Trans Adriatic Pipeline Project

Relazione Finale sulla Verifica di Ottemperanza alle Prescrizioni A.55 del D.M. n. 223 dell'11.09.2014 come modificato dal D.M. n.72 del 16.04.2015

Autorità competente: MiTE

Ente Vigilante: ARPA Puglia

ALLEGATO 17

SOPEP - Castoro 6, Ivory, Fase 3 "condotta a mare"

	Nome: Contrattista	***SHELTER Srl***
	Progetto Contrattista N°:	**441-P20-OCT-TAP**
	Doc. Contrattista N°	
	Tag N°: N/A	

Contratto TAP AG N°.: C37021	*Progetto N°:* -

PO No.: 4500000859		*Page:*

TAP AG Document No.:

IPL00-C37021-200-F-TVP-0008

DISCIPLINE PROCEDURE

SOPEP

(Shipboard Oil Spill and Emergency Plan)

C6-PRO-AST-004-E

IMO No. : 8758603

Issued By	Approved
SAIPEM	*ABS American Bureau of Shipping*

MARNAVI S. P. A.
TRASPORTI MARITTIMI

MULTIPURPOSE SUPPLY VESSEL
IEVOLI IVORY - N° RINA 92277

RINA Turkey Engineering Centre

Approvato
Approved
In compliance with Reg.37 Annex I and Reg.17 Annex II of the 73/78 MARPOL Convention on behalf of the Administration of
ITALY

N. ISCD0000002465

03 AUG 2015
Istanbul

RINA SERVICES

See letter: ISCD/2015/00193/CCY

Flag :	**Italy**
Port of registry:	**Naples**
Call Sign. :	**I B K M**
IMO N°:	**9608788**
Gross Tonnage (GT):	**4505**
Shipyard:	**Selah Shipyard Tuzla**
Date of Construction::	**2015**
Length overall:	**90.83 m**
Breadth:	**18.80 m**
Owners:	**Marnavi Spa - Italy**

SHIPBOARD OIL POLLUTION EMERGENCY PLAN FOR NOXIOUS LIQUID SUBSTANCES (SMPEP-NSL)

(in compliance with Reg. 37 of Annex I and Reg.17 Annex II of MARPOL 73/78)

APPROVAL STAMP OF ADMINISTRATION

GENERAL POLICY

This Plan is written in accordance with the requirements of Regulation 37 of Annex I and Regulation 17 of Annex II of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto.

The purpose of the Plan is to provide guidance to the master and officers on board the ship with respect to the steps to be taken when a pollution incident has occurred or is likely to occur.

The Plan contains all information and operational instructions required by the Guidelines issued by the International Maritime Organization (IMO). The Appendices contain names, telephone, telefax and telex numbers of all contacts referenced in the plan, as well as other reference material.

This Plan has been approved by RINA on behalf of the Administration and, except as provided below, no alteration or revision shall be made to any part of it without the prior approval RINA

It is not necessary that the amendments to Section 5 and the appendices are approved by the Administration. The appendices shall be kept updated by the owners, operators and managers of ships.

RECORD OF CHANGES

Page	Revision no.	Revision date	Note

TABLE OF CONTENTS

1. Preamble

This Plan is available to assist personnel in dealing with an unexpected discharge of oil. Its primary purpose is to set in motion the necessary actions to stop or minimize the discharge and to mitigate its effects. It includes guidance to assist the master in meeting the demands of both an operational spill and a catastrophic discharge, should the ship become involved in one. Effective planning ensures that the necessary actions are taken in a structured, logical, safe and timely manner.

The Plan goes beyond providing for operational spills. The need for a predetermined and properly structured Plan is clear when one considers the pressures and multiple tasks facing personnel confronted with an emergency situation In the heat of the moment, lack of planning will often result in confusion, mistakes and failure to advise key people. Delays will be incurred and time will be wasted; time during which the situation may well worsen. As a consequence, the ship and its personnel may be exposed to increasing hazards and greater environmental damage may occur.

For the Plan to accomplish its purpose, it must be:

realistic, practical and easy to use;

understood by ship management personnel, both on board and ashore;

evaluated, reviewed and updated regularly.

The Plan envisioned by Regulation 37 of Annex I and Regulation 17 Annex II to the Convention is intended to be a simple document. Use of summarising flow charts or checklists to guide the master through the various actions and decisions required during an incident response is highly encouraged. These can provide a quickly visible and logically sequenced form of information, which can reduce error and oversight during emergency situations. Inclusion of extensive background information on the ship, cargo, etc., should be avoided, as this is generally available elsewhere. If such information is relevant, it should be kept to annexes where it will not dilute the ability of ship's personnel to locate operative parts of the Plan.

The Plan is likely to be a document used on board by the master and officers of the ship. It must therefore be available in a working language or languages understood by the Master and officers. A change in the Master and Officers which brings about an attendant change in their working language or languages understood would require the issuance of the Plan in the new languages.

This Plan consists of:

(i) the list of authorities or persons to be contacted in the event of an oil pollution incident (see Section 2);

(ii) the procedure to be followed by the master of other persons having charge of the ship to report an oil pollution incident (see Section 2);

(iii) a detailed description of the action to be taken immediately by persons on board after a spill has occurred (see Section 3);

(iv) the procedures and point of contact on the ship for co-ordinating shipboard activities with national and local authorities in combating the pollution (see Section 4).

2. Reporting requirements

2.1 When to report

This section provides guidance to enable the master to determine when a report to the Coastal State and to those individuals/organizations specified in Section 2.3 is required. In order to expedite response and minimize damage from a pollution incident, it is essential that appropriate Coastal States should be notified without delay[1]. Without interfering with shipowners' liability, some Coastal States consider that it is their responsibility to define techniques and means to be taken against an oil pollution incident and approve such operations which might cause further pollution, i.e. lightening. States are in general entitled to so under the International Convention relating to intervention on the High Seas in Cases of Oil Pollution Casualties, 1969 (Intervention Convention). For reference a list of States that signed such Convention is reported in Appendix 4. Other coastal States, in general different from the ones that signed the Intervention Convention, require ships to have contracts with "response contractors" when ships enter into such States' ports. It is therefore recommended that, when the ship sails toward such States, response resources (personnel and equipment) and capabilities are identified in advance for each potential State's port.

2.1.1 Actual discharge

A report to the Coastal State and to those individuals/organizations specified in Section 2.3 is required whenever there is:

- a discharge of oil above the permitted level for whatever reason, including those for the purpose of securing the safety of the ship or saving life at sea; or
- a discharge during the operation of the ship of oil in excess of the quantity or instantaneous rate permitted under the present MARPOL Convention[2] [3].

2.1.2 Probable discharge

A report to the Coastal State and to those individuals/organizations specified in Section 2.3, may be required if there is a situation which, though not involving an actual discharge, would qualify as a substantial threat of a discharge. In judging whether there is such a probability and whether the report should be made, the following factors, as a minimum, should be taken into account:

- the nature of the damage;
- ship location and proximity to land or other navigational hazards;
- weather, tide, current and sea state; and
- traffic density.

As a general guideline, the master should report in cases of:

- damage, failure or breakdown which affects the safety of ships; examples of such situations are collision, grounding, explosion, structural failure, flooding, cargo shifting, etc.; and
- failure or breakdown of machinery or equipment which results in the impairment of the safety of navigation; examples of such incidents are failure or breakdown of steering gear, propulsion, electrical generating system, essential shipborne navigational aids, etc.

2.2 Required information

In case of an actual discharge or a probable discharge which requires a report according to the provisions of Section 2.1.2, Format 1 "Initial notification" shall be sent to the Coastal State and the individuals/organizations of Section 2.3 according to the notification flowchart of Section 2.3.4.

In case of an actual discharge which requires information be provided according to the provisions of Section 3.3.2 so that damage stability and damaged longitudinal strength assessment may be made (see Section 3.3.2), Format 2 "Stability and strength assessment notification" shall be sent to the Technical Advisor of the Owner according to the notification flowchart of Section 2.3.4.

The initial notification shall be followed by supplementary and/or follow-up reports according to Format 3

[1] Refer to Article 8 and to Protocol I of the MARPOL 73 Convention.
[2] "Present MARPOL Convention" means the MARPOL 73/78 Convention as amended and in force at the time this Plan is approved

Format 1

Initial notification - page 1

AA (ship name, call sign, flag)

BB (date and time of event, UTC)

D D H H M M

CC (position, latitude, longitude) *or* **DD** (bearing, distance from landmark)

d d m m N S

d d d N miles

d d d m m E W

EE (course)

d d d

FF (speed, knots)

km km 1/10

LL (intended track)

MM (radio station(s) guarded)

NN (date and time of next report, UTC)

D D H H M M

PP (type and quantity [tons] of cargo/bunkers on board)

QQ (brief details of defects/deficiencies/damages; ability to transfer cargo/ballast/fuel)

RR (brief details of pollution, including estimate [tons] of quantity lost, extent and movement of the pollution, whether the oil floated or sank

[3] No discharge is permitted under the Italian law.

Format 1

Initial Notification - page 2

SS (brief detail of weather and sea conditions)

WIND { DIRECTION ___ / SPEED (Beaufort)	SWELL { DIRECTION / HEIGHT (m)
RAIN [Y/N]	CLOUD [Y/N]
AIR TEMPERATURE [degrees]	CURRENT [knots] ___ km ___ km ___ 1/10
VISIBILITY [m]	

TT (contact details of ship's owner/operator/agent)

UU (ship size and type)

LENGTH: [m] BREADTH: [m] DRAUGHT: [m] TYPE:

XX (additional information)

Brief details of incident:

Assistance: requested or provided

Actions being taken:

Number of crew and details of any injuries:

Details of P&I Club and local correspondent:

Other:

YY (Request to relay report to another system e.g. AMVER,AUSREP, JASREP, MAREP etc., if any)

ZZ (End of report)

The alphabetical reference letters in the above format are from "General principles for ship reporting systems and ship reporting requirements, including guidelines for reporting incidents involving dangerous goods, harmful substances and/or marine pollutants" adopted by the International Maritime Organization by resolution A.851(20).
The letters do not follow the complete alphabetical sequence as certain letters are used to designate information required for other standard reporting formats, e.g., those used to transmit route information.

Format 2

Stability and Strength Assessment Notification - page 1

M/V:	_____
TRIP:	from _____ to _____
DATE:	departure _____ arrival (estimate) _____

DRAFTS AFTER ACCIDENT		
FWD	P	[m]
	S	[m]
AFT	P	[m]
	S	[m]
MIDSHIP	P	[m]
	S	[m]
TRIM	P	[cm]
	S	[cm]
LIST	P	[dg][°]
	S	[dg][°]

WATER GRAVITY	.....	[t/m^3]

ADVICE REQUIRED FOR THE FOLLOWING ACTIONS	1 .... 2 .... 3 .... 4 ....

DAMAGE DESCRIPTION	Damage location and extension are to be sketched at page 4 of this Format

Format 2

Stability and Strength Assessment Notification - page 2

M/V:	_____
TRIP:	from _____ to _____
DATE:	departure _____ arrival (estimate) _____

	TANK/SPACE DESCRIPTION [5]	LOCATION	100% VOLUME [m^3]	QUANTITY[4] departure check [t]	QUANTITY [4] after accident check [t]	CARGO[4] GRAVITY [t/m^3]	DAMAGED[5] [Y/N]
	WATER BALLAST/DRILL WATER						
1	WB/DW _TK 1 PS	FR. 84-96	93.82				
2	WB/DW _TK 1 SB	FR. 84-96	93.82				
3	WB/DW _TK 2 PS	FR. 72-84	94.68				
4	WB/DW _TK 2 SB	FR. 72-84	94.68				
5	WB/DW _TK 3 PS	FR. 52-72	118.40				
6	WB/DW _TK 3 SB	FR. 52-72	118.40				
7	WB/DW _TK 4 PS	FR. 42-57	110.45				
8	WB/DW _TK 4 SB	FR. 42-57	110.45				
9	WB/DW _TK 5 PS	FR. 27-42	127.93				
10	WB/DW _TK 5 SB	FR. 27-42	127.93				
11	WB/DW _TK 6 PS	FR. 0-13	70.45				
12	WB/DW _TK 6 SB	FR. 0-13	84.75				
13	WB/DW _FORE PEAK	FR.139-151	183.64				
	FRESH WATER						
14	FW_TK 1 PS	FR.124-139	56.89				
15	FW_TK 1 SB	FR.124-139	49.39				
16	FW_TK 2 PS	FR.109-118	40.82				
17	FW_TK 2 SB	FR.109-118	40.82				
18	FW_TK 3 PS	FR.109-123	75.79				
19	FW_TK 3 SB	FR.109-123	72.07				
20	FW_TK 3 CL	FR. 84-96	54.33				
21	FW_TK 4 CL	FR. 72-84	54.33				
22	FW_TK 5 CL	FR. 58-72	63.39				
23	FW_TK CL	FR. 0-2	48.50				
24	FW_TK 6 PS	FR.15-27	157.42				
25	FW_TK 6 SB	FR.15-27	157.42				
	POTABLE WATER						
26	PW_TK PS	FR. 123-139	126.03				
27	PW_TK SB	FR. 123-139	126.03				
	FUEL OIL						
28	FO DAY TK PS	FR.102-108	18.93				
29	FO DAY TK SB	FR.102-108	18.93				
30	FO SETT PS	FR.96-102	33.62				
31	FO SETT SB	FR.96-102	33.62				
32	FO_TK 1 PS	FR. 42-57	168.70				
33	FO_TK 1 SB	FR. 42-57	168.69				
34	FO_TK 2 PS	FR. 36-42	150.15				
35	FO_TK 2 SB	FR. 36-42	150.15				
36	FO_TK 3 PS	FR. 27-36	201.84				
37	FO_TK 3 SB	FR. 27-36	201.84				

[4] This column shall be filled by the Master before each voyage when cargo loading operations are finished
[5] See the sketches in the following pages of Format 2

Format 2

Stability and Strength Assessment Notification – page3

M/V:	_____
TRIP:	from _____ to _____
DATE:	departure _____ arrival (estimate) _____

	TANK/SPACE DESCRIPTION [5]	LOCATION	100% VOLUME [m^3]	QUANTITY [4] departure check [t]	QUANTITY [4] after accident check [t]	CARGO GRAVITY [4] [t/m^3]	DAMAGED [5] [Y/N]
	LIQUID MUD / DRILLING BRINES / ORO						
38	LM/DB_TK 1 PS	FR. 84-96	214.97				
39	LM/DB_TK 1 SB	FR. 84-96	214.97				
40	LM/DB_TK 2 PS	FR. 72-84	214.97				
41	LM/DB_TK 2 SB	FR. 72-84	214.97				
42	LM/DB_TK 3 PS	FR. 63-72	214.97				
43	LM/DB_TK 3 SB	FR. 63-72	214.97				
44	LM/MET/DB/ORO_TK 4 PS	FR. 16.5-27	120.70				
44	LM/MET/DB/ORO_TK 4 SB	FR. 16.5-27	120.70				
	BASE OIL						
45	BO_PS	FR.57-63	55.73				
46	BO_SB	FR.57-63	55.73				
	OTHER						
47	CARGO FO O.FLOW	FR.36-42	30.40				
48	BILGE WATER TK	FR.98-107	31.43				
49	ER FO O.FLOW	FR.98-101	10.48				
50	LO_PS	FR.104-108	7.62				
51	LO_SB	FR.104-108	7.62				
52	DIRTY LO TK	FR.101-107	20.96				
53	SEWAGE TK	FR.119-123	22.47				
54	NLS BILGE	FR.42-46	17.88				
55	SLUDGE TK	FR.119-123	8.50				
56	FOAM TK PS	FR.96-99	7.00				
57	FOAM TK SB	FR.96-99	7.00				
	VOID & COFFERDAM						
58	COFFERDAM 1	FR.46-46	23.46				
59	COFFERDAM 2	FR.57-58	27.99				
60	COFFERDAM PS	FR. 21-27	41.27				
61	COFFERDAM SB	FR. 21-27	41.27				
62	VOID 1	FR.123-124	14.86				
63	VOID 2	FR.118-123	5.55				
64	VOID 3	FR.96-109	183.41				
65	VOID 4 PS	FR.18-21	1.41				
66	VOID 4 SB	FR.18-21	1.41				
67	HI PAP_PS	FR.54-57	27.53				
68	HI PAP_SB	FR.54-57	27.52				
69	LOG & ECHOS	FR.139-142	8.16				
70	DRY BULK 1	FR.59-66	80.30				
71	DRY BULK 2	FR.86-93	80.30				
72	DRY BULK 3	FR.68-75	80.30				
73	DRY BULK 4	FR.77-84	80.30				

[4] This column shall be filled by the Master before each voyage when cargo loading operations are finished

[5] See the sketches in the following pages of Format 2

Format 2

Stability and Strength Assessment Notification – page 4

M/V:	_____
TRIP:	from _____ to _____
DATE:	departure _____ arrival (estimate) _____

	TANK/SPACE DESCRIPTION [5]	LOCATION	100% VOLUME [m^3]	QUANTITY [4] departure check [t]	QUANTITY [4] after accident check [t]	CARGO GRAVITY [4] [t/m^3]	DAMAGED [5] [Y/N]
	DRY BULK						
74	DRY BULK 1	FR.59-66	80.30				
75	DRY BULK 2	FR.86-93	80.30				
76	DRY BULK 3	FR.68-75	80.30				
77	DRY BULK 4	FR.77-84	80.30				

[4] This column shall be filled by the Master before each voyage when cargo loading operations are finished
[5] See the sketches in the following pages of Format 2

Format 2

Stability and Strength Assessment Notification - page 5

NOTE FOR THE MASTER:
WHEN TRANSMITTING THE PRESENT FORMAT 2, INSERT IN THIS PAGE THE SHIP'S SKETCHES AS THEY ARE REPORTED IN THE CAPACITY PLAN

Format 3

Follow-up Notification - page 1

M/V: _____
TRIP: from _____ to _____
DATE INITIAL NOTIFICATION: _____
FOLLOW-UP NOTIFICATION NO.: _____ DATED _____ UTC _____

PP Additional details on the type of cargo on board	
QQ Additional details on the condition of the vessel and ability of transfer cargo, ballast and fuel	
RR Additional details on the quantity, extent and movement of the pollution, whether the discharge is continuing and the oil floated or sank	
SS Any change in the on-scene weather or sea conditions	
XX Actions being taken with regard to the discharge and the movement of the ship	

Format 3

Follow-up Notification - page 2

Additional information concerning stability and hull strength assessment	

2.3 Whom to contact

The ship involved in an actual discharge or a probable discharge which requires a report according to the provisions of Section 2.1.2 shall have to communicate with both Coastal State (or port contacts if the ship is in port) and ship interests contacts according to the notification flowchart given in Section 2.3.4.

2.3.1 Coastal State contacts

In Appendix 1 of this Plan the list of agencies or officials of administrations responsible for receiving and processing reports and updated by the Organization is given. Should any undue delay be experienced in contacting the responsible authority by direct means, the master shall contact the nearest coastal radio station, designated ship movement reporting station or rescue co-ordination centre (RCC) by the quickest available means.

2.3.2 Port contacts

For ships in port, local agencies shall be notified according to Section 2.3.4. Information on regularly visited ports is included in Appendix 2 to this Plan. When the next port of call is a port which is not included in the list, the Master shall obtain details concerning its local reporting procedure before departure and update Appendix 2 accordingly.

2.3.3 Ship interests contacts

The complete list of all parties with an interest in the ship who are to be notified according to Section 2.3.4, is given in Appendix 3. The list shall be updated prior commencing any voyage.

