

JRC NORMAN workshop

River Basin Specific Pollutants
Selection and Monitoring

Availability of ecotoxicological data

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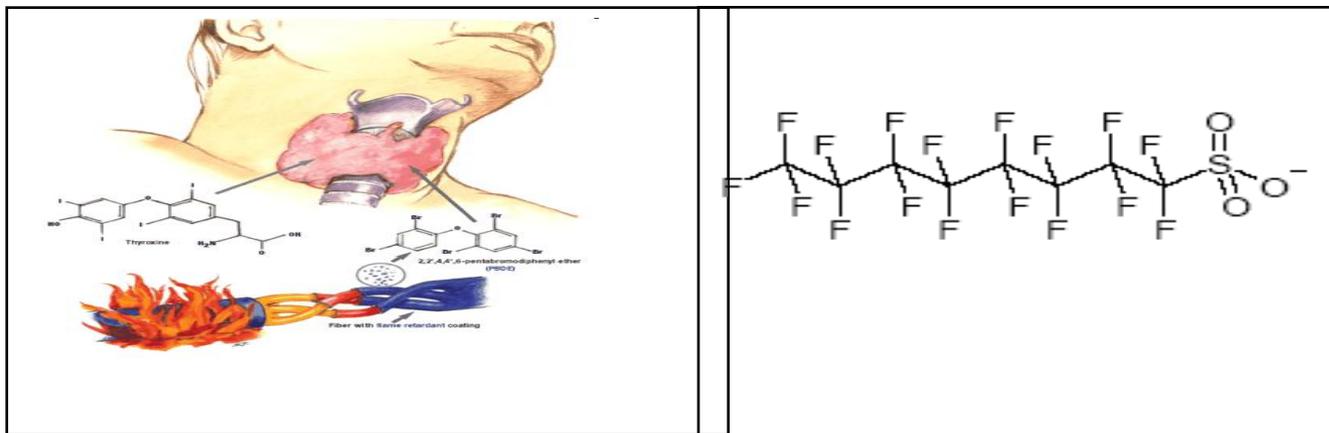
SOME GENERAL OBSERVATIONS

- 1 – Various databases available
- 2 – Screening of data/quality control?
- 3 – Database up to data \leftrightarrow one-time project?
- 4 – Inclusion of toxicity modifying factors: pH/DOC/...?
- 5 – Inclusion of fate properties?
- 6 – Specific compound classes \leftrightarrow wide arrays of compounds?
- 7 – Solely experimental values \leftrightarrow supplemented with estimates?

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EXAMPLE

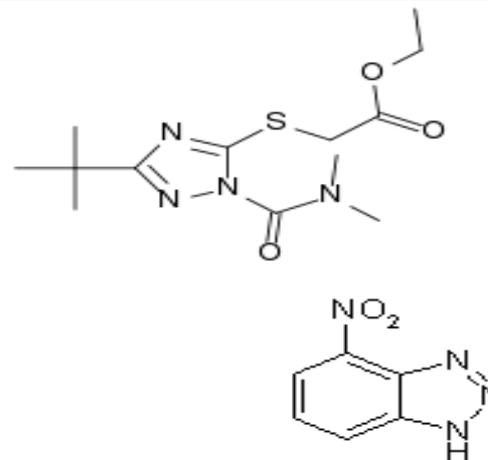


PBDE: "The PCB's of the future" Perfluorinated compounds

Table 3. Personal care products produced in Germany (1993).

Product category	Tons produced
Bath additives	162,300
Shampoos, hair tonic	103,900
Skin care products	75,500
Hair sprays, setting lotions, hair dyes	71,000
Oral hygiene products	69,300
Soaps	62,600
Sun screens	7,900
Perfumes, aftershaves	6,600
Total	559,100

Fragrances / musks



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SIDS endpoints

Physicochemical Properties:

Melting and boiling point, Vapour pressure, Kow, Koc* and S

Environmental Fate:

Biodegradation, Hydrolysis, Photolysis,
Atmospheric oxidation and Bioaccumulation

Ecological Effects:

Aquatic toxicity: acute and long-term for fish, daphnia, algae

Sediment toxicity: acute and long-term

Terrestrial effects: acute and long-term

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Brominated flame retardants, including BDEs (721 structures)

Physical Chemical Properties: 1180 records

Environmental fate parameters: 82 records

Aquatic and terrestrial ecological effects parameters: 73 records

Other effect data: 959 records

Total: 2139 records

Perfluoroalkylated substances (PFC) (1064 structures)

Physical Chemical Properties: 975 records

Environmental fate parameters: 86 records

Aquatic and terrestrial ecological effects parameters: 42 records

Other effect data: 556 records

Total: 1617 records

Endpoint	Units	# exp. data
Algae EC ₅₀	[mg/L]	21
Daphnia magna EC ₅₀ /NOEC	[mg/L]	8
Freshwater snails (<i>Physa acuta</i>) LC ₅₀	[mg/L]	2
Freshwater planarians (<i>Dugesia japonica</i>) LC ₅₀	[mg/L]	2
Green neon shrimps (<i>Neocaridina denticulate</i>) LC ₅₀	[mg/L]	2
Midge (Chironomus tentans) EC ₅₀	[mg/L]	1
Vibrio fischeri EC ₅₀	[μM]	5
Fish (Rainbow Trout) LC ₅₀	[mg/L]	3
Fish (Tilapia) EC ₅₀ /LC ₅₀	[mg/L]	4
Fish (Bluegill sunfish) LC ₅₀	[mg/L]	1
Fish (fathead minnow) LC ₅₀	[mg/L]	1
freshwater African clawed frog EC ₅₀ /LC ₅₀	[mg/L]	1
Aquatic macrophytes EC ₅₀ /IC ₅₀	[mg/L]	5
Plant EC ₅₀ /IC ₅₀	[mg/L]	6
Rat inhalation LC ₅₀	ppm	50
Mouse inhalation LC ₅₀	mg/m ³	39
Guinea pig inhalation LC ₅₀	ppm	3
Monkey inhalation LC ₅₀	ppm	3
dog inhalation LC ₅₀	ppm	3