

- Various system failure alarms — such as electrical system failure, engine alarms and so on.

## Line throwing apparatus

Many ships are equipped with a rocket line throwing apparatus capable of throwing a light line over 200 metres. This is used to transfer lines to another ship or the shore to aid in the retrieval of survivors or liferafts.


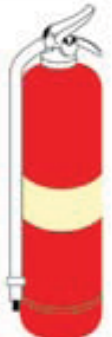




## Fire-fighting equipment

Fire is one of the most common emergencies onboard vessels so training in the use of fire-fighting equipment is essential for all crew members.



## Fire extinguishers

There are six fire extinguisher types found aboard commercial vessels:

		PORTABLE FIRE EXTINGUISHER GUIDE					
		WATER	WET CHEMICAL (Previously Beige)	FOAM (Previously Blue)	DRY CHEMICAL POWDER AB (E) B (E)	CARBON DIOXIDE (CO <sub>2</sub> )	VAPORISING LIQUID
							
<b>A</b> Ordinary Combustibles (Wood, Paper, Plastics, etc)	YES Most Suitable	YES	YES	YES	YES AB (E) NO B (E)	LIMITED	YES
<b>B</b> Flammable & Combustible Liquids	NO	NO	YES	YES	YES	LIMITED	LIMITED
<b>C</b> Flammable Gases	NO	NO	NO	YES	YES	LIMITED	LIMITED
<b>(E)</b> Fire Involving Energised Electrical Equipment	NO	NO	NO	YES	YES	YES	YES
<b>F</b> Fire Involving Cooking Oils & Fats	LIMITED	YES	LIMITED	YES AB (E) LIMITED B (E)	LIMITED Limited Effectiveness	NO	

These extinguishers are used to quickly respond to a fire before it has become extensive. The appropriate fire extinguisher will usually be found in the vicinity of a particular risk.

For example:

- Accommodation spaces may be equipped with dry chemical extinguishers because the fuel will usually be solid.
- Electrical or machinery spaces may have carbon dioxide extinguishers.
- The galley may have a foam extinguisher as these are most effective on cooking fat and oil fires.



Right: Fire extinguishers are red with a band of colour around them for rapid identification. This one has a white band indicating that dry chemical is the extinguishing agent. It also has a test date stamp tag and a gauge indicating its charge state. All extinguishers need to be inspected by a technician every six months in accordance with Australian Standard 1851.

## Hydrants, hoses and nozzles

Hydrants and hoses are vitally important for the cooling operations during a fire onboard and a spray-jet nozzle acts to minimise the water volume being used. Ensure the nozzle is adjusted to the spray pattern as it will help smother, rather than spread, the fire.

When using a fire hose, be aware of the amount of water that will collect inside the vessel and pump it out if necessary as it may affect the stability of the ship.

Be careful using water on a fire if it involves liquid fuel. Usually all that will be achieved is a rapid spreading of the flames as the fuel is splashed about.

## Fixed fire-fighting systems

Most engine rooms will be fitted with a fixed fire-fighting system. The extinguishing agent is often carbon dioxide (CO<sub>2</sub>) or modern agents such as FM200. Fixed fire-extinguishing systems are designed to flood the area with an agent (usually aerosol, gas or mist) to suppress the fire and extinguish it. These systems can be automatically or manually triggered and an alarm will sound before the release of the agent to allow evacuation of the compartment.

## Fire blankets

Fire blankets are common in the galley of a vessel where fat fires are a high risk. They are highly effective at smothering fires that are contained in something such as an oil drum or a frypan. Carefully place the blanket over the fire to extinguish it.

## Bucket

Buckets are a legal requirement onboard to aid in fire fighting. They may be used to douse a fire with water.

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*To keep your boat safe & secure see our website for your local BlueRay agent or call 02 8757 3133*


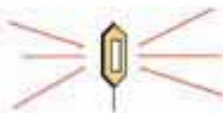


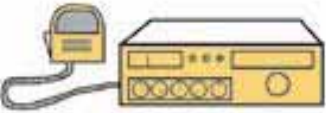

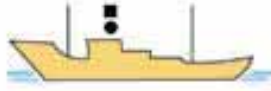
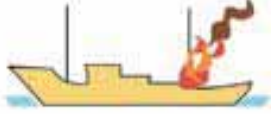






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## Distress signals

Crews should be aware of ways to attract attention when the ship is in distress. The following list of signals is part of the *International Regulations for Preventing Collisions at Sea, 1972* (Annex IV) which are recognised internationally.

	1. A gun or other explosive signal at intervals of about one minute.
	2. A continuous sound signal with any fog-signalling apparatus.
	3. Rockets or shells throwing red stars fired one at a time at short intervals.
	4. A signal made by any device consisting of the morse group SOS.
	5. The spoken word MAYDAY sent by radiotelephony.
	6. The international code signal indicated by N over C.
	7. A signal consisting of a square flag having above or below it a ball or anything resembling a ball.
	8. Flames on the vessel.
	9. A rocket parachute or hand flare showing a red light.
	10. An orange smoke signal.
	11. Slowly and repeatedly raising and lowering both outstretched arms.
	12. Signals transmitted by EPIRBs.
	13. V-sheets.

