



INTERPOL

INTERPOL INVESTIGATIVE MANUAL

Illegal garbage discharges from vessels



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Acknowledgements

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Foreword

For centuries we believed the oceans indestructible, no matter how much badly we treated them. Over time, we learned this was false. However, while the danger posed to the marine environment by the illegal discharge of oil from ships has been long understood, we have only recently started to recognize the threat posed by the illegal discharge of marine debris, and in particular plastic.

Tons of plastic garbage now litters every ocean on the planet. The United Nations Environment Programme estimated that every day 5 million items of marine litter are dumped in oceans and seas from ships, killing marine life and entering the human food chain. It has been estimated that by 2050, there will be more plastic than fish in the seas. It can take decades before this waste is degraded by the seas.

Plastic waste injures and kills fish, seabirds and marine mammals. One study found that marine plastic pollution has impacted at least 267 species worldwide, including 86% of all sea turtle species, 44% of all seabird species and 43% of all marine mammal species. The impacts include fatalities as a result of ingestion, starvation, suffocation, infection, drowning, and entanglement.

The International Convention for the Prevention of Pollution from Ships (MARPOL) Annex V prohibited the disposal of plastics anywhere into the sea and severely restricted discharges of other garbage from ships. Although this instrument entered into force in December 1988, it has been difficult to enforce as the illegal discharges can occur miles out to sea, witnesses to the crime are few, and it is difficult to trace waste to particular ships.

While education and awareness raising will help, more vigorous enforcement of anti-pollution regulations such as MARPOL Annex V must be part of any serious effort to protect our oceans. Whether you are an experienced marine pollution criminal investigator or a port state control officer conducting her first MARPOL compliance inspection, this manual provides a wealth of useful information. This includes information on maritime jurisdiction, relevant vessel terminology and acronyms, an explanation of MARPOL Annex V's regulatory framework, helpful interview and other investigative techniques, and much more.

The manual is the result of the tireless efforts of INTERPOL Pollution Crime Working Group's Clean Seas Committee. Special recognition should be given to Committee members Annaliese Caston, Ron Faber, Gerrit Nuis, Kent Edlund, Frans Geysels, and Veneta Georgieva, who all took time out from their day jobs to write the manual and without whom the manual would not have come to be.

I encourage you to use this invaluable tool as well as share it with investigative authorities and prosecutors in your country, and thank you in advance for your efforts to protect our oceans.

Joseph Poux
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TABLE OF CONTENTS

1	INTRODUCTION	9
1.1	The Global Waste Problem	10
1.2	Consequences of garbage in the marine environment	11
2	INTERNATIONAL CONVENTIONS - GARBAGE AND WASTE	13
2.1	MARPOL Convention	13
2.1.1	History of MARPOL garbage pollution regulations	15
2.2	LONDON Convention	16
2.3	BASEL Convention	16
2.4	Fishing vessel garbage	17
3	VIOLATIONS AND DETECTION	19
3.1	Detection of garbage violations	19
3.2	Inspection or investigation	20
3.3	Evidence to prove violations	21
4	SUCCESSFUL LEGAL ACTIONS FOR GARBAGE VIOLATIONS	22
4.1	Example 1: United States v Target Ship Management and Prastana Taohim	22
4.2	Example 2: Australian Maritime Safety Authority v Dynamic Ocean SA	23
4.3	Example 3: United States v. Ronald Cook (Dunes Marina Resort and Casino, Inc)	24
5	TECHNICAL INFORMATION ABOUT SHIP GARBAGE	25
5.1	Types of garbage generated	25
5.2	Garbage generated on ships	29
5.2.1	Garbage generated on board ships of specific types and different size	29
6	MARPOL ANNEX V REGULATIONS FOR DISCHARGE INTO THE SEA	31
6.1	Sea Area - Outside Special Areas	31
6.1.1	Food waste	31
6.1.2	Cargo residues	31
6.1.3	Cleaning agents or additives	31
6.1.4	Animal carcasses	33
6.2	Special Area discharges	33
6.2.1	Food waste	34
6.2.2	Cargo residues contained in hold washing water	35
6.2.3	Cleaning agents or additives	35
6.3	Fixed or floating platforms – discharges	36
6.3.1	Food waste	36
6.4	Mixed Waste	36
6.5	General MARPOL Annex V exceptions	37
7	DOCUMENTATION REQUIRED BY MARPOL ANNEX V	38
7.1	Garbage Record Book and categories of garbage	38
7.1.1	Garbage Management Plan	39
7.1.2	Placards	43

8 ON BOARD INVESTIGATION	44
8.1 Pre - investigation	44
8.2 Investigation checklist	44
8.3 Ship's particulars	44
8.4 Ship's certificate/statement of compliance	44
8.5 Garbage management plan	45
8.6 Garbage record book	45
8.7 Placards	45
8.7.1 Garbage station / Ship's deck	45
8.8 Investigation of usages of incinerator and other equipment	47
8.9 International Safety Management	47
9 POST - INVESTIGATION	48
10 WASTE REPORTING	49
10.1 Port Reception Facility (PRF) Documentation	49
10.1.1 PRF - guidelines	49
10.1.2 Waste Notification reporting forms	49
11 ADDITIONAL INFORMATION	51
11.1 Eco-message	51
12 CONCLUSION	52
13 APPENDICES	53
13.1 Terminology and acronyms	53
13.2 Flowchart Shipboard handling and Discharge of Garbage	56
13.3 Example of operational checklist for investigation of violations and compliance of MARPOL Annex V	57
13.4 Example of Report to Next Port - Pollution Prevention Report	59
13.5 INTERPOL Eco-message reporting form	61
13.6 Useful links	64

1 INTRODUCTION

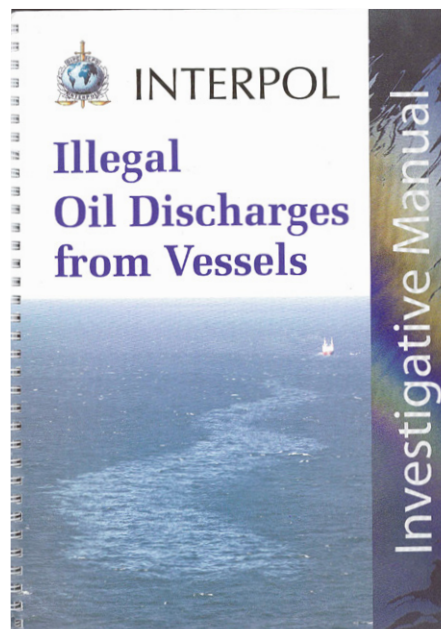
This manual addresses the investigation of illegal discharges of garbage and handling of waste by ships and smaller vessels. The aim is to provide information to assist experienced and inexperienced law enforcement officers who undertake maritime pollution investigations.

This Manual is supplementary to the INTERPOL Investigative Manual on Illegal Oil Discharges from Vessels¹ (Oil Manual) and complements enforcement of laws that implement the International Convention for the Prevention of Pollution from Ships (MARPOL).

The Oil Manual contains base information about maritime jurisdiction, obligations of MARPOL Parties, ship identification and tracking systems that is useful for all ship/vessel related investigations. It also covers interview techniques, shipping terminology and referring evidence to a vessels flag state for action. Together the Oil Manual and the Garbage Manual assists in investigation and prosecution of violations and enforcement activities. Both manuals may also be useful for port state control officers that do inspection of ships to ensure compliance with international convention requirements.

All countries are encouraged to use these manuals, to guide the enforcement of their relevant national laws relating to discharges from ships and vessels. It should be noted that the terms 'garbage' and 'waste' are used in this enforcement manual to be consistent with the terminology of MARPOL²

Ships produce a huge variety of solid and liquid waste streams, including waste oil from the engine rooms, black water, grey water, bilge water, dry waste, food and galley waste and others. All the waste needs to be processed, initially on board and later on shore. Waste handling in compliance with international and local regulations needs to be easy for the crew with clear procedures for sorting and separating the waste and user-friendly solutions for reducing its volume on board. Much education and training is undertaken on these aspects both internationally and locally, as well as part of on board training and procedures incorporated in safety management systems on ships. Smaller vessel operators are also subject to the discharge requirements of the laws.



1 INTERPOL Investigative Manual Illegal Oil discharges from Vessels 2007
2 Also means litter, debris, or rubbish

1.1 The Global Waste Problem

Garbage dumped or discarded into the oceans and coastal waters is an environmental, economic, health and aesthetic problem. This is a global problem.

The term 'marine debris' is used widely to describe garbage or waste that finds its way into the oceans. Marine debris includes any persistent, manufactured or processed solid material that is no longer needed and disposed or discarded into the marine or coastal environment. Plastic is the main component of marine debris and is the biggest risk because of its persistence in the marine environment for hundreds of years. Ocean currents and winds can move garbage long distances causing it to accumulate in remote sea areas and beaches.

There is much written about the global problem of marine debris and where it originates.³ Generally the sources are categorised as land-based and marine-based. It is estimated that:

- **80% of marine debris is from land-based sources**
- **20% is from marine-based sources.**

The main components of these sources are:

Land-based

- Tourism and recreational activities - waste left by beach goers such as food and packaging, cigarettes, plastic, etc.
- Sewage related waste - waste from storm drains, street waste, sewer overflows, runoff from land enters the sea or rivers during heavy rainfall

Marine-based

- Fishing industry activities: fishing lines and nets, fishing pots, bait box strapping bands, accidentally lost or deliberately discarded by commercial fishing vessels
- Ships, vessels and marine structures: garbage waste that is accidentally or illegally discarded at sea

The United Nations Environment Programme in 2005 reviewed estimates of waste in the world's oceans and stated:

'..some 8 million items of marine litter are dumped in oceans and seas every day, approximately 5 million of which (solid waste) are thrown overboard or lost from ships. Furthermore, it has been estimated that over 13,000 pieces of plastic litter are floating on every square kilometre of ocean today.'



3 See UN Environment Document Repository website various publications are listed: <http://wedocs.unep.org/discover?scope=%2F&query=marine+litter&submit=>

4 See the 2005 UNEP report "Marine litter: An analytical overview" : <http://www.cep.unep.org/publications-and-resources/databases/document-database/unep/marine-litter-analytical-overview-unep-gpa.pdf/view>

A study in 2015, estimated that between 4.8 and 12.7 million metric tonnes of plastic waste entered the ocean each year.⁵ Most of this waste degrades slowly and is further impacted by continual input from sources (land and marine based). The accumulation of marine debris is considered a problem that is getting worse and concerted efforts by everyone is required to reduce the degradation of the marine environment. Contributing to rather than alleviating the problem are deficiencies in the implementation and enforcement of existing international and regional environment related agreements, and national regulations and standards.⁶ Also contributing to the problem is the lack of land-based infrastructure for receiving waste from the ships and fishing vessels. The costs of discharging ship generated garbage waste at port facilities also contributes to potential illegal garbage discharges by ships.⁷

A wide range of legal instruments exist and actions are being taken at the global and regional levels. Many countries have taken action on marine litter issues through legislation, enforcement of international agreements, education, public awareness programmes, providing waste reception facilities for ship generated wastes, improving land waste management practices and supporting beach-clean up activities.

1.2 Consequences of garbage in the marine environment

Persistent materials (plastics) pose the greatest hazard in the marine environment. Entanglement or ingestion of plastic materials can cause injury or death to seabirds and marine life. Marine biological diversity is threatened as floating garbage can transport invasive species between seas. Floating or submerged just below the sea surface, garbage can interfere with vessel navigation to become a threat to human life and safety.

Plastic materials break up into small pieces called microplastics and these continue to be in the marine environment for hundreds of years and ingested by marine animals and birds. Waste of a medical or sanitary nature poses a health hazard and can seriously injure people on beaches or while swimming in the sea. Damage from garbage may result in economic costs and losses to people, property and livelihood. In general, garbage spoils, fouls and destroys the beauty of the sea and coastal areas that we all wish to enjoy.

The accumulation of large amounts of floating and submerged plastic waste is a major global problem. This



5 See report, Plastic waste inputs from land into the ocean (2015), American Association for the Advancement of Science. <http://science.sciencemag.org/content/347/6223/768>

6 UNEP report 2005

7 Note that most ports in the world charge fees for the discharge of waste. Some ports incorporate fees into general port dues while some other ports provide a free waste reception service.

accumulation of waste is particularly noticeable where ocean gyres are located. Gyres are naturally occurring vortex of wind and currents that rotate clockwise in the northern hemisphere and counter-clockwise in the southern hemisphere.⁸ The size of these gyres is a severe signal to the world of the detrimental impacts of garbage in the sea. There are five major gyres that are believed to contain huge amounts of plastic and persistent organic pollutants, located in: the Indian Ocean, the North and South Pacific Ocean (Great Pacific garbage patch), and the North and South Atlantic Ocean.⁹

The consequences of garbage in the marine environment can be illustrated through images of marine debris and waste to show the detrimental aesthetic devaluation of the environment. Necropsy reports of dead marine life can show the detrimental fatal effects of plastic. Such images and information are useful for proving environmental harm when preparing cases for ship sourced garbage pollution violations.



Source: Australian Maritime Safety Authority

Investigator and Prosecutors Note:

Information on the impacts of marine debris in the marine environment is useful to include in a brief of evidence for a court or jury. This contributes to proving, or showing potential, or actual environmental harm. Such information may influence the level of the penalty imposed by the court.

8 See <http://www.gyrecleanup.org/what-is-the-gyre/>

9 Source: International Pacific Research Center see <http://iprc.soest.hawaii.edu/> for research reports in 2008 and other information.

