

Your ref: Cash  
Our ref: 2335/06-646  
Enquiries: F du Toit  
Tel: (012) 428-6376  
Fax: (012) 428-6854  
Date: 13 December 2006

2047

Dear Sirs

300 g l **PEPPER SPRAY**

Further to your request the cannister with the pepper spray was evaluated to determine the possible use in hazardous areas.

The cannister was intended to be used/installed in such a way to help prevent the unlawful entry into certain premises.

The ingredients of the Pepper Spray canister was detailed in a Gas Analysis from "Pure-Gas" (suppliers of Ozone friendly propellants) and ISP Chemicals.

The density of the ingredients was evaluated and found to be heavier than air. In practice that means that the hazardous gases used as propellants will tend to float down to floor level.

Hazardous ingredients used are Butane - density level 2.05; Propane - density level 1.56.

In SANS 1020 specification it is claimed that the density of fuel is heavier than air. The hazardous level of the gas is accepted at floor level taking the ventilation of the area in consideration.

The Lower Explosive Level(LEL) of Butane is 1.4% and Propane is 2.15%.

The Higher Explosive Level(HEL) of Butane is 9.3% and Propane is 13.5%.

In a 300gram cannister the percentage Butane is 33.3% and the Propane is 60.67%.

The approximate volume on a 300mg cannister is 300mL.

During activation the 'Pepper - Spray' is only activated for 6 seconds.

The percentage hazardous gas released during that period will not activate an energy source when taken the percentage of explosive gas in consideration.

No objection can be seen against the use of the pepper spray in hazardous areas provided the area have ample ventilation.

/Please...

SABS COMMERCIAL (Pty) Ltd - Reg. No. 2000/013581/07 Website: [www.sabs.co.za](http://www.sabs.co.za) E-mail: [info@sabs.co.za](mailto:info@sabs.co.za)  
Directors: Mr Martin Kuscus, Ms Cremilde Guedes, Ms Bronwen Phillips, Dr John Carstens, Dr Nombasa Tsengwa

**Gauteng Head Office**  
1 Dr Lategan Road Groenkloof  
Private Bag X191 Pretoria 0001  
Tel: +27 (0) 12 428-7911  
Fax: +27 (0) 12) 344-1568

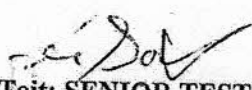
**Western Cape:**  
Liesbeek Park Way Rosebank Cape Town  
PO Box 615 Rondebosch Cape Town 7701  
Tel: +27 (0) 21 689-5511  
Fax: +27 (0) 21 686-6375

**Eastern Cape:**  
30 Kipling Road (cnr. Diaz and Kipling Roads)  
PO Box 3013 North End Port Elizabeth 6056  
Tel: +27 (0) 41 391-8400  
Fax: +27 (0) 41 391-8427

**Kwazulu Natal:**  
15 Garth Road Waterfall Park  
PO Box 30087 Mayville 4058  
Tel: +27 (0) 31 203-2900  
Fax: +27 (0) 31 203-2907

Please note only Group IIA gases are used in the canisters as propellant.

Yours faithfully

  
F du Toit: SENIOR TEST OFFICER  
EXPLOSION PREVENTION TECHNOLOGY