Hazardous Marine Debris Handbook

The following Hazardous Marine Debris Handbook is based on a document used in Japan to advise beach users of potentially hazardous marine debris items. Originally written in Japanese, it was translated into English by the Government of Japan in order to advise beach goers and cleanup personnel in the U.S. and Canada of potentially hazardous items that may be arriving from Japan, after the tragic tsunami event of March 11, 2011.

Please keep in mind the following disclaimers:

- The information contained within the translated version of the Handbook is in no way a list of the actual items that may have been washed away by the tsunami and is not intended to forecast the arrival of such items as tsunami debris.
- The Handbook was issued before the March 11, 2011 disaster and has been in use by the Water and Disaster Management Bureau of the Ministry of Land, Infrastructure, Transport and Tourism as a public guideline for recognizing and being safe around hazardous items that may be found on coastlines in Japan.
- The publishers of the original handbook and the translators of the English version do not accept any responsibility for the misuse or misinterpretation of the information.

Containers with chemicals, agrichemicals and liquids

◎Waste plastic containers, PET bottles on the beach may contain strong chemicals(hydrochloric acid) or flammable liquids(gasoline, kerosene or oil).
◎Containers with foreign texts, chemical symbols, skull and bones sign may contain hazardous chemicals to human health.
◎Following conditions may occur if you touch or inhale the chemicals; burns, rashes, breathing difficulty and damage to the eyes.
◎You may get burnt or injured by catching fire or causing explosion by igniting fire in the vicinity of flammable liquids.

◆ Type of container

Plastic container

Photos provided by Nagasaki prefecture

Samples of bottles and containers

PET bottle

Bottle

Gasoline tank

about 40 to 45 cm long

Drum can

All photos are provided by Japan Riverfront Research Center (JRRC) except below left.

High pressure gas

◎There is no possibility of explosion when large propane gas tanks, fire extinguishers or cassette gas cylinders have holes. If not, you may get burnt or injured by explosion caused by these objects.
◎In particular, the possibility of explosion is higher with rusted or deformed tanks.

◆type of high pressure gas

Cassette gas cylinders

about 15 to 25 cm high

about 15 to 20 cm high

Propane gas tank

about 0.4 to 1.5m high

Fire extinguisher

about 0.4 to 1.2m high

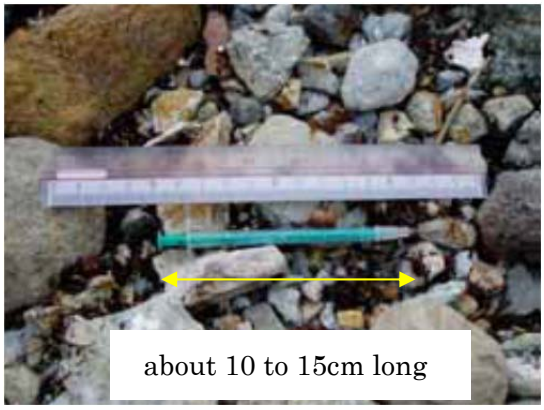
Photos provided by Japan Riverfront Research Center (JRRC) except below left.

Hospital waste(syringe, medical bottle, IV bag)

◎Hospital waste comes in a wide variety of shapes and sizes; we are not familiar with all of them.
◎Because these objects were used for medical treatment, they may be contagious. There was a case overseas involving a child who was infected by a disease when he accidently stuck the needle on the beach.

