

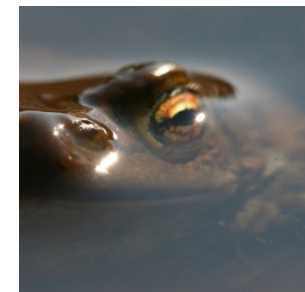
Study on Analysis of the risks arising from the industrial use of PFOA/APFO and from their use in consumer articles

RPS Advies B.V.
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- Introduction
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- Identification & definition of specific uses without alternatives
- Conclusions and recommendations



Objectives of the study

- to continue the OECD work using SIDS information
- to assess risks arising from the use of PFOA and APFO in industry as well as from their use in consumer articles

[illegible]

Market situation

Direct uses in industrial setting:

- Manufacturing of PFOA
- Fluoropolymer manufacturing:
 - As a surfactant in very small quantities (<1%) as a essential processing aid to manufacture some but not all fluoropolymers and fluoroelastomers
- Photographic and imaging industry
 - As a critical antistatic, surfactant, friction control, and dirt repellent
- Semiconductor industry
 - As a constituent material of a process chemical formulation



Non-stick (PTFE-coated) cookware and kitchen utensils

Market situation



Flexible (PTFE) inlay for frying pans

Consumer products:

Indirect use of PFOA as impurities in (imported) consumer products:



Dental floss and tape



Apparel membranes

Professional and industrial products:

Indirect use of PFOA as impurities in (imported) products:



Thread sealant and tape



Fluoro-ethylene propylene copolymer (FEP) tubing



Various household cleaning products
with water, oil, grease & dirt
resistance/protection and/or anti-
static properties

Market situation

Stain repellent
home textile &
upholstery



Consumer products:

Indirect PFOA (trace) levels possible from telomer products:



Fat
resistance
food contact
materials

Stain & water
repellent (all
weather) clothing
(textile and leather)

Bags and suitcases
(leather and textile)

Tents

Sails

Sunshades,

Shower curtains



Inks





Market situation for direct application of PFOA in manufacture of fluoropolymers and fluoroelastomers

Key outputs Task 1	Direct source (tonne per annum)	Indirect source (tonne per annum)
Tonnage of PFOA and APFO currently produced in the EU	50-100	< 1
Tonnage of imports of PFOA and APFO from outside the Member States	< 5	< 10
Tonnage of PFOA and APFO currently used in the EU	50-100	< 1

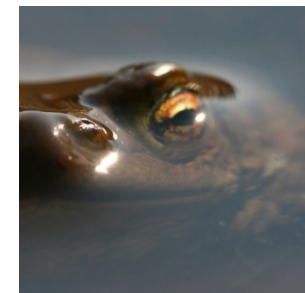
Market situation

Indirect uses in consumer products

Uncertainties:

- Levels of PFOA as unintended by-product in imported fluorotelomer based products used in consumer products
- Residual levels of PFOA in imported fluoropolymer consumer articles

NB: current levels have been covered in Risk Assessment and have shown safe no concerns



Risk assessment

Proposed EU Classification
(PFOA and derivatives)¹

Carc. Cat. 3; R40

Repr. Cat 2; R61

NC Repr. Cat. 3; R62,

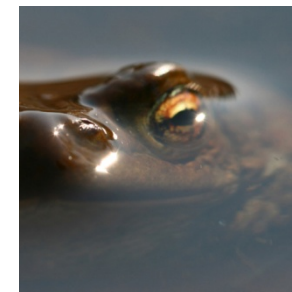
T; R48/23,

Xn; R20/22,

Xn; R48/22,

Xi; R36

¹ As agreed by the EU Technical Committee on Classification and Labelling of Dangerous Substances (TC C&L) in Summary Record of the Technical Committee Meeting of 3rd October 2006



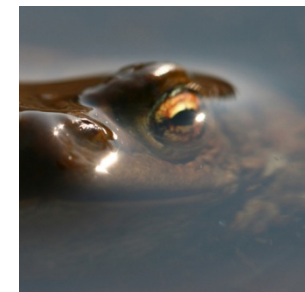
Risk assessment

Human health:

- Using strict interpretation there seems to be no risk, however...

Uncertainties:

- Carcinogenic effects
- Developmental effects



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Risk assessment

PBT/vPvB:

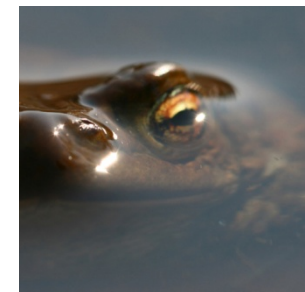
- Do not meet the criteria, however...

Environmental:

- No risk for the environment, however...

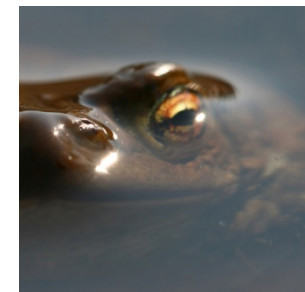
Uncertainties:

- Bioaccumulation



Alternatives evaluation

- Alternatives for the direct uses of PFOA in fluoropolymer production are being developed:
 - for resins and dispersion
- Alternatives of other indirect sources of PFOA are already available or will become available before 2015 :
 - for fluorotelomer products as unintended by-product, and
 - for PFOS which may contain trace levels of PFOA

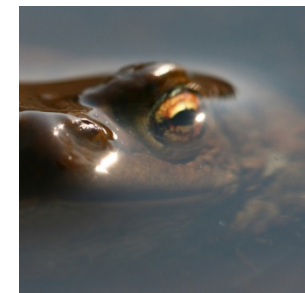


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Identification & definition of specific uses without alternatives

No suitable alternative for some critical applications in:

- Photographic industry
- Semiconductor industry



Conclusions & recommendations

- No foundation to impose further restrictions
- Detailed research on levels of PFOA in (imported) consumer articles
- Uniform the nomenclature of perfluorinated compounds
- Normalise analytical standards