2.3.4 Notification flowchart

Priority	Who	Action	Format	Who to inform	Where in the Plan
1	Master	Send the Initial notification	1	Coastal State (ship at sea)	Appendix 1
			1	Port contact (ship at sea)	Appendix 2
			1	Owner/Operator/Designed Person Ashore*	Appendix 3
			1	Technical Advisor	Appendix 3
2	Master	Send the stability and strength assessment notification	2	Technical Advisor	Appendix 3
3	Master	Send follow-up notifications	3	Coastal State or port contact Owner/Operator/Designed Person Ashore*	Appendix 1 Appendix 2 Appendix 3
4	Owner	Activate clean-up resources (if necessary)	1	Oil Spill Removal Organization [6]	Appendix 3 [6]
5	Owner	Send the Initial notification	1	Cargo Owner [6]	Appendix 3 [6]
6	Owner	Send the Initial notification	1	Insurer representative	Appendix 3
7	Owner	Send the Initial notification	1	P&I Club representative	Appendix 3
8	Owner	Send the follow-up notifications	3	Oil Spill Removal Organization [6] Insurer representative P&I Club representative Cargo Owner [6]	Appendix 3 [6]

[6] TO BE FILLED IN BY THE MASTER PRIOR COMMENCING ANY VOYAGE

*** see paragraph 2.3.5**

2.3.5 Shore Side Spill Response Coordinator

The “Shore Side Spill Response Coordinator” or “ Designed Person Ashore “ is ashore based person of the Owners / Operator or appointed by the Owners/ Operator to be a Guidance for the Master for requesting and coordinating initial response personnel and equipment.

For this ship the Shore Side Spill Response Coordinator is the DPA of Marnavi Offshore Srl , see appendix 3 for details

2.4 Communication methods

In case of actual discharge or a probable discharge which requires a report according to the provisions of Section 2.1.2, the primary communication method (see Table 2.1) shall be used.

In case notification by the primary communication method is not available on board, fails or should any undue delay be experienced, then a secondary communication method with the priority indicated in Table 2.1 shall be used.

In case both primary and secondary communication methods fail, then emergency notification method shall be used.

In case of an actual discharge which requires information be provided to the Technical Advisor, then notification by primary communication method shall be preceded by a verbal communication via SATCOM phone.

COMMUNICATION METHOD	PRIORITY	DETAILS
Primary	1	Written report transmitted by vessel’s Satellite Communication (SATCOM)
Secondary	2	Verbal communication via SATCOM phone
	3	Telex message via SATCOM phone
Emergency	4	Verbal report via HF or VHF coast radio station

Table 2.1

3. Steps to control discharge

Ship's personnel will almost always be in the best position to take quick action to mitigate or control the discharge of oil from the ship.

In this Section guidance is given to the Master on how to accomplish operational spills and spills resulting from casualties.

Actions to be taken by onboard personnel for each spill scenario are outlined in checklists at the end of this Section, according to the following Table 3.1. Such checklists will ensure that the Master considers all appropriate factors when addressing the specific casualty. These checklists are tailored to the specific ship and to the specific substance. In order to foresee all possible dangerous reactions of cargo, reference has to be made to the "Compatibility Chart", enclosed to this Plans as Appendix 5, where are listed the group of products that can react if carried with other products, or self-reacting if the transportation conditions change with respect to the foreseen ones. Reference should also be made to the IMO publication " Emergency Procedures for Ships carrying Dangerous Goods " and to " Medical Fist Aid Guide for Use in Accident involving Dangerous Goods ". Such publications should be kept whit the Plan on board. In addition to the checklists, specific personnel assignments for anticipated tasks are identified. In order to identify personnel responsibilities, reference to existing fire control plans and muster lists is to be made.

SPILL CATEGORY	CHECKLIST	SPILL DUE TO	WHERE IN THE PLAN
Operational	1	Pipe leakage	3.5.1
	2	Tank overflow	3.5.2
	3	Hull leakage	3.5.3
Resulting from a casualty	4	Collision with a fixed or moving object	3.5.4
	5	Grounding/Stranding	3.5.5
	6	Fire/explosion	3.5.6
	7	Hull failure	3.5.7
	8	Excessive list	3.5.8
	9	Containment system failure	3.5.9
	10	Dangerous reactions of cargo	3.5.10
	11	Other dangerous cargo release	3.5.11
	12	Loss of tank enviromental control	3.5.12
	13	Submerged/foundered	3.5.13
	14	Wrecked/stranded	3.5.14
	15	Cargo contamination	3.5.15
	16	Hazardous vapour release	3.5.16

Table 3.1

3.1 On-board response team

An on-board response team shall be established according to the following Fig. 3.1 to take quick action to mitigate or control a discharge.

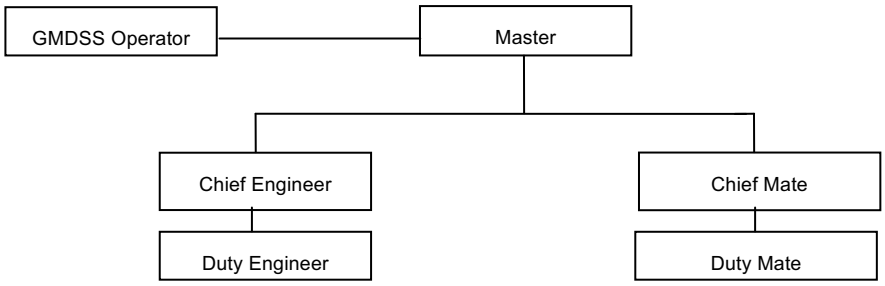

Fig. 3.1

3.2 Pre-loading measures

3.2.1 Preventive measures/Safety precautions

Before loading noxious liquid substances, an inspection of cargo tanks should be carried out, as far as possible, for detection of pitting or pinholes, which represent a potential source of leakage. The result of the inspection shall be entered in the logbook. Passivation of cargo tanks, depending on the time since the last one was carried out and on the nature of previous cargo, may be required. Upon completion of loading operations records in the logbook shall be entered, confirming that, as far as possible, cargo tanks have been inspected and are free from leakages and that in any stage of operations safety precautions, as presence of safety equipment near to the manifold area, crew at the manifold wearing the required protective equipment, crew aware of the potential hazardous of the cargoes carried on board, fire-fighting equipment ready to use, emergency shower/eye washing tested and ready to use, etc., have been strictly followed. The Owner's procedures booklet should be of guidance for conducting all pre-loading and after loading controls and operations

3.2.2 Cargo Stowage Plan

When loading chemicals, in particular, a loading planning shall be prepared, taking into special consideration, apart from satisfaction of stress and stability requirements, all compatibility problems that may arise in the transportation of such type of cargoes. Some of the possible characteristics of the transported products to be taken into account in the preparation of the Cargo Stowage Plan could be the following:

- non compatibility between cargoes stowed in tanks next to each other (see Compatibility Chart in Appendix 5)
- products which require heating or cooling during transportation, due to their instability on dependence of the temperature
- non compatibility of products with other heated or cooled cargoes stowed in tanks next to their ones
- products non compatible with water not to be stowed in cargo tanks near to ballast tanks
- cargoes requiring inertization with nitrogen, in order to avoid possible reaction with moisture or oxygen
- suitability of lining/coating and material of cargo tanks with the products which should be carried inside them
- products that are not flammable, corrosive or toxic by themselves, may become so if mixed or brought into their unstable range

3.3 Operational spills

Actions to be taken by and duties and responsibilities of onboard personnel for safe removal of oil spilled and contained on deck in case of pipe leakage, tank overflow and hull leakage are outlined in Checklists number 1, 2 and 3 respectively. In addition to the checklists and personnel duty assignment, the Plan provides the Master with guidance concerning priority actions, stability and stress considerations, lightening and mitigating activities.

3.4 Spill resulting from casualties

3.4.1 Priority actions

In responding to a casualty, the Master's priority will be to ensure the safety of personnel and the ship and to take action to prevent escalation of the incident. In casualties involving spills, immediate consideration should be given to measures aiming at preventing fire, personnel exposure to toxic vapours and explosion, such as altering course so that the ship is upwind of the spilled oil, shutting down non-essential air intakes, etc. If the ship is aground, and cannot therefore manoeuvre, all possible sources of ignition should be eliminated and actions taken to prevent toxic vapours or flammable vapours entering accommodation and engine-room spaces. When it is possible to manoeuvre, the Master, in conjunction with the appropriate shore authorities, may consider moving his ship to a more suitable location, in order, for example, to facilitate emergency repair work or lightering operations, or to reduce the threat posed to any particularly sensitive shoreline areas. Such manoeuvring may be subject to Coastal State jurisdiction.

Prior to considering remedial action, the Master will need to obtain detailed information on the damage sustained by his ship. A visual inspection should be carried out and all cargo tanks, bunker tanks and other compartments should be sounded. Due regard should be paid to the indiscriminate opening of ullage plugs or sighting ports, especially when the ship is aground, or loss of buoyancy could result.

Having assessed the damage sustained by the ship, the Master will be in a position to decide what action should be taken to prevent or minimize further spillage. When bottom damage is sustained, hydrostatic balance will be achieved fairly rapidly, especially if the damage is severe, in which case the time available for preventive action will often be limited. When significant side damage is sustained in the way of fuel/lubrication and/or cargo tanks, cargo or bunkers will be released fairly rapidly until hydrostatic balance is achieved and the rate of release will then reduce and be governed by the rate at which bunkers or cargo is displaced by water flowing in under the bunkers or cargo. When the damage is fairly limited and restricted, for example, to one or two compartments, consideration may be given to transferring the substance involved internally from damaged to intact tanks. When considering the transfer of oil or noxious liquid substances from a damaged tank to an intact one, the Master should consider:

1. the extent of damage;
2. hydrostatic balance;
3. the ship's ability to transfer cargo;
4. the physical properties of the substance or substances involved, such as
   - i solubility
   - ii density
   - iii water reactivity
   - iv solidification
   - v compatibility

3.4.2 Stability and stress considerations

Great care in casualty response must be taken to consider stability and strength when taking actions to mitigate the spillage of oil or to free the ship if aground.

