

PIPE MARKING

(Part of the materials and photos adapted from BRADY brochure)

Have a clear understanding of what is running through your pipes



Pipeline Identification Standards

Health and Safety (Signs & Signals) Regulations require employers to identify all pipes within their facility. Several norms exist across Europe, which indicate how pipes should be identified. Pipes transporting dangerous and hazardous substances must be identified with the relevant danger symbol and the name of the hazardous or dangerous substance.

Unmarked pipes are a danger to both life and property. Accidents, injuries and damage to equipment can be caused by people not knowing what individual pipes contain. Especially hazardous unmarked piping is for the maintenance personnel that, in some cases, have to disassemble pipeline parts.

By correctly identifying pipes errors that have and may lead to accidents can be prevented. Marking the pipelines is not only a good engineering practice but a safe one as well as it is of vital importance for emergency services, outside maintenance contractors as well as new employees and temporary staff. It will also make maintenance work easier and prevent time consuming searches. If an accident does occur, correct identification can help save valuable time - and even lives.

Regulatory Explanation - GHS & CLP

On the 28th November 2008 the European Council adopted the GHS (Global Harmonised System). The publication followed on the 31st December 2008 meaning that GHS can now be applied from 21st January 2009. The GHS and CLP (Classification, Labelling and Packaging) addresses classification of chemicals by type of hazards and proposed harmonized hazard communication elements.

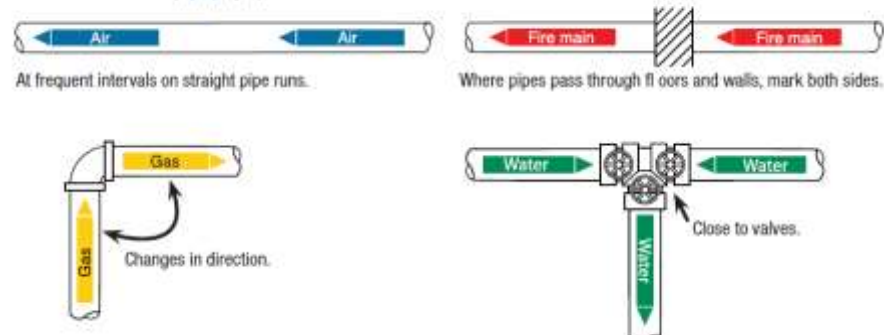
GHS also provides a basis for harmonisation of rules and regulations on chemicals at national, regional and worldwide level, an important factor also for trade facilitation. For the European Union, the mandatory dates for the implementation are set as follows: Substances from 01/12/2010, Mixtures from 01/06/2015. During the transition period, period between the European Directive and the effective dates mentioned above, both systems are permitted. These new regulations require companies to reassess their classification and labelling systems. Be aware that danger symbols have also changed with this new classification, up to 6 danger symbols can be attributed to a single product. In addition, the regulation mentions a signal word (Warning or Danger).



Maintenance Tip

- The Signs & Signals Regulations recommend that markers should be mounted on all visible sides of the pipe, be of durable construction and used in conjunction with pictograms, where recommended.
- The area that the pipe marker is applied to should be clean, dry and free from grease and dirt.

i **Where to apply pipe markers?**



At frequent intervals on straight pipe runs.

Where pipes pass through floors and walls, mark both sides.

Changes in direction.

Close to valves.

Individual pipe markers



Hydrochloric acid

WARNING

- Perforated arrowhead on both sides: to indicate the flow direction of the substance simply remove one of the arrowheads
- Relevant danger symbols (depending on the substance, in accordance with CLP regulations)
- Colours in accordance with (local) legislation
- Substance name: wide range of legends available, to comply with the country regulations.
- Signal word depending on the substance, in accordance with CLP regulations.
- High quality materials: self-adhesive laminated polyester with low chlorine content that is resistant to chemical, ultraviolet rays and extreme weather conditions.

i **Danger symbols**

From 0 and up to 6 different danger symbols can be shown on the pipe marker, depending on the substance and in accordance with the CLP regulation.

