

European Marine Strategy Framework Directive  
Working Group on Good Environmental Status  
(WG-GES)

# Monitoring Guidance for Marine Litter in European Seas

**Draft Report**

**CHAPTER 8**

**LITTER CATEGORIES**

**July 2013**



**This report can be cited as follows:**

Monitoring Guidance for Marine Litter in European Seas. MSFD GES Technical Subgroup on Marine Litter (TSG-ML). DRAFT REPORT, July 2013

**Authors:**

François Galgani (chair, IFREMER), Georg Hanke (co-chair, EC JRC), Stefanie Werner (co-chair, UBA), Lex Oosterbaan (Rijkswaterstaat and OSPAR), Per Nilsson (University of Gothenburg), David Fleet (Schleswig-Holstein Agency for Coastal Defence), Susan Kinsey (MCS, UK), Richard C. Thompson (Plymouth University), Jan van Franeker (IMARES), Thomais Vlachogianni (MIO-ECSDE), Michael Scoullou (University of Athens), Joana Mira Veiga (EUCC), Andreja Palatinus (Institute for Water, SI), Marco Matiddi (ISPRA), Thomas Maes (CEFAS), Samuli Korpinen (HELCOM), Ania Budziak (Project AWARE), Heather Leslie (IVM-VU), Jesus Gago (IEO, ES) and Gerd Liebezeit (Univ. Oldenburg).

**TSG-ML acknowledges valuable contributions and comments received from:**

Leo De Vrees (EC), Nils Guse (Forschungs- und Technologiezentrum Westküste FTZ), Alexander Bond (University of Saskatchewan), Bernard Cadiou (Seabird Monitoring Programme in Brittany), Ommo Hüppop (Institut für Vogelforschung "Vogelwarte Helgoland"), Ursula Siebert (Institute for Terrestrial and Aquatic Wildlife Research ITAW), Constança Belchior (EEA), and UNEP.

**Draft Guidance Report:**

TSG-ML was tasked to deliver guidance so that European Member States could initiate programmes for marine litter monitoring. As monitoring must be operational by 2014, first guidance was required by mid-2013. The draft Guidance report provides the basis for the marine litter programme however since new information continues to be compiled TSG-ML can review and update this guidance later in 2013.

The report cover page image has kindly been provided by Joana Mira Veiga, EUCC, The Netherlands.

TSG-ML was supported by Arcadis and Coastal & Marine Union (EUCC) under framework contract ENV.D.2/FRA/2012/0025.

Final edition was done by Georg Hanke (co-chair, EC JRC), Stefanie Werner (co-chair, UBA), François Galgani (chair, IFREMER), Joana Mira Veiga and Maria Ferreira (EUCC).

**Disclaimer:** This report has been prepared by a group of experts nominated by EU Member States and Stakeholders. It aims to provide guidance for the implementation of MSFD Descriptor 10 on Marine Litter. It does not constitute an official opinion of the European Commission, nor of the participating Institutions and EU Member States.

## 8. Litter Categories

### 8.1. Introduction to Litter Categories

The value of the results of monitoring programmes implemented to assess litter in the different regional seas and in the various compartments of the marine environment (beach, seafloor, sea-surface etc.) can be enhanced if a standard list of litter items is used as a basis for preparing assessment protocols.

The use of standard lists and definitions of items will enable the comparison of results between regions and environmental compartments. If the list is detailed enough it will be possible, to a certain degree, to infer about potential or/and most likely sources (e.g. fisheries, shipping), type of item (e.g. packaging, user item) or even related potential harm that items can cause (e.g. risk of entanglement, ingestion, etc.).

This is a crucial step in helping to identify key priorities to tackle, design a programme of measures and support the monitoring of their effectiveness.

### 8.2. Scope of the report

This chapter compares litter items used in a number of on-going European monitoring programmes, those included in general lists of items compiled by various organisations such as UNEP and the Ocean Conservancy and lists produced as part of other sections in this report.

A Master List of all litter items for use in litter monitoring programmes in the European marine environment was produced on the basis of this comparison (see Annex 8.1 in Chapter 8).