Internal transfers should be undertaken only with a full appreciation of the likely impact on the ship's overall longitudinal strength and stability.

The Master shall duly compile and send Format 2 "Stability and strength assessment notification " (see Section 2) so that damage stability and damaged longitudinal strength assessment may be made by the Technical Advisor in the following cases:

- an actual discharge resulting from a casualty
- a probable discharge which requires a report to the Coastal State according to the provisions of Section 2.1.2.

Format 2 shall be sent to the Technical Advisor according to the notification flow chart given in Section 2.3.4 and the contact list given in Appendix 3.

In order to alert the Technical Advisor and guarantee his prompt activation in case the situation suddenly grows worse, Format 2 shall be compiled and sent even if the Master decides to perform the stability and strength assessment on his own.

The Master shall communicate to the Technical Advisor his decision to make stability and strength assessment on his own by indicating at page 1 of Format 2 “No advice required”.

3.4.3 Technical Advisor

For this ships the technical organization in charge for the damage stability and longitudinal stress assessment is RINA (relevant contact are given in Appendix 3.)

3.4.4 Lightening

Should the ship sustain extensive structural damage, then it may be necessary to transfer all or part of the cargo to another ship.

Any ship-to-ship transfer of cargo and/or fuel shall be carried out in compliance with the Owner Company procedures for “Ship to Ship Transfer of cargo; a copy of such Company procedures for ship-to-ship transfer operation shall be kept with the Plan, readily accessible to all personnel involved in transfer operations. It is also to be taken into consideration the right of Coastal States to approve such operation, which is a potential cause of further pollution (see section 2.1).

3.4.5 Mitigating activities

When the safety of both the ship and personnel has been addressed, the Master can initiate mitigating activities according to the guidance given by the Plan, addressing such aspects as:

1. assessment and monitoring requirements;

2. personnel protection issues:

   2.1 protective equipment
   2.2 threats to health and safety

3. the physical properties of the substance or substances involved, such as

   i solubility

   ii density

   iii water reactivity

   iv solidification

   v compatibility

   vi polymerization

4. containment and other response techniques (e.g. dispersing, absorbing, neutralization);
5. isolation procedures;
6. decontamination of personnel;
7. disposal of removed oil, noxious liquid substances and clean-up materials.

3.4.5 Plans and drawings

In order to allow damage stability and damaged longitudinal strength assessment be made by the Technical Advisor, the following plans and drawings shall be available at the Technical Advisor's office:

- Lines and body plan
- General arrangement plan
- Capacity plan
- Hydrostatic curves of form
- Cross curves of stability
- Midship sections and typical transversal sections
- Construction profiles and deck plans
- Shell expansion
- Transverse bulkheads
- Vent overflows
- Bilge and ballast piping
- Lightship weight vertical center of gravity
- Gaugings
- Cargo, ballast and bilge pump curves
- Loading manual
- Trim and stability booklet
- Tanks ullage tables with any ship's heeling and trimming
- Loadline marks position relevant to the perpendiculars

3.5.1 Checklist n. 1

Operational discharge mitigation checklist

TRANSFER SYSTEM LEAK

No.	Action	Responsible	Done	When
1	Secure all transfer pumps and close all Valves in order to stop the flow of product	Chief Mate * Chief Engineer **		
2	Notify shore terminal	Chief Mate* Chief Engineer **		
3	Notify Master	Chief Mate* Chief Engineer **		
4	Activate the on-board response team	Master		
5	Compile Format 1 “Initial notification”	Master		
6	Send Format 1 according the notification flowchart given in Section 2.3.4	Master		
7	Individuate the pipe stretch where leakage occurred	On-board response team		
8	Operate the containment, dispersion and recovery of polluted oil	On-board response team		
9	Take the appropriate steps to prevent Petroleum from entering in engine room intake	Chief Mate* Chief Engineer **		
10	Compile this checklist	Chief Mate* Chief Engineer **		
11	Send supplementary and/or follow-up Format 1 information.	Master		

* Leak on deck
** Leak in engine room

3.5.2 Checklist n. 2

Operational discharge mitigation checklist

TANK OVERFLOW

No.	Action	Responsible	Done	When
1	Secure all transfer pumps and close all valves in order to stop the flow of product	Chief Mate * Chief Engineer **		
2	Notify shore terminal	Chief Mate* Chief Engineer **		
3	Notify Master	Chief Mate* Chief Engineer **		
4	Activate the on-board response team	Master		
5	Compile Format 1 “Initial notification”	Master		
6	Send Format 1 according the notification flowchart given in Section 2.3.4	Master		
7	Transfer the cargo from the affected zone to an available empty or slack tank	Chief Mate* Chief Engineer **		
8	Operate the containment, dispersion and recovery of polluted oil	On-board response team		
9	Take the appropriate steps to prevent petroleum from entering in engine room intake	Chief Mate* Chief Engineer **		
10	Compile this checklist	Chief Mate* Chief Engineer **		
11	Send supplementary and/or follow-up Format 1 information.	Master		

* Cargo overflow
** Fuel overflow

3.5.3 Checklist n. 3

Operational discharge mitigation checklist

SUSPECTED HULL LEAKAGE

No.	Action	Responsible	Done	When
1	Notify Master	Chief Mate* Chief Engineer **		
2	Activate the on-board response team	Chief Mate* Chief Engineer **		
3	Compile Format 1 “Initial notification”	Master		
4	Send Format 1 according to the notification flowchart given in Section 2.3.4	Master		
5	Individuate the specific tank from which leakage is occurring	On-board response team		
6	In the event the source of the leakage cannot be located from onboard, employ a diver to investigate possible bottom leakage	On-board response team		
7	Carry out appropriate actions taking into account the effect that corrective actions may have on hull stress and stability	Master		
8	Reduce the head of cargo in the tank involved by draining cargo an available empty or slack tank	Chief Mate* Chief Engineer **		
9	Repair the leak, if possible	Oil Spill Response Team		
10	Operate the containment, dispersion and recovery of polluted oil	Oil Spill Response Team		
11	Compile this Checklist	Chief Mate* Chief Engineer **		
12	Send supplementary and/or follow up Format 1, information	Master		

* Leak in the hull
** Leak in the engine room

3.5.4 Checklist n. 4

Mitigation of spill resulting from casualty checklist

COLLISION WITH A FIXED OR MOVING OBJECT

No.	Action	Responsible	Done	When
1	Activate the on-board response team	Master		
2	Obtain detailed information on the damage sustained by the ship	Master		
3	Compile Format 1 “Initial notification”	Master		
4	Send Format 1 according to the notification flowchart given in Section 2.3.4	Master		
5	Sound all cargo tanks, bunker tanks and other compartments which are part of or close to the damaged area	Oil Spill Response Team		
6	Compile the Format 2 “Stability and strength assessment notification”	Master		
7	Send Format 2 according to the notification flowchart given in Section 2.3.4	Master		
8	Avoid indiscriminate opening of ullage plugs or sighting ports	Oil Spill Response Team		
9	Take appropriate steps to prevent petroleum gas entering in engine room intake	Chief Mate		
10	Compile this checklist	Master		
11	Send supplementary and/or follow-up Format 1, and Format 2, information	Master		

3.5.5 Checklist n. 5

Mitigation of spill resulting from casualty checklist

GROUNDING/STRANDING

No.	Action	Responsible	Done	When
1	Activate the on-board response team	Master		
2	Obtain detailed information on the damage sustained by the ship	Master		
3	Compile Format 1 “Initial notification”	Master		
4	Send Format 1 according to the notification flowchart given in Section 2.3.4	Master		
5	In the event the source of the leakage cannot be located from onboard, employ a diver to investigate bottom leakage	On-board response team		
6	Sound all cargo tanks, bunker tanks and other compartments which are part of or close to the damaged area	Chief Mate		
7	Direct the sounding around the vessels to establish the vessel’s position on the bottom	Chief Mate		
8	Compile Format 2 “Stability and strength assessment notification”	Master		
9	Send Format 2 according to the notification flowchart given in Section 2.3.4	Master		
10	Reduce fire risk by removing all ignition sources	Chief Mate		
11	Evaluate the necessity of transferring cargo to barge or internally	Master		
12	Compile this checklist	Master		
13	Send supplementary and/or follow-up Format 1, and Format 2, information	Master		

3.5.6 Checklist n. 6

Mitigation of spill resulting from casualty checklist

FIRE/EXPLOSION

No.	Action	Responsible	Done	When
1	Find out immediately where the fire/explosion has taken place	Chief Mate* Chief Engineer **		
2	Sound the fire alarm	Deck Duty Officer		
3	Activate the Fire-Fighting Team	Master		
4	Activate the on-board response team	Master		
5	Determine the extension of damage	Master		
6	Compile Format 1 “Initial notification” and Format 2 “Stability and strength assessment notification”	Master		
7	Send Format 1 and Format 2 according to the flowchart given in Section 2.3.4	Master		
8	Deploy the members of the vessel’s damage control team to the positions deemed best for fighting the fire	Chief Mate		
9	Use all available means to fight the fire	Chief Mate		
10	Try to contain the fire and prevent it from spreading to other part of the vessel	Chief Mate		
11	Compile this checklist	Master		
12	Send supplementary and/or follow-up Format 1, and Format 2 information	Master		

* Deck
** Engine room

3.5.7 Checklist n. 7

Mitigation of spill resulting from casualty checklist

HULL FAILURE

No.	Action	Responsible	Done	When
In case of immediate danger of sinking or capsizing:				
1	Immediately evacuate the vessel	Master		
2	Send the distress message	GMDSS Operator		
3	Compile Format 1 “Initial notification”, if possible	Master		
4	Send Format 1 according to the notification flowchart given in Section 2.3.4, if possible	Master		
In case of no immediate danger of sinking or capsizing:				
1	Determine the extent of damage	Master		
2	Activate the on-board response team	Master		
3	Compile Format 1 “Initial notification”	Master		
4	Send Format 1 according to the notification flowchart given in Section 2.3.4	Master		
5	Direct sounding on all tanks to determine the extent of flooding and number of cargo tanks breached	Chief Mate		
6	Compile Format 2 “Stability and strength assessment notification”	Master		
7	Send Format 2 according to the notification flowchart given in Section 2.3.4	Master		
8	Compile this checklist	Master		
9	Send supplementary and/or follow-up Format 1, and Format 2 information	Master		