◆type of hospital waste

Syringe with needle



Irregular type syringe

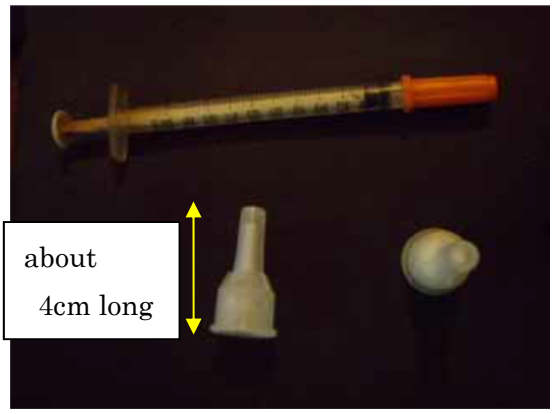
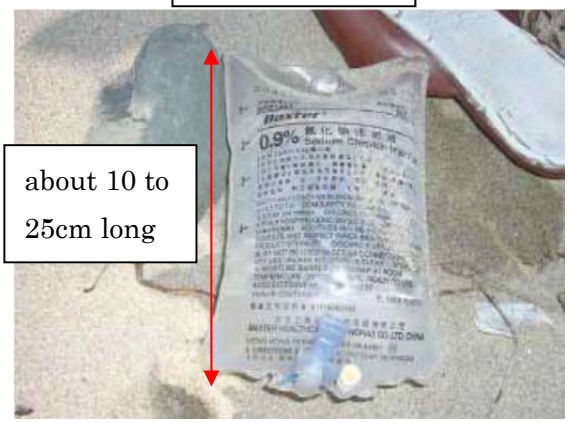


Photo provided by Beach clean Tosa

IV bag



Photos provided by Japan Riverfront Research Center (JRRC) above left, below left

Medical bottle

Photo provided by JEAN.

gunpowder etc (distress flare)

◎A distress flare is launched in order to ask for help, when a ship is wrecked.

◎A distress flare is discharged accidentally, An inner photogen hits the body, and it may cause a burn and an injury.

◆distress flare

about 30cm

gunpowder etc（smoke pot）

◎A smoke pot takes out the flame and smokes when it is lit.
It is used as a signal in case of warning on a road or a ship ask for help.

◎If an intact smoke pot is treated carelessly, flame and smoke may be taken out.
It may cause burns or their eyes may be hurt.

◆smoke pot for vehicle

about 15cm

◆smoke pot for vessels

about 15～30cm

gunpowder etc（a marine marker）

◎A marine marker is a kind of a smoke pot. When carrying out a relief activity at sea, it takes out smoke with the sea surface and makes it a mark.

◎If gunpowder remains, even if it has been in the sea for a long time, it may explode or ignite, and smoke may come out. It may cause burns or their eyes may be hurt.

◆marine marker

Hazard symbol: GHS Symbol

(Globally Harmonized System of Classification and Labelling of Chemicals; GHS)

◎ Symbols below indicate explosive, flammable, hazardous, carcinogenic, harmful to the marine environment objects. If you see any of these symbols at the bottom of a container, do not touch it.

Flammable gases, Flammable aerosols, Flammable liquids, Flammable solids, Self-reactive substances and mixtures, Pyrophoric liquids, Pyrophoric solids Self-heating substances and mixtures, Substances and mixtures which, in contact with water, emit flammable gases, Organic peroxides

Explosives, Self-reactive substances and mixtures, Organic peroxides

Gases under pressure

Acute toxicity (high toxicity)

Respiratory sensitization, Germ cell mutagenicity, Carcinogenicity, Reproductive toxicity, Specific target organ/Systemic toxicity -Single exposure, Specific target organ/Systemic toxicity -Repeated exposure, Aspiration hazard

Acute toxicity (low toxicity), Skin irritation, Eye irritation, Skin sensitization, Respiratory tract irritation, Narcotic

Hazardous to the aquatic environment

Corrosive to metals, Skin corrosion, Serious eye damage

Oxidizing gases, Oxidizing liquids, Oxidizing solids

Source: Ministry of the Environment website

Table of hazardous object by type

Type		Potential risk
Flammable liquid	Gasoline, Kerosene or Oil	You may get burnt or injured by catching fire or causing explosion by igniting fire in the vicinity of flammable liquids.
Chemicals	Hydrochloric acid, Agrichemicals	Following conditions may occur if you touch or inhale the chemicals; burns, rashes, breathing difficulty and damage to the eyes.
High pressure gas	Propane gas tank, Fire extinguisher, Cassette gas cylinder	The possibility of explosion is higher with rusted or deformed tanks.
Hospital waste	Syringe, Medical bottle, IV bag	Because these objects were used for medical treatment, they may be contagious. There was a case overseas involving a child who was infected by a disease when he accidently stuck the needle on the beach.
Gunpowder etc	Distress flare, smoke pot etc	It may explode or ignite, and smoke may come out. It may cause burns or their eyes may be hurt.