

HCFC-123

2,2-dichloro-1,1,1-trifluoroethane (HCFC-123) is used as a refrigerant in air-conditioning chillers and in fire extinguishers, particularly those for electrical fires.

NICNAS first assessed HCFC-123 in 1996. More information on the chemical prompted a second assessment in July 1999. These are the main findings of the second assessment.

A product containing 1% HCFC-123 or more is classed as a Hazardous Substance.

HCFC-123 is not classified under the Australian Dangerous Goods Code.

The most likely route for HCFC-123 poisoning to occur is by inhalation.

Signs of HCFC-123 poisoning include dizziness, headaches, confusion and in high doses, death.

After weeks of low-level exposure HCFC-123 can cause liver damage. There may be no immediate signs of this damage, but it shows up in blood tests.

HCFC-123 can be passed through breast milk and may be harmful to babies.

Contact with liquid HCFC-123 can cause eye irritation.

RECOMMENDATIONS

Exposure to HCFC-123 vapour should be kept to a minimum. Exposure is most likely to occur during chiller maintenance and from the use of fire extinguishers. Equipment using HCFC-123 should be meticulously maintained to avoid leaks.

Ventilation should be supplied in machine rooms with HCFC-123 chillers.

Maintenance workers should wear motion detector alarms when working alone.

Portable fire extinguishers using NAF P-III, which is 60% HCFC-123, should be labelled with warnings to avoid use in a confined space.

Workers in areas where portable fire extinguishers using HCFC-123 blends are provided should be trained to use them safely and warned to evacuate areas when they have been used.

There is no current exposure standard set for HCFC-123, however, NICNAS has asked for one to be set. Liver damage can occur at 5 ppm.

Australia has signed an international treaty that commits us to a total phase out of HCFCs by 2020. Manufacturers of equipment using HCFC-123 should investigate alternative substances.

More information on HCFC-123 can be found in the Material Safety Data Sheet available from the supplier. The most comprehensive source of information is the detailed assessment of HCFC-123 published by the National Industrial Chemical Notification and Assessments Scheme (NICNAS). This is available free of charge by calling 1800 638 528. More information on the use of industrial chemicals can be found at the NICNAS website: www.nicnas.gov.au