2 INTERNATIONAL CONVENTIONS – GARBAGE AND WASTE

The main international conventions applicable to the enforcement of waste at sea and garbage discharges by ships or vessels include:

- The International Convention for the Prevention of Pollution from Ships 1973, amended by the Protocols of 1978 and 1997 (MARPOL);
- The International Convention on the Prevention of marine pollution by dumping of wastes and other matter 1972, amended by the London Protocol of 1996 (London Convention);
- International regulations on the control of transboundary movements of hazardous waste and their disposal (Basel Convention).

These Conventions are developed by United Nations specialised organizations and the regulations of each Convention are implemented and enforced by national and domestic laws of Member States that are Parties to the Conventions. It should be noted that the United Nations Convention on the Law of the Sea (UNCLOS) is relevant for maritime jurisdiction relating to pollution from vessels.¹⁰

2.1 MARPOL Convention

This International Maritime Organization has developed the most important global treaty for the prevention of pollution from ships – the International Convention for the Prevention of Pollution from Ships (known as MARPOL).

The discharge regulations of MARPOL apply to ships and vessels of all sizes. Other regulations set the standards for design and construction of ships, equipment that must be installed and maintained on ships and establishes a system of certification and inspections. MARPOL also includes an obligation upon countries that are Parties to provide port reception facilities for the disposal of ship-generated waste. There are also specific requirements on ships for record keeping, management plans and procedures that must be followed by the seafarers that work on the ships.

MARPOL covers all technical aspects of pollution from ships that are normal operations for ships and vessels. The main aim of MARPOL is to achieve the complete elimination of intentional pollution into the marine environment by oil and other harmful substances, and to minimize the accidental discharge of such substances from ships.

MARPOL 73 contains the general Articles of the Convention addressing common definitions, obligations, violations, certification and inspection, cooperation in detection of pollution and reports on incidents. MARPOL addresses technical issues and specific requirements for the prevention of various pollution types from ships.¹¹

10 More information is available in the INTERPOL Investigative Manual 'Illegal Oil Discharges from Vessels'.
11 See IMO website at <http://www.imo.org/en/OurWork/Environment/PollutionPrevention/Garbage/Pages/Default.aspx>

These are contained in six annexes:

MARPOL: MARPOL 73, MARPOL Protocol 1978, Protocol I, Protocol II, Protocol 1997	
Annex I	oil
Annex II	noxious liquid substances in bulk
Annex III	harmful substances in packaged form
Annex IV	sewage
Annex V	garbage
Annex VI	air

Each technical Annex contains regulations and definitions for the specific pollution type covered, as well as the detailed requirements for prohibition and allowable discharges and other requirements. Parties to MARPOL Annex V are under an obligation to provide garbage reception facilities at ports and terminals.

As at 19 January 2018, the status of MARPOL and its Annexes are:

IMO Instrument	Date in force internationally	No of Member countries	Percentage world shipping tonnage
MARPOL 73/78 (Annex I/II)	2-Oct-83	155	99.14
MARPOL 73/78 (Annex III)	1-Jul-92	147	98.54
MARPOL 73/78 (Annex IV)	27-Sep-03	141	96.28
MARPOL 73/78 (Annex V)	31-Dec-88	152	98.72
MARPOL Protocol 1997 (Annex VI)	19-May-05	89	96.18

See IMO website at <http://www.imo.org/en/About/Conventions/StatusOfConventions/Pages/Default.aspx>

Countries that are Parties to MARPOL undertake to give effect to the provisions of the Convention and its Annexes. Note that MARPOL Annexes I and II are mandatory and automatically in effect for a country that ratifies the Convention. Annexes III, IV, V and VI may be separately ratified by a country. The regulations of MARPOL are implemented through national and local laws of the countries that have ratified. Every ship that is registered in a country that is Party to MARPOL must comply with all the regulations of MARPOL.

MARPOL definition of ship

'vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms'.

2.1.1 History of MARPOL garbage pollution regulations

Up until 1988, there were no international regulations for the prevention of garbage pollution from ships. Some countries had laws which applied only in waters under their jurisdiction.

The member states of the International Maritime Organization (IMO) developed Annex V to the MARPOL Convention to provide global regulations for the prevention of pollution of the sea by garbage from ships. This Annex entered into force internationally on 31 December 1988. From 31 December 1988, MARPOL Annex V prohibited all discharges of plastic from ships and vessels. Other types of garbage were allowed to be discharged at sea under certain conditions, determined by the garbage type and a specified distance from nearest land.

Annex V regulations and associated guidelines defined and described types of garbage, however, if a garbage waste type was not described or listed, there could be scope for those charged with a violation to argue that the garbage type was allowed to be discharged at sea. Some countries party to Annex V may have had difficulties in bringing a legal action due to this.

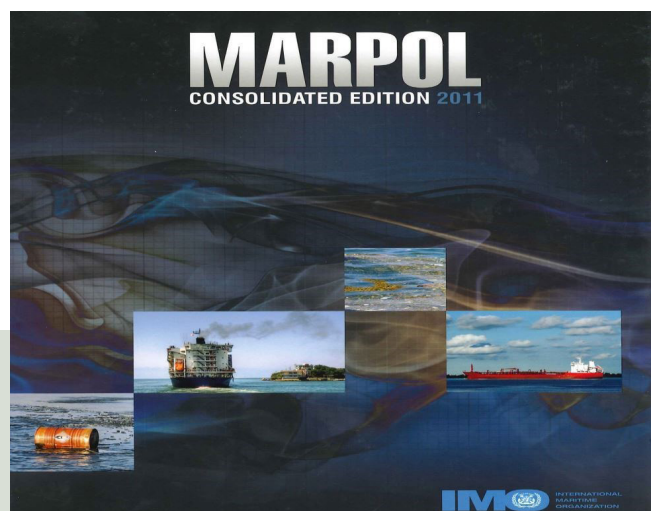
A number of amendments of the Annex V regulations occurred in 1993 requiring certain documentation to be maintained by ships:

- A Garbage Record Book on ships (400 gross tonnage (GT) and above, or certified to carry more than 15 persons) and every fixed or floating platform
- A Garbage Management Plan for the crew to follow on ships (100 GT and above, or certified to carry more than 15 persons) and every fixed or floating platform.
- Placards (signs) in various places on ships (12 meters or more in length overall) and every fixed or floating platform.

In 2011-2012, a major revision of Annex V was done, resulting in a new revised MARPOL Annex V entering into force internationally on 1 January 2013. The most significant change between the old Annex V and the new revised Annex V is a general prohibition on all garbage discharges into the sea, except under limited exceptions. What this means is that no garbage or waste should be discarded at sea unless the Annex V regulations states the type that it can be discharged. New definitions were included within the Annex to provide clarity, and garbage categories for recording purposes were extended.

There was some criticism of as within the global community there were calls for zero discharges into the sea from ships and vessels. To achieve zero would mean extensive improvements

The discharge regulations of MARPOL Annex V apply to ships and vessels of every size, including fishing, recreational vessels and fixed or floating platforms.



in the availability of reception facilities in ports, development of innovative waste management equipment and a major change in human behavior. Waste handling onboard ships is clearly regulated under Annex V of MARPOL. IMO Member States have agreed the international standards and also defined special regulated areas.

Investigators should note that individual nations or groups of countries may also have their own regulations. Examples are the United States Environment Protection Agency, Helsinki Commission (HELCOM) and the European Union (EU). In highly sensitive coastal areas and rivers there may be zero discharge policies in force under local regulations. In addition to international and local regulations there are also individual port regulations.

2.2 LONDON Convention

The IMO Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 (London Convention) has been in force since 1975. The 1996 Protocol to the London Convention (London Protocol) came into force in March 2006.

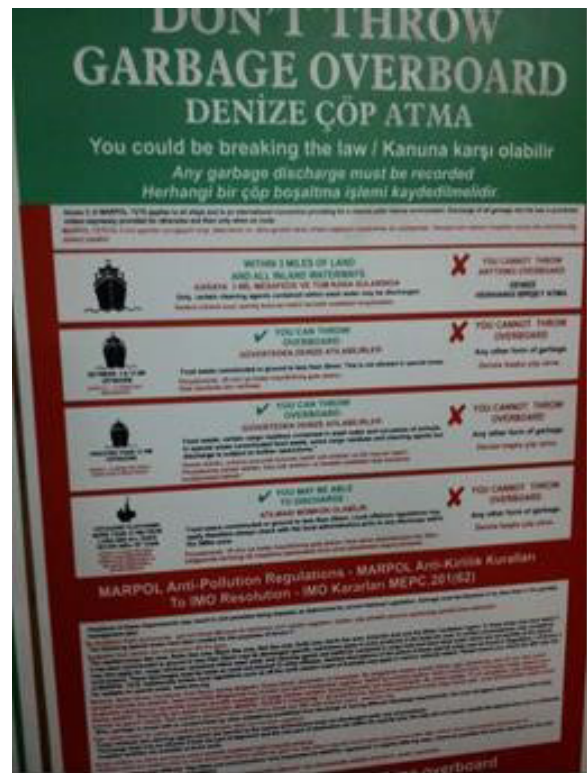
Dumping refers to the deliberate disposal at sea of wastes and other matter from vessels, aircraft and other structures, including the vessels themselves. Permission is required to be obtained from the State Party with jurisdiction, before any dumping activity can be undertaken. Generally this means that a large quantity of waste is specifically taken as a cargo on a ship out to sea to be dumped at a geographic position. A ship that has reached its end of life and no longer required may be dumped at sea in accordance with the London Convention, involving the removal of pollutants and loose structures, then it is towed out to sea and dumped in a place where it can become an artificial reef or a recreational diving structure.

The London Convention prohibits the dumping of persistent plastics and other persistent synthetic materials, such as netting and ropes, which may float or remain in suspension in the sea. The objective of the London Convention is: "To protect and preserve the marine environment from all sources of pollution and take effective measures to prevent, reduce and where practicable eliminate pollution caused by dumping or incineration at sea of wastes and other matter."

A vessel that is on a voyage for an approved dumping activity is expected to have a permit authorised by the relevant government (Party to the Convention) and authorities will be aware of the date and timing of when this activity is to occur.

2.3 BASEL Convention

The United Nations Basel Convention on the control of transboundary movements of hazardous waste and their disposal (known as the Basel Convention) entered into force in 1992. This convention is designed to reduce the movements of hazardous waste between nations, and specifically to prevent



transfer of hazardous waste from developed to less developed countries. The Convention is also intended to minimize the amount and toxicity of wastes generated, to ensure their environmentally sound management as closely as possible to the source of generation, and to assist less developed countries in environmentally sound management of the hazardous and other wastes they generate. Its main objective is to protect human health and the environment against the adverse effects of hazardous wastes. The Basel Convention covers a wide range of wastes defined as "hazardous wastes" based on their origin and/or composition and their characteristics, as well as two types of wastes defined as "other wastes", including household waste and incinerator ash. The Convention does not include the movement of radioactive waste.¹²

The general aims of this Convention are:

- the reduction of hazardous waste generation and the promotion of environmentally sound management of hazardous wastes, wherever the place of disposal;
- the restriction of transboundary movements of hazardous wastes except where it is perceived to be in accordance with the principles of environmentally sound management; and
- a regulatory system applying to cases where transboundary movements are permissible.

Ships used for movements of waste by sea are subject to the Basel Convention. A ship that is involved in a voyage for the movement of hazardous waste should have documentation (import and export data) from a government (Party to the Convention) that permits the movement. The shipments may be monitored by agencies responsible for customs or environment protection.

2.4 Fishing vessel garbage



Fishing Debris retrieved at sea. Source: Australian Maritime Safety Authority

Fishing vessels must comply with the requirements of MARPOL Annex V as applicable. There is also specific information directly related to the handling of waste on board fishing vessels.

Also international fisheries treaties¹³ and regional fisheries management organizations may have agreements or partnerships applying to the conservation of fishery resources. These instruments may impose extra restrictions above the MARPOL discharge requirements. Specific

restrictions for conservation purposes may apply on the taking of fishery resources and there may be other requirements for monitoring, marking and identification of vessels, and reporting.

¹² See <http://www.basel.int/TheConvention/Overview/tabid/1271/Default.aspx>

¹³ Food and Agriculture Organization of the United Nations (FAO) see www.fao.org/

Fishing vessel operators need to be aware and comply with both MARPOL and fisheries conservation measures. Investigators should be aware of fishing related issues before they embark on investigating any violations by a fishing vessel. Officers from the Fishing Authority in your country should be consulted.

An example is the Commission for the Conservation of Antarctic Living Marine Resources (CCAMLR) has restrictions for the discharge of offal and unwanted catches. Also placing a gill net in the Antarctic Ocean is potentially making a deliberate illegal and environmentally damaging deposit in the sea.

Investigator Note:

Investigators and prosecutors need to be aware of the international conventions and regional instruments that apply in the area of maritime jurisdiction for which they are responsible. IMO designated Special Areas under MARPOL Annex V will have additional restrictions on garbage discharges.

3 VIOLATIONS AND DETECTION

Investigators need to be familiar with their own national or local laws and the violations that reflect MARPOL Annex V, as well as other violations that also may be appropriate. This chapter aims to identify common violations for illegal garbage discharges from ships or vessels.

The following violations or offenses may be similar for laws in most countries:

- Illegal discharge of garbage
- Ship does not carry a garbage record book
- Ship does not have a garbage management plan
- Placards are not displayed
- Entry not made in the garbage record book or is false
- Conspiracy and concealment
- Failure to discharge garbage to a reception facility (as required or as directed).