### 8.3. Comparison of lists

The Master List was developed based on the categories of items used in a series of other programmes:

- For beach litter: UNEP, OSPAR, MCS, Slovenia, ICC.
- For floating litter: HELMEPA, NOAA, ECOOCEAN and Hinojosa/Thiel (2009).
- For seabed litter: OSPAR/ICES list (IBTS) and HELMEPA.
- For micro-litter: CEFAS.

For ingested litter: Monitoring programme of Fulmars (ingestion), used in the North Sea.

The OSPAR beach litter list was used as the basis for the Master List as it is one of the most detailed and represents the most mature protocols in the EU, which has been proved and tested over a ten year period.

The other lists were compared with the OSPAR list and similarities and differences were noted. Generally in order to produce the Master List items have been added to the OSPAR list and the list has been rearranged.

The list was also modified on the basis of proposals made by the “4 Seas” pilot project (ARCADIS, 2012). In this process some OSPAR categories were sub-divided in more detailed sub-categories, e.g. the OSPAR item “cosmetic bottles and containers” was divided into two master-list items - those items that are beach related (e.g. sun-block bottles) and those that are related to hygiene and not normally used on beaches (e.g. aftershave containers). This was done where individual OSPAR items could have very different sources, i.e. coastal recreation or shipping/fishing, respectively.

### 8.4. Proposed Master List

The Master List (Annex 8.1) includes a detailed list of items with a series of parameters:

- An unique alphanumeric code attributed by the TSG-ML (“G”+number) and the corresponding codes of OSPAR and UNEP, when applicable. This should allow comparisons with data from these programmes;
- A description of the item; “General Name”;
- The (main) material that the items is made of (Level 1). A key change, when compared with the OSPAR list, is that the category “sanitary” or “sewage-related” items have been allocated into different materials;
- Clustered category for a more general grouping of certain type of items (Level 3) (e.g. “bottles/containers”, “smoking-related items”)

The Master List includes recommendations for item lists which can be used in the different compartments of the marine environment, as defined by the COM DEC 2010/477/EU.

A photographic guide based on the guidelines published by OSPAR for the OSPAR beach litter monitoring programme should be developed and the lists should be translated into all the main European languages to aid identification of the litter items in the field.

## 8.5. Procedure for addition of new items

Most of the main types and forms of marine litter, which are to be found in the marine environment in the EU region, are included in the Master List. In the event of a new item becoming common enough for it to be considered being added to the list we suggest the following procedure:

- a) An item not yet included in the list is regularly seen and described in protocols as one of the ‘other’ categories for a given material class.
- b) A proposal for this item to become a listed item together with a photo to be added to the photo guide should be sent to the organisation or steering group responsible for the maintenance of the Master List within the MSFD implementation process.
- c) The item is given a unique identifier and all monitoring groups and Member States are informed.

## 8.6. The assessment of sources and pathways

As mentioned above, the identification of the source (usually a sector/actor, e.g. fishing industry, improper disposal in the toilet) and the pathway that led the item to enter the marine environment (e.g. direct release in the sea/coast, riverine transport, sewage) is a crucial step in determining the appropriate and pragmatic actions and measures to address the issue in a given area or region.

For some items a source can be identified easily e.g. fishing gear originates from commercial or recreational fishing, while items such as cotton bud sticks, tampons and wet wipes are mainly entering the marine environment through sewerage systems. However, for other (often the majority) items it is much more difficult to assign a source with a robust level of accuracy, e.g. a plastic bottle may enter the marine environment directly from a beach user or from the crew of a ship or indirectly via riverine input. It is therefore expected that for a relatively large number of items the source will not be identified with certainty. In addition, the identification of litter sources is influenced by several methodological and environmental factors and even within a given source the pathway of input into the marine environment can be vary considerably. For example, the source for both nets and small pieces of net is fishing, however, whereas nets can be lost during fishing activities small pieces of net are often the result of net repair activities, which are often carried out in ports and harbours on land. Measures to directly combat the two pathways of input will differ considerably.