3.5.8 Checklist n. 8

Mitigation of spill resulting from casualty checklist

EXCESSIVE LIST

No.	Action	Responsible	Done	When
1	Determine the reason for excessive list	Chief Mate		
2	Notify Master	Chief Mate		
3	Compile Format 1 “Initial notification”	Master		
4	Send Format 1 according to the notification flowchart given in Section 2.3.4	Master		
5	Change to corrective tanks to rectify the situation if in loading/unloading/ballasting operation	Master		
6	Activate the on-board response team	Master		
7	Consider corrective actions	Master		
8	Compile Format 2 “Stability and strength assessment notification”	Master		
9	Send Format 2 according to the notification flowchart given in Section 2.3.4	Master		
10	Compile this checklist	Master		
11	Send supplementary and/or follow-up Format 1, and Format 2 information	Master		

3.5.9 Checklist n. 9

Mitigation of spill resulting from casualty checklist

CONTAINMENT SYSTEM FAILURE

In the event of cargo containment system failure the following actions have a highest degree of priority:

- safety of life;
- control of damage to the vessel and cargo;
- prevention of environmental pollution.

The behavior of the personnel has to be as such as no risks may arise, endangering their own lives or the lives of any other crewmembers.

Following precautions have to be observed:

1. Personnel mustered and briefed on situation and potential dangers.
2. All accommodation access doors shut and all ventilation (except closed circuit system) shut down.
3. All unused valves, hatches, etc., on deck shut down.
4. Smoking and naked lights prohibited everywhere on the ship and electrical switches used as little as possible.
5. Fire hoses and water sprays ready for immediate action.
6. Fire-fighting equipment and breathing apparatus assembled for immediate use.
7. Company/Charterers informed.
8. Technical assistance to be sought for recovery of cargo containment system.

ACTIONS TO BE TAKEN IN CASE OF CORROSIVE CARGO LEAKAGE

Normally such cargoes are carried in stainless steel tanks. In case a leak should occur and cargo be transferred from the damaged tank to an intact one, it is important to ensure that the tank receiving the cargo is suitable for this purpose. In fact, a substance resulting corrosive to normal steel, presents a significant hazard to the ship and to the environment, should the cargo leaks outside its designated containment system.
In case of leakage of corrosive cargoes into coated cargo tanks, void spaces, empty ballast tanks, or, in general, into spaces not specifically designed for containment of such cargoes, the following actions are to be considered:

- abundantly wash the affected area with sea water
- transfer cargo from a damaged tank to an empty intact one having same characteristics
- clean, gas-free and dry both the leaking and the affected areas

Only in case the leakage cannot be satisfactorily contained and mitigated, thus resulting a major hazard to the ship and personnel safety, jettison overboard can be considered.

ACTIONS TO BE TAKEN IN CASE OF TOXIC CARGO LEAKAGE

In case of leakage of toxic cargoes outside their designated containment system, toxic fumes may contaminate deck and accommodation areas. Actions to be taken depend on the degree of toxicity and amount of leakage. Immediate transfer of cargo has to be carried out from damaged tanks to empty available ones, provided that these are suitable to receive such type of cargo.
In case no empty tanks are available, the following cases may occur:

- Cargo leaking into other cargo tanks: ensure that the tanks affected by leakage are coated and suitable for containing toxic cargoes.
- Cargo leaking into ballast tanks: leakages into ballast tanks may cause contamination of deck areas through air pipes. Such pipes are to be sealed off and marked as necessary and a notice has to be placed at the ballast control panel, in order to avoid any possible accidental ballast operation involving affected tanks through blocked air pipes.
- Cargo leaking into void spaces: such spaces must be marked and sealed off, in order to prevent any possible access to the personnel, unless it is strictly necessary and only wearing appropriate protective clothing. In case it is necessary to ventilate the void spaces affected by leakage of toxic cargoes, it is imperative to avoid that personnel come, even accidentally, into contact with toxic fumes, by sealing and marking as dangerous the area near the exhaust ducts.

3.5.10 Checklist n. 10

Mitigation of spill resulting from casualty checklist

DANGEROUS REACTION OF CARGO

1. Notify the Master.
2. Activate the on-board response team (see Section 3.1).
3. Fill-in and send the Form 1 “Initial Notification” to all interested parties, according to the “Notification flowchart” (see Section 2.3.4).
4. Stop all cargo operations, if any in progress.
5. Locate and isolate, if possible, the source of leakage.
6. In case the leakage cannot be located from on-board, employ a diver, where and when available, in order to check for possible bottom damage.
7. Ensure cargo is stowed according its appropriate compatibility chart (see also Appendix 5), taking into consideration that chemicals may react with each other, water or moisture, air, metals, coatings, or self-react (in case transportation conditions change with respect to the foreseen ones).
8. Carry out appropriate actions taking into account the effect that corrective actions may have on hull stress and stability.
9. Reduce the head of cargo in the tank involved by draining cargo to an available empty or slack tank.
10. Repair the leak, if possible.
11. In case of mixing, take into consideration the possibility of carrying out neutralizing actions, collecting all resulting contaminated flushing products into suitable containers, if applicable.
12. Only in case it may result a major hazard to the ship and personnel safety, jettison overboard can be considered.
13. Consult safety publications and documents, as “Material Safety Data Sheets” for current cargoes, “Emergency Procedures Booklet”, “Medical First Aid Guide” (MFAG).
14. Ensure crew use the appropriate safety and protective equipment.
15. Fill-in and send supplementary and/or follow-up information (Format 2 and Format 3).

3.5.11 Checklist n. 11

Mitigation of spill resulting from casualty checklist

OTHER DANGEROUS CARGO RELEASE

1. Notify the Master.
2. Activate the on-board response team (see Section 3.1).
3. Fill-in and send the Form 1 “Initial Notification” to all interested parties, according to the “Notification flowchart” (see Section 2.3.4).
4. Stop all cargo operations, if any in progress.
5. Locate and isolate, if possible, the source of leakage.
6. In case the leakage cannot be located from on-board, employ a diver, where and when available, in order to check for possible bottom damage.
7. Carry out appropriate actions taking into account the effect that corrective actions may have on hull stress and stability.
8. Reduce the head of cargo in the tank involved by draining cargo to an available empty or slack tank.
9. Repair the leak, if possible.
10. Operate containment of spillage, neutralization and/or dispersion of pollutant, if applicable, collecting all resulting contaminated flushing products into suitable containers, if applicable.
11. Ensure that crew use, at any step of the operations, the appropriate safety and protective equipment.
12. Fill-in and send supplementary and/or follow-up information (Form 2 and Form 3).

3.5.12 Checklist n. 12

Mitigation of spill resulting from casualty checklist

LOSS OF TANK ENVIRONMENTAL CONTROL

1. The data sheet of the product and the emergency procedures, provided by the product maker, should be taken into consideration, in order to decide the necessary actions to stop and mitigate the consequences of loss of said control (for instance: loss of control on ventilation, inertization, padding, cooling, heating, etc.).
2. In case of leakage, reference has to be made to the action procedures listed in Checklist No.9 “CONTAINMENT SYSTEM FAILURE”.

3.5.13 Checklist n. 13

Mitigation of spill resulting from casualty checklist

SUBMERGED/FOUNDERED

In the event of a flooding, if the Master, after taking over command and assumed full control of the situation and having ordered to:

- check all watertight doors are closed;
- take soundings of all tanks, holds and bilges;
- locate the source, if any, of ingress of water;
- inform the Owner Company;
- notify the nearest State's Authority,

realizes that the situation is no more recoverable, notwithstanding all attempts, and it is no more safe for the crew to remain on board, GIVES ORDER TO ABANDON THE SHIP.

The behaviour of the personnel has to be as such as no risks may arise, endangering their own lives or the lives of any other crewmembers.

Following emergency actions and duties have to be taken and followed:

Master	Duty Officer	Crew-members
1. Assesses the situation and takes the decision to abandon the ship. 2. Gives the order to transmit the distress signal. 3. Gives verbal order to abandon the ship.	1. Sounds the lifeboat station alarms.	1. Put on lifejackets, safety helmets and warm dresses and proceed to muster stations.

Master and Bridge party	Emergency and stand-by parties	Technical party
1. Ensure Muster check has been completed, all personnel accounted for and details of missing persons (if any) passed to lifeboat commanders.	1. On hearing lifeboat station alarm proceed to abandon ship stations.	1. Maintains power supplies for lighting.
2. Record events and collect logbooks.	2. Carry out muster check and ensure lifejackets donned properly.	2. Ensures manoeuvring of the Main Engine whilst launching lifeboats/liferafts.
3. Monitor preparation and launch of lifeboats.	3. Advise the Master of missing persons (if any) and arrange search.	3.On instruction from the Master stops the Main Engine, secures Engine Room and proceeds to assigned lifeboats stations.
4. Advise to all ships: VHF CH16 DSC CH70 , GMDSS areas frequencies relevant to the sea area where the ship is	4. Prepare lifeboats-liferafts lower top embarkation deck and make ready for rapid boarding.	

engaged		
5. Advice by satphone/telex, etc.	5. Time permitting, arrange for extra blankets, water, provisions, torches, etc.	
6. Reduce way of the vessel as far as possible, time allowing. 7. Switch on deck floodlighting. 8. Time allowing, instruct Emergency and Stand-by parties to gather: extra blankets, water, provisions, torches, hand held radios, etc. 9. put on lifejackets and proceed to boat embarkation points bringing to the boats: EPIRB, SARTs, portable VHFs, extra pyrotechnics, emergency radio, log books, sextant, almanac, calculator, pens, paper, etc.	6. Advise the Master that lifeboats are prepared and crew ready for abandoning ship. 7. When Master's order to abandon ship is received, embark lifeboats/liferafts. 8. Lower boats/liferafts. 9. On hitting water, release from falls and stand-by to pick up Master and launch crew.	

