

To ECHA:

Our company supports the objective of avoiding emissions of hazardous substances into the environment and an appropriate regulation of uncontrollable risks posed by individual substances.

But as a semiconductor/chip and power electronics manufacturer, we do need derogations and even total exemption from this PFAS ban.

Therefore, we present you this following information.

Semiconductor/chip manufacturing	Pfas use: The use of PFAS is due to the aggressive acids, that are used during semiconductor/chip production. The strong bound between F and C atoms in Fluoropolymers is the strongest chemical bound possible. All our machinery used in e.g., wet chemistry is made of PFAS. We tested a lot of other alternatives because this machinery/means of production are quite expensive. I can't prove you the nonexistence of alternatives because it is not possible to prove nonexistence in general. But the other chip manufactures will argue in the same way. We need a permanent derogation/total exemption from PFAS ban for semiconductors/chip manufacturing.
	Consequences of ban: Absolut and catastrophic. Without Power Electronics and semiconductors/chips production in Europe we will not be able to reach the goals of the Green Deal. We would get into an absolute dependency to other countries like China. This will also include sectors like Medical, Military, Science, CO2 reduction and Tech in general. And if Europe tries to buy chip and power electronics in other region of the world prices and availability of these product will be jeopardised. Consequences to SEMIKRON would be absolute and catastrophic as well. We would have to lay off ca. 2200 people in Europe and lose up to 500 Mio. Euro per year.
	Release of PFAS to enviroment: Is very low, because these means of production containing PFAS are mostly big stational machines, like sinks, tubes, tanks, and transportation trays for wafers/chips.
	Costs of ban: Extremly high. 500 Mio. Euro per year, and because it is a booming market, up to 1000 Mio. per year from next year onwards. It would be the end of our company.

Back end soldering (Attaching chip to PCB)	Pfas use: Semikron used PFAS in two processes. 1. Sintering chip on PCB via mechanical pressure and heat. In this process we use a Teflon foil to protect the chip/PCB from the mechanical pressure needed to attach the chip to the PCB. Alternatives materials do not perform as good and are not practical. 2. Sintering chip on PCB via vapor phase soldering In this process we use Galden as vapor to transfer the needed heat to attach chip on PCB.
	Consequences of ban: Both above mentioned processes would have to be replaced. This will lead to high costs. We need at least a 6,5-year derogation period for this.
	Impact on enviroment: Medium, because the used PFAS could be put into a recycling process.
	Costs of ban: High
Cables and connectors	Pfas use in: Insulation of cables and connectors.
	Consequences of ban: We would have to find suppliers, that do provide PFASs free cables and connectors. First market analysis has shown, that this will be very difficult, because up to now we have not spotted alternative suppliers. We need at least a 13,5-year derogation period for this.
	Impact on enviroment:
	Costs of ban: High
MRO Maintanance Repair Overhaul A: from us to costumer	Pfas use because of: A: We use PFAS in a various number of cables and connectors and in some polymeric housings. Because the data from our suppliers is weak regarding PFAS, we do not know how many parts are containing PFAS. Still, we are bound by contracts to provide spare parts to our costumers for long periods of time (sometimes 10years). B: We are using some PFAS substances in our means of production. Although we put a lot of effort of find PFAS in our machinery, but data is weak. We simply don't know where PFAS are in our machinery, because

B: from supplier to us	we bought them in the past. It is not possible to get this kind of information from our suppliers. We need a permanent derogation/total exemption from PFAS ban for spare parts and MRO.
	Consequences of ban: A: With a ban we will not be able to fulfil our contract duties regarding spare parts, which will lead to massive financial consequences. B: It will be very expensive and not sustainable to buy new machinery every time a machine manufacturer can't support spare parts, because they are containing PFAS.
	Impact on enviroment: A: It will be not sustainable if our customers have to renew their machinery, if we can't provide PFAS containing spare parts. B: It will be not sustainable if we would have to renew our machinery if the manufacturer can't provide PFAS containing spare parts to us.
	Costs of ban: A: Very high B: Very high

General Pionts	Essential use concept: We as a company find it very disturbing, that ECHA is not defining a essential use concept for this PFAS ban. We also do recommend to use the "normal REACH" procedure to handle this PFAS topic. This would give the industries the needed time to look for and qualify alternatives.
	Polymers of low concern: We do need the use of the "Polymers of low concern" as defined by the OECD. These substances do not harm environment or animals or people but are essential to power electronic and semiconductor/chip production.
	Legal consequences: Semikron as a chip manufacturer has received government founding to produce semiconductors/chips in Germany. This would not be possible with a ban of PFAS.

	Therefore, We need a permanent derogation/total exemption from PFAS ban for semiconductors/chip manufacturing.
	The Unknown Unknown: It is up to now not fully known where PFAS are in our products and in our means of production. Finding that out will take a serious amount of effort and time. In the from ECHA planed time frames it is simply not possible to find all PFAS, identify an alternative and switch supplier. It will lead to severe legal, financial and production problems, that will end into job losses in an amount that we now cannot foresee.