



## HNS FINDER

### GUIDANCE NOTES

#### INTRODUCTION

The HNS Convention sets out in Article 16 a requirement for the HNS Fund to have four accounts covering GENERAL, OIL, LNG and LