

Garbage Management on board Glacial Bear

I. Purpose of the document

This document aims to describe waste management.

II. Scope

All crew members

III. Definitions

MARPOL: International Convention on Maritime Pollution

IV. Garbage Management Plan

A. Waste Management Plan

1. Solid and Hazardous Waste Management

- 1.0 Disposal at sea is only allowed according to the regulations.
- 1.1 No waste materials of any kind are to be discharged except waste materials that have been processed by on-board waste treatment equipment.
- 1.2 There will be no dump or discharge overboard of any materials that are prohibited by MARPOL Annex V or any national, local laws and special area regulations where the yacht is cruising.
- 1.3 This document describes the required instructions and procedures for proper garbage and hazardous waste disposal practices for onboard generated waste that are landed ashore or discharged at sea.
- 1.4 The sorting, handling and storage should be organized considering the following:
 - Possible recycling
 - Immediate disposal
 - Processing equipment
 - Long- or short-term storage
 - Restriction imposed by specific regulations.
 - The types of waste. Extra care will be taken for the management of Hazardous Wastes.
- 1.5 Any deviation from this procedure is allowed for safety reasons only.

The Chief Officer is designated as the person responsible for the implementation and the maintenance of the plan. The CHIEF OFFICER is to ensure that the plan is conducted.
- 1.6 Hazardous Waste will be exclusively off-loaded to approved reception facilities.

2. Definitions

- 2.1 Garbage:
 - Dry garbage
 - Soiled/Food-contaminated Waste
 - USDA-regulated or international Waste
 - Recyclable materials

2.2 Hazardous Waste

- Hazardous Waste
- Special Waste
- Medical Waste

3. Storage

The Chief Officer is responsible for determining the storage locations.

4. Disposal and Discharge

4.1 It must be reminded of the serious approach that is to be taken to pollution prevention and strict respect to Annex V of MARPOL Convention according to which it is illegal to dump plastic of any kind in any area of the world.

B. Waste Sorting

1. Waste Sorting Policy

All onboard waste will be sorted at source, or at the waste processing area unless otherwise specified into the following categories:

- Food Waste
- Glass/Metal
- Other Waste (EXCLUDING HAZARDOUS WASTE)
- Hazardous Waste

The waste bins must not have any opening in the bottom or on the sides.

Food waste will be placed in plastic bags inside a proper bin to prevent leaking of liquids.

All waste will be sorted into the respective containers.

It must be emphasized among the crew that sorting waste at the source of generation is a matter of the utmost importance. Good "sorting at source" procedures allow minimizing the volume of the waste, reducing risk of cross-contamination and helping to comply with the most stringent shore disposal regulations.

Minimizing the volume of the waste increases the storage capacity of the yacht. Good sorting allows sending as much waste as possible for recycling, reducing the environmental impact of the disposal. In some ports, the value of the waste sent for recycling is deducted from the general cost of the waste disposal operation.

Sorting waste helps reduce the risk of fire on board.

2. Definitions

Garbage Store: Location where dry garbage (except contaminated waste and hazardous waste) is stored temporarily prior to being off-loaded ashore.

Cold Garbage Store: Cold location where food waste and contaminated waste are stored temporarily prior to being off-loaded ashore.

Food Waste: All products from the preparation of meats, vegetables, dairy and bakery products and all food products brought on board for human consumption. In addition, all unused food resulted from unconsumed food or food products.

Soiled/food contaminated waste (Wet Garbage): Waste that has been in contact with food, i.e., packaging, aluminum foils, etc.

Glass: All glass containers such as beverage bottles and food products containers.

Crockery: Ceramic dishes, plates, cups, etc...

Aluminum cans and used Metal Containers: All containers that are composed of 100% aluminum. All used beverage cans and used tins composed of steel or a combination of metals.

Dry Waste: Any dry and non-contaminated waste, i.e., dry plastic, paper, dry cardboard, wood, metal, etc...

