

# MATERIAL SAFETY DATA SHEET

## METHCAL5

(Please ensure that this MSDS is received by an appropriate person)

Date: August 2017

Version2

Ref no.: MS050

### 1 PRODUCT AND COMPANY IDENTIFICATION

#### PRODUCT IDENTIFICATION

Product Name Methane Calibration Gas Standards  
 Chemical Formula CH4 plus O2 plus N2  
 Trade Names MethCal 8 (0,76 – 0,84%)  
 MethCal 10 (1,96 – 1,04%)  
 MethCal 11 (1,06 – 1,14%)  
 MethCal 12 (1,16 – 1,24%)  
 MethCal 14 (1,36 – 1,44%)  
 MethCal 25 (2,46 – 2,54%)

The above figures in brackets indicate the tolerances of mixtures in % Methane. The actual concentrations would be indicated on the analytical certificate attached to the cylinder.

Colour Coding Mist-Green (E.77) body with a Red (A.11) shoulder, with the word "METHCAL" & relevant concentration stencilled on the body of the cylinder.  
 Valve 3 SH – Brass, 5/8 left hand female  
 Company Identification 23 Webber Street  
 Selby, Johannesburg  
 2001  
 Tel No: +27 (11) 490 0400  
 Fax No: +27 (11) 490 0451  
 Emergency Number (24hrs) **0860 111 185 OR 0860 02020**

### 2 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Names Methane plus Oxygen plus Nitrogen  
 UN No. 1954  
 Hazchem code 2 SE  
 Hazchem Warning 2 A Flammable gas

### 3 HAZARDS IDENTIFICATION

**Main Hazards** All cylinders are portable gas containers, and must be regarded as pressure vessels at all times. Although the methane component of the above standards will burn when ignited by a flame, the methane will not significantly add to the fire.

**Adverse Health Effects** As the methane component is non-toxic, there are no adverse effects to prolonged exposure.

**Chemical Hazards** There are no hazardous products formed when methane burns in air.

**Biological Hazards** No known effects.

**Vapour Inhalation** No known effects.

**Eye Contact** No known effects.

**Skin Contact** No known effects.

**Ingestion** No known effects.

**Labelling Elements:**  
**Hazard Pictograms**



**Signal Word** : Danger

**Hazard Statements** :

H220 : Extremely flammable gas

**Precautional Statements:**

**(SEE FIRST AID MEASURE SECTION FOR TREATMENT)**

P210: Keep away from heat/sparks/Open flame/hot surfaces-No smoking (manufacturer/supplier or the competent authority to specify applicable ignition sources)

P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

P381: Eliminate all ignition sources if safe to do so

P403: Store in a well ventilated place- if product is volatile so as to generate a hazardous atmosphere

### 4 FIRST AID MEASURES

Care should be taken with the exposure to either oxygen-deficient, or oxygen-enriched atmospheres. Conscious persons should be assisted to an uncontaminated area and inhale fresh air. They should be kept warm and quiet. Quick removal from the contaminated area is most important. The physician should be informed when a patient has experienced hyperoxia.

**Eye Contact** No known effect.

**Skin Contact** No known effect.

**Ingestion** No known effect.

### 5 FIRE FIGHTING MEASURES

**Extinguishing media** The release of any of these gas standards in the vicinity of a fire will not significantly add to the fire. Suitable extinguishing media for the surrounding fire should be used.

**Specific Hazards** None.

**Emergency Actions** All cylinders should be removed from the vicinity of the fire. Cylinders that cannot be removed should be cooled with water from a safe distance. Cylinders which have been exposed to excessive heat should be clearly identified and returned to supplier. CONTACT THE NEAREST AFROX BRANCH.

**Protective Clothing** Safety goggles, gloves and safety shoes should be worn when handling cylinders.

**Environmental precautions.** No known effect.

### 6 ACCIDENTAL RELEASE MEASURES

**Personal Precautions** Ensure that the surrounding atmosphere is safe before entering an area where large volumes of MethCal have been released.

