



Technical information datasheet No1

Helping to solve an age-old problem

As part of exploring their world, many young children put objects into their mouths. Toddlers will play with bottles and containers, unaware of the hazards they may contain.

In today's environment this normal behaviour can result in the accidental swallowing of harmful household chemicals. Fortunately, evolution has already provided part of the answer to this problem: since many poisonous substances taste unpleasantly bitter, human beings have developed a sense of taste

which finds strong bitter flavours repulsive, and children are particularly sensitive to bitter tastes (1,2,3).

Bitrex[™], the brand name of the world's most bitter known substance (4,5), was discovered in 1958 by Macfarlan Smith Ltd. Its potential as a denaturant for industrial alcohol was recognised immediately; and since being approved in the UK and US in the early 1960s, **Bitrex** has been officially recognised as the denaturant of choice in more than 40 countries.

Bitrex is an inert and odourless substance which is so bitter that only tiny amounts are needed to make products taste unpleasant. Developed as a taste aversive for household cleaning materials, it is now used in a wide variety of products, including DIY, personal care, automotive and pesticide products.

Products which contain **Bitrex** can, under a trademark licence agreement, carry the **Bitrex** logo, a registered trademark of Macfarlan Smith.

1. Berning CK Griffith JF and Wild JE. Research on the effectiveness of Denatonium Benzoate as deterrent to liquid detergent ingestion by children. *Fund Appl Toxicol* 1982; 2:44-48.
2. Lawless AT, Hammer LD and Corina MD. Aversions to bitterness and accidental poisonings among pre-school children. *J Toxicol - Clin Toxicol* 1982-83, 19(9); 951-964.
3. Sanderson T. Learning from bitter experience. A case study of the benefits of sensory evaluation *Spec Chem* 1992: 12:409-410.
4. Guinness Book of Records 1972, 1982 et seq.
5. Merck Index 10th Edition.

Macfarlan Smith

A Johnson Matthey Company

Macfarlan Smith
Wheatfield Road, Edinburgh EH11 2QA
Scotland, UK.

Tel: +44 (0)131 337 2434 Fax: +44 (0)131 337 9813
Email: msl@macsmith.com web: www.bitrex.com