MTEx Laboratories

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Ontploffingvoorkomingstegnologie
Explosion Prevention Technologies

INSPECTION AUTHORITY (IA) CERTIFICATE

i.safe MOBILE GmbH.   **Issued:** 2023/02/10
i_Park Tauberfranken 10   **Expire:** 2026/02/10
97922 Lauda-Koenigshofen   **Revision:** 2
Germany   **Job File Number:** 0901

Applicant:
i.safe MOBILE GmbH

For validity purposes, the following marking must be added to all equipment covered by this certificate:

IA Number: MTEx-M/20.0013 X
Manufacturer: i.safe MOBILE GmbH
Supplier: i.safe MOBILE GmbH
Equipment: Intrinsically safe and multifunctional industrial smartphone
Model/Type: IS530.M1
Ex Rating: Ex ia I Ma IP64
Serial No.: All units imported between the issue and expiry dates of this certificate.

Standards used:

SANS 60079-0: 2019 Ed.6 IEC 60079-0: 2017 Ed.7	Explosive atmospheres – Part 0: General requirements.
SANS 60079-11: 2012 Ed.4 IEC 60079-11: 2011 Ed.6	Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "i".

This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.

This certification indicates compliance with R10.1 of the Mines Health and Safety Act and/or EMR 8(1) of the Occupational Health and Safety Act, provided that the apparatus is used as prescribed in accordance with:

1) Any conditions set out in this Certificate.
2) This certificate only covers equipment imported between the "Issued" and "Expiry" dates.
3) When the supporting Q.A.N. (Quality Assurance Notification) of the equipment manufacturer expires, it is the responsibility of the applicant (as mentioned above) to submit a valid Q.A.N to MTEx Laboratories.
4) The test results presented in this "Ex" Test Report relate only to the item or product testing.
5) Note: It is the responsibility of the supplier to ensure that the marking label complies with the ARP 0108.
6) This Certificate validates all units imported between Issued and Expiry dates.

Reviewed by + Signature (ExTL):	A. van Niekerk	
Approved by + Signature (ExCB): (MTEx Laboratories Technical Signatory)	D. Young	

mineral resources
Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA
AIA Number: E1

employment & labour
Department:
Employment and Labour
REPUBLIC OF SOUTH AFRICA
AIA Number: CL016

MTEX Laboratories is an Accredited Test Laboratory (ATL) in terms of the ARP 0108: "Regulatory Requirements for Explosion-Protected Apparatus"

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1. OVERVIEW

Equipment and systems covered by this Certificate are as follows:

The intrinsically safe, multifunctional, and rugged industrial smartphone IS530.M1 has been designed for use in mines susceptible to firedamp. It provides numerous technologies like 4G (LTE), NFC, GPS, Wi-Fi, and Bluetooth LE. The IS530.M1 is equipped with an Android operating system, large internal memory, amplified loudspeaker, replaceable battery pack and functional 13-pin ISM interface.

2. REASON FOR REVIEW

Revision 0: ARP 0108 Requirement (Initial IA Certificate).
Revision 1: Editorial Correction.
Revision 2: Renewal of IA Certificate including new template.

3. DOCUMENTATION PROVIDED

- IECEx Quality Assessment Report (IECEx EPS 19.0062 X Issue 2).
- IECEx Certificate of Conformity (DE/EPS/QAR12.0003/14).

4. ELECTRICAL/ AND SAFETY PARAMETERS

Power supply:

The smartphone may only be used with the approved, intrinsically safe battery pack BPIS530.M1 made by i.safe MOBILE GmbH. LiPo battery $U_o = 3.8$ V ($U_{o\_max} = 4.35$ V) / 3.6 Ah / 13.68 Wh

It is permissible to charge the battery pack alone outside the device via an approved charging adapter.

Interfaces:

The device has a lateral magnetic charging port with which it can be charged outside hazardous areas via an approved charging adapter. The contacts are intrinsically safe for gas and dust.

Furthermore, the device has an USB interface (type C) for charging and data transmission outside hazardous areas. It is not permitted to open the USB interface cover in hazardous areas.

The ISM interface of the IS530.M1 can be used within hazardous areas with approved headsets, Remote Speaker Microphones (RSM) and add-ons, making the smartphone a multifunctional equipment for industrial applications. For ISM interface use, the i.safe MOBILE headset IS-HS1.1, the trigger handle IS-TH1xx.M1 or approved, intrinsically safe accessories may be used, which comply with the entity parameters of the ISM interface according to document 1029AD04. If the ISM interface is not used, it must be securely closed by the cover provided for this purpose.

The SD cards IS-SD164.1 and IS-SD1128.1 may be used in the corresponding slot in the hazardous area.

Alternatively, the SD card port has the following intrinsic safety entity parameters:

U_o = 4.35 V

I_o = 4.89 A
P_o = 1.081 W
C_o = 97 µF
L_o = 2 µH

SIM cards which comply with the following intrinsic safety entity parameters, may be used in the corresponding slots in the hazardous area:

U_o = 4.35 V

I_o = 4.89 A
P_o = 2.135 W
C_o = 98 µF
L_o = 2 µH

5.   INSTALLATION INSTRUCTIONS

None.

6.   SPECIAL CONDITIONS OF USE (X)

- The battery may be charged and replaced outside explosion hazardous areas only.
- The device must be protected from impacts with high impact energy, against excessive UV light emission and high electrostatic charge processes.
- The device shall be protected from the exposure of oils, greases, and hydraulic fluids.
- The permitted ambient temperature range is -20 °C to +60 °C.
- The SIM card slot must be blanked off (e.g., filling the SIM card slot with an encapsulant).
- No external accessories may be connected to the device in the hazardous area.
- A maximum of 500mW transmitting power limit applies for Group I use.

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End of Certificate.