3.5.14 Checklist n. 14

Mitigation of spill resulting from casualty checklist

WRECKED/STRANDED

In the event of a stranding, with the vessel resting on the bottom, the following priorities have to be observed: safety of life; control of damage to the vessel and cargo; prevention of environmental pollution. If the Master, after taking over command and assumed full control of the situation and having ordered to:

- check all watertight doors are closed;
- take soundings of all tanks, holds and bilges;
- locate the source, if any, of ingress of water;
- inform the Owner Company;
- notify the nearest State's Authority,

realizes that the situation is no more recoverable, notwithstanding all attempts, and it is no more safe for the crew to remain on board, GIVES ORDER TO ABANDON THE SHIP.

The behaviour of the personnel has to be as such as no risks may arise, endangering their own lives or the lives of any other crewmembers.

Following emergency actions and duties have to be taken and followed:

Master	Duty Officer	Crew-members
1. Assesses the situation and takes the decision to abandon the ship. 2. Gives the order to transmit the distress signal. 3. Gives verbal order to abandon the ship.	1. Sounds the lifeboat station alarms.	1. Put on lifejackets, safety helmets and warm dresses and proceed to muster stations.

Master and Bridge party	Emergency and stand-by parties	Technical party
1. Ensure Muster check has been completed, all personnel accounted for and details of missing persons (if any) passed to lifeboat commanders.	1. On hearing lifeboat station alarm proceed to abandon ship stations.	1. Maintains power supplies for lighting.
2. Record events and collect logbooks.	2. Carry out muster check and ensure lifejackets donned properly.	2. Ensures manoeuvring of the Main Engine whilst launching lifeboats/liferafts.
3. Monitor preparation and launch of lifeboats.	3. Advise the Master of missing persons (if any) and arrange search.	3.On instruction from the Master stops the Main Engine, secures Engine Room and proceeds to assigned lifeboats stations.

4. Advise to all ships: VHF CH16 DSC CH70 , GMDSS areas frequencies relevant to the sea area where the ship is engaged	4. Prepare lifeboats-liferafts lower top embarkation deck and make ready for rapid boarding.	
5. Advice by satphone/telex, etc. 6. Reduce way of the vessel as far as possible, time allowing. 7. Switch on deck floodlighting. 8. Time allowing, instruct Emergency and Stand-by parties to gather: extra blankets, water, provisions, torches, hand held radios, etc. 9. put on lifejackets and proceed to boat embarkation points bringing to the boats: EPIRB, SARTs, portable VHFs, extra pyrotechnics, emergency radio, log books, sextant, almanac, calculator, pens, paper, etc.	5. Time permitting, arrange for extra blankets, water, provisions, torches, etc. 6. Advise the Master that lifeboats are prepared and crew ready for abandoning ship. 7. When Master's order to abandon ship is received, embark lifeboats/liferafts. 8. Lower boats/liferafts. 9. On hitting water, release from falls and stand-by to pick up Master and launch crew.	

3.5.15 Checklist n. 15

Mitigation of spill resulting from casualty checklist

CARGO CONTAMINATION YIELDING A HAZARDOUS CONDITION

1. Ensure that cargo stowage plan has been prepared taking into strict consideration the “Compatibility Chart”, in order to avoid that non-compatible cargoes are stowed in neighbouring tanks. In particular, products non-compatible with water, will not be stowed into tanks next to ballast tanks or in tanks having outer shell plating forming boundary of said tanks.
2. In case of contamination, activate the on-board response team (see Section 3.1).
3. Fill-in and send the Format 1 “Initial Notification” to all interested parties, according to the “Notification flowchart” (see Section 2.3.4).
4. Stop all cargo operations, if any in progress.
5. Locate and isolate, if possible, the source of leakage.
6. In case the leakage cannot be located from on-board, employ a diver, where and when available, in order to check for possible bottom damage.
7. Carry out appropriate actions taking into account the effect that corrective actions may have on hull stress and stability.
8. Reduce the head of cargo in the tank involved by draining cargo to an available empty or slack tank.
9. Repair the leak, if possible.
10. Take into consideration the possibility of carrying out neutralizing actions, collecting all resulting contaminated flushing products into suitable containers, if applicable.
11. Only in case it may result a major hazard to the ship and personnel safety, jettison overboard can be considered.
12. Consult safety publications and documents, as “Material Safety Data Sheets” for current cargoes, “Emergency Procedures Booklet”, “Medical First Aid Guide” (MFAG).
13. Ensure crew use the appropriate safety and protective equipment.
14. Fill-in and send supplementary and/or follow-up information (Format 2 and Format 3).

3.5.16 Checklist n. 16

Mitigation of spill resulting from casualty checklist

HAZARDOUS VAPOUR RELEASE

In the event of an uncontrolled vapour release, the following priorities have to be observed: safety of life; control of damage to the vessel and cargo; prevention of environmental pollution. If the Master, after taking over command and assumed full control of the situation and having ordered to:

- stop all cargo handling operations, if any in progress;
- sound the emergency alarm;
- close all valves in the liquid line;
- stop air intake to pump room, control room, deck
- avoid smoking and all naked lights;
- if time and situation allow, check the Material Safety Data Sheet, in order to know the hazards of the product emitting vapours, checking in particular the risk from release of vapours of flammable, or toxic, or corrosive substances;
- make reference, as far as possible, to the Checklist No. 9 “CONTAINMENT SYSTEM FAILURE” for subsequent actions to be taken;
- if possible, head the ship, if at sea, so that the she is free from the gas cloud;
- inform the Owner Company;
- notify the nearest State’s Authority,
- send a radio warning to all ships present in the area;

realizes that the situation is no more recoverable, notwithstanding all attempts, and it is no more safe for the crew to remain on board, GIVES ORDER TO ABANDON THE SHIP.

The behaviour of the personnel has to be as such as no risks may arise, endangering their own lives or the lives of any other crewmembers.

The emergency actions and duties have to be taken and followed according checklist 3.5.13

4. National and local co-ordination

Quick and efficient co-ordination between the ship and other Coastal State or other involved parties becomes vital in mitigating the effects of a pollution incident.

After immediate actions to control discharge and minimize the escape of oil have been taken by the on-board personnel (see Section 3), the intervention of on-shore resources to combat the spill may be necessary.

As a general rule, Coastal State shall be contacted for authorization prior undertaking mitigation action.

However, the identities and roles of various national and local authorities in this respect may vary widely from State to State and even from port to port:

(i) some Coastal States have agencies that take charge of response immediately and subsequently bill the owner for the cost;

(ii) in other Coastal States, responsibility for mitigating response is placed on the shipowner.

Prior commencing a voyage, the Master shall obtain details concerning the procedures followed by the national and local authorities of the next port of call in case of a pollution incident and shall duly compile the following Format 4, the content of which shall be used in case a spill occurs during that voyage under the jurisdiction of the Coastal State.

Format 4

National and local co-ordination

M/V: _____
TRIP: from _____ to _____
DATE: departure _____ arrival (estimate) _____
RESPONSIBLE ON BOARD COORDINATOR: _____
TRANSITED COASTAL STATES: 1. _____ 2. _____ .....

COASTAL STATE: 1. _____
Does the local authority of the next port of call take charge of response activities? [Y/N] ____
If the answer is Y, indicate the procedure to be followed to activate and co-ordinate the response resources: 1. _____ 2. _____ .....
Is responsibility for initiating response placed on the shipowner? [Y/N] _____
If the answer is Y, indicate the procedure to be followed to activate and co-ordinate the response resources: 1. _____ 2. _____ .....

COASTAL STATE: 2. _____
Does the local authority of the next port of call take charge of response activities? [Y/N] ____
If the answer is Y, indicate the procedure to be followed to activate and co-ordinate the response resources: 1. _____ 2. _____ .....
Is responsibility for initiating response placed on the shipowner? [Y/N] _____
If the answer is Y, indicate the procedure to be followed to activate and co-ordinate the response resources: 1. _____ 2. _____ .....

COASTAL STATE: 3. _____
Does the local authority of the next port of call take charge of response activities? [Y/N] ____
If the answer is Y, indicate the procedure to be followed to activate and co-ordinate the response resources: 1. _____ 2. _____ .....
Is responsibility for initiating response placed on the shipowner? [Y/N] _____
If the answer is Y, indicate the procedure to be followed to activate and co-ordinate the response resources: 1. _____ 2. _____ .....

COASTAL STATE: 4. _____
Does the local authority of the next port of call take charge of response activities? [Y/N] ____
If the answer is Y, indicate the procedure to be followed to activate and co-ordinate the response resources: 1. _____ 2. _____ .....
Is responsibility for initiating response placed on the shipowner? [Y/N] _____
If the answer is Y, indicate the procedure to be followed to activate and co-ordinate the response resources: 1. _____ 2. _____ .....

LIST OF CHANGE

for pages that are included in the non-obligatory Manual and in the Appendices, the variations of which are not subject to approval

Page	Revision no.	Date of revision

5. Additional information [7]

5.1 Response equipment available on board

In Table 5.2 the equipment carried on board to assist in pollution response is indicated, together with personnel responsibilities for its deployment, oversight and maintenance.

No chemical agent should be used for response to pollution on the sea without authorization of the appropriate Coastal State.