**Environmental precautions.** These listed MethCal standards do not pose a hazard to the environment.

**Small spills** No known effect.

**Large spills** Beware of the possible increase in the levels of Methane

### 7 HANDLING AND STORAGE

Do not allow cylinders to slide or come into contact with sharp edges. Cylinders of MethCal should not be stored near cylinders of acetylene or other combustible gases. MethCal cylinders may be stacked horizontally provided that they are firmly secured at each end to prevent rolling. Prevent dirt, grit of any sort, oil or any other lubricant from entering the cylinder valves, and store cylinders well clear of any corrosive influence, e.g. battery acid. Compliance with all relevant legislation is essential. Use a "first in - first out" inventory system to prevent full cylinders from being stored for excessive periods of time. Keep out of reach of children.

### 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

**Occupational Exposure Hazards.** No known effect.

**Engineering control measures** Not required.

**Personal protection** Safety goggles, gloves and shoes should be worn when handling cylinders.

**Skin.** No known effect.

### 9 PHYSICAL AND CHEMICAL PROPERTIES

#### METHANE

Chemical Symbol	CH <sub>4</sub>
Molecular Weight	16,04
Specific Volume @ 20°C & 101,325 kPa	1474 ml/g

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Relative density (Air = 1) @ 101,325 kPa 0,555  
Colour None  
Taste None  
Odour None

**NITROGEN**

Chemical Symbol N<sub>2</sub>  
Molecular Weight 28,01  
Specific Volume @ 20°C & 101,325 kPa 861,5ml/g  
Relative density (Air = 1) @ 101,325 kPa 0,967  
Colour None  
Taste None  
Odour None

**OXYGEN**

Chemical Symbol O<sub>2</sub>  
Molecular Weight 32,00  
Specific Volume @ 20°C & 101,325 kPa 755ml/g  
Relative density (Air = 1) @ 101,325 kPa 1,053  
Colour None  
Taste None  
Odour None

**10 STABILITY AND REACTIVITY**

**Conditions to avoid** Never use cylinders as rollers or supports, or for any other purpose than the storage of MethCal. Never expose the cylinder to excessive heat, as this may cause sufficient build-up of pressure to rupture the cylinders.

**Incompatible Materials** Since dry MethCals are non-corrosive; most materials of construction are suitable.

**Hazardous Decomposition Products** - None

**11 TOXICOLOGICAL INFORMATION**

Acute Toxicity No known effect.  
Skin & eye contact No known effect.  
Chronic Toxicity No known effect.  
Carcinogenicity No known effect.  
Mutagenicity No known effect.  
Reproductive Hazards No known effect  
(For further information see Section 3. Adverse Health Effects).

**12 ECOLOGICAL INFORMATION**

No known effect.

**13 DISPOSAL CONSIDERATIONS**

**Disposal Methods** Small amounts may be blown to the atmosphere under controlled conditions. Large amounts should only be handled by the gas supplier.

**Disposal of packaging** The disposal of cylinders must only be handled by the gas supplier.

**14 TRANSPORT INFORMATION**

**ROAD TRANSPORTATION**

UN No. 1954  
Hazchem code 2 SE  
Hazchem warning 2A Flammable gas

**SEA TRANSPORTATION**

IMDG 1954  
Label Flammable

**AIR TRANSPORTATION**

ICAO/IATA Code 1954  
Class 2.1  
Packaging instructions  
- Cargo 200

- Passenger Forbidden

Maximum quantity allowed

- Cargo 150kg  
- Passenger Forbidden

**15 REGULATORY INFORMATION**

EEC Hazard class Extremely Flammable

Reference standard: SANS 10234 and supplement.

National legislation: OHSAct and Regulation (85 of 1993)

**16 OTHER INFORMATION**

**Bibliography**

SANS 10234 – Globally Harmonized System of Classification and Labelling of Chemicals

**EXCLUSION OF LIABILITY**

Information contained in this publication is accurate at the date of publication. The company does not accept liability arising from the use of this information, or the use, application, adaptation or process of any products described herein.