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SAFETY CIRCULAR

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TO: Fleet

SUBJECT: Personal / Portable Gas detectors & Dragger Tubes

Dear Masters,

Minimum Carriage of Gas Monitoring Equipment & Dragger Tubes

The listed equipment's as per Annex 1 must be carried on board the vessels.

Operational Testing

All Gas detection instruments must be operationally tested onboard in accordance with manufacturer's instructions before the commencement of use. Such tests, which may include use of a span gas is for the purpose to ensure that the instrument is working properly and should not be confused with calibration. Instruments should only be used if the test indicates that the instrument is giving accurate readings and that alarms are operating at the pre-determined set points.

To ensure that a sensor is working properly a minimum of two different values of readings, within sensor range, must be verified. For example span adjustment of the O₂ sensor reading in fresh air should be 20.9% and zero adjustment in pure Nitrogen should be 0%. Instruments not passing these operational tests should be re-calibrated before they are returned to operational use. If this is not possible, they must be removed from service and your superintendent is to be notified of same.

During extended operations, the user should determine the safe frequency at which operational checks should be made.

Settings of Personal Meters

To ensure personnel's are not exposed to high concentration of gas, the personal gas meters are to be set to pre-warn the user at levels stated below:

- Hydrogen Sulphide (H₂S) – Greater than 5 PPM
- Carbon Monoxide (CO) – Greater than 25 PPM
- Oxygen (O₂) – Less than 18 %
- Hydrocarbon (HC) – Greater than 10% LEL

Personnel should evacuate the space and move to a safe area on activation of any of the above alarms.

Calibration and maintenance

Calibration of the gas detection equipment must be carried out onboard at intervals according to the maker's instructions, not exceeding the duration as per below.

By Ship Staff

Every Month

By Shore Staff

Every 12 Months.

To ensure that calibration procedures are correctly carried out the results of the tests and inspections must be recorded in the ISM form.

The maker's instructions for the particular instrument should strictly be followed. When calibration is carried out ashore or by shore technicians, a certificate is to be issued and retained onboard in the corresponding certificates file in its designated location.

Basis complying with SOLAS / VIQ / ISGOTT regulations & in order to standardize the gas equipment's company will be supplying only MSA Altair gas detector's on fleet vessels. Following are Gas equipment's which is required to be carried on board as per Annex 1.

ANNEX 1

FOLLOWING ARE LIST OF ALL GAS EQUIPMENTS AS REQUIRED TO BE MAINTAINED ON BOARD. VESSEL'S TO RAISE REQUISITIONS AS PER BELOW MAKE / MODEL ONLY.

1) 2 No's - MSA ALTAIR 5X (IR) - MULTI GAS DETECTOR capable of reading O2 (Oxygen) / HC (Hydrocarbon in %LEL & %Vol) / CO (Carbon Monoxide) / H2S (Hydrogen Sulphide).

Note: - These meters meet the requirements for MULTI GAS DETECTOR O2 (Oxygen) / HC (Hydrocarbon in LEL & Volume) capable of reading in Inerted & Non- Inerted condition.

2) 4 No's - MSA ALTAIR 4X OR 5X - Personnel Multi gas detectors capable of reading O2 (Oxygen) / HC (Hydrocarbon in % LEL) / CO (Carbon Monoxide) / H2S (Hydrogen Sulphide)

Note: - These meters can be carried in a pocket or on a belt & should be available for tank, enclosed space or pump room entry capable of reading ONLY in Non-Inerted atmosphere.

3) 2 No's Dragger pump with adaptors & sufficient length of hose to reach the tank bottom.

Following Dragger tubes to be kept on board.

- a) (1) Hydrogen Sulphide (H2S) Range 1 - 20 PPM - 20 Nos
- (2) Hydrogen Sulphide (H2S) Range 10 - 200 PPM - 20 Nos
- b) Benzene Range 0.5 - 10 PPM - 10 Nos
- c) Carbon dioxide Range 1 - 20% - 10 Nos
- d) Mercapton Range 20 - 100 PPM - 10 Nos
- e) Sulphur dioxide Range 1 - 25 PPM - 10 Nos
- f) Nitrogen Dioxide Range 0 - 50 PPM - 10 Nos

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