Mixed waste: Any product/material that is made of more than one material. As per MARPOL mixed waste must be processed according to the most stringent requirement.

3. Responsibility

It is the responsibility of each crew member to sort the garbage they generate, either at work or off duty. It is the responsibility of each crew member to sort out the waste generated in their cabin.

The CHIEF OFFICER is to oversee the compliance with the waste management plan.

The Bosun is to assist the Chief Officer by ensuring that the collection, sorting, processing (i.e. compacting, crushing, shredding, etc...), and disposal of the wastes are carried out according to the waste management plan. The Chief Officer is responsible for the receipts and the keeping of the Garbage Record Book.

Any problem encountered with the waste processing equipment must be reported to the Chief Officer,

Each Head of Department is to ensure that appropriate receptacles are available in all areas in which he has operation control, and that waste is properly sorted at source.

4. Delivery to the Waste Storing Area

All crew members must ensure that the waste bags are in good condition prior to taking them to the appropriate Waste Storing location. If the bag is damaged it must be double bagged in order to avoid the wastes to be scattered around the yacht (food, liquid, broken glass). Additional care must be taken to bags containing glass that can easily break during transportation.

All waste will be taken to the waste storage location with minimal contact with guests' areas

5. Waste Handling and Processing

The Chief Officer should make sure that Personal Protective Equipment is used while handling Hazardous Waste.

All containers should be clearly recognizable and labelled for each specific type of waste.

6. Waste Sorting, Processing and Storage

Glass: All glass bottles and containers will be processed through the glass crusher. Crushed glass will be then collected and stored prior to being landed ashore.

Used metal containers: Steel, tin and aluminum cans are to be rinsed in the galley to remove food waste and compacted before being sent to the storage location.

Dry Waste: Processed (compacted, shredded, etc.) and stored.

Mixed Waste: This will be sorted, processed if possible, and stored prior to being landed ashore.

Food Waste: Food Waste is to be processed through the pulping system with the exception of the following:

- Eggshells
- Bones
- Banana skins
- Pineapple heads
- Shellfish
- Lobster shells
- Large raw fish skins

Food waste that will be deemed to risk blocking the piping system of the pulper must not be processed through the feeding stations but sorted and stored in the cold garbage location.

Pulper operators in the galley must be trained on the safe and correct use of the equipment.

Extra care must be taken during screening of food waste at the feeding stations of the pulper. The pulper system being able to discharge food waste into the sea, food waste must not be mixed with any other kind of waste (including straws, paper napkins, food picks, sugar paper bags, etc.).

In the areas where they cannot be discharged into the sea, food waste will be dried, bagged, and stored in the cold garbage location.

Soiled/food contaminated waste (Wet Garbage): This waste is to be compacted when possible and stored in the cold garbage location.

Food waste and wet garbage must be stored in the cold garbage location for sanitation reasons and for minimizing the risks of spontaneous combustion.

Cardboard: Cardboard boxes have to be stored already flattened to reduce their volume.

7. Records

The Chief Officer is to keep records of the waste discharges in the Garbage Logbook. Disposal receipts, if there are any, should be kept on board.

It is important to emphasize that the Garbage Logbook and the waste disposal receipts/manifests are legal documents. It is a matter of utmost importance to ensure their accuracy.

C. Hazardous Waste Management Plan

1. Policy

For the safety of the guests and the crew, and to protect the environment, all hazardous waste must be managed strictly in accordance with onboard procedures and the applicable laws. This includes storage, labelling, record keeping and disposal. The purpose of all hazardous waste management procedures is to ensure the safety of the guests and the crew, the protection of the environment and to minimize the cost of the disposal ashore.

All hazardous waste is to be separated and held in correctly labelled containers for onshore collection and disposal by approved contractors.

Should there be any doubt on the license of the contractor to handle and dispose of hazardous waste, the off-loading operation must not be carried out. It must be reported to the Master.