The challenge for investigators is how to detect the violations and then to determine what evidence needs to be collected to prove the violations.

3.1 Detection of garbage violations



Discharge of coal cargo residues trailing vessel. Source: Australian Maritime Safety Authority

Observations by people may trigger contact or reports to authorities. Such observations and potential witnesses include:

- Crew member/s on the ship from which the discharge has occurred (whistleblower)
- Persons on other ships/vessels that observe a discharge from another ship/vessel
- Aerial observations by aircraft crew (commercial or recreational) of a discharge from a ship/vessel
- Surveillance activities by government authorities (dedicated aircraft or vessels) that observe a discharge from a ship/vessel
- Persons who find garbage on beaches or in the water (may contain the name of the ship)
- Satellite or infrared imagery examination
- Discovery of an illegal discharge during an inspection of the vessel by Port state control officers, Quarantine/sanitary inspectors or Port authority officers
- Suspicion that a violation may occur by surveillance observations

- Waste piled up on the deck of a ship and when the ship arrives in the next port of call, the waste on the deck has disappeared. (In such cases the ship, suspected as the polluter, can be investigated in the next port of call, while information is sent in advance.)¹⁴
- Refusal of a ship to offload waste in port before departure, or no waste offloaded from the ship after a long voyage
- Authorities in the next port of call for the ship should be notified to undertake an investigation.

3.2 Inspection or investigation

Routine port state control inspections are done by port state control inspectors in many countries to verify the ship has the required certificates, plans, records and procedures, and that crew are familiar with and comply with the regulations of the international conventions (including MARPOL). Inspections can be done on a targeted basis using intelligence information.

An investigation is triggered to act upon a criminal offence or suspected breach of the laws that implement MARPOL or other international conventions. Evidence gathering is of great importance, including interviews or interrogation of the master and crew members.

Cooperation between port state control officers, police investigators or other enforcement officers can assist in the collection of evidence and familiarisation of shipboard activities and operations. Note that in some countries authorities may be authorized to do criminal investigations as well as port state inspections, while other countries have authorities that are distinctly separate for these two functions.



Source: Netherlands National Police

¹⁴ The pollution prevention report developed by the Netherlands or the INTERPOL Eco-message reporting form can be used for this purpose.

3.3 Evidence to prove violations

This evidence commonly required for proving the elements of offenses for vessel garbage violations is described in the table below:

Element of the Offense	Evidence required (examples)
Ship or vessel	Name, Identification, size type (registration certificate, IMO number, official number)
Person	Identification of who is responsible. Who will be charged with the offense? Master, Owner, Manager, Crew member. Ensure information is obtained to identify the person.
Discharge	How the garbage got into the sea, witness statement or whistleblower
Garbage	The type of garbage (defined in MARPOL Annex V or in local laws)
Sea	Location of ship at the time the discharge occurred into the sea or waters of the country. Ship logbook positions, AIS data, discharge location if known, ship voyage plan, garbage record book entries, photos, witness statements.
False statements, false entries or records or information	Original or copy of false document or information. Corroborating evidence to prove it is false. Ship documentation that states no garbage discharge, as compared with other evidence that clearly shows that an illegal discharge occurred.
Garbage record book Garbage management plan	Required documentation not on board the ship, crew not familiar with documentation or procedures. Interviews of various crew members required.
Placards not displayed	Placard or signs not in all relevant places on the ship. Crew and passengers not familiar with prohibitions on garbage discharges at sea.
Conspiracy	Collusion of crew members and ship owner or company to deliberately provide false information and act upon certain illegal actions.
Failure to discharge garbage to a reception facility (as required or as directed)	Notice given by an Authority to require the ship to discharge – ship/master has not complied with the notice.
Environmental harm	Proof of harm or information on potential adverse impacts upon the environment.

4 SUCCESSFUL LEGAL ACTIONS FOR GARBAGE VIOLATIONS

The following are examples of successful legal actions for garbage violations. The quality and amount of evidence and witness statements required to prove these offences will vary depending on the jurisdiction and the seriousness of the offences.

4.1 Example 1: United States v Target Ship Management and Prastana Taohim



Prastana Taohim, captain of the M/V Gaurav Prem, ordered the first mate and other crew members to throw hundreds of large plastic pipes overboard into the ocean and intentionally failed to record the illegal discharges in the ship's garbage record log book as required by MARPOL. The pipes had previously contained insecticide and were used to fumigate a grain cargo shipment.

The captain presented the falsified garbage record log book at a Coast Guard Port State Control inspection in Mobile, Alabama, United States. This was in violation of 18 United States Code (U.S.C.) Section 1505, and falsification of records, in violation of 18 U.S.C. Section 1519.

The captain was convicted after a jury trial and sentenced to serve a year and a day in prison followed by three years of supervised release. Note that this ship, the company and other crew members were also convicted for deliberate discharge of oil waste (bypass of regulations on pollution prevention equipment) and false records.

See <http://www.justice.gov/opa/pr/singapore-ship-operator-and-engineers-plead-guilty-crimes-related-pollution-cargo-ship>

4.2 Example 2: Australian Maritime Safety Authority v Dynamic Ocean SA

In June 2003, the Australian voluntary coast guard was conducting a search for a missing fishing vessel in the sea offshore from the town of Ulladulla in New South Wales, Australia. The ship Magic Wave was stationary nearby and soon departed the area. The coast guard vessel then came across some garbage floating in the sea, coast guard crew retrieved some of the garbage and took it onboard their vessel.

The garbage consisted of large plastic bags that contained food scraps, plastic bottles, plastic cartons, aluminum cans, paper and other items. Ship documentation in the discarded garbage identified the Magic Wave (a vehicle carrier registered in Panama).

The Magic Wave sailed out of Australian waters but returned to Brisbane in September 2003. Australian Maritime Safety Authority enforcement officers boarded the ship in Brisbane and undertook an investigation of offences under the Protection of the Sea (Prevention of Pollution from Ships) Act 1983 (Australian legislation implementing Annex V of MARPOL).

The matter was decided in the Brisbane Magistrates Court (Queensland) in September 2005 when the Owner Dynamic Ocean was convicted and fined Australian \$20,000 and the Master was convicted and fined Australian \$4,000.



4.3 Example 3: United States v. Ronald Cook (Dunes Marina Resort and Casino, Inc)

The M/V Muskegon Clipper was purchased by Dunes Marina Resort and Casino, Inc. (DMRCI) for the purpose of converting it into a river boat gambling casino.

DMRCI arranged for the M/V Muskegon Clipper (an old ferry boat) to be towed from Seattle, Washington, United States, through the Panama Canal, to a shipyard in Mobile, Alabama, for renovation.

Ronald Cook was employed as the supervisor of the crew hired to perform demolition work aboard the boat while it was under tow, including the removal of asbestos. During the renovation of the boat, employees of DMRCI were directed by Ronald Cook to dump plastic bags containing asbestos into the ocean (in the maritime jurisdiction area of the 'high seas'). Some crew members took photos of the plastic bags being dumped into the ocean.

Following a jury trial, Cook was convicted of conspiracy and illegally dumping the plastic bags full of asbestos and failing to record these discharges in the ship's Garbage Log Book. He was sentenced to serve 24 months in prison to be followed by three years of supervised release.

The company, DMCRI, pleaded guilty and was sentenced to pay a \$US 250,000 fine.

See http://www.justice.gov/archive/opa/pr/2003/August/03_enrd_467.htm



5 TECHNICAL INFORMATION ABOUT SHIP GARBAGE

The most important factors for garbage and waste generation relate to the ship's operating profile the number of people on board, length of time between port calls, waste reception facilities at ports visited, and amount of storage space available onboard. A ship that operates on regular routes calling at the same ports can establish waste handling routines more easily than a ship that may visit different countries and ports on almost every voyage. An issue is when it comes to landing and disposal of waste, every country and every port has different requirements, facilities and cost structures.

This chapter provides information about operational activities involving garbage and waste generation on board ships and vessels. The terms used are defined in MARPOL Annex V or the IMO Guidelines for Annex V (see also Appendix 1).

5.1 Types of garbage generated

The definitions for garbage generated on board during the normal operation of the ship and liable to be disposed of continuously or periodically are in Regulation 1 of MARPOL Annex V. Crew and shipping companies must be familiar with these terms and definitions to know what garbage types can be discharged at sea, what is prohibited from discharge at sea, to help in segregating garbage on board for recycling, and assist handling for discharging in port reception facilities. Investigators also need to be familiar with the categories so that they know what to look for in the documentation and the general procedures that are required to be kept or followed by crew members of the ship.

Garbage type Annex V category	MARPOL Annex V definition (in italics) and examples
<p>A – plastics</p> <p>Discharge at sea PROHIBITED</p>	<p><i>'Plastic means a solid material which contains as an essential ingredient one or more high molecular mass polymers and which is formed (shaped) during either manufacture of the polymer or the fabrication into a finished product by heat and/or pressure. Plastics have material properties ranging from hard and brittle to soft and elastic. For the purposes of this annex, "all plastics" means all garbage that consists of or includes plastic in any form, including synthetic ropes, synthetic fishing nets, plastic garbage bags and incinerator ashes from plastic products.'</i></p> <p>There are numerous examples of plastic waste as many products contain this polymer components. Plastic waste is likely to be generated in all areas on board a ship or vessel.</p>
<p>B – food waste</p>	<p><i>'Food wastes means any spoiled or unspoiled food substances and includes fruits, vegetables, dairy products, poultry, meat products and food scraps generated aboard ship.'</i></p> <p>Food waste is typical as general garbage for all ships and all vessels.</p>

C – domestic waste	<p><i>'Domestic wastes means all types of wastes not covered by other Annexes that are generated in the accommodation spaces on board the ship. Domestic waste does not include grey water.'</i></p>
	<p>Domestic waste garbage is typical on all ships and smaller vessels generated due to personal daily activities on board, mainly in the accommodation and living areas. It includes bottles, cans, paper, food packaging materials, crockery and glass, rags, light bulbs light bulb/tubes, electronics, batteries, aerosol cans, printer cartridges, medical waste, electrical components. It also includes medical wastes (not plastic) and expired medicines.</p> <p>The term “domestic waste” does not include grey water that is generated in accommodation spaces from showers and washing activities. Note that MARPOL Annex IV – sewage covers black water discharges.</p>
D – cooking oil	<p><i>'Cooking oil means any type of edible oil or animal fat used or intended to be used for the preparation or cooking of food, but does not include the food itself that is prepared using these oils.'</i></p>
E – incinerator ashes	<p><i>'Incinerator ashes means ash and clinkers resulting from shipboard incinerators used for the incineration of garbage.'</i></p> <p>Only expected to be in area where an incinerator is installed on the ship.</p>
F – operational waste	<p><i>'Operational wastes means all solid wastes (including slurries) not covered by other Annexes that are collected on board during normal maintenance or operations of a ship, or used for cargo stowage and handling. Operational wastes also includes cleaning agents and additives contained in cargo hold and external wash water. Operational wastes does not include grey water, bilge water, or other similar discharges essential to the operation of a ship, taking into account the guidelines developed by the Organization.'</i></p> <p>Operational wastes are generated on board all ships. Examples include: wood parts, dunnage, ropes, oily rags, expired batteries, cartridges, pyrotechnics (expired), paint, Batteries, chemical drums and other e-waste, replaced iron parts, old used oil filters, etc. Any plastics generated as a result of the normal maintenance of the ship, are to be collected and stored separately as waste category A.</p>
G – cargo residues	<p><i>'Cargo residues means the remnants of any cargo which are not covered by other Annexes to the present Convention and which remain on the deck or in holds following loading or unloading, including loading and unloading excess or spillage, whether in wet or dry condition or entrained in wash water but does not include cargo dust remaining on the deck after sweeping or dust on the external surfaces of the ship.'</i></p> <p>Expected to only be on ships and vessels that carry solid bulk cargoes that are dry materials.</p>

H – animal carcass(es)	<p><i>'Animal carcasses means the bodies of any animals that are carried on board as cargo and that die or are euthanized during the voyage.'</i></p> <p>Mostly will be livestock ships or general cargo ships that have penned areas for livestock.</p>
I – fishing gear	<p><i>'Fishing gear means any physical device or part thereof or combination of items that may be placed on or in the water or on the sea-bed with the intended purpose of capturing, or controlling for subsequent capture or harvesting, marine or fresh water organisms.'</i></p> <p>Many fishing gear item will be made of synthetic materials that are considered plastic. Fishing vessels and factory fishing vessels or motherships.</p>

Note that when garbage is mixed with or contaminated by other substances that are prohibited from discharge or having different discharge requirements, the most stringent discharge requirements apply (See MARPOL Annex V Regulation 4.3 and 6.4).

Investigator Note:

Investigators need to be familiar with the MARPOL categories of garbage so they can review the entries in documentation that the ship must maintain and procedures that the crew must follow (in the Garbage Record Book and the Garbage Management Plan).

The MARPOL Annex V discharge requirements are specified in Regulations 3, 4 and 5. This table illustrates the discharge requirements.