Nevertheless, a number of techniques have been developed to assist in the identification of sources on the basis of litter items recorded in the marine environment e.g. the Matrix Scoring Technique to Determine Litter Sources at a Bristol Channel Beach (Tudor and Williams 2004), The use of multivariate statistical techniques to establish debris pollution sources (Tudor et al. 2002) and Beach litter sourcing in the Bristol Channel and Wales (Williams et al. 2003).

ARCADIS *et al.* (2012) further developed the Matrix Score Technique (Tudor & Williams, 2004) for use with the OSPAR Beach Litter data. This method allocates the level of likelihood each litter item has of originating from all potential sources. This requires a very good knowledge of the activities in the area and potential deficiencies in the system that can generate marine litter. Therefore, in this project, the allocation of sources and pathways to occurring items in 4 sites in Europe have been done through a bottom-up approach, consulting and finding consensus with local key stakeholders. The likelihoods are then given a score and the relative contribution of the different sources is calculated. This method allows for the possibility of specific item types originating from more than one source; this flexibility and transparency means that it is less prescriptive than some other methods.

Furthermore, along the allocation of sources and pathways, this Pilot Project developed a series of parameters that can be directly linked to each item and which provides an insight into the nature, use and potential harm (e.g. if the item is for single-use/multi-dose use or long-lasting use; if it is packaging or a primary use item; if item is packaging, what type of packaging). This can further support the elaboration of strategies to target better production, use, disposal and possible alternatives of items that are commonly found as marine litter.

These strategic parameters and the procedure to allocate likelihoods of sources to the different items will be further elaborated throughout the next period of work of the TSG-ML and will be made available in the next report.

## 8.7. Indicator items

It can be useful to identify indicator items which represent a specific source and/or a given pathway of input of litter into the marine environment. The OSPAR beach litter monitoring programme has identified a number of indicator items for different sources. The identification of indicator items is easier for some sources e.g. fishing but can be quite difficult for others e.g. tourism, because in some cases the same items can come from beach users, ships crews or from inland sources. This is therefore a broad category that includes items that can originate from multiple sources. However, this can be of use to have a rough idea of the key sources in the area, until a more detailed methodology is made available.

Some care needs to be taken to ensure that a decrease in the occurrence of the indicator item is a result of the measure implemented to combat it rather than the result of a general reduction in the use of the item or because the item has been replaced with a similar item which is not being monitored e.g. glass bottles being replaced by plastic bottles.

## 8.8. How to use the list

The final Master List consists of a set of over 200 items. It will not always be practical to use such a long list of items, many of which may not occur regularly in a particular region. However, a considerable number of items will be common to all regions. The Master List table includes a selection of core categories of items which are recommended to be recorded in all regions, in all monitoring programmes. Items specific to a given region e.g. octopus pots, can be selected from the Master List and used for protocols to be used in that region.

It is important, however, that not just the abundances of only a selection of items are registered. It is vital to assess all items occurring in the given monitoring unit if the total amount of litter present is to be assessed and if the methodology in place allows for such level of detail. Non-identified items should be recorded in the categories for "other items" under their respective material class and specified/described as much as possible.

The size of litter items is currently not recorded.

## 8.9. Key messages to MSFD implementation process

For monitoring the effectiveness of marine litter measures on both a local and regional scale we need to be able to compare among similar variables. Therefore a standard list of items which are recorded in the

marine environment should be used throughout the entire EU area and within all compartments of the marine environment (beach, sea-floor, floating). The Master List includes a list of core items – which occur in all regions (e.g. cigarette ends, plastic bottles) and regionally specific items (e.g. octopus pots), which only occur in some sub-regions. The list also notes, where possible, the source and use of an item. This will further aid in devising appropriate measures to combat litter pollution of the marine environment.

## 8.10. References

- ARCADIS, EUCC & MILIEU. 2012. *Pilot project '4 Seas'– plastic recycling cycle and marine environmental impact: Case studies on the plastic cycle and its loopholes in the four European regional seas areas.* European Commission Project number BE011102328. pp.114.
- Tudor, D.T. and Williams, A.T. 2004. Development of a 'Matrix Scoring Technique' to determine litter sources at a Bristol Channel beach. *Journal of Coastal Conservation* 9: pp. 119-127.
- Tudor, D.T., Williams, A.T., Randerson, P., Ergin, A., and Earll, R.E. 2002. The use of multivariate statistical techniques to establish debris pollution sources. *Journal of Coastal Research*, 36, pp. 716–725
- Williams, A.T., Tudor D.T. and Randerson, P. 2003. Beach litter sourcing in the Bristol Channel and Wales. *U.K. Water, Air, and Soil Pollution*. 143, pp. 387–408.

