**Criteria for (environmentally) „hazardous substances“ in different frameworks**

| Criteria Framework | "Name" of hazardous substances | Criteria persistence | Criteria bioaccumulation | Criteria toxicity | Other criteria and comments |
|---|---|---|---|---|---|
| GHS | Hazardous substance | Not readily degradable | BCF ≥ 500<br>(log Kow ≥ 4) | (acute < 1 mg/l)<br>Chronic < 100 mg/l | **Any property** leading to the classification of any of the hazard classes of the GHS |
| UN POPs | Persistent organic pollutant (dirty dozen) | Half-life in water > 2 months **or** in sediment/soils > 6 months | BCF > 5000 or<br>log $K_{ow}$ > 5 or<br>monitoring data in biota, | Evidence of adverse effect on hh or env or toxicity characteristics indicating damage to hh or env | **Long range transport**: Measured levels far from source **or** monitoring data in remote area **or** multi-media modelling evidence **and** half-life in air > 2 days |
| UN ECE POPs | Persistent organic pollutant | Half-life in water > 2 months **or** in sediment or soils >6 months | BCF > 5000 or<br>log $K_{ow}$ > 5 | Potential to adversely affect human health and/or environment | **Long range transport**: Vapour pressure < 1000 Pa **and** half-life in air > 2 days **or** monitoring data in remote area |
| US EPA | PBTs | $DT_{50,water/soil/sediment}$ >= 60d and $DT_{50,air}$ > 2 days | BCF > 1000 | Toxicity to Fish:<br>Low Concern > 10 mg/l<br>Moderate Concern 0.1 - 10 mg/l<br>High Concern < 0.1 mg/l | |
| US EPA | vPvB | $DT_{50,water/soil/sediment}$ > 180d and $DT_{50,air}$ > 2 days | BCF >= 5000 | | |
| HELCOM | List of potential substances of concern<br>List of substances selected for immediate priority action | Found in one or more compartments;<br>Reach, or are likely to reach, the marine environment | Indications of risks for the marine envi-ronment or human health via food | General threat to the aquatic environment due to hazardous properties; | The selection criteria reflect that persistent, bioaccumulative (and toxic) are meant. There are no numeric criteria specified. |
| OSPAR | OSPAR List of substances of potential concern<br>OSPAR List of chemicals for priority action | Half-life ($T_{½}$) of 50 days | log $K_{ow}$>=4 or BCF>=500 | $T_{aq}$: acute $L(E)C_{50}$=<1 mg/l, long-term NOEC=<0,1 mg/l or $T_{mammalian}$: CMR or chronic toxicity | Substances giving rise to **similar concern** may also be included (e.g. endocrine disrupters. |
| EU SVHC | Substances of very high concern | See EU PBT and vPvB | See EU PBT and vPvB | Carcinogenic, mutagenic or reprotoxic category 1 or 2 | Substances for specific assessment shows scientific evidence of probable serious effects giving **rise to equivalent concern** |
| EU PBT | Persistent, bioaccumulative and toxic substances | Not inherently degradable or<br>$DT_{50,\ water}$ [60] 40d<br>$DT_{50,sed}$ [180] 120d<br>$DT_{50,\ soil}$ 120d | BCF > 2000 | NOEC < 0.01 mg/l or C or M (cat 1&2) or R (cat 1,2 &3)<br>Long term exposure could cause damage to health (R48) | |
| EU vPvB | Very persistent and very bioaccumulative substances | Not inherently degradable or<br>$DT_{50,water}$ > 60d<br>$DT_{50,sed}$ > 180 | BCF > 5000 | - | |
| WFD | (List of) Priority and priority hazardous substances | Risks to human health and the environment | | | Taking account of prioritized substances in EU risk assessments and frameworks. |