Type of garbage	Ship outside special areas	Ships within special areas	Offshore platforms and all ships within 500 m of such platforms
Food waste comminuted or ground	Discharge permitted ≥3 nm from the nearest land and <i>en route</i>	Discharge permitted ≥12 nm from the nearest land and <i>en route</i>	Discharge permitted ≥12 nm from the nearest land
Food waste not comminuted or ground	Discharge permitted ≥12 nm from the nearest land and <i>en route</i>	Discharge prohibited	Discharge prohibited
Cargo residues ^I not contained in wash water		Discharge prohibited	Discharge prohibited
Cargo residues ^I contained in wash water	Discharge permitted ≥12 nm from the nearest land and <i>en route</i>	Discharge only permitted in specific circumstances ^{II} and ≥12 nm from the nearest land and <i>en route</i>	Discharge prohibited
Cleaning agents and additives ^I contained in cargo hold wash water	Discharge permitted	Discharge only permitted in specific circumstances ^{II} and ≥12 nm from the nearest land and <i>en route</i>	Discharge prohibited
Cleaning agents and additives ^I contained in deck and external surfaces wash water		Discharge permitted	Discharge prohibited
Carcasses of animals carried on board as cargo and which died during voyage	Discharge permitted as far from the nearest land as possible and <i>en route</i>	Discharge prohibited	Discharge prohibited
All other garbage including plastics, domestic wastes, cooking oil, incinerator ashes, operational wastes and fishing gear	Discharge prohibited	Discharge prohibited	Discharge prohibited
Mixed garbage	When garbage is mixed with or contaminated by other substances prohibited from discharge or having different discharge requirements, the more stringent requirements shall apply		

I These substances must not be harmful to the marine environment.

II According to regulation 6.1.2 of MARPOL Annex V, the discharge shall only be allowed if:
 (a) both the port of departure and the next port of destination are within the special area and the ship will not transit outside the special area between these ports (regulation 6.1.2.2); and
 (b) if no adequate reception facilities are available at those ports (regulation 6.1.2.3).

5.2 Garbage generated on ships

Ships and shipping companies can plan to take advantage of modern waste management systems combining equipment for crushing, compaction and shredding. Use of such systems also requires procedures crew to follow for separation of garbage waste types and also allows the ship to recycle useful waste and apply minimization and reduction strategies. This will help in the reduction of transportation and disposal costs, as waste handling from ship to port/waste station will be improved. The Annex V Guidelines provide information for ships and companies to assist in planning of waste management strategies on the ship.

The garbage generated on board all ships, irrespective of their ship type and/or size, includes waste from the provision of food, preparation, storage and consumption. Food waste can be collected, ground where it is produced and discharged into the sea where permitted. This allows the work for the crew to be minimized and sanitation to be maintained on the ship especially in the galley. Other garbage types or categories may be specific to certain types of ships.

5.2.1 Garbage generated on board ships of specific types and different size

All types of ships will generate garbage that originates from galley/food preparation, accommodation and maintenance wastes. For some types of ships under specific operations, other kinds of garbage will be generated.

Large ships (International trading vessels)	<ul style="list-style-type: none">• Food waste, and packaging from food products;• Domestic and operational waste;• Plastics, cooking oil, dunnage, linings and packing material;• Incinerator ashes (if an incinerator is installed).
Passenger ships	<ul style="list-style-type: none">• Generates large amounts of solid and liquid waste streams;• Large amounts of food waste, packaging from bulk food products;• Domestic and operational waste, they will also generate relatively large quantities of cooking oil, glass, bottles, cans, crockery;• Compacted garbage;• Incinerator ashes (if the ship has an incinerator). <p>Note: the amount and type of waste depends on the operating profile of the ship, the number of people on board, the number of port calls and the amount of storage available - many vessels will have integrated systems for processing waste and ensuring that safety and fire risks are reduced.</p>
Small passenger vessels, ferries (domestic voyages)	<ul style="list-style-type: none">• Paper, food waste• Storage space for waste onboard is limited but port calls would be frequent it is easier for offloading food and other waste.

Cargo ships	<ul style="list-style-type: none"> • Food waste, domestic and operational waste, they will generate more plastics, packing materials, incinerator ashes and dunnage, used to secure the deck cargo
Dry bulk cargo ships	<ul style="list-style-type: none"> • Food waste, domestic and operational waste, they will also generate much more plastics, incinerator ashes (if ship has an incinerator) • Cargo residues excesses from unloading or loading of their cargo (examples are iron ore, coal, fertiliser, sand, quartz).
Fishing vessels	<ul style="list-style-type: none"> • Food, domestic and operational waste • Fishing gear and plastic waste related to fishery activities. It is prohibited to discharge fishing gear into the sea, and therefore other parts of the gear, besides the nets, should be kept on board to be discharged to shore facilities. Every accidental loss or discharge of fishing gear poses a significant threat to the marine environment and should be reported to the flag state or the coastal state in whose jurisdiction the loss of fishing gear occurred.
Recreational or pleasure vessels	<ul style="list-style-type: none"> • Food waste and domestic waste in small amounts
Large yachts	<ul style="list-style-type: none"> • Various amounts food waste and domestic waste • Owners and charterers of large yachts expect waste to be handled invisibly, hygienically and without odors. Expect that there may be equipment on board that handles waste.
Support vessels for offshore exploration activities	<ul style="list-style-type: none"> • Food waste, domestic and operational waste • May carry or handle waste from a rig or platform for disposal ashore
Fixed and floating platforms	<ul style="list-style-type: none"> • Food, domestic and operational waste • Logistics related to waste handling are different in different regions

Investigator Note:

When interviewing crew members ask what they know about garbage procedures on board.

Are crew members able to clearly explain how they separate different types of garbage and state their awareness of the MARPOL discharge requirements?

6 MARPOL ANNEX V REGULATIONS FOR DISCHARGE INTO THE SEA

What type of garbage is allowed to be discharged into the sea under MARPOL Annex V.

To have a clear overview when the discharge of garbage is allowed, we should look at:

1. Sea areas (that are not special areas)
2. Special Areas
3. Fixed or Floating platforms
4. Mixed waste

6.1 Sea Area - Outside Special Areas

The requirements under Regulation 4, discharge of garbage outside special area, allow the discharge into sea of:

6.1.1 Food waste

The discharge of food waste is allowed under the following conditions:

- The ship is **en route**, which means the ship must be underway or moving;
- For food waste processed through a mincer or grinder (capable of passing through a screen with openings no greater than 25 millimeters (mm)), the discharge must be at least **3 nautical miles (nm)** from the nearest land;
- For food waste that has not been processed through a mincer or grinder, the discharge must be at least **12 nm** from the nearest land.

The **en route** requirements shall not apply to the discharge of food wastes where it is clear the retention on board of these food wastes presents an imminent health risk to the people on board. This allows for vessels that may be stationary at an anchorage for a period of time.

Releasing small quantities of food into the sea for the specific purpose of fish feeding in connection with fishing or tourist operations, is not be considered a discharge of garbage in the context of Annex V.

6.1.2 Cargo residues

Cargo residues relates to the loading and unloading of cargoes of dry bulk materials carried by bulk carriers. The discharge at sea of **“cargo residues that cannot be recovered using commonly available methods for unloading”** is allowed, provided that:

- the discharge happens at least 12 nm from the nearest land; and
- the discharge contains no substances that are harmful to the marine environment, taking into account guidelines developed by the Organization.



Cargo residues excesses on covering deck area.
Source: Netherlands Police

The ship must make every effort to ensure that the maximum amount of cargo is unloaded in port. When vessels are loading or unloading solid bulk cargoes, the ship's deck may be contaminated with cargo residues. Before leaving the port to sea, the ship's deck should be swept and cleaned-up. The cargo residues collected this way shall be safely stored on board prior to delivery to a port reception facility.

After unloading of solid bulk cargoes the cargo holds should also be emptied and swept. The remnants of cargo, which are unable to unload, should also be kept on board until their delivery ashore to reception facilities. Usually cargo residues collected from cargo holds and deck cleaning are collected and stored in dedicated containers (steel drums), placed between the cargo holds; it is also acceptable bags to be used for this purpose.

The term **'harmful to the marine environment'** (HME) is not defined in Annex V, but guidance as to what constitutes an HME substance is set out in the Annex V Guidelines. They state that cargo residues will be considered harmful if they are solid bulk substances that meet the seven criteria for HME (see section 3). These criteria are based on the seventh revised edition of the UN Globally Harmonised System of Classification and Labelling of Chemicals (GHS), 2017.

Cargo residues that are HME may require special handling not normally provided by reception facilities. Ports and terminals receiving such cargoes should have adequate reception facilities for all relevant residues, including when contained in wash water.

Solid bulk cargoes should be classified and declared by the shipper as to whether or not they are HME. Such declaration should be included in the cargo information furnished by the Shipper, required in the International Maritime Solid Bulk Cargoes Code (IMSBC Code section 4.20). Significant amendments to the Code have been made to incorporate the requirements of MARPOL Annex V regarding the management of solid bulk cargo residues. The third amendment entered into force on 1 January 2017, requiring the Shipper to expressly state whether or not the cargo is HME in the "Form for cargo information for Solid Bulk Cargoes" (paragraph 4.2.3) (see pictures at right).

FORM FOR CARGO INFORMATION SHEET For Solid Bulk Cargoes

Bulk Cargo Shipping Name: YELLOW SOYBEANS

Shipper: ARCHER DANIELS MIDLAND CO. Transport document number:

Consignee: TO ORDER Carrier: M/V CHERRY POINT

Name/means of transport: CHERRY POINT Instructions or other matters:

Port/place of departure: NOLA

Port/place of destination: CHINA PORTS

General description of the cargo: (Type of material/particle size) Gross mass (kg/tonnes): BULK CARGO

Specifications of bulk cargo, if applicable:
 Stowage factor: As per NCB
 Angle of repose, if applicable: As per NCB
 Trimming procedures: As per NCB
 Chemical properties if potential hazard: N/A
 * e.g. Class & UN No. or "MHB"

Group of the cargo:
 Group A and B*
 Group A*
 Group B
 Group C
 * For Group A and B cargoes)

Relevant special properties of the cargo (e.g. highly soluble in water):
 THE SHIPPERS HEREBY CONFIRM THAT CARGO BEING LOADED IS A MARINE NON-POLLUTANT AND NOT AN EHS (ENVIRONMENTALLY HAZARDOUS SUBSTANCE). FOR WHICH CARGO RESIDUES CAN BE DISPOSED TO SEA.

Transportable moisture limit: n/a

Moisture content at shipment: As per USDA certification

Additional certificate(s): * If required
 Certificate of moisture content and transportable moisture limit
 Weathering certificate
 Exemption certificate
 Other (specify)

Name/status, company/organization of signatory: ARCHER DANIELS MIDLAND CO. (Chad R. Bechel)

Place and date: NORFOLK, VA 10/15/14

Group C
 For cargoes which may liquefy (Group A and Group B Cargoes)

Relevant special properties of the cargo (e.g. highly soluble in water):
 The cargo is an environmental non-pollutant.

Transportable Fat/Oil limit: N/A

Moisture content at Shipment: 13.5%
 Additional certificate(s)*
 *If required
 NCB CERTIFICATE

DECLARATION
 I hereby declare that the consignment is fully and accurately described and that the given test results and other special properties are correct to the best of my knowledge and belief and can be considered as representative for the cargo to be loaded.

Name/status, company/organization of signatory: ERDUE GRAIN & OILSEED, LLC

Place and date: NORFOLK, VA

Signature on behalf of shipper: ON FILE

Examples of cargo information section 4.2 of the IMSBC Code. Source Maritime Administration Bulgaria

Cargo material contained in the cargo hold bilge water should not be treated as cargo residues if the cargo material is not HME and the bilge water is discharged from a loaded hold through the ship's fixed piping bilge drainage system (this type of discharge is done to avoid any safety issue related to the stability of the ship).

6.1.3 Cleaning agents or additives

Cleaning agents or additives, contained in cargo hold, deck and external surfaces wash water may be discharged into the sea, **but only** if these substances are not HME. While cleaning agents and additives contained in hold wash water, and deck and external surface wash water are considered 'operational waste' (garbage of category F), these cleaning agents and additives may be discharged into the sea so long as they are not HME.

A cleaning agent or additive is considered not HME if it:

- is not a harmful substance in accordance with the criteria in the Appendix to MARPOL Annex III; and
- does not contain any components which are known to be carcinogenic, mutagenic or reprotoxic (CMR).

6.1.4 Animal Carcasses

Animal carcasses are the bodies of any animals that are carried on board as cargo and that die or are euthanized during the voyage. Most livestock vessels are purpose built but also some general cargo ships that may carry livestock on short voyages. The discharge into the sea of animal carcasses (garbage of category H) is allowed, but they must be treated in a way that makes the carcasses sink and the discharge shall occur as far from the nearest land as possible (regulation 4.1.4 of MARPOL Annex V). Discharge into the sea is recommended to take place greater than 100 nm from the nearest land and in the maximum water depth possible.

There may be circumstances where this distance cannot be met and combined with high temperatures and high humidity there retention of carcasses may constitute a threat to human health and safety or to the remaining live animals (see Annex V Guidelines section 2.12). If the master of the ship determines that such health and safety threats exist, it is recommended the discharge into the sea should take place greater than 12 nm from the nearest land. The entry in the Garbage Record Book should also include a remark about these circumstances.

Animal carcasses should be split or otherwise treated prior to their discharge at sea. Treatment is to facilitate the sinking or dispersal of the carcass when it is discharged into the sea. Treatment of a carcass involves:

1. Manually slitting or cutting the carcass to the extent that the thoracic and abdominal cavities are opened; or
2. Passing the carcass through equipment such as a comminuter, grinder, hogger, or mincer.

If a ship carrying livestock is operating in a Special Area for two or more weeks a temporary solution may need to be negotiated with the flag authorities and coastal states or in an emergency a discharge can be done under MARPOL Annex V Regulation 7.1.1.

6.2 Special Area discharges

MARPOL defines certain sea areas as '**Special Areas**' where due their oceanographic and ecological conditions, and to their sea traffic, more restrictive discharge requirements apply. These Special Areas are provided with a higher level of protection than other areas of the sea.

Special Areas for MARPOL Annex V¹⁵ are:

- Mediterranean Sea area
- Gulfs area
- Baltic Sea area
- North Sea area
- Black Sea area (not in effect)
- Antarctic area
- Red Sea area
- Wider Caribbean Region

Note that in 2014, the IMO adopted the International Code for Ships Operating in Polar Waters (Polar Code), followed by environmental provisions and MARPOL amendments adopted in 2015. This new international code for polar waters contains more restrictive discharge requirements that came into force internationally on 1 January 2017. The Polar Code requires ships, which operate in polar waters of the Arctic and the Antarctic, to apply for a Polar Ship Certificate.¹⁶

The requirements under MARPOL Annex V Regulation 6 provide for the discharge of garbage inside special areas as outlined below.

6.2.1 Food waste

The discharge of food waste is allowed under the following conditions:

- The ship is **en route**, which means the ship must be underway or moving;
- The discharge is not less than **12 nm** from the nearest land or ice shelf;
- Food waste that is comminuted or ground and shall be capable of passing through a screen with openings no greater than 25 mm (using equipment on the ship);
- If any waste is contaminated by any other garbage type the strictest requirement for the type of garbage will apply to the contaminated garbage.

The **discharge of introduced avian products, including poultry and poultry parts, is not permitted in the Antarctic area unless it has been treated to be made sterile**. The **en route** requirement does not apply to the discharge of food wastes where it is clear the retention on board of these food wastes presents an imminent health risk to the people on board.

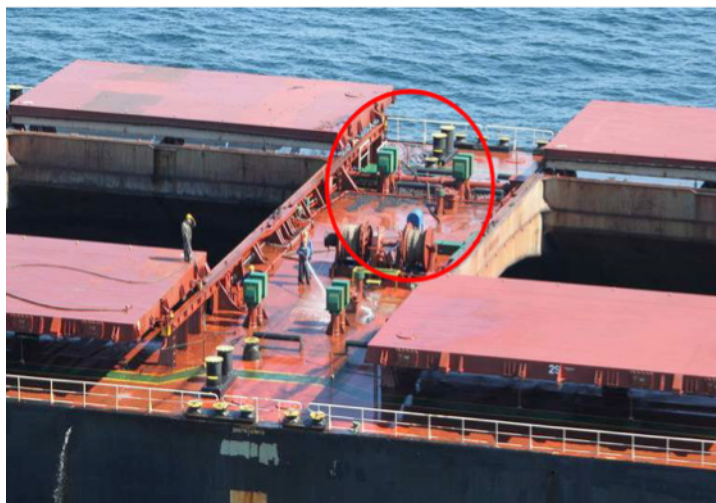
15 MARPOL Annex V Regulation 1.14

16 See <http://www.imo.org/en/mediacentre/hottopics/polar/pages/default.aspx>

6.2.2 Cargo residues contained in hold washing water

The discharge at sea of cargo residues that cannot be recovered using commonly available methods for unloading is allowed provided that:

- Cargo residues, cleaning agents or; additives, contained in hold washing water do not include any substances classified as HME;
- Both the port of departure and the next port of destination are within the special area and the ship will not transit outside the special area between those ports;
- No adequate reception facilities are available at those ports;
- The discharge of cargo hold washing water containing residues shall be made as far as practical from the nearest land or the nearest ice shelf, but not less than 12 nm.



Source: Netherlands Maritime Police

When the master determines that there are no adequate reception facilities at either the port of departure or the port of destination in the case where both ports are situated within the same special area, the condition under MARPOL Annex V Regulation 6.1.2.3 should be considered satisfied. Obtaining port reception facility information is either through relevant port authorities, and/or from the IMO Global Integrated Shipping Information System database.¹⁷

MARPOL Annex V Regulation 6.1.2 also applies when the 'port of departure' and the 'next port of destination' is the same port. To discharge cargo hold wash water in this situation, the ship must be en route and the discharge must take place not less than 12 miles from the nearest land.

6.2.3 Cleaning agents or additives

Cleaning agents or additives, contained in cargo hold, deck and external surfaces wash water may be discharged into the Sea, **but only** if these substances are not HME.

Investigator Note:

If your maritime jurisdiction area includes a MARPOL Annex V Special Area you need to be familiar with the stricter discharge standards in these areas.

6.3 Fixed or floating platforms – discharges

The offshore industry operates rigs and platforms for drilling production and accommodation. Some are fixed in position and some are mobile. A fleet of support and special vessels also either make very short trips to and from a rig or they spend many months of research.

Fixed or floating platforms which are engaged in the exploration, exploitation or associated offshore processing of sea-bed mineral resources, (oil rigs, gas/oil production platforms are defined as ships under MARPOL). MARPOL Annex V Regulation 5 specifies the discharge of any garbage is prohibited from fixed or floating platforms and ships alongside or within 500 meters from such platforms.

6.3.1 Food waste

Where the platform is more than **12 nm** from the nearest land the discharge of food waste is allowed under the following conditions:

- The food waste shall be comminuted or ground and shall be capable of passing through a screen with openings no greater than 25 mm.

Food waste is generally collected and ground where it is produced. This means work for the crew is minimized and proper hygiene is maintained in the galley. Food waste that cannot be ground must be transported to land. In areas with zero discharge policies, the food waste can be collected in a holding tank.

The responsibility for the logistics related to waste handling are different in different regions, but normally involve owners or operators or both. The offshore industry is subject to national regulations regarding safety and environment, which includes waste management. Regions with special regulations include the North Sea, GOM (US, Mexico, etc.), Australia, Brazil, Alaska, and Shtokman field (Russia). On fixed platforms, jack-up rigs, semi-submersibles, drillships, TLPs, FPSOs and floatels, waste can be divided into three categories: waste from drilling (only drilling rigs), production waste, and waste generated by accommodation areas.

Waste is typically stored in compacting containers. These containers are transported when full from the rig and empty back to the rig. On board the rig or platform, waste can be separated to allow for recycling, and the volume of waste can be reduced by shredding and compaction. Waste handling from ship/rig to port/waste station may be optimized using large bags to transport the different garbage types.

6.4 Mixed Waste

When garbage is mixed with or contaminated by any other substances prohibited from discharge or having different discharge requirements, the more stringent requirements shall apply (Regulation 4.3 and 6.4).

6.5 General MARPOL Annex V exceptions

There are limited exceptions to the Annex V discharge requirements but a ship must be able to provide information or documentation or make a statement to prove the exception. A discharge can be undertaken at sea if:

- The discharge is necessary for the purpose of securing the safety of a ship and those on board or saving life at sea, or
- An accidental loss of garbage has resulted from damage to a ship or its equipment (ship must take all reasonable precautions before and after the occurrence of the damage, to prevent or minimize the accidental loss), or
- An accidental loss of fishing gear (all reasonable precautions must be taken to prevent such loss), or
- The discharge of fishing gear is for protection of the marine environment or for the safety of that ship or its crew.

Investigator Note:

The onus is on the ship (master or owner) to prove that an exception applies to the illegal discharge violation under investigation. The exception information should be available on board the ship, as it would be recorded in the official log or other records at the time that the potential violation occurred.

7 DOCUMENTATION REQUIRED BY MARPOL ANNEX V

The following documentation is required on board certain ships and fixed or floating platforms as applicable under MARPOL Annex V:

Garbage Record Book	Ships (400 GT and above, or certified to carry more than 15 persons) and every fixed or floating platform
Garbage Management Plan	Ships (100 GT and above, or certified to carry more than 15 persons) and every fixed or floating platform.
Placards (signs)	Ships (12 meters or more in length overall) and every fixed or floating platform.

7.1 Garbage Record Book and categories of garbage¹⁸

The Garbage Record Book (GRB) is for recording of garbage discharges (made to sea and to reception facilities) and must be carried by all vessels that are 400 GT and over, or carrying more than 15 persons. Entries must be recorded in the GRB using the appropriate category code and specifying where the discharge is to a reception facility, or where the allowable discharge is to the sea. All discharges to reception facilities must be supported by receipts that are attached to the garbage record book. Discharges to the sea must include the geographic coordinates of the position of the discharge. The Garbage Record Book is an official document that investigators can use as evidence.

The requirements are that:

- An entry must be recorded for each discharge into the sea or to a reception facility, or a completed incineration;
- The entry includes date and time, position of the ship, category of the garbage and the estimated amount discharged or incinerated, and is to be signed for on the date of the discharge or incineration by the officer in charge;
- Each completed page of the Garbage Record Book shall be signed by the master of the ship;
- The entries in the Garbage Record Book shall be at least in English, French or Spanish. Where the entries are also made in an official language of the State whose flag the ship is entitled to fly, the entries in that language shall prevail in case of a dispute or discrepancy;
- The Garbage Record Book shall be kept on board the ship or the fixed or floating platform, and in such a place as to be readily available for inspection at all reasonable times;
- The Garbage Record Book shall preserve for a period of at least two years from the date of the last entry made in it;
- In the event of any discharge or accidental loss (see regulation 7) an entry shall be made in the Garbage Record Book, or in the case of any ship of less than 400 GT, an entry shall be made in the ship's official log-book, of the location, circumstances of, and the reasons for the discharge or loss, details of the items discharged or lost, and the reasonable precautions taken to prevent or minimize such discharge or accidental loss.

¹⁸ It should be noted that IMO's Sub-Committee on Pollution Prevention and Response has developed the development of a draft *Guidance for the use of electronic record books under MARPOL*, in November 2016. This aimed to "provide standardized information on approving an electronic record book", as "companies and shipowners increasingly focus on ways to operate in an environmentally responsible manner and aim to reduce the heavy burden associated with paper work through electronic means". See the [copy of the decision document here](#).

The categories for records in the Garbage Record Book are:

- A – plastics
- B – food waste
- C – domestic waste
- D – cooking oil
- E – incinerator ashes
- F – operational waste
- G – cargo residues
- H – animal carcass(es)
- I – fishing gear



Source: Maritime Administration Bulgaria

There are some exclusions from MARPOL Annex V that are NOT considered as garbage:

- Other substances, which are defined or listed in other annexes to MARPOL;
- Fresh fish and parts thereof, generated as a result of fishing activities undertaken during a voyage, or as a result of aquaculture activities, which involve the transport of fish including shellfish for placement in the aquaculture facility, and the transport of harvested fish including shellfish from such facilities to shore for processing.

7.1.1 Garbage Management Plan

A Garbage Management Plan must be on every ship that is 100 GT and above, every ship which is certified to carry 15 or more persons, and fixed or floating platforms. The IMO has developed guidelines¹⁹ for what should be written in the Plan, including procedures for the crew to follow and way that the ship can manage waste on board. The written procedures must be specific for the ship and address minimizing, collecting, storing, processing and disposing of garbage, including the use of the garbage processing equipment on board.



The Garbage Management Plan must be written in the working language of the crew who must be familiar with it (approval of the plan by the Flag Administration is not required). A crew person must be designated to be responsible for implementing the procedures within the Plan. This person can be assisted by other crew personnel to ensure that the collection, separation and processing of garbage is efficient in all areas of the ship, and that the procedures onboard are carried out in accordance with the garbage management plan. Often the Chief Officer is the designated as the officer responsible for environmental activities onboard.

19 IMO Resolution MEPC.220(63) 2012 Guidelines for the development of Garbage Management Plans, see [http://www.imo.org/en/OurWork/Environment/PollutionPrevention/Garbage/Documents/2014%20revision/RESOLUTION%20MEPC.220\(63\)%20Guidelines%20for%20the%20Development%20of%20Garbage%20Management%20Plans.pdf](http://www.imo.org/en/OurWork/Environment/PollutionPrevention/Garbage/Documents/2014%20revision/RESOLUTION%20MEPC.220(63)%20Guidelines%20for%20the%20Development%20of%20Garbage%20Management%20Plans.pdf) Also Lloyd's Register Marine provides useful information that assists in the development of a Plan, a checklist for reviewing a Plan and frequently asked question on MARPOL Annex V, see <http://www.lr.org/en/marine/>.

Shipboard garbage handling means the collection, processing, storage, discharge at port reception facilities, or disposal into the sea of garbage.

The Garbage Management Plan should cover:

- Suitable receptacles for collection and separation should be identified. Separation is considered part of the collection process. Separation may take place at the source or at a separate designated station;
- The locations of receptacles and collection and separation stations should be identified
- The process of how garbage is transported from the source of generation to the collection and separation stations should be described
- Processing equipment on board ships could be: Incinerators, Compactors, comminuters or other such devices
- How garbage is to be handled between primary collection and separation stations and other handling methods should be described, relating to the following:
 - needs of reception facilities, taking into account possible local recycling arrangements;
 - on board processing and potential reuse of garbage aboard the ship;
 - storage; and
 - discharge into the sea in those limited situations where it is permitted.
- The training or education programmes to facilitate collection of garbage and sorting of reusable or recyclable material should be described.

Procedures for collecting garbage generated on board should be based on the consideration of what is permitted and what is not permitted to be discharged into the sea while en route, and whether a particular garbage type can be discharged to port facilities for recycling or reuse. To reduce or avoid the need for sorting after collection, the categories of distinctively marked garbage receptacles must be provided to receive garbage as it is generated.

Examples for separate receptacles or storage bins onboard ships would be:

Plastics	Food wastes
Cooking oil	Domestic waste , operational waste and recyclable or reusable material. For each recyclable and reusable material separate receptacles may be used
Oily rags and any other oily material (garbage that might present a hazard to the ship or crew)	Glass, glass bottles
Medical wastes	Aluminum cans
Paper	E-waste generated on board (e.g. electronic cards, gadgets, instruments, equipment, computers, printer cartridges, etc.).
Incinerator ashes	Batteries

Garbage collected from throughout the ship should be delivered to designated processing or storage locations. Garbage that must be returned to port for discharge at port reception facilities, may require storage until arrangements can be made to discharge it ashore for appropriate processing. In all cases, garbage should be stored in a manner which avoids health and safety hazards.

Although discharge into the sea of limited types of garbage is permitted under MARPOL Annex V, the discharge of garbage to port reception should be given primary consideration.

Correct garbage management:



Incorrect garbage management:



Source: Netherlands Maritime Police/ Seaport Police Rotterdam / Maritime Administration Varna

7.1.1.1 Ship's equipment (incinerator, grinders, compactors)

It should be noted that there is no requirement for ship to have incinerators or other equipment on board for the treatment of waste. However, ships may be provided with garbage processing equipment on board to be used for minimization of some types of waste. Such equipment could be incinerators, compactors, comminuters, grinders or other devices.

A shipboard incinerator must comply with MARPOL Annex VI Regulation 16.6 - this applies to ships constructed on or after 1 January 2000 or new incinerators installed on any ship after that date. The incinerator must be type approved to the relevant IMO resolution based on when it was installed on the ship.²⁰ A certificate of type approval should be carried on board a vessel that this equipment is fitted. Crew must be familiar with the operation of this equipment including that temperatures stated are reached to ensure complete incineration for the waste type being incinerated.

Some countries also have domestic laws that prohibit incineration on board a ship while in that country's Territorial Waters or Exclusive Economic Zone²¹.

It should be noted that few new builds of ships are being equipped with incinerators. This is because waste accumulates quickly and on board incineration is being increasingly regulated. Metal bins or

20 IMO Resolution MEPC.244 (66) 2014 Standard Specification for Shipboard Incinerators, which supercedes MEPC.76(40) as amended by MEPC.93(45).

21 For example Sweden - Decree by the Swedish Maritime Administration with regulations concerning prohibition against incineration on board ships of ship generated waste

containers for burning wastes on the decks of ships are not a type approved incinerator and must not be used.

This is not a type approved incinerator and should not be used:



Source: Australian Maritime Safety Authority

7.1.1.2 Compacting or Grinding Equipment

Any equipment on board the ship that is used for garbage processing should be listed in the Garbage Management Plan along with procedures for use. Crew members must be familiar with and know how to use and maintain this equipment.

Relevant questions during interviews of crew members should be undertaken during an investigation.

A number of ships are provided with equipment to grind/comminute food waste. Such equipment should not be used and discharged in port areas, as MARPOL Annex V only permits discharges of grinded/comminuted food waste at a distance of more than 3 nm outside special areas and more than 12 nm inside special areas while ship is en route. Check whether this equipment is secured to avoid its use in port areas (for example it could be locked and/or sealed and a label is placed on it to warn about the prohibition for use in port).



Example of compactors. Source: Maritime Administration of Bulgaria

7.1.2 Placards

Placards provide information on the prohibition and restrictions for discharging garbage from ships under MARPOL Annex V and the possible penalties for failure to comply. Every ship of 12 meters or more in length overall, and all fixed or floating platforms, shall display placards to provide information for the crew and passengers of MARPOL Annex V discharge requirements. The placards must be in the working language of the crew onboard the ship and may also be in English, French or Spanish.

The placards must be in prominent places where crew will be working and living, and where bins are placed for collection of garbage, including: galley spaces, mess room(s), wardroom, the bridge, accommodation areas, main deck and other areas of the ship, as appropriate. On passenger ships or ferries the placards must be prominent for all passengers in areas such as cabins, recreational deck areas, deck areas open to passengers.



Placard and additional educational material on a passenger ship. Source: Australian Maritime Safety Authority

Investigator Note:

Receipts for the garbage waste taken by port reception facilities will need to be examined closely to ensure that they are not false or forged. Investigators should be familiar with geographic coordinates for sea areas for allowable or prohibited discharges. Use of computer tools for plotting positions is recommended.

8 ON BOARD INVESTIGATION

The investigation regarding MARPOL Annex V requirements should be carried out addressing the investigation of the following.

For more information regarding on board investigation, see Chapter 6 of the INTERPOL Investigative Manual on Illegal Oil Discharges from Vessels.

8.1 Pre-investigation

Before visiting a ship for an investigation of a garbage violation, it is important to obtain certain information and prepare in advance a plan for the investigation team to ensure that all relevant evidence can be collected.

The following issues should be considered when preparing for the investigation on board the ship:

1. Is the vessel suspected of illegal discharges of Garbage?
2. Is there any (criminal) information regarding the handling of ship generated garbage (intelligence led policing)?
3. Will the vessel be inspected by other authorities?
4. Has the vessel been inspected or investigated recently?

Before starting the investigation you may wish to inform the ship's master of the purpose of investigation; to ask them to make available the required documentation and to hand them a list mentioning from what documents a copy is required. However, informing the master means that evidence may be destroyed and there may be more opportunity for collusion amongst the crew.

8.2 Investigation checklist

For the investigation of garbage violations, the checklist attached in Appendix 13.3 may assist in a planned investigation.

Investigator will need to undertake

1. Inspection and copying of relevant documentation
2. Inspection of ship areas of garbage generation and garbage management
3. Interviews of relevant crew members.

8.3 Ship's particulars

The first step in the investigation is to collect detailed ship information. It is recommended that the Ship's particulars be requested and a copy of this document made. Information regarding the following should be collected: ship's name, IMO number, Flag, ship type, gross tonnage, length (overall), certification regarding the number of persons on board and number of passengers (if a passenger ship or ferry) .

8.4 Ship's certificate/statement of compliance

Although certification under MARPOL Annex V is not required, a number of countries that are Parties to MARPOL have been issuing documents of compliance to show that the ship complies with MARPOL Annex V for garbage processing equipment and the on board capacities to store garbage. It is suggested that such a document be requested of the master, to be provided if one exists for the vessel. It is

suggested that a copy of this document be made and verified by the master (by his signature and ship's stamp) as a true copy. The Garbage Management Plan for the ship should also contain ship specific information on any garbage processing equipment, and garbage storage areas and capacities.

8.5 Garbage management plan

1. Is there a GMP on board?
2. Are the crew familiar with the garbage management procedures and the GMP?
3. Is it written in the working language of the crew?
4. Does it contain procedures for minimizing, collecting, storing, processing and disposing of garbage?
5. Does it mention the garbage processing equipment on board?
6. Does it mention the designated person(s) in charge for carrying out the Plan?
7. Does it mention the training and education of the crew?

8.6 Garbage record book

The Garbage Record Book should be examined to review what garbage management activity is done by the ship. If the ship is on a regular voyage it may have a pattern for regular discharges.

1. Is the garbage record book on board and up to date?
2. Are entries made regarding discharges into the sea and discharges to reception facilities
3. If the ship has an incinerator, are their entries for incineration?
4. Are there receipts from reception facilities attached? Are they issued by a reputable authority or do they look false? Do they correspond with the Garbage record book entries?
5. Are there records for illegal discharges of garbage? (for example entries on the discharge of non comminuted or ground food waste in special areas, that could be a sign of insufficient knowledge on proper garbage management)
6. Are all entries signed by the duty officer?
7. Are all complete pages signed by ship's master?
8. Are all entries according to MARPOL Annex V regulations as stated?

8.7 Placards

Examine the areas on the ship where placards would be expected to be located

1. Are the placards in the working language of the crew?
2. Do the placards describe relevant information on prohibition and restrictions for discharging garbage from ships?
3. Are the placards placed in appropriate areas?

8.7.1 Garbage station / Ship's deck

There may be several places on board the vessel where garbage is separated and stored. These places may be called 'garbage stations' or there could be a secure room on the ship, or the ship's deck or stern area. Garbage should be separated into categories consistent with the procedures of the Garbage Management Plan and stored in appropriate containers or similar receptacles. The ship may use bins or metal/plastic drums as containers or receptacles. It is important that the container/receptacles are properly marked and labelled for the type of garbage to be placed in them, as well as lids that can be securely closed to avoid falling over and a spillage of contents.

The segregation of garbage on board many ships will match the MARPOL Annex V categories. Some ships will separate recyclable materials like paper, glass, metals, and for some non-recyclable materials. Also special items categorized as operational waste are usually collected and stored in separate receptacles, placed in appropriate safe places on board the ship (i.e. at the garbage station on the deck a container may be for category F. Some items like batteries, cartridges, bulbs, may be placed in smaller receptacles, and stored in a secure garbage room or other appropriate place on board).

Examples:



Source: Netherlands Maritime Police / Seaport Police Rotterdam, the Netherlands

During an investigation, the investigator will need to check the amounts of garbage stored on board. Compare this with quantities stated on any documentation for pre-arrival/ advanced Waste Notification Form of the ship that is provided to a port. Take into the consideration the latest garbage management operations before your boarding (i.e. discharges to the sea or to a reception facility, or incineration) – check the records made into ship's Garbage Record Book.

Check the deck and cargo hold spaces for any cargo residues and/or other types of garbage spilled (for example often waste from some recent provisions gathering could be observed).

Make pictures of your observations and draw-up a pollution prevention report (Appendix 9.4) to be send to the next port of call if appropriate.

Examples:



Source: Seaport Police Rotterdam, the Netherlands

8.8 Investigation of usages of incinerator and other equipment



1. Is the incinerator regularly used?
2. Manufacturer's certificate of type approval and instruction plate or manual - check if solid waste could be burnt, what kind and what's the incinerator's capacity for that purpose);
3. Has the incinerator been used for burning garbage – when, what kind of garbage was burned, is it according to the manufacturer instructions?
4. Have incinerator ashes been removed from the incinerator?
5. How does the crew store the ashes? (check for records in GRB of delivery of category E to a port reception facility, as discharge of ashes overboard is prohibited)

8.9 International Safety Management

Note that ships over 500 GT are subject to International Safety Management under regulations of the International Convention for the Safety of Life at Sea (SOLAS). This requires the ship to have a document of compliance that is managed by ISM managers. In this document ISM manager, mentioned by company name and address, declares to follow all rules to protect the safety and the environment. On board the ship a Safety Management system manual shall be available and shall contain approved procedures concerning the responsibilities of officers on board the vessel. The system can be an integrated manual for all procedure on the ship. The SOLAS requirements include that the ISM system is audited periodically.

9 POST - INVESTIGATION

A decision to prosecute an owner/company, or a person for an illegal discharge of garbage will depend on the criminal legal system, authorities and enforcement practices. More information regarding Post-investigation and collection of evidence can be found in Chapter 7 of the INTERPOL Investigative Manual on Illegal Oil Discharges from Vessels.

Ship owner:

The ship owner is normally the owner of the vessel and makes insurance arrangements. Most of the times the owner is not the vessel's actual operator, so ensure that relevant documentation is obtained regarding who is the charterer or operator of the vessel. As long the owner is operating the vessel, the owner has responsibility for illegal discharges of garbage.

Master of the vessel:

The master of a vessel is responsible for all aspects concerning the operational activities on board a ship. He is also the representative of the company on board the vessel. Therefore the master is responsible for illegal discharges of garbage from the vessel.

Crew Members:

Individual crew members may be responsible for the discharge and may have reasons for being disgruntled or unhappy with the ship employment situation and also could have been ordered by other crew members to do a particular action. A crew member may be in fear of losing their job. These factors need to be considered when interviewing crew members or finding other corroborating evidence that may be held by the operator/company.

10 WASTE REPORTING

10.1 Port Reception Facility (PRF) Documentation

10.1.1 PRF – guideline

IMO Members have recognized that the provision of reception facilities is crucial for effective MARPOL implementation and protection of the marine environment from the perils of garbage. All Parties to MARPOL have been strongly encouraged to fulfil their treaty obligations on providing adequate reception facilities. A policy of 'zero tolerance of illegal discharges from ships' can only be effectively enforced when there are adequate reception facilities in ports.

To assist ships, a port reception facility database (PRFD) is available as a module of the IMO Global Integrated Shipping Information System (GISIS).²²

Ships are encouraged to report any problem they have when trying to offload garbage to port reception facilities or if they are not able to discharge waste in a port. There is a format for reporting alleged inadequacy of port reception facilities (see MEPC.1/Circ.834 – Annex 1) and an obligation for the state that the report has been made to respond to the ship and flag state, and to advise IMO of the outcome.

To further assist ships, IMO has developed a Standard Format for the Advance Notification Form see MEPC.1/Circ.834 – Annex 2 and a Standard Format for the Waste Delivery Receipt see MEPC.1/Circ.834 – Annex 3.

The Consolidated Guidelines on PRF for Providers and Users (MEPC.1/Circ. 834) provides guidance and easy reference to good practices related to the use and provision of port reception facilities as well as a list of applicable regulations and guidelines.

Participation and use of the formats and guidelines is expected to improve the facilitation of reception facilities.

10.1.2 Waste notification reporting forms

Some ports require ships to provide notifications of waste removals required prior to arriving in the port. IMO has produced a proforma that can be used by ships (see previous section).

The European Union has also produced a 'Waste notification reporting form' that is required to be used under the EU directive 2000/59/EC.