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Equipment	Location on board	Deployment responsible	Oversight responsible	Maintenance responsible
PLASTIC POUCHES	B Deck	Boatswain	Chief Mate's	Boatswain
BROOMS	B Deck	Boatswain	Chief Mate's	Boatswain
BUCKETS	B Deck	Boatswain	Chief Mate's	Boatswain
SAWDUST	B Deck	Boatswain	Chief Mate's	Boatswain
CORKS FOR SCUPPERS	B Deck	Boatswain	Chief Mate's	Boatswain
SHOVELS	B Deck	Boatswain	Chief Mate's	Boatswain
DISPERSANT	B Deck	Boatswain	Chief Mate's	Boatswain

Table 5.1

5.2 Additional plan and diagrams

Plans and diagrams additional to those required by Section 3.3.4 and specified in Table 5.1 are appended to the Plan or their location identified

PLAN	Location	Where
Vessel's main characteristics	On board	Chief Mate's office
Safety Plan	On Board	Master office
Bunker Plan	On board	Chief Eng. office

Table 5.2

In addition to the provisions required by regulation 37 of Annex 1 of the conventions and dealt with through Chapters 1 to 4 of this Plan, the owner/operator policy may require that other guidance be provided in the plan. Although Chapter 5 is non-mandatory under Regulation 26, however some further provisions which may contribute to the effectiveness of the Plan are herewith included for guidance only.

5.3 Record keeping

The Master is responsible for keeping record of events whenever there is an actual discharge or a probable discharge.

Apart from detailing all actions taken on board, records shall include communications with outside authorities, owner and other parties, as well as a brief summary of decision and information passed and received.

All spilt oil should be sampled, safety permitting. Any oil observed on the water, while the vessel is at anchor or berth, should be sampled if possible. Samples should be properly marked, with date and location, and sealed, and always be made in duplicate. Samples will be most valuable if the sampling is authenticated by someone not part of the crew.

5.4 Plan review

The Plan can only be changed and/or updated with the written authority of the Company's person in-charge with the approval of the Administration.

All comments, corrections and suggestions shall be directed to the above named individual. All users of the Plan have the responsibility of pointing out changes that effect the validity and/or use of the Plan.

Changes to Section 5 and the Appendices are not required to be approved by the Administration.

Any changes or updates shall be accompanied with a new Record of Changes.

5.4.1 Annual review

Annual review of the plan shall be conducted to ensure compliance with current law, regulations and compatibility with vessel operations. Any changes made to the Plan shall be according to Section 5.4.

5.4.2 Event review

Whenever the Plan has been put in use, either for a drill or actual incident, all parties directly involved shall comment on the effectiveness of the Plan and its content. Such comments shall be forwarded to the responsible person named in Section 5.4.

5.5 Plan testing

Regular exercises on a [six-monthly] basis shall be carried out to assure that the Plan functions as expected and that the contacts and communications specified are accurate.

APPENDIX 1

Coastal State Contacts

Appendix should contain the circular MEPC.6/Circ.xxx / MSC Circ. xxx, or the most current version of the same, also available in the internet at the IMO site:
http://www.imo.org, ***selecting " IMO Circulars ", then " Contact Point "***

IMPORTANT

In this list are reported agencies or offices of administrations responsible for receiving and processing reports on incidents involving harmful substances.
In conformity with article 8 of the convention (MARPOL 73/78) this list will be developed and updated by the organisation (IMO)

NOTE

In the absence of a listed focal point, or should any undue delay be experienced in contacting the responsible authority by direct means, the master
should be advised to contact the nearest Coastal radio station, designed ship movement reporting station or rescue co-ordination centre (RCC) by the quickest available means.

APPENDIX 2

Port Contacts

REGIONE	***PORTO***	***TELEFONO***	***TELEFAX***	***EMAIL***
ABRUZZO	ORTONA	0859063290	0859061461	ortona@guardiacostiera.it
	PESCARA	085694040	0854510117	pescara@guardiacostiera.it
	VASTO	0873310340	0873310322	vasto@guardiacostiera.it
BASILICATA	MARATEA	0973876859	0973871284	maratea@guardiacostiera.it
	POLICORO	0835972926	0835972926	policoro@guardiacostiera.it
CALABRIA	CETRARO	0982971415	0982972722	cetraro@guardiacostiera.it
	CORIGLIANO	0983858211	0983858216	coriglianocalabro@guardiacostiera.it
	CROTONE	0962611603	0962902094	crotone@guardiacostiera.it
	GIOIA TAURO	0966562911	0966562900	gioiatauro@guardiacostiera.it
	REGGIO	0965656111	0965656294	reggiocalabria@guardiacostiera.it
	V. VALENTIA	09635739201	0963573561	vibovalentia@guardiacostiera.it
CAMPANIA	CAPRI	0818370226	081.8374894	capri@guardiacostiera.it
	C. STABIA	0818711077	0818710078	castellammaredistabia@guardiacostiera.it
	NAPOLI	0812445111	0812445347	napoli@guardiacostiera.it
	POZZUOLI	0815261160	0815265022	pozzuoli@guardiacostiera.it
	SALERNO	0892587911	0892587926	salerno@guardiacostiera.it
	T. GRECO	0818812200	0818815480	torredelgreco@guardiacostiera.it
E. ROMAGNIA	CERVIA	054472355	054472355	cervia@guardiacostiera.it
	RAVENNA	0544443011	0544447498	ravenna@guardiacostiera.it
FRIULI V. G.	MONFALCONE	0481496611	0481496646	monfalcone@guardiacostiera.it
	TRIESTE	040676611	040676665	trieste@guardiacostiera.it
LAZIO	CIVITAVECCHIA	0766366401	0766366415	civitavecchia@guardiacostiera.it
	FORMIA	077121552	077121552	formia@guardiacostiera.it
	GAETA	0771460100	0771464724	gaeta@guardiacostiera.it
	FIUMICINO	06656171	0665617303	roma@guardiacostiera.it
LIGURIA	GENOVA	01027771	0102777427	genova@guardiacostiera.it
	IMPERIA	018366061	0183652224	imperia@guardiacostiera.it
	LA SPEZIA	0187258100	0187770510	laspezia@guardiacostiera.it
	SAVONA	019856666	019856498	savona@guardiacostiera.it
	VENTIMIGLIA	0184231444	0184231444	ventimiglia@guardiacostiera.it
MARCHE	ANCONA	071227581	07155393	ancona@guardiacostiera.it
	PESARO	0721177831	07211778368	pesaro@guardiacostiera.it
MOLISE	TERMOLI	0875706484	0875707336	termoli@guardiacostiera.it
PUGLIA	BARI	0805281511	0805211726	bari@guardiacostiera.it
	BRINDISI	0831521022	0831568113	brindisi@guardiacostiera.it
	GALLIPOLI	0833266862	0833264023	gallipoli@guardiacostiera.it
	MANFREDONIA	0884583871	0884587388	manfredonia@guardiacostiera.it
	MOLFETTA	0803971076	0803971727	molfetta@guardiacostiera.it
	OTRANTO	0836801073	0836805405	otranto@guardiacostiera.it
	TARANTO	0994713611	0994718288	taranto@guardiacostiera.it
	VIESTE	0884708791	0884707669	vieste@guardiacostiera.it

SARDEGNA	CAGLIARI	070605171	07060517218	cagliari@guardiacostiera.it
	LA MADDALENA	0789730632	0789735424	lamaddalena@guardiacostiera.it
	OLBIA	078956360	0789563639	olbia@guardiacostiera.it
	PORTO TORRES	079515151	0789563676	portotorres@guardiacostiera.it
SICILIA	AUGUSTA	0931525501	0931978009	augusta@guardiacostiera.it
	CATANIA	095538888	095533962	catania@guardiacostiera.it
	GELA	0933917755	0933911594	gela@guardiacostiera.it
	LAMPEDUSA	0922970141	0922970141	lampedusa@guardiacostiera.it
	LIPARI	0909880819	0909880819	lipari@guardiacostiera.it
	MAZZARA D.V	0923946388	0923941020	mazaradelvallo@guardiacostiera.it
	MESSINA	090344444	0905730832	messina@guardiacostiera.it
	MILAZZO	0909281110	0909222612	milazzo@guardiacostiera.it
	PALERMO	0916043111	091325519	palermo@guardiacostiera.it
	SIRACUSA	0931481011	093169260	siracusa@guardiacostiera.it
	TRAPANI	0923543911	092326703	trapani@guardiacostiera.it
TOSCANA	LIVORNO	0586826011	0586826090	livorno@guardiacostiera.it
	M. DI CARRARA	0585646701	05856467444	marinadicarrara@guardiacostiera.it
	PIOMBINO	0565221000	0565261011	piombino@guardiacostiera.it
	VIAREGGIO	058443931	05844393318	viareggio@guardiacostiera.it
VENETO	CHIOGGIA	0415508211	0415508204	chioggia@guardiacostiera.it
	VENEZIA	0412405711	0412405730	venezia@guardiacostiera.it

APPENDIX 3

Ship interests Contacts

SHIPBOARD MARINE POLLUTION EMERGENCY PLAN FOR NOXIOUS LIQUID SUBSTANCE
MPSV IEVOLI IVORY

in compliance with Reg. 37 of Annex I and Reg.17 Annex II of MARPOL 73/78

M/V:
TRIP: from _____ to _____
DATE: departure _____ arrival (estimate) _____

COMPAGNIA ARMATRICE	
NOME	*Marnavi S.p.A. Napoli*
TELEFONO UFFICIO NR.	*+39 081 25 13 311*
FAX UFFICIO NR.	*+ 39 081 55 10 865*
E-MAIL	*marnavi@marnavi.it*

RESPONSABILE EMERGENZE INQUINAMENTO/ DESIGNATED PERSON ASHORE	
NOME D.P.A. SIG.	*Capt. Francesco Saverio RUSSO*
TELEFONO UFFICIO NR.	*+ 39 081 25 13 325*
FAX UFFICIO NR.	*+39 081 55 10 865*
OFFICE E-MAIL	*offshore@marnavioffshore.it - f.russo@marnavioffshore.it*
TELEFONO PORTATILE NR.	*+ 39 334 75 63 658*

EMERGENZE INQUINAMENTO & SECURITY (VICE DPA)	
NOME C.S.O. Sig.	*Capt. Santo RANNO*
TELEFONO UFFICIO NR.	*+39 081 25 13 377*
FAX UFFICIO NR.	*+39 081 55 10 865*
OFFICE E-MAIL	*offshore@marnavioffshore.it - s.ranno@marnavioffshore.it*
TELEFONO PORTATILE NR.	*+39 347 39 01 180*