									
GHS 01	GHS 02	GHS 03	GHS 04	GHS 05	GHS 06	GHS 07	GHS 08	GHS 09	
Corrosive Skin corrosion Severe eye irritation	Flammable Self-heating Highly flammable liquid Oxidizing liquid Self-heating liquid Liquid desiccant	Flammable Self-heating Highly flammable solid Oxidizing solid Self-heating solid Liquid desiccant	Irritant Skin irritation Slightly flammable gas Slightly toxic gas	Oxidizing Self-oxidizing Oxidizing liquid Oxidizing solid Organic peroxide	Toxic Skin corrosion Severe eye irritation Hazardous to the aquatic environment	Acute toxicity Skin corrosion Severe eye irritation Hazardous to the aquatic environment	Acute toxicity Skin irritation Eye irritation Skin sensitization Respiratory tract irritation Specific Target Organ Toxicity	Respiratory irritation Skin and eye irritation Skin sensitization Reproductive toxicity Specific Target Organ Toxicity Aquatic hazard	Hazardous to the aquatic environment

Pipeline Identification Chart

Basic Identification Colours

Water	Green
Steam	Crimson Red
Fire Fighting	Signal Red
Oils (combustible liquids)	Dark Brown
Chemicals (treatment)	Orange
Gases (process and added)	Ochre
Acids & Alkalis	Purple
Air	Light Blue
Process Effluents (drain/vent/flare)	Black

Safety Colours

HAZARD OR SIGN	SAFETY/SEC. COLOUR
SAFETY	Grass Green
ATTENTION	Golden Yellow
DANGER	Signal Red
MANDATORY	Blue
ALERT	Yellow
ELECTRICAL SERVICE	Orange
TRAFFIC LINES	White

(BS 1710:1984)

Pipeline Identification Chart
(in accordance with BS 1710:1984)

LEGEND	BASIC COLOUR (150mm)	COLOUR CODE	BASIC COLOUR (150mm)
WATER	Green		Green
Drinking	Green	Blue	Green
Cooling (primary)	Green	Blue	Green
Boiler Feed	Green	Red	Green
Condensate	Green	Red	Green
Chilled	Green	Green	Green
Central Htg-100°C	Green	Blue	Green
Central Htg-100°C	Green	Blue	Green
Cold down service	Green	White	Green
Hot water supply	Green	Red	Green
Hydraulic power	Green	Red	Green
Sea, chem. untreated	Green	Red	Green
Fire extinguishing	Green	Red	Green
TOWN GAS	Orange		Orange
Manufactured gas	Orange	Green	Orange
Natural gas	Orange	Yellow	Orange
OILS	Dark Brown		Dark Brown
Diesel fuel	Dark Brown	White	Dark Brown
Furnace fuel	Dark Brown	White	Dark Brown
Lubricating	Dark Brown	Green	Dark Brown
Hydraulic power	Dark Brown	Red	Dark Brown
Transformer	Dark Brown	Red	Dark Brown

LEGEND	BASIC COLOUR (150mm)	COLOUR CODE	BASIC COLOUR (150mm)
MISCELLANEOUS			
Compressed air	Blue		Blue
Vacuum	White		White
Steam	Red		Red
Electrical conduits	Orange		Orange
Drainage	Black		Black
Acids & alkalis	Purple		Purple

COLOUR REFERENCES (TO BS 4800)	
NAME	REFERENCE
Green	52 D 45
Shier grey	53 A 03
Brown	06 C 39
Yellow ochre	08 C 35
Violet	22 C 37
Light blue	20 E 51
Black	BLACK
Orange	06 E 51
Red	04 E 53
Yellow	10 E 53
Auxiliary blue	18 E 53
Crimson	04 D 45
Emerald green	14 E 53
Samson pink	04 C 33

Note the colour names are for guidance only since different colour names may be used by manufacturers for the same colour reference.

Air ducts labeling



Hot



Warm



Dangerous



Fresh



Return



Contaminated



Cold



Conditioned

SPECIFICATIONS

Labels should be placed so that they are visible by the observer (e.g. the technician)