The estimated amount of garbage on board the ship before it berths in port, should be reported at least 24 hours in advance to the port authorities. The amounts of different categories of garbage on board can be checked prior to the discharge to port reception facilities. Be aware that there could be exemptions due to local legislation.

22 See <https://gisis.imo.org/Public/Default.aspx>

After completion to be forwarded to:
(if possible 24 hours prior to arrival)
Waste Reporting Point

Form (English):
Notification of ships' waste
and (remainders of) noxious
substances (art. 12a Wvvs)

Pursuant to the Dutch Prevention of Pollution from Ships Act (Wvvs) and
Directive 2000/59/EG, the Port Waste Plan North Sea Canal Area applies. By
calling at this port, you are agreeing to the ensuing rights and obligations, to
which general terms and conditions are applicable (please see
www.portofamsterdam.nl. The obligation to discharge applies in all the ports of
the Member States of the EU.

Name of ship _____ Lloyds number _____ ETAVETD _____ Last port of call _____ Number of crew _____
Callsign _____ Flag State _____ Engine capacity _____ N.A. _____ kW _____ Next port of call _____ Number of passengers _____

Type of waste	Name of substance or UN number	Amount of waste to be delivered	Name collector or reception facility	Anticipated berth of discharge	Date of anticipated discharge	Maximum dedicated storage capacity	Amount of waste to be retained on board	Port at which remaining waste will be delivered	Last port where waste was delivered	Date when waste was delivered	Amount of waste to be generated between notification and next port of call
1. Engine room (Marpol Annex I)											
Fuel/Oil residues (specify)		m ³				m ³	m ³				m ³
Bi-lube water		m ³				m ³	m ³				m ³
Used engine oil		m ³				m ³	m ³				m ³
2. Accommodation (Marpol Annex IV en V)											
Sewage		m ³				m ³	m ³				m ³
Plastic		m ³				m ³	m ³				m ³
Food waste		m ³				m ³	m ³				m ³
Maintenance waste (specify)		m ³				m ³	m ³				m ³
Domestic waste		m ³				m ³	m ³				m ³
3. Cargo area (Marpol Annex I, II en V)											
Annex I Dirty ballast water		m ³				m ³	m ³				m ³
Annex I Oily tank washings including cargo residue (specify name of substance or mixture)		m ³				m ³	m ³				m ³
Annex II Tank washings noxious liquid substances including chemicals (specify : cargo residue, name of substance or mixture)		m ³				m ³	m ³				m ³
Annex II Other (specify: e.g. remainders in drums or barrels)		m ³				m ³	m ³				m ³
Annex V Dry cargo residues (specify)		m ³				m ³	m ³				m ³
Annex V Cargo-associated waste (specify: e.g. dunnage, lining)		m ³				m ³	m ³				m ³

Date of notification: 20..... Time: hours (0/24) Signature: _____
Name of shipping agent: _____ Address: _____ Area code and place name: _____

The content of this form has been translated from Dutch. In case of any dispute about this form, the Dutch text will prevail.

11 ADDITIONAL INFORMATION

11.1 Eco-message

The Eco-message is a simple form to transmit details of a particular crime, like environmental crime, to INTERPOL. When INTERPOL receives environmental crime reports via Eco-message, the standardized design of the communication permits:

1. Speedy and methodical entry of the report's details in a format that is compatible with the INTERPOL database;
2. Efficient cross-referencing on the data against other entries in the computerized database, and;
3. Organized and meaningful extraction of that data in a way that facilitates applications such as criminal intelligence analysis.

The National Crime Bureaus (NCBs) are responsible to transmit the details of an Eco-message to the INTERPOL General Secretariat. When the INTERPOL General Secretariat receives it, the information contained is entered into an INTERPOL's computerized database. There are several important benefits that are generated by this process:

1. The information is immediately screened against all other information in the INTERPOL computer;
2. The Eco-message form also allows for the reporting country to ask questions, and provides a mechanism for international cooperation;
3. Professional INTERPOL criminal analysts can access data collected.

The instructions regarding the use of Eco-messages can be found on the INTERPOL Website. A format of the Eco-message can be found in Appendix 13.5 to this manual.

12 CONCLUSION

The information contained in this manual is presented to inform and assist investigator of practical use.

Environmental crime investigation is a specialized form of law enforcement and is generally only a small part of a country's overall law enforcement effort. However, there are numerous colleagues throughout the world undertaking the same investigative work. Through the INTERPOL Pollution Crimes Working Group a medium for assistance, advice or information on garbage pollution problems or other form of environmental crime investigation is provided for global inquiry and expertise. **You should not hesitate to contact INTERPOL Environmental Security Programme.**

13 APPENDICES

1. Terminology, acronyms and documentation
2. Flowchart shipboard handling and discharge of garbage
3. Example of an operational checklist Annex V
4. Report to next port - Pollution prevention report
5. INTERPOL Eco-message reporting form
6. Useful links

13.1 Terminology and acronyms

Administration	The Government of the State under whose authority the ship is operating
Bio-medical Waste	Clinical waste
Incident	An event involving the actual or probable discharge into the sea of a harmful substance, or effluents containing such a substance (Definition from MARPOL)
Debris	Rubble, wreckage, ruins, litter and discarded garbage/refuse/trash, scattered remains of something destroyed, discarded, or as in geology, large rock fragments left by a melting glacier etc.
Discharge	Any release howsoever caused from a ship and includes any escape, disposal, spilling, leaking, pumping, emitting or emptying (Definition from MARPOL)
Hazardous Waste	Industrial waste
Harmful substance	Any substance which, if introduced into the sea, is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea, and includes any substance subject to control by the present MARPOL Convention (definition from MARPOL)
Municipal Waste	Household waste, Commercial waste, and Demolition waste
MARPOL	The International Convention for the Prevention of Pollution from Ships, 1973, modified by the Protocol of 1978 and Protocol of 1997.
Marine debris	Human created waste that has deliberately or accidentally been released in a lake, sea, ocean or waterway. Floating oceanic debris tends to accumulate at the centre of gyres and on coastlines. Also known as Marine litter
IMO or the Organization	International Maritime Organization

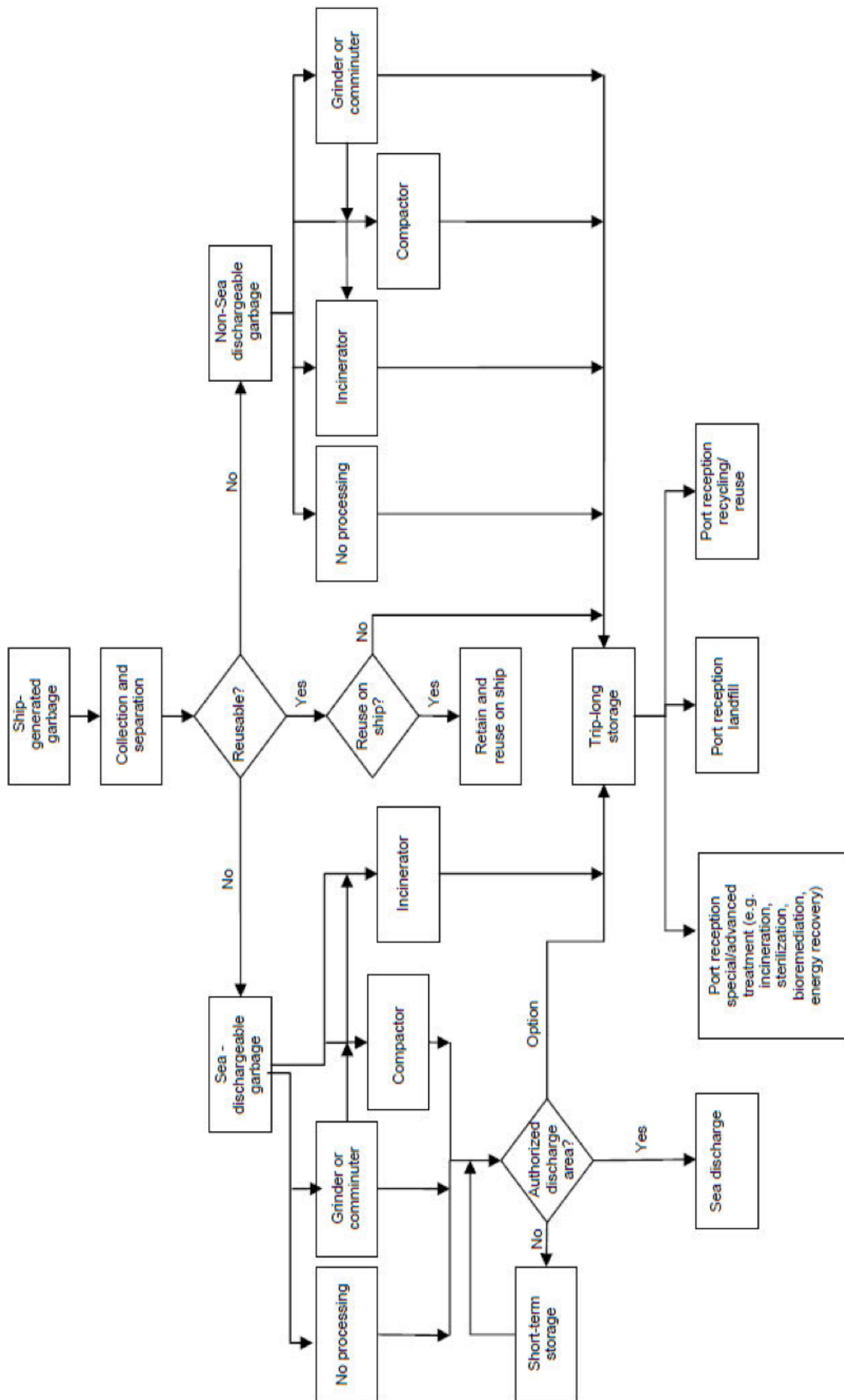
MEPC	Marine Environmental Protection Committee of IMO
GISIS	Global Integrated Shipping Information System
PRF	Port Reception Facilities
HME	Harmful to the Marine Environment
CMR	Carcinogenic, Mutagenic or Reprotoxic
GHS	Globally Harmonized System
Waste	Substances or objects, which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national laws
Special Hazardous waste	Radioactive waste, explosives waste, and electronic waste (e-waste)
Ship	A vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms
SOLAS	International Convention for the Safety of Life at Sea

Documentation and information:

IMO website	<p>www.imo.org</p> <p>The 'Index of IMO Resolutions' can be accessed on the IMO website. See http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Pages/Default.aspx</p> <p>Other information is available publically but some information is on a secure area that can be accessed by password through the Maritime Administration.</p>
IMSBC Code	International Maritime Solid Bulk Cargoes Code (mandatory under Chapter VI of SOLAS)
MEPC.201(62) (and MEPC201.(62) corrigendum.1)	Revised MARPOL Annex V (current MARPOL Annex V)
MEPC.219(63) amended by MEPC.239(65)	2012 Guidelines for the Implementation of Annex V
MEPC.220(63)	2012 Guidelines for the development of Garbage Management Plans

MEPC.1/Circ.834	Useful information on Port Reception Facilities
MEPC.1/Circ.834 – Annex 1	Reporting Form for Inadequacies of Port Reception Facilities
MEPC.1/Circ.834 – Annex 2	Ships waste notification form (IMO)
MEPC.1/Circ.834 – Annex 3	Waste delivery receipt
MEPC.244(66)	2014 Standard specification for shipboard incinerators, that supersedes MEPC.76(40) as amended by MEPC.93(45).
EU directive 2000/59/EC	Ships waste notification form (EC)

13.2 Flowchart Shipboard handling and Discharge of Garbage



13.3 Example of operational checklist for investigation of violations and compliance of MARPOL Annex V

This checklist is used by the Netherlands Maritime Police and it can be the basis for other countries as a tool for the investigator.