Off-loading hazardous waste to an un-licensed contractor not only increases the risk of pollution but it also exposes the company to legal and financial prosecution.

Hazardous waste shall not be:

- Disposed into the vessel's bilge or the black/grey water systems.
- Dumped, spilled, emptied, or discharged overboard in any manner.

Any question regarding the management of hazardous waste should be directed to the Chief Officer.

2. Definitions

Hazardous Wastes: These are the wastes defined as *all chemical and biological wastes that can be considered harmful to humans and environment due to their nature or by regulatory authorities.*

The following - but not limited - are identified as potentially hazardous waste:

PRODUCTS	HAZARD CHARACTERISTICS
Acids Alkaline(Bases} Aerosols Batteries (Lead-acid type) Oxidizers (Chlorine, bleach, Sodium/Calcium Hypochlorite, peroxides) Paint Waste, solvents	Corrosive Corrosive ignitability Corrosive Corrosive ignitability

Special Waste: Waste that requires special handling but is not necessarily identified as hazardous waste.

PRODUCTS	HAZARD CHARACTERISTICS See MARPOL 73/78, Annex 1
Oily water, oily sludge and oily rags Refrigerant gas Medical Wastes Human Waste (Diapers/Nappies/Gastro illness waste) Pyrotechnics	Air pollutant Biohazard Biohazard Ignitability

Universal Waste: These are the wastes that are deemed non-hazardous provided they are handled in a correct manner and do not end up in landfill. The following are classed as universal waste:

Batteries (Alkaline, Ni-Cad, Li, etc.)
Fluorescent and Mercury Vapor Lamps
Computer monitors and televisions Mercury
switches and thermostats
All Electronics (Consumer Electronic Devices - CEDs) Smoke
detectors

In order to be handled as universal waste, items such as lamps shall be intact and safely packaged to prevent breakage.

For used batteries classified as universal waste: receptacles for the collection of used batteries must be available to the guests and the crew. The collecting boxes should be clearly labelled "Used Batteries"

2. Responsibilities

The Chief Officer is responsible for:

- Ensuring proper labelling and storage of hazardous waste while it is on board the vessel.
- Ensuring the disposal ashore is done according to the regulatory requirements and the documentation is accurately completed and maintained on board.
- Receiving the hazardous waste and store it safely in the hazardous waste storage location until disposal on land.

Heads of Department are responsible for:

- Collecting, containing and labelling hazardous waste (or other wastes requiring special handling) as they are generated.

3. On board Management and Disposal

3.1 Oils and Greases

These materials (Petroleum-based or vegetable-based) fall under the requirement of MARPOL 73/78 ANNEX I. Such materials should, whenever possible, be put into the sludge tank. Where it is not possible, those materials should be put into sealed containers and clearly labelled.

Used oil filters have to be put into sealed containers and clearly labelled.

Oily rags have to be put into sealed containers too.

Never place chemicals other than fuel, lubricating oil, hydraulic oil or cooking oil into the sludge tank.

Used refrigerant oil must be collected in an appropriate container with a properly secured lid and labelled "hazardous waste".

3.2 Waste Cooking Oils and Waste Cooking Greases

Waste cooking oil must be put into drums and discharge ashore as per MEPC 277 (01/03/2018) Moreover, these oils and greases must never be emptied into the pulper, the grey water system or Sludge tank.

Management of Waste Cooking Oil:

1- Galley Utility transfer Waste cooking oil on a sealed and easy-to-carry-container.

2- Each container is clearly labelled "Waste Cooking Oil"

3- Waste Cooking oil must be off-loaded ashore to an approved contractor and Garbage record book documented accordingly.

3.3 Paint and Thinner

Paint and thinners should be used until the container is emptied.

Painting rags, when dry, are not considered as hazardous waste (except if the paint contains chromate).

