

## **Queensland Occupational Health Services Member of Australasian Occupational Medical Group**

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I have read the material which you provided about HEAT\$AVR. I have also been provided with details of the identity of the components by Mr. Dan O'Brien of Flexible Solutions, British Columbia, Canada. So that you may maintain commercial confidentiality, these are listed in appendix A.

I have undertaken a search of the toxicology of the individual components in RTECS (Registry of Toxic Effects of Chemical Substances) compiled by NIOSH (US). The detailed information is included as appendix B.

### **Manner of use**

HEAT\$AVR is used in small quantities in a large volume of water. For example, from the product information, 46 ml of HEAT\$AVR is required in a pool 10 x 6 metres. Estimating an average depth of 1.5 meters, this would give a volume of 60,000 litres, HEAT\$AVR would be diluted to approximately 0.5 ppm.

### **Toxicology**

#### **Major component >50%**

Undiluted, this component is considered to produce moderate to severe eye irritation, and mild skin irritation. At the dilution HEAT\$AVR is used, the irritant effect would be negligible. Over a number of studies the lowest reported lethal oral dose is > 1g/kg (with the exception of one outlying study from 1927 reporting 223 mg/kg)

#### **Minor component <10%**

Undiluted, skin and eye irritation was reported as mild. Acute toxicity; the lowest reported oral lethal dose is 20g/kg, and the lowest reported toxic dose is 1g/kg. This represents very low toxicity.

### **Conclusion**

I conclude that HEAT\$AVR is safe for use as intended.

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