Maritime Police Office:	
Standardized Investigation/Inspection - MARPOL Annex V	
Date: <input type="text"/>	Time: <input type="text"/> Police-Craft: <input type="text"/>
Location: <input type="text"/>	Registry-No: <input type="text"/>
1. Vessel Particulars	
Name: <input type="text"/>	Homeport: <input type="text"/> Flag: <input type="text"/>
Callsign: <input type="text"/>	GRT: <input type="text"/> IMO-Nr: <input type="text"/> Keel laying: <input type="text"/>
MARPOL Party: yes <input type="checkbox"/> no <input type="checkbox"/>	Owner/ Operator/ Agent: <input type="text"/>
Ship's length: >12m <input type="checkbox"/>	
Number of Persons on board: <input type="text"/>	
Working language: <input type="text"/>	
2. Garbage-Management Plan	
Specific Garbage-Management-Plan according IMO-Guidelines on board:	yes <input type="checkbox"/> no <input type="checkbox"/>
• Equipment for processing (treatment) / collection- and separation-spaces mentioned (type, capacity, location):	yes <input type="checkbox"/> no <input type="checkbox"/>
• Person in charge explicit designated:	yes <input type="checkbox"/> no <input type="checkbox"/>
• Description: Training or education programmes for crew:	yes <input type="checkbox"/> no <input type="checkbox"/>
• Used language of plan:	is working language: <input type="checkbox"/>
3. Equipment / Processing Devices	
<input type="checkbox"/> Incinerator: Manufacturer/Type: <input type="text"/>	Capacity: <input type="text"/> (ltr/h)
acc. MEPC.59(33) / MEPC.76(40)/MEPC.244(66) type approved	yes <input type="checkbox"/> no <input type="checkbox"/>
Other equipment for reduction of garbage (eg compactor, shredder):	
<input type="checkbox"/> Model / Manufacturer / Type: <input type="text"/>	Capacity: <input type="text"/> (m ³ /h)
<input type="checkbox"/> Model / Manufacturer / Type: <input type="text"/>	Capacity: <input type="text"/> (m ³ /h)
4. Placards / Garbage Record Book	
• Placards displayed	yes <input type="checkbox"/> no <input type="checkbox"/>
• Garbage-Record-Book onboard: (exemption acc. Reg. 9.4 0 <input type="checkbox"/>)	yes <input type="checkbox"/> no <input type="checkbox"/>
• Entries complete: → Position, Date, Time:	yes <input type="checkbox"/> no <input type="checkbox"/>
→ Entries comprehensible:	yes <input type="checkbox"/> no <input type="checkbox"/>
• Signature: → each entry of responsible officer:	yes <input type="checkbox"/> no <input type="checkbox"/>
→ each completed page by master:	yes <input type="checkbox"/> no <input type="checkbox"/>
• Garbage Record Books of last 2 years on board	yes <input type="checkbox"/> no <input type="checkbox"/>

5. Garbage Disposal

Discharge to **reception-facilities:** Quantity:

Garbage-Category:

→ Discharge of incinerator ashes yes no

→ Garbage receipts: yes no

→ Quantities of receipts and records corresponding: yes no

Legal discharge into sea Garbage-Record-Book:

in special area from 12 nm (only food-waste)

→ Distances to next shore observed: yes no

outside special areas: from 3 nm (only ground & sinking garbage)

12 nm (only sinking garbage)

25 nm (also floating garbage)

→ Distances to next shore observed: yes no

Discharge-regulations observed (plastics, poison, heavy metals): yes no

Incineration Garbage-type: Quantity:

Incineration of plastics: Ashes kept on board: yes no

In territorial waters of Baltic Sea -
Prohibition of incineration observed (HELCOM): yes no

6. Collection / Separation of Garbage on board

- Separation in receptacles/bins yes no
- Categories stored mixed (stricter discharge-regulations are applicable) yes no
- Location of receptacles/bins according to Garbage Management Plan: yes no
- Receptacles/bins covered and closed yes no

7. Hazardous Garbage / Cargo Residues

- Collection of batteries and aerosols yes no Discharge ashore: yes no
- Collection of other hazardous materials yes no Discharge ashore: yes no

- Generation of cargo residues (Cat. 4) yes no Discharge ashore: yes no

→ If not discharged ashore:

→ Quantity, type:

→ IMSBC declaration available yes no Harmful to environment: yes no

→ Storage on board yes no Location:

→ Discharge inside special area: yes no

→ Discharge of cargo-residues allowed: yes no

8. Measures

Measures yes no Further Reg.-Nos.:

Additional notes:

Signature: _____

Present:

13.4 Example of Report to Next Port - Pollution Prevention Report

REPORT TO NEXT PORT OF CALL

A ship, when in a port or an offshore terminal of another Party, is subject to inspection by officers duly authorized by such Party concerning operational requirements under this Annex, where there are clear grounds for believing that the master or crew are not familiar with essential shipboard procedures relating to the prevention of pollution by garbage. (Regulation 9 Annex V)

Note: Refer to the Procedures for port State control adopted by the Organization by resolution A.787(19) as amended by A.882(21); see IMO sales publication IA650E.

Alternative is to report to next port of call using format similar to the report below:

Pollution Prevention Report

To
Fax
Email

1. REPORTER: Reporting State

- i. Observer - name organization
address organization
telephone + fax number + email
- ii. Observers' family name(s)
- iii. E-mail observers

2. GENERAL INFORMATION OF OBSERVATION

- i. Date observation
- ii. Time observation in UTC
- iii. State observation country
- iv. Municipality observation
- v. Wind force in Beaufort
- vi. Wind direction
- vii. Position (Lat/Long) / port (name)
- viii. Territorial waters: [] inside [] outside

3. PARTICULARS OF THE VESSEL INVOLVED

- i. Name
- ii. Flag state
- iii. IMO number
- iv. Call sign
- v. Homeport
- vi. Course
- vii. Speed in knots

4. PARTICULARS OF VESSELS' DESTINATION

- i. State
- ii. Port/anchorage
- iii. ETA destination (date + time)
- iv. Vessels' local agent at place of destination

5. SPECIFICATION OF OBSERVED MARPOL SUBSTANCES

[] **ANNEX I** (oil residues/oily water)

Substance(s)
Quantity in m3
Place of retention on board

[] **ANNEX II** (chemical liquids in bulk)

Substance(s)/category/UN number
Quantity in m3
Place of retention on board

[] **ANNEX III** (packaged harmful substances)

Substance(s)/UN number
Place of retention on board

[] **ANNEX IV** (Garbage)

Type of Substance(s)
Quantity in m3
Place of retention on board

[] **ANNEX V** (Emissions)

Substance(s): Heavy smoke
Colour: [] Yellow
[] Brown
[] Yellow and Brown

[] Master has been advised to discharge the mentioned substances to port reception facilities.

6. INVESTIGATION PRECAUTIONS TAKEN

- i. Photographs/Video taken
- ii. FLIR data
- iii. Observation related by official report?
If so, number: _____
- iv. Captains' intentions with substances

7. REMARKS AND ADDITIONAL INFORMATION (Photographs, video, comments, attachments):

8. REQUEST FOR FURTHER INVESTIGATION:

- i. Investigation on the MARPOL Annex I –
V regulations to prevent illegal discharges from ships []
- ii. Investigation whether the sulphur content of the used fuel is
in compliance with MARPOL Annex VI []

IN ACCORDANCE WITH ARTICLE 6 OF MARPOL 73/78 WE HEREBY REQUEST YOU TO INITIATE AN INVESTIGATION USING THE PROCEDURES FOR PORT STATE CONTROL ACCORDING TO IMO RESOLUTION A.787 (19). PLEASE SEND YOUR REPORT TO:

Name Organisation:

Address:

Country:

E-Mail:

13.5 INTERPOL Eco-message reporting form

ECOMESSAGE

THIS INFORMATION WILL BE RECORDED ON INTERPOL DATABASES UNLESS OTHERWISE REQUESTED

Please attach copies of supporting paperwork and photographs

Fields in red italics are mandatory for inclusion in ICIS

1. Subject	
1.1	Brief description of the crime
1.2	Code/operation name, reference number as generated by your authority
1.3	Legal description of the crime: citation of legislation violated and legally possible penalties
1.4	Law enforcement agency with primary responsibility for the case. Include name, address and contact details
2. Place and method of discovery	
2.1	Place where the crime was discovered. If at sea or on open countryside note distance and direction to a reference point
2.2	City, Country, Exclusive Economic Zone (EEZ) or Sea
2.3	Latitude and longitude
2.4	How the crime was discovered (e.g. customs inspection, informant information, patrols etc.)
3. Date and time	
3.1	Date and time when the crime was discovered
3.2	Date and time when the crime was committed (if different from 3.1)
4. Seized Items	
4.1	Items seized: e.g. animal parts (type and condition), timber, money, weapons, ammunition, hazardous waste etc.
4.2	Quantity: specify/estimate the volume and units of measure
4.3	Value: specify/estimate the value and currency
5. Identity of person(s) involved	
Note: Section 5 must be completed for each person involved	
5.1	Date of arrest
5.2	Family name (& maiden name)
5.3	First name(s)
5.4	Sex
5.5	Alias(es)
5.6	Date of birth
5.7	Place of birth
5.8	Nationality
5.9	Address
5.10	Telephone number
5.11	Email
5.12	Information contained on passport or national ID - Include numbers, place & date of issue, period of validity
5.13	Profession
5.14	Bank account/credit card number(s)
5.15	Role in the offence e.g. courier, dealer, etc.
5.16	Role in any company mentioned in item 6
5.17	Additional information about the person e.g. links to other criminals or crimes

1. Subject	
<i>1.1</i>	
1.2	
1.3	
1.4	
2. Place and method of discovery	
<i>2.1</i>	
<i>2.2</i>	
2.3	
<i>2.4</i>	
3. Date and time	
<i>3.1</i>	
3.2	
4. Seized Items	
<i>4.1</i>	
4.2	
4.3	
5. Identity of person(s) involved	
Note: Section 5 must be completed for each person involved	
5.1	
<i>5.2</i>	
<i>5.3</i>	
5.4	
5.5	
<i>5.6</i>	
5.7	
5.8	
5.9	
5.10	
5.11	
5.12	
5.13	
5.14	
5.15	
5.16	
5.17	

6. Companies involved

Note: Section 6 must be completed for each business involved

- 6.1 Type: Legal type of company
- 6.2 Name: Legal name and any trade names
- 6.3 Activities
- 6.4 Address and telecommunications details of headquarters
- 6.5 Registration number
- 6.6 Business address and phone/fax (if different to 6.4)
- 6.7 Bank account/credit card number(s)
- 6.8 Additional information about the company e.g. links to criminals or crimes

7. Means of transport

- 7.1 Type of transport used in the commission of the crime. Include if seized

8. Vessel

- 8.1 Type of vessel, history, recent and previous flag state
- 8.2 Has the vessel been blacklisted? If so, when and with which international Regional Fishing Monitoring Organization
- 8.3 IMO number
- 8.4 MMSI number
- 8.5 Hull number
- 8.6 Owner details including name, address and nationality
- 8.7 Flag state, registration document or number
- 8.8 Catch logbook number
- 8.9 Cargo manifest(s) or bill of lading
- 8.10 Is there a radio transmission logbook
- 8.11 Is there an engine logbook
- 8.12 Does the vessel have any country licenses for fishing in EEZ
- 8.13 Does the vessel have any quotas on species in EEZ

9. Locations and routes

- 9.1 Country and town/port of origin
- 9.2 Country of provenance: Country of last re-export
- 9.3 Country/countries of transit
- 9.4 Country and address of destination: destination declared on transport documents and the real destination, if different.

10. Modus operandi

- 10.1 Describe the method used to commit the crime including concealment method, use of weapons, falsified documents, equipment and financial instruments. Note links to other cases

11. Identification of documents used

- 11.1 Types of documents, including authorizations, transport documents, invoices, etc. Specify if altered or fraudulent

12. Additional information

- 12.1 Other relevant information not covered elsewhere

6. Companies involved

Note: Section 6 must be completed for each business involved

- 6.1
- 6.2
- 6.3
- 6.4
- 6.5
- 6.6
- 6.7
- 6.8

7. Means of transport

- 7.1

8. Vessel

- 8.1
- 8.2
- 8.3
- 8.4
- 8.5
- 8.6
- 8.7
- 8.8
- 8.9
- 8.10
- 8.11
- 8.12
- 8.13

9. Locations and routes

- 9.1
- 9.2
- 9.3
- 9.4

10. Modus operandi

- 10.1

11. Identification of documents used

- 11.1

12. Additional information

- 12.1

13. INTERPOL support required

13.1 Do you require further information from foreign countries (e.g. a freight forwarding company's history of violations) or operational support from INTERPOL to progress enquiries?

14. Evaluation

14.1 Is the source of the information:

(A) always reliable		(B) sometimes reliable		(C) unreliable		(D) untested	
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14.2 Is the information:

(1) known to be true		(2) known to the source but not the person reporting		(3) not known to the source but corroborated		(4) not known to the source and cannot be corroborated	
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13. INTERPOL support required

13.1 Do you require further information from foreign countries (e.g. a freight forwarding company's history of violations) or operational support from INTERPOL to progress enquiries?

14. Evaluation

14.1 Put an 'x' in the correct box

14.2 Put an 'x' in the correct box

13.6 Useful links

INTERPOL Environmental Crime	http://www.INTERPOL.int/Crime-areas/Environmental-crime/Environmental-crime
International Maritime Organization	http://www.imo.org/
IMO web account – IMO docs	https://webaccounts.imo.org/Common/WebLogin.aspx
Bonn Agreement	http://www.bonnagreement.org/
Aquapol	https://www.aquapol-police.com/
Lloyd's Register Marine	http://www.lr.org/en/marine/

Memorandums of Understanding (MoUs) on Port State Control and database

EQUASIS	http://www.equasis.org/
Black Sea MoU on Port State Control	http://www.bsmou.org/
Caribbean MoU on Port State Control	http://www.caribbeanmou.org/
Indian Ocean MoU on Port State Control	http://www.iomou.org/
Latin American Agreement on Port State Control on Vessels	www.marine-centre.org/Docs/MOU/LATIN_AMERICA_MOU.pdf
Mediterranean MoU on Port State Control	http://www.medmou.org/
Paris MoU on Port State Control	http://www.parismou.org
Tokyo MoU on Port State Control	http://www.tokyo-mou.org/
US Coast Guard	https://cgmix.uscg.mil/psix/

Ship Register

Lloyd's register fair play	https://ihsmarkit.com/products/maritime-ships-register.html
Lloyds List Intelligence	https://nextgen.lloydslistintelligence.com/
International Ship Registries (Worldwide) LLC	http://internationalshipregistries.com/
Sea-Web	http://www.sea-web.com/

European information

European Maritime Safety Agency	http://www.emsa.europa.eu/
SafeSeaNet	http://www.emsa.europa.eu/ssn-main.html
CleanSeaNet	https://portal.emsa.europa.eu/web/csn
European legislation	http://eur-lex.europa.eu/

Other

Global Integrated Shipping Information System	https://gisis.imo.org/Public/Default.aspx
United Nations Environment Programme	http://wedocs.unep.org/discover?scope=%2F&query=marine+litter&submit



INTERPOL

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Email: environmentalcrime@interpol.int

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