



ASSOCIATION OF SCUBA SERVICE ENGINEERS & TECHNICIANS

Guidance Note: Cylinder Colour Coding – 06/99.

Amendment 02 – 10/11.

There is some confusion regarding the application of colour codes to breathing apparatus cylinders. HSE DVIS 11 states that cylinders that come under PED (BA and Scuba) must be correctly labelled; colour coding is not mentioned. Therefore, it appears that BA and Scuba cylinders need only a label but not colours. Cylinders that come under TPED should be both labelled and coloured.

However, ASSET recommends that BA and Scuba Cylinders, used at work, are both labelled and colour coded.

Where a user wishes or needs to colour code their cylinders, the following may be useful.

BS EN 1089-3 provides a colour scheme for the identification of cylinders.

PRINCIPLES

- Colours are used, primarily, to identify the hazard associated with the cylinder contents.
- **Cylinder Body colour is not used as part of the identifying colour code** and may be coloured for other purposes (*e.g. for visibility or company identification*).
- **Identifying colours are only applied to the shoulder of the cylinder.**
- If the shoulder is not coloured, the body colour implies the contents.
- If more than one colour is required, either quartering or horizontal bands may be used.
- Certain gases, particularly those used for medical or breathing have their own specific colours, consistent with ISO 32.

HAZARD INDICATION

The intention of BS EN 1089-3 is to identify the hazard therefore, unless a gas has its own specific colour, only the cylinder shoulder will be painted with a “Hazard Colour”, as follows:

- YELLOW - means Toxic and/or Corrosive.
- RED – means Flammable.
- LIGHT BLUE – means Oxidising (excluding Oxygen).
- BRIGHT GREEN – means Inert.
- YELLOW plus RED – means Toxic (and/or corrosive) and Flammable.
- YELLOW plus LIGHT BLUE – means Toxic (and/or corrosive) and Oxidising.

GAS COLOURS

Specific Flammable

- MAROON – Acetylene.

Specific Oxidisers

- WHITE – Oxygen.
- BLUE – Nitrous Oxide.

Specific Inert (medical and other uses) [*for example - a component of a breathing mixture*]

- DARK GREEN – Argon.
- BLACK – Nitrogen.
- GREY – Carbon Dioxide.
- BROWN – Helium.

Breathing Mixtures Containing Oxygen

- WHITE plus BLACK – Air or Synthetic Air. (*including Nitrox*)
- WHITE plus BROWN – Oxygen/Helium. (*Heliox*)
- WHITE plus GREY – Oxygen/Carbon Dioxide.
- WHITE plus BLUE – Oxygen/Nitrous Oxide.
- WHITE plus BLACK plus BROWN – Oxygen/Nitrogen/Helium (*Tri-mix*)

Note: Tri-mix is not specifically listed in the standard but has been added for completeness.

Avoiding confusion

In order to comply with BS EN 1089-3 and to avoid confusion, hazard colours (or similar shades) should not be used as a body colour.

HSE Concern

The HSE is concerned that diving professionals blatantly disregard or are ignorant of Standards and the Law and often supply, fill and transport cylinders that are inadequately or incorrectly marked; in particular the percentages of gas mixtures are often inadequately indicated. See ASSET guidance note 08/06 for guidance on labelling.

ACCEPTANCE FOR FILLING

In the interest of safety, avoidance of liability and breach of HASAWA, cylinders should be inspected prior to filling in accordance with BS EN 1920. In brief, cylinders should:

- Be of a legal type and suitable for the purpose for which they are to be used
- Be in serviceable condition and free from significant defects
- Not contain water, contaminants or significant corrosion
- Be leak tight. The valve should also be leak tight and not be blocked
- Have been tested by either a Competent Person (BA and Scuba under PED) or an Approved Person (for all other types under TPED)
- Have both a current test date stamp and a next inspection/test due date label on it
- Be correctly labelled and, where required, coloured. (ASSET recommends that professionally used BA and Scuba cylinders are also correctly coloured)
- Be filled to the correct pressure
- If over filled, be reduced to the marked working pressure (at nominal temperature – usually 15°C)
- If intended for Oxygen service, have a label that indicates that it has been cleaned within the last 15 months

This guidance is offered in good faith and is believed to be correct to the best of our knowledge. Nothing contained herein shall be deemed to override good practice, manufacturers' policies, the relevant Standards and the Law.

The Association of Scuba Service Engineers and Technicians

c/o 12 Coulston Rd., Lancaster, LA1 3AE. 01524 381831 www.scubatechnician.com

email: scubatechnician@aol.com Member's technical assistance email: techspert@aol.com