RESPONSABILE TECNICO	
NOME Sig.	*Ing. Michail DRAKAKIS*
TELEFONO UFFICIO NR.	*+ 39 081 25 13 383*
FAX UFFICIO NR.	*+ 39 081 55 10 865*
OFFICE E-MAIL	*offshore@marnavioffshore.it - m.drakakis@marnavioffshore.it*
TELEFONO PORTATILE NR.	*+ 39 335 53 10 645*

RESPONSABILE EQUIPAGGIO NAVE	
NOME Sig.	*Sig.ra Gaudenzia IANNACCONE*
TELEFONO UFFICIO NR.	*+39 0544 16 74 268*
FAX UFFICIO NR.	*+39 081 55 10 865*
OFFICE E-MAIL	*offshore@marnavioffshore.it - g.iannaccone@marnavioffshore.it*
TELEFONO PORTATILE NR.	*+39 335 19 05 541*

CONSULENTE TECNICO - RINA	
TELEFONO UFFICIO NR.	*+39 010 5385444*
FAX UFFICIO NR.	*+39 010 5385547*
CONTATTO PRIMARIO	
TELEFONO UFFICIO NR.	*+39 010 5385444*
TELEFONO PORTATILE NR.	*+39 335 6324470*
CONTATTO SECONDARIO	
TELEFONO UFFICIO NR.	*+39 010 5385444*
TELEFONO PORTATILE NR.	*39 335 6324476*

RAPPRESENTANTE ASSICURATORE	
NOME Sig.	*CR MARINE & AVIATION*
TELEFONO UFFICIO NR.	*+39 081 66 84 88*
FAX UFFICIO NR.	*+39 081 66 59 63*

RAPPRESENTANTE P & I CLUB	
NOME Sig.	*P.L. FERRARI – THE STANDARD*
TELEFONO UFFICIO NR.	*+39 081 55 14 853*
FAX UFFICIO NR.	*+39 081 55 11 617*

APPENDIX 4

Status of Intervention Convention 1969

as at 31 January 2001

STATE	INTERVENTION CONVENTION 69
Afghanistan	
Albania	
Algeria	
Andorra	
Angola	X
Antigua & Barbuda	
Argentina	X
Armenia	
Australia	X
Austria	
Azerbaijan	
Bahamas	X
Bahrain	
Bangladesh	X
Barbados	X
Belarus	
Belgium	X
Belize	
Benin	X
Bhutan	
Bolivia	
Bosnia & Herzegovina	
Botswana	
Brazil	X
Brunei Darussalam	
Bulgaria	X
Burkina Faso	
Burundi	
Cambodia	
Cameroon	X
Canada	
Cape Verde	
Central African Republic	
Chad	
Chile	X
China	X
Colombia	
Comoros	
Congo	
Cook Islands	
Costa Rica	
Cote d'Ivoire	X
Croatia	X
Cuba	X

Cyprus	
Czech Republic	
Dem. People's Rep. Korea	
Dem. Rep. of the Congo	
Denmark	X
Djibouti	X
Dominica	
Dominican Republic	X
Ecuador	X
Egypt	X
El Salvador	
Equatorial Guinea	X
Eritrea	
Estonia	X
Ethiopia	
Fiji	X
Finland	X
France	X
Gabon	X
Gambia	
Georgia	X
Germany	X
Ghana	X
Greece	
Grenada	
Guatemala	
Guinea	
Guinea-Bissau	
Guyana	X
Haiti	
Holy See	
Honduras	
Hungary	
Iceland	X
India	X
Indonesia	
Iran (Islamic Republic of)	X
Iraq	
Ireland	X
Israel	
Italy	X
Jamaica	X
Japan	X
Jordan	
Kazakhstan	
Kenya	
Kiribati	
Kuwait	X

Kyrgyzstan	
Lao People's Dem. Rep.	
Latvia	X
Lebanon	X
Lesotho	
Liberia	X
Libyan Arab Jamahiriya	
Liechtenstein	
Lithuania	
Luxembourg	
Madagascar	
Malawi	
Malaysia	
Maldives	
Mali	
Malta	
Marshall Islands	X
Mauritania	X
Mauritius	X
Mexico	X
Micronesia (Fed. States of)	
Moldova	
Monaco	X
Mongolia	
Montenegro	X
Morocco	X
Mozambique	
Myanmar	
Namibia	X
Nauru	
Nepal	
Netherlands	X
New Zealand	X
Nicaragua	X
Niger	
Nigeria	X
Norway	X
Oman	X
Pakistan	X
Palau	
Panama	X
Papua New Guinea	X
Paraguay	
Peru	
Philippines	
Poland	X
Portugal	X
Qatar	X

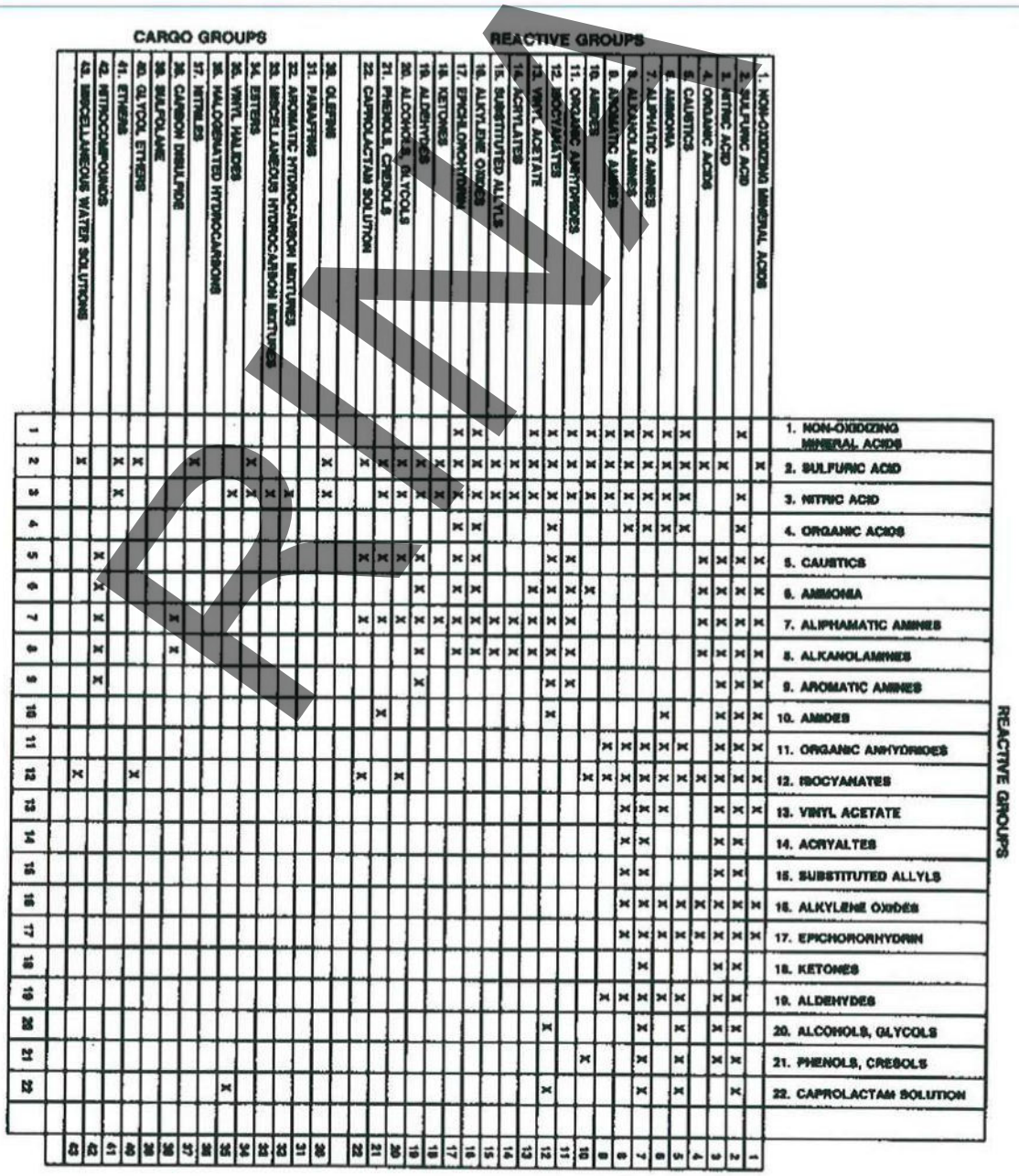
Republic of Korea	
Romania	
Russian Federation	X
Rwanda	
Saint Kitts and Nevis	X
Saint Lucia	X
St. Vincent & Grenadines	X
Samoa	
San Marino	
Sao Tome & Principe	
Saudi Arabia	
Senegal	X
Serbia	X
Seychelles	
Sierra Leone	
Singapore	
Slovakia	
Slovenia	X
Solomon Islands	
Somalia	
South Africa	X
Spain	X
Sri Lanka	X
Sudan	
Suriname	X
Swaziland	
Sweden	X
Switzerland	X
Syrian Arab Republic	X
Tajikistan	
Thailand	
the former Yugoslav Republic of Macedonia	
Togo	
Timor-Leste	
Tonga	X
Trinidad & Tobago	X
Tunisia	X
Turkey	
Turkmenistan	
Tuvalu	
Uganda	
Ukraine	X
United Arab Emirates	X
United Kingdom	X
United Rep. Of Tanzania	X
United States	X
Uruguay	

Uzbekistan	
Vanuatu	X
Venezuela	
Viet Nam	
Yemen	X
Zambia	
Zimbabwe	
Associate Members	
Hong Kong, China	X
Macao, China	X
Faroe Islands	X

APPENDIX 5

COMPATIBILITY CHART

Figure 1—Compatibility Chart



BILLING CODE 4910–14–C

X: Incompatible Groups