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The Daniamant Lifebuoy Lights L160 & L161 offer a five year life with no maintenance or replacement batteries required. They are among the smallest and lightest lights available on the market today and have passed a drop height test of 76 metres. The L161 is 'Intrinsically Safe' (category 1) and is suitable for use in Hazardous zones 0, 1 and 2. This makes new lifebuoy lights suitable for use on any platform or vessel with high bridge wings. All lifebuoy lights are supplied with a unique mounting bracket enabling easy fitting. They also come with LED technology and are exempt from transport packing, marking and labelling regulations.



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## PAINS WESSEX PARA RED ROCKET MK8

The Para Red Rocket MK8 is easy to fire in an emergency. It is a hand-held, long range, day or night distress signal. It ejects one red star with 40 seconds burning time on a parachute at 30,000 candela. Conforms to SOLAS 74/88.



## PAINS WESSEX INSHORE FLARE KIT

The Pains Wessex Aurora Inshore Distress Flare Kit contains 2 x Aurora Red Hand flares (Night use) and 2 x Aurora Orange Hand smokes (Day Use). The Red Hand flare fired at night can be seen at 10 km away at sea level and up to 20 km by aircraft. The hand smoke emits a brilliant orange smoke, is visible for up to 60 seconds and is visible at sea level from 4km.



## Marine radio

An essential and legal requirement for all commercial vessels is to have an appropriate marine radio onboard as well as someone who is licensed to operate it or supervise its operation. This means that any crew member may be required to operate it under the instruction of the master, even though that crew member may not hold a licence.



A restricted Marine Radio Operator's Certificate of Proficiency is usually the minimum requirement for the master and is issued by the Australian Communications and Media Authority ([www.acma.gov.au](http://www.acma.gov.au)). Courses are held regularly in most areas.

The most common radio onboard is the VHF (very high frequency) radio. Channel 16 is the dedicated distress and calling frequency and channel 67 is the supplementary distress frequency. Class B, C and D vessels operating further than 20 nautical miles from a coast station or limited coast station require HF (high frequency) radio under the NSCV. This radio is capable of long distance communication and is more complex in its operation and range of frequencies.

Most modern marine radio sets are equipped with digital selective calling (DSC). DSC capable radio sets (both VHF and HF) can transmit a burst of digital data that contains details of the ship and the nature of the distress with the press of a button. If the radio is interfaced with GPS (global positioning system), then the ship's location in latitude and longitude is also transmitted.

Due to the introduction of DSC, a compulsory listening watch on VHF channel 16 is no longer required for large trading ships. However, in recognition that many smaller recreational and commercial ships remain reliant on more traditional radiotelephony (spoken word) procedures, Australian authorities encourage the constant audible monitoring of channel 16 on the bridge at all times.

The Marine Radio Operators Handbook, published by the Australian Maritime College, is available from most marine retailers and deals specifically with VHF radio procedures

### Operating procedures

Standard radio procedures are used by boats of all nationalities.

#### Standard calls

When making a standard call to another boat or volunteer group state clearly:

- the boat/group you are calling — spoken three times
- this is — name of the boat — spoken three times
- message
- over
- await response.

#### Distress calls

The distress call 'mayday' may be used only if the boat is threatened by grave and imminent danger and immediate assistance is required. This distress call has absolute priority over all other transmissions and may only be transmitted on the authority of the skipper or the

person responsible for the safety of your boat.

#### **Call procedure:**

- mayday mayday mayday
- this is — name and radio call sign of boat in distress — spoken three times
- mayday
- name and radio call sign of boat
- details of boat's position
- nature of distress and assistance required
- other information including number of people onboard.

#### **Urgency calls**

The urgency call should be used when the use of a distress call is not justified but a very urgent message needs to be transmitted concerning the safety of the boat or the safety of a person onboard. Once again, an urgency call may only be made on the authority of the skipper or person responsible for the safety of the boat.

#### **Call procedure:**

- pan pan pan pan pan pan
- hello all stations hello all stations hello all stations
- this is — name and radio call sign of boat — spoken three times
- details of the boat's position
- details of assistance required and other information.

#### **Safety calls**

The safety call should be used to broadcast an important navigational warning to other stations. For example, if a large floating object that could damage the hull of a boat has been sighted.

A safety call is more likely to be made by a coast station or a limited coast station operated by a marine rescue association and may include important weather warnings such as severe thunderstorm, gale and cyclone warnings.

#### **Call procedure:**

- say-cure-e-tay say-cure-e-tay say-cure-e-tay
- hello all stations hello all stations hello all stations
- this is — name and radio call sign of boat or shore station — spoken three times
- details of the warning.

The safety message should be broadcasted on a working frequency.

The master of a vessel is required to respond to a distress call. If the vessel in distress is beyond doubt a long distance away, then wait a few minutes for a closer vessel to respond. If there is no response then your vessel should acknowledge the call and relay the distress message to an appropriate station. Details on all aspects of marine radio operation can be obtained from the Marine Radio Operators Handbook issued by the Australian Maritime College and Office of Maritime Communications.