

NICNAS Alert No. 2

30 April 2003

This Alert updates NICNAS Alert No. 1 and should be read in conjunction with Alert No.1

Perfluorooctane sulfonate (PFOS)

Perfluorooctane sulfonate (PFOS) is a fully fluorinated organic compound and is a member of a large family of perfluoroalkyl sulfonate (PFAS)-based chemicals.

The majority of these chemicals are high molecular weight polymers in which PFOS or the PFAS chemical is only a fraction of the polymer and final product.

PFOS and PFAS chemicals have unique surfactant properties and many speciality applications. These applications include heat, chemical and abrasion resistance, and as dispersion, wetting and surface treatments.

Australian Data

Information collected by NICNAS to date indicates that:

- PFOS- and PFAS-based chemicals are not currently manufactured in Australia however products containing these chemicals have been made and are used in Australia. PFOS has been the favoured PFAS chemical used in Australia.
- Voluntary phase out agreements by Australian industries since 2000 have resulted in a rapid decrease in the use of PFOS chemicals in Australia (See PFOS Alert No 1).
- Only two remaining uses of PFOS chemicals exist in Australia. These uses are in some Class B fire-fighting foam and in specialised industrial products used for processing rubber and in the production of paints and coatings. These PFOS products will no longer be available in Australia after December 2003.
- There is only one other use of a PFAS chemical currently identified by NICNAS in Australia. This use is an adhesive which is expected to be phased out by 2004 when the existing stock is exhausted. The adhesive is used to bond timber for use in the building and construction industry. The timber product can also be used by domestic consumers.
- The phase out in Australia means old stock of PFOS- and PFAS-based products may still be found in Australia or be held by consumers and industrial users.
- NICNAS believes it has identified all the applications of PFOS in Australia. It is likely that some importers and users may not know if products contain these chemicals because PFOS- and PFAS-based chemical ingredients may not be mentioned on Material Safety Data Sheets.

NICNAS is now calling for information about the importation, manufacture, use and health effects of the PFOS alternatives perfluorooctanoic acid (PFOA) and perfluorinated telomer chemicals and products in Australia.

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International Activities

PFOS has been the subject of an international environmental and human health hazard assessment by the Organisation for Economic Co-operation and Development (OECD). The OECD hazard assessment concludes PFOS is persistent, bioaccumulative and toxic to mammals.

Due to concerns over PFOS, the PFOS alternatives perfluorooctanoic acid (PFOA) and perfluorinated telomers are being investigated internationally to identify potential environmental and health hazards.

There are significant concerns that PFOA, like PFOS, is persistent, bioaccumulative and toxic. Little is known as yet about perfluorinated telomers, however international investigations of these telomers are currently underway and scheduled for completion in 2003 and 2004.

The OECD assessment of the hazards of PFOS and a preliminary risk assessment by the United States Environmental Protection Agency of the developmental toxicity of PFOA are available and can be accessed via links on the NICNAS website at: www.nicnas.gov.au/news. Additional information about all the perfluorinated chemicals discussed above will be added to this website as it becomes available.

NICNAS recommendations

Because of concerns over PFOS, PFOA and perfluorinated chemicals, NICNAS recommends that:

- PFOS- and related PFAS-based chemicals be restricted to only essential uses, for which no suitable and less hazardous alternatives are available such as certain Class B fire fighting foams.
- PFOS-based fire fighting foam not be used for fire training purposes to limit environmental release.
- PFOS users exercise caution in selecting PFOA as an alternative, as PFOA may have the same environmental and health concerns as PFOS.
- All labels and Material Safety Data Sheets include details of the PFAS and PFOS chemicals in the product.
- Information on the safe use and handling of all these chemicals of concern be provided to fire fighters in the relevant and most recent Material Safety Data Sheets (MSDSs) available from the suppliers of these chemicals.

How to contact NICNAS

If you want to find out more about these issues or have information on PFOS, PFOA and perfluorinated telomers in Australia, you can contact NICNAS at:

Ph: 1800 638 528 Fax: 02 8577 8888
Write to: GPO Box 58 Sydney NSW 2001 Australia

Information on assessment of chemicals by NICNAS is available at:
<http://www.nicnas.gov.au/about/ourapproach.htm>