants	Prohibited from all uses.
Short-chain chlorinated paraffins (SCCP) with the following characteristics: C10-13, Cl= 48 wt. % or more	Prohibited from all uses.

Substance	Use and Exception Details
Poly vinyl chloride (PVC) and PVC blends	Prohibited from product and packing materials.
Specific Azo compounds (that form any of the amine compounds listed in FE-0033-01)	Prohibited from products.
Beryllium and its compounds	Prohibited from all uses.
Radioactive Substances	Prohibited from all uses. Exception for use in metrology devices, smoke detectors, and airborne molecular contamination monitors based on these material's specific properties.
N-p-phenyl-enediamines (N,N'-ditolyl-p-phenylenediamine, N-tolyl-N'-xylyl-p-phenylenediamine, and N,N'-dixylyl-p-phenylenediamine)	Prohibited from all uses.
2,4,6-tri-tert-butylphenol	Prohibited from all uses.
Formaldehyde	Prohibited from packing materials.
Hydrofluorocarbon (HFC), Perfluorocarbon (PFC), SF6, NF3	Prohibited from product and packing materials.
Any PFAS* greater than C4 or specifically listed in below *PFAS as defined per OECD 2022 definition	Prohibited from all uses. Exception for current uses as of September 2025. All new uses need to follow GlobalFoundries exemption approval process.
Perfluorooctane Sulfonate (PFOS)	Prohibited from all uses.
Perfluorooctanoic Acid (PFOA) and its individual salts and esters	Prohibited from all uses.
Long Chain Perfluoroalkyl Carboxylate (LCPFAC) including "PFOA Related Substances"	Prohibited from all uses.
C9- C21 linear and/or branched perfluorocarboxylic acids (C9- C21 PFCAs), their salts and C9- C21 PFCAs-related substances	Prohibited from all uses.

Substance	Use and Exception Details
PFHxA, its salts and related substances Compounds (including salts and polymers) having a linear or branched perfluoropentyl group with the formula C ₅ F ₁₁ - directly attached to another carbon atom.	Prohibited from all uses.
PFHxS, its salts and related substances. Compounds with the formula C ₆ F ₁₃ SO ₃ H, their salts and any combinations thereof. This includes any substance having a perfluoroalkyl group (linear or branched) C ₆ F ₁₃ – directly attached to a sulfur atom.	Prohibited from all uses.
Dechlorane Plus	Prohibited from all uses.
Nickel and its compounds	Prohibited from product and packing materials that are intended to come into direct and prolonged contact with the skin.
Specific benzotriazole (2- (3',5'-Di-tert-butyl-2'-hydroxyphenyl)-benzotriazole)	Prohibited from product and packing materials.
Cobalt Dichloride (CoCl ₂)	Prohibited from product and packing materials.
Dimethyl fumarate (DMF)	Prohibited from product and packing materials.
Antimony Compounds	Prohibited at greater than 500ppm from products. Exception for use in certain post wafer fab direct materials (such as substrates/ laminates, epoxy mold compounds, solders, solder paste).
Polycyclic Aromatic Hydrocarbons (PAH)	Prohibited from product and packing materials that are intended to come into direct and prolonged contact with the skin.
Conflict Minerals (Metals such as gold (Au), tantalum (Ta), tungsten (W), tin (Sn), and cobalt (Co)) IF sourced from the DRC (Democratic Republic of Congo) and/or adjoining countries, and Conflict-Affected and High Risk Areas (CAHRAs) and providing direct or indirect financial support to armed conflict in the DRC conflict region and/or CAHRAs.	Prohibited from product and process materials. (if contributing to armed conflict in the DRC region and CAHRAs).

Substance	Use and Exception Details
REACH Annex XIV (Authorization list) Substances	Prohibited from all uses. Exception for process uses outside the European Union (EU) or if an existing EU REACH Authorization is in place.
Substances included in an EU REACH Annex XIV ECHA Recommendation	Prohibited from all uses. Exception for process uses outside the European Union (EU) or if a documented plan for applying for an EU REACH Authorization is available.
Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene (BNST)	Prohibited from all uses.
Methylene Chloride	Prohibited from facilities use.
Decabromodiphenylether, another name -Bis (pentabromophenyl)ether	Prohibited from all uses.
Phenol, isopropylated phosphate (3:1). PIP (3:1)	Prohibited from all uses. Exception for use as a lubricant or grease if there is no release to water.
Pentachlorothiophenol. PCTP	Prohibited from all uses.
n-Hexane	Prohibited from process use.
Decabromodiphenylethane (DBDPE)	Prohibited from all uses.
N,N-dimethylformamide	Prohibited from all uses. Exception for process uses outside the European Union.
Phenol, 4-nonyl-, branched and Phenol, 2-nonyl-, branched	Prohibited from all uses. Exception for any use as an intermediate or use as an epoxy cure catalyst.

Note: All uses include, but are not limited to, product, process, facilities chemicals and packing materials. Some exceptions may be allowed for laboratory uses.

Note 2: All text in blue are new additions as of the latest FE-0033 revision 21 release date (September 28, 2025).

Definitions

Facilities Use – Materials used outside the manufacturing process to support facilities systems (including chillers, chemical delivery systems, HVAC, ultrapure water systems, wastewater treatment and air abatement systems, waste collection systems, etc.) and infrastructure. These materials include coolants, lubricants, greases, paints, maintenance chemicals, refrigerants, janitorial chemicals, etc.

Packing Material – Material (including any box, container, reel, tray, tube, wrapper, cushioning, tape, inks, colorants, or other material) used to contain, protect, store, and transport GF product to a GF customer or GF customer designated addressee.

Process – Refers to any material used in a GF manufacturing process.

Product – A product manufactured by GF, its joint ventures and partnerships or on behalf of GF by outside suppliers.