

MATERIAL SAFETY DATA SHEET

METHCALS

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

Date: January 2018

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 concentration	ations would be indicated on the	
analytical certificate attached	to the cylinder.	
Colour Coding	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	Afrox Malawi Limited	
	Johnstone Road, Ginnery Corner	
	Blantyre	
	Tel No: +265 (1) 871 611	
	Fax No: +265 (1)871 260	
Emergency Number	+265 (1) 871 611 (24hrs)	

2 COMPOSITION/INFORMATION ON INGREDIENTS Chemical Names Methane plus Oxygen plus Nitrogen UN No. 1954 2 SE Hazchem code Hazchem Warning 2 A Flammable gas

3 HAZARDS IDENTIFICATION

All cylinders are portable gas containers, and **Main Hazards** 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 Hazard Statements H220 : Extremely flammable gas

Precautional Statements:

(SEE FIRST AID MEASURE SECTION FOR TREATMENT)

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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

FIRST AID MEASURES 4

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.

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
	of moulane

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 ₄
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 Colour Taste	0,555 None None
Odour	None
NITROGEN	
Chemical Symbol	N ₂
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	0 ₂
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.	

12 ECOLOGICAL INFORMATION

No known effect.

Reproductive Hazards

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.

No known effect (For further information see Section 3. Adverse Health Effects).

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

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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 150kg Cargo Forbidden Passenger 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

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