Emergency Procedures for Ships Carrying Dangerous Goods

The EmS contains guidance in the event of a fire or spillage of dangerous goods. There are both general instructions that apply to a whole class of substances, but also instructions that are specific to a particular product.

FIRE

Preventing a fire from occurring is the most important part of a shipboard safety programme. However, once a fire has started, a well-trained crew is important for bringing the fire under control.

It is essential to identify the dangerous goods involved in the fire because some dangerous goods are incompatible with some fire-fighting media and could exacerbate the situation (for example water-based extinguishing medium on water-reactive cargoes)

In general, fires require heat and oxygen to start burning. Only a limited number of chemicals do not need oxygen from the air. Therefore, the aim of fire fighting is to exclude oxygen and to cool the cargo. This is generally carried out by using water spray or gas extinguishing systems.

Some burning cargoes will need special fire-fighting media (like dry inert material) to suffocate the fire. In such circumstances, normal fire-fighting procedures are often impracticable, and concentrating on cooling nearby cargo and ship structures is recommended in such cases.

Self-contained breathing apparatus is essential for fire fighting because dangerous goods on fire produce various substances hazardous to health

If a fixed gas fire-extinguishing system is used for incidents under deck, all hatches and vent dampers should be closed and ventilation shut off before the system is activated

After termination of fire fighting:

Any contamination with hazardous material should be immediately removed from the skin and then washed,

Cargo may re-ignite after a fire has been extinguished.
a patrol should therefore be maintained in the spaces in which the fire occurred and in any adjoining spaces to ensure that any new ignition or leakages are dealt with promptly

Leakage
Leakage of dangerous goods can be very dangerous for the crew and for the ship.
If a leak is discovered, the hazards associated with that leak should immediately be ascertained.
In cases involving leaks of flammable liquids or flammable gases (class 3 and class 2.1 labels),
the crew should withdraw to a well-protected position. Air-vapour and air-gas mixtures are liable to explode.

In the case of leakage resulting from burning cargo, it is important to be aware that any spillage of a marine pollutant which is washed overboard will pollute the sea. It is, however, more important to

fight a fire on board a ship rather than to prevent pollution of the sea.

Here are some General guidelines for FIRE presented in the EMS guide

• Think safety first!
• Avoid any contact with dangerous substances.
• Keep away from fire, smoke, fumes and vapours.
• Sound the fire alarm and start fire-fighting procedures.
• Keep the bridge and living quarters upwind if possible.
• Locate stowage position of cargo that is burning or evolving smoke.
• Identify cargo.
• Obtain UN numbers and the EmS FIRE SCHEDULE of the dangerous goods involved.
• Consider which measures of the EmS FIRE SCHEDULE are applicable and should be followed.
• Check if other dangerous goods may potentially be involved in the fire and identify the relevant EmS FIRE SCHEDULE.
• Wear suitable protective clothing and self-contained breathing apparatus.
• Be prepared to use the Medical First Aid Guide
• Contact the designated person of the company responsible for the operation of the ship or a rescue coordination centre to obtain expert advice on dangerous goods emergency response measures.

SPILLAGE

Crew training and the familiarity with a general contingency plan is very important. Drills and exercises specific to the cargoes on board should be a part of shipboard routine.

The general response to spillage involving dangerous goods can be subdivided into the following tactical objectives:
1 identification;
2 rescue;
3 isolation; and
4 response.

Identification
The identification of the dangerous goods involved in the spillage is essential in order to take appropriate actions

Rescue
The highest priority should be the safety of personnel. One of the first concerns after evaluating the situation of the incident is finding and rescuing victims

Isolation
The objective of isolation is to limit the number of personnel exposed to the spilled material. This may be achieved by simply roping or taping off dangerous areas

Response
At sea, human and other resources are limited. So in most cases involving spillage of dangerous goods, the most effective response will probably be to wash the substance overboard

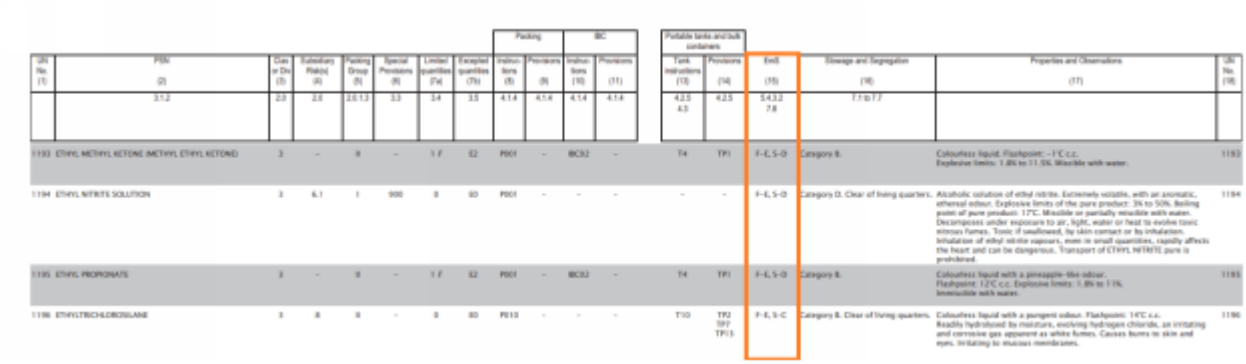
Advice
Always seek expert ADVICE when dealing with dangerous goods spills or fire.

Such ADVICE could be given by
1 ship operating companies
2 emergency information centres
3 specialized agencies

4 professional responders
5 port State authorities
6 coastguards
7 fire brigades
8 manufacturers of the products

Column 15

In column 15 of the Dangerous Goods List of the IMDG code you will, instead of the transport category, find relevant information concerning the emergency schelude in case of fire or spillage Each substance has been given a code in case of fire or spillage.



F-Fire

F-A
F-B
F-C
F-D
F-E
F-F
F-G
F-H
F-l
F-J

S - Spillage

S-A
S-B
S-C
S-D
S-E
S-F
S-G
S-H
S-l
S-J
S-K
S-L
S-M
S-N
S-0
S-P
S-Q

S-R
S-S
S-T
S-U
S-V
S-W
S-X
S-Y
S-Z

The EmS Guide will provide you with an emergency schedule and general comments for each category

Medical First Aid Guide

The Medical first aid guide or the MFAG is provided as a supplement to the IMDG code for Use in Accidents Involving Dangerous Goods.

In the medical first aid guide you will find information and recommended treatments.

this Guide is divided into sections which are grouped to ensure rapid access to the recommendations in an emergency.