## Annex 8.1 - Master List of Categories of Litter Items (DRAFT)

Master List of Categories of Litter Items (DRAFT)											
TSC_ML General- Code	OSPAR- Code	UNEP- Code	General Name	Level 1 - Materials	Level 3- Item clusters	Core	Beach	Seafloor	Floating	Biota	Micro
G1	1	PL05	4/6-pack yokes, six-pack rings	Artificial polymer materials		x	x				
G2		PL07	Bags	Artificial polymer materials	Bags	x		x	x		
G3	2	PL07	Shopping Bags	Artificial polymer materials	Bags		x				
G4	3	PL07	Small plastic bags, e.g. freezer bags	Artificial polymer materials	Bags		x				
G5	112		Plastic bag ends from pull off plastic bags	Artificial polymer materials	Bags		x				
G6	4	PL02	Bottles	Artificial polymer materials	Bottles/Containers	x		x	x		
G7	4	PL02	Drink bottles <=0.5l	Artificial polymer materials	Bottles/Containers		x				
G8	4	PL02	Drink bottles >0.5l	Artificial polymer materials	Bottles/Containers		x				
G9	5	PL02	Cleaner bottles & containers	Artificial polymer materials	Bottles/Containers	x	x				
G10	6	PL06	Food containers incl. fast food containers	Artificial polymer materials	Bottles/Containers	x	x	x			
G11	7	PL02	Beach use related cosmetic bottles and containers, eg. Sunblocks	Artificial polymer materials	Bottles/Containers		x				
G12	7	PL02	Other cosmetics bottles & containers	Artificial polymer materials	Bottles/Containers	x	x				
G13	12	PL02	Other bottles & containers	Artificial polymer materials	Bottles/Containers	x	x				
G14	8		Engine oil bottles & containers <50 cm	Artificial polymer materials	Bottles/Containers		x				
G15	9	PL03	Engine oil bottles & containers > 50 cm	Artificial polymer materials	Bottles/Containers		x				
G16	10	PL03	Jerry cans (square plastic containers with handle)	Artificial polymer materials	Bottles/Containers		x				
G17	11		Injection gun containers	Artificial polymer materials	Bottles/Containers		x				
G18	13	PL13	Crates and containers / baskets	Artificial polymer materials	Crates/baskets		x	x	x		
G19	14		Car parts	Artificial polymer materials			x				
G20		PL01	Plastic caps and lids	Artificial polymer materials	Caps/lids		x	x			
G21	15	PL01	Plastic caps/lids drinks	Artificial polymer materials	Caps/lids		x				
G22	15	PL01	Plastic caps/lids chemicals,	Artificial polymer	Caps/lids	x	x				