Containers with less than 2.5 cm of paint residues (or 3% of the product's weight) are considered to be empty and can be landed as non-hazardous waste (dry garbage) as long as the content is dry. All containers with more than 2.5 cm of residues (or more than 3% of the product's weight) are considered hazardous waste and have to be sealed, labelled and landed ashore as such.

3.4 Refrigerant gas

Refrigerant gas should be recovered during repair and maintenance operations with a recovery unit and re-used afterwards if possible.

3.5 Chlorine

All chlorine solutions should be used on board or landed as hazardous waste.

3.6 Pyrotechnics

Expired pyrotechnics must be returned to the supplier. If this is not possible, they must be landed as hazardous waste after confirmation that an approved contractor will safely handle them.

3.7 Toner cartridges

All toner cartridges for printers, fax and photocopiers are to be collected and landed as hazardous waste or, if available, sent for recycling.

3.8 Used batteries

Large lead-acid batteries will be landed as hazardous waste.

3.9 Human waste/ Gastro illness waste

This waste is to be placed into a recognizable biohazard bag, to be taken to the hazardous waste storage location and stored into sealed containers (accordingly labelled) prior to being landed ashore to an approved facility.

3.10 Aerosols

All aerosols are to be stored into closed containers and landed as hazardous waste.

3.11 Medical Wastes

Medical Wastes are to be held separately and landed to a licensed contractor. Management of Medical Wastes:

- 1- Medical Wastes must be kept in the medical storage location.
- 2- Medical waste must be discharge to an approved contractor, we should receive a receipt, and Hazardous logbook must be fill accordingly.
- 3- Chief Officer is in charge of the offloading.

3.12 Other hazardous wastes

All other hazardous wastes have to be held separately and stored in the hazardous waste location prior to being landed to a licensed contractor.

4. General

4.1 Use and Handling

Operators/Users of hazardous chemicals have to be properly instructed on the safe operation of the equipment and the handling of chemicals.

Precautions must be taken in the handling of the hazardous waste produced as they would be taken in the handling of the original product.

The generation of hazardous waste should be minimized by ensuring:

- Only the required amount of chemical products is used.
- When possible, a container is to be used completely before a new container is open.
- Hazardous waste is NOT mixed with non-hazardous waste.

4.2 Storage and Labelling

Any used container of paint, thinner, epoxies, varnishes, etc. may be landed as non-hazardous waste as long as their contents are dry (no liquid) and that the requirement written in the above paragraph 4.2 Paint and Thinner is met. However, any label indicating material as hazardous must be either removed or painted over.

Wastes of distinct categories must not be mixed. This could create chemicals reactions and safety hazards. Small quantity containers of hazardous waste can be combined into a common drum or packages as long as the regulations allow and that the waste is compatible:

Example of compatible waste: Containers of adhesives can be packaged together. Containers of unused/expired paint and containers of solvents can be packaged together.

Examples of NOT compatibles wastes: Acid and Alkaline (Base)
Oxidizer and Flammables

All hazardous waste will be stored in the Hazardous Waste Storage location.

4.3 Record keeping

Due to the increased focus on waste disposal activities, it is important that complete and accurate records be maintained regarding the storage and the landing of the hazardous waste.

Hazardous Waste Manifest: In countries like United States, hazardous wastes may be shipped to different reception facilities according to their categories. Different manifests are then issued in order to track the waste during transportation and ensure that they are safely delivered and processed. Therefore, it is imperative to ensure the accuracy of this document and that all the fields of the documentation are properly filled. See for USA guidance: <https://www.epa.gov/hw/defining-hazardous-waste-listed-characteristic-and-mixed-radiological-wastes>

For the port where a receipt or a manifest is not issued, the Chief Officer is to complete the Garbage Record Logbook mentioning "no receipts".

5.3 Disposal

The vessel must comply with international and local regulations when off-loading hazardous waste. The Chief Officer will decide which, when and where hazardous waste is to be landed.