### Master List of Categories of Litter Items (DRAFT)

TSG_ML General- Code	OSPAR- Code	UNEP- Code	General Name	Level 1 - Materials	Level 3- Item clusters	Core	Beach	Seafloor	Floating	Biota	Micro
			detergents (non-food)	materials							
G23	15	PL01	Plastic caps/lids unidentified	Artificial polymer materials	Caps/lids		x				
G24	15	PL01	Plastic rings from bottle caps/lids	Artificial polymer materials	Caps/lids		x				
G25			Tobacco pouches / plastic cigarette box packaging	Artificial polymer materials	Smoking related		x				
G26	16	PL10	Cigarette lighters	Artificial polymer materials	Smoking related	x	x				
G27	64	PL11	Cigarette butts and filters	Artificial polymer materials	Smoking related		x	x			
G28	17		Pens and pen lids	Artificial polymer materials			x				
G29	18		Combs/hair brushes/sunglasses	Artificial polymer materials			x				
G30	19		Crisps packets/sweets wrappers	Artificial polymer materials			x				
G31	19		Lolly sticks	Artificial polymer materials			x				
G32	20	PL08	Toys and party poppers	Artificial polymer materials		x	x				
G33	21	PL06	Cups and cup lids	Artificial polymer materials	fast-food items	x	x				
G34	22	PL04	Cutlery and trays	Artificial polymer materials	fast-food items		x				
G35	22	PL04	Straws and stirrers	Artificial polymer materials	fast-food items		x				
G36	23		Fertiliser/animal feed bags	Artificial polymer materials			x				
G37	24	PL15	Mesh vegetable bags	Artificial polymer materials			x				
G39		PL09	Gloves	Artificial polymer materials	Gloves			x	x		
G40	25	PL09	Gloves (washing up)	Artificial polymer materials	Gloves	x	x				
G41	113	RB03	Gloves (industrial/professional rubber gloves)	Artificial polymer materials	Gloves	x	x				
G42	26	PL17	Crab/lobster pots and tops	Artificial polymer materials			x				
G43	114		Tags (fishing and industry)	Artificial polymer materials			x				
G44	27	PL17	Octopus pots	Artificial polymer materials			x				
G45	28	PL15	Mussels nets, Oyster nets	Artificial polymer materials			x				



### Master List of Categories of Litter Items (DRAFT)

TSG_ML General- Code	OSPAR- Code	UNEP- Code	General Name	Level 1 - Materials	Level 3- Item clusters	Core	Beach	Seafloor	Floating	Biota	Micro
G46	29		Oyster trays (round from oyster cultures)	Artificial polymer materials			x				
G47	30		Plastic sheeting from mussel culture (Tahitians)	Artificial polymer materials			x				
G49	31	PL19	Rope (diameter more than 1cm)	Artificial polymer materials	Rope	x	x				
G50	32	PL19	String and cord (diameter less than 1cm)	Artificial polymer materials	String	x	x				
G51		PL20	Fishing net	Artificial polymer materials	Nets		x	x	x		
G52		PL20	Nets and pieces of net	Artificial polymer materials	Nets	x					
G53	115	PL20	Nets and pieces of net < 50 cm	Artificial polymer materials	Nets		x				
G54	116	PL20	Nets and pieces of net > 50 cm	Artificial polymer materials	Nets		x				
G55		PL18	Fishing line (entangled)	Artificial polymer materials	Fishing line			x			
G56	33	PL20	Tangled nets/cord	Artificial polymer materials	Nets		x				
G57	34	PL17	Fish boxes - plastic	Artificial polymer materials	Fish boxes		x		x		
G58	34	PL17	Fish boxes - expanded polystyrene	Artificial polymer materials	Fish boxes		x		x		
G59	35	PL18	Fishing line/monofilament (angling)	Artificial polymer materials	Fishing line	x	x	x			
G60	36	PL17	Light sticks (tubes with fluid) incl. packaging	Artificial polymer materials			x				
G61			Other fishing related	Artificial polymer materials				x			
G62	37	PL14	Floats for fishing nets	Artificial polymer materials	Floats/Buoys	x	x				
G63	37	PL14	Buoys	Artificial polymer materials	Floats/Buoys		x		x		
G64			Fenders	Artificial polymer materials			x				
G65	38	PL03	Buckets	Artificial polymer materials			x				
G66	39	PL21	Strapping bands	Artificial polymer materials		x	x	x			
G67	40	PL16	Sheets, industrial packaging, plastic sheeting	Artificial polymer materials			x	x	x		
G68	41	PL22	Fibre glass/fragments	Artificial polymer materials			x				
G69	42		Hard hats/Helmets	Artificial polymer materials			x				

### Master List of Categories of Litter Items (DRAFT)

TSG_ML General- Code	OSPAR- Code	UNEP- Code	General Name	Level 1 - Materials	Level 3- Item clusters	Core	Beach	Seafloor	Floating	Biota	Micro
G70	43		Shotgun cartridges	Artificial polymer materials			x				
G71	44	CL01	Shoes/sandals	Artificial polymer materials			x				
G72			Traffic cones	Artificial polymer materials			x				
G73	45	FP01	Foam sponge	Artificial polymer materials			x				
G74			Foam packaging/insulation/polyurethane	Artificial polymer materials					x		
G75			Polystyrene	Artificial polymer materials					x		
G76	117		Plastic/polystyrene pieces 0 - 2.5 cm	Artificial polymer materials	Plastic pieces		x				
G77	46		Plastic/polystyrene pieces 2.5 cm > < 50cm	Artificial polymer materials	Plastic pieces		x				
G78	47		Plastic/polystyrene pieces > 50 cm	Artificial polymer materials	Plastic pieces		x				
G79			Plastic fragments	Artificial polymer materials	Plastic pieces				x		
G80			CD, CD-box	Artificial polymer materials			x				
G81			Salt packaging	Artificial polymer materials			x				
G82			Fin trees (from fins for scuba diving)	Artificial polymer materials			x				
G83			Masking tape	Artificial polymer materials			x				
G84			Telephone (incl. parts)	Artificial polymer materials			x				
G85			plastic construction waste	Artificial polymer materials			x				
G86			plastic flower pots	Artificial polymer materials			x				
G87			biomass holder from sewage treatment plants	Artificial polymer materials	sewage related		x				
G88			Bait containers/packaging	Artificial polymer materials			x				
G89			Cable ties	Artificial polymer materials			x	x			
G90			Table cloth	Artificial polymer materials					x		
G91	98	OT02	Cotton bud sticks	Artificial polymer materials	sanitary	x	x	x			
G92	99	OT02	Sanitary towels/panty	Artificial polymer	sanitary		x	x			

### Master List of Categories of Litter Items (DRAFT)

TSG_ML General- Code	OSPAR- Code	UNEP- Code	General Name	Level 1 - Materials	Level 3- Item clusters	Core	Beach	Seafloor	Floating	Biota	Micro
			liners/backing strips	materials							
G93	101	OT02	Toilet fresheners	Artificial polymer materials	sanitary		x				
G94		OT02	Diapers/nappies	Artificial polymer materials	sanitary		x	x			
G95	104	PL12	Syringes/needles	Artificial polymer materials	medical		x	x			
G96	103		Medical/Pharmaceuticals containers/tubes	Artificial polymer materials	medical		x				
G97	121		Dog faeces bag	Artificial polymer materials		x	x				
G98		RB02	Flip-flops	Artificial polymer materials			x				
G99			Plastic fragments rounded <5mm	Artificial polymer materials	Plastic pieces						x
G100			Plastic fragments subrounded <5mm	Artificial polymer materials	Plastic pieces						x
G101			Plastic fragments subangular <5mm	Artificial polymer materials	Plastic pieces						x
G102			Plastic fragments angular <5mm	Artificial polymer materials	Plastic pieces						x
G103			cylindrical pellets <5mm	Artificial polymer materials	Plastic pellets						x
G104			disks pellets <5mm	Artificial polymer materials	Plastic pellets						x
G105			flat pellets <5mm	Artificial polymer materials	Plastic pellets						x
G106			ovoid pellets <5mm	Artificial polymer materials	Plastic pellets						x
G107			spheruloids pellets <5mm	Artificial polymer materials	Plastic pellets						x
G108		PL23	Industrial pellets	Artificial polymer materials	Plastic pellets	x	x			x	
G109			Filament <5mm	Artificial polymer materials	Plastic pieces						x
G110			Films <5mm	Artificial polymer materials	Plastic pieces						x
G111			Foamed plastic <5mm	Artificial polymer materials	Plastic pieces						x
G112			Granules <5mm	Artificial polymer materials	Plastic pieces						x
G113			Styrofoam <5mm	Artificial polymer materials	Plastic pieces						x
G114			Small industrial spheres (<5mm)	Artificial polymer materials	Plastic pellets					x	
G115			Sheet like user plastic (>1mm)	Artificial polymer	Plastic pieces					x	

### Master List of Categories of Litter Items (DRAFT)

TSG_ML General- Code	OSPAR- Code	UNEP- Code	General Name	Level 1 - Materials	Level 3- Item clusters	Core	Beach	Seafloor	Floating	Biota	Micro
				materials							
G116			Threadlike user plastic (>1mm)	Artificial polymer materials	Plastic pieces					x	
G117			Foamed user plastic (>1mm)	Artificial polymer materials	Plastic pieces					x	
G118			Plastic fragments (>1mm)	Artificial polymer materials	Plastic pieces					x	
G119			Polyurethane granules <5mm	Artificial polymer materials	Plastic pieces				x		
G120	48	PL24	Other plastic/polystyrene items (identifiable)	Artificial polymer materials	Plastic pieces		x				
G121			Other plastic/polystyrene items (not identifiable)	Artificial polymer materials	Plastic pieces		x	x	x	x	
G122	49	RB01	Balloons and balloon sticks	Rubber		x	x	x	x		
G123		RB01	Balls	Rubber			x		x		
G124	50		Rubber boots	Rubber			x	x	x		
G125	52	RB04	Tyres and belts	Rubber		x	x	x	x		
G126		RB05	Inner-tubes and rubber sheet	Rubber			x				
G127			Wheels	Rubber		x	x				
G128		RB06	Rubber bands	Rubber			x				
G129			Bobbins (fishing)	Rubber			x	x			
G130	97	RB07	Condoms (incl. packaging)	Rubber	sanitary		x	x			
G131	53	RB08	Other rubber pieces	Rubber			x	x	x		
G132		CL01	Clothing (clothes, shoes)	Cloth/textile	clothing				x		
G133		CL01	Shoes	Cloth/textile	clothing			x			
G135	54	CL01	Clothing / rags (clothing, hats, towels)	Cloth/textile	clothing	x	x	x			
G136	57	CL01	Shoes and sandals (e.g. Leather, cloth)	Cloth/textile	clothing		x				
G137		CL02	Backpacks & bags	Cloth/textile			x				
G138	56	CL03	Sacking (hessian)	Cloth/textile			x				
G139	55	CL05	Carpet & Furnishing	Cloth/textile			x	x	x		
G140		CL04	Rope, string and nets	Cloth/textile	rope		x	x	x		
G141		CL03	Sails, canvas	Cloth/textile			x		x		
G142	100	OT02	Tampons and tampon applicators	Cloth/textile	sanitary	x	x				
G143	59	CL06	Other textiles (incl. rags)	Cloth/textile			x	x	x		
G145	60		Paper bags	Paper/Cardboard			x				
G146	61	PC02	Cardboard (boxes & fragments)	Paper/Cardboard		x	x	x	x		
G147		PC03	Packaging	Paper/Cardboard					x		

### Master List of Categories of Litter Items (DRAFT)

TSG_ML General- Code	OSPAR- Code	UNEP- Code	General Name	Level 1 - Materials	Level 3- Item clusters	Core	Beach	Seafloor	Floating	Biota	Micro
G148	118	PC03	Cartons/Tetrapack Milk	Paper/Cardboard		x	x				
G149	62	PC03	Cartons/Tetrapack (others)	Paper/Cardboard		x	x				
G150	63	PC03	Cigarette packets	Paper/Cardboard	Smoking related		x				
G151	65	PC03	Cups, food trays, food wrappers, drink containers	Paper/Cardboard	fast-food items	x	x				
G152	66	PC01	Newspapers & magazines	Paper/Cardboard			x		x		
G153		PC04	Tubes for fireworks	Paper/Cardboard			x				
G154			Paper fragments	Paper/Cardboard			x				
G156	67	PC05	Other paper items	Paper/Cardboard			x	x	x		
G157	68	WD01	Corks	Processed/worked wood			x				
G158	69	WD04	Pallets	Processed/worked wood		x	x	x	x		
G159	69	WD04	Processed timber	Processed/worked wood			x				
G160	70	WD04	Crates	Processed/worked wood		x	x		x		
G161	71	WD02	Crab/lobster pots	Processed/worked wood			x				
G162	119		Fish boxes	Processed/worked wood	Fish boxes	x	x				
G163	72	WD03	Ice-cream sticks, chip forks, chopsticks, toothpicks	Processed/worked wood	fast-food items	x	x				
G164	73		Paint brushes	Processed/worked wood			x				
G165		WD05	Matches & fireworks	Processed/worked wood			x				
G166			Wood boards	Processed/worked wood					x		
G167			Beams / Dunnage	Processed/worked wood					x		
G168			Wood (processed)	Processed/worked wood				x			
G169	74	WD06	Other wood < 50 cm	Processed/worked wood			x				
G170	75	WD06	Other wood > 50 cm	Processed/worked wood			x				
G171		WD06	Other (specify)	Processed/worked wood		x		x	x		
G172	76		Aerosol/Spray cans industry	Metal	Cans/Containers	x	x				
G173	78	ME03	Cans (beverage)	Metal	Cans/Containers	x	x	x	x		
G174	82	ME04	Cans (food)	Metal	Cans/Containers	x	x	x			
G175	81	ME06	Foil wrappers, aluminum foil	Metal			x			x	
G176	77	ME02	Bottle caps, lids & pull tabs	Metal	Caps/lids	x	x				
G177	120		Disposable BBQ's	Metal			x				
G178	79	ME10	Appliances (refrigerators, washers, etc.)	Metal			x	x			
G179		ME01	Tableware (plates, cups & cutlery)	Metal			x				
G180	80	ME07	Fishing related (weights, sinkers, lures, hooks)	Metal			x	x	x		
G181		ME07	Fish hook remains	Metal						x	

### Master List of Categories of Litter Items (DRAFT)

TSG_ML General- Code	OSPAR- Code	UNEP- Code	General Name	Level 1 - Materials	Level 3- Item clusters	Core	Beach	Seafloor	Floating	Biota	Micro
G182	87	ME07	Lobster/crab pots	Metal		x	x				
G184	83	ME10	Industrial scrap	Metal			x				
G185	84	ME05	Drums, e.g. oil	Metal			x	x			
G186		ME04	Other cans (< 4 L)	Metal			x				
G187		ME05	Gas bottles, drums & buckets (> 4 L)	Metal			x				
G188	86	ME05	Paint tins	Metal			x				
G189	88	ME09	Wire, wire mesh, barbed wire	Metal			x		x		
G190		ME05	Barrels	Metal					x		
G191			Car parts / batteries	Metal			x	x			
G192			Cables	Metal			x	x			
G193		OT04	Household Batteries	Metal			x				
G194			Large metallic objects	Metal				x			
G195			Other	Metal				x	x		
G196		ME08	Metal fragments	Metal							
G197	89	ME10	Other metal pieces < 50 cm	Metal			x				
G198	90	ME10	Other metal pieces > 50 cm	Metal			x				
G199	91	GC02	Bottles	Glass/ceramics	Bottles/Containers	x	x	x			
G200		GC02	Jars	Glass/ceramics	Bottles/Containers		x	x			
G201	92	GC04	Light bulbs	Glass/ceramics		x	x				
G202		GC03	Tableware (plates & cups)	Glass/ceramics			x				
G203	94	GC01	Construction material (brick, cement, pipes)	Glass/ceramics			x				
G204	92	GC05	Fluorescent light tubes	Glass/ceramics		x	x				
G205		GC06	Glass buoys	Glass/ceramics			x				
G206	95		Octopus pots	Glass/ceramics			x				
G207		GC07	Glass or ceramic fragments	Glass/ceramics			x	x			
G208			Glass items <5mm	Glass/ceramics			x				
G210	96	GC08	Other glass items	Glass/ceramics		x	x	x			
G211	105	OT05	Other medical items (swabs, bandaging etc.)	unidentified	medical		x				
G212			Slak / Coal							x	
G213	181, 109, 110	OT01	Paraffin/Wax	Chemicals			x			x	
G214			Oil/Tar	Chemicals						x	
G215			Foodwaste (galley waste)	Food waste						x	
G216			various rubbish (worked wood,	undefined						x	

### Master List of Categories of Litter Items (DRAFT)

TSG_ML General- Code	OSPAR- Code	UNEP- Code	General Name	Level 1 - Materials	Level 3- Item clusters	Core	Beach	Seafloor	Floating	Biota	Micro
			metal parts)								
G217			Other (glass, metal, tar) <5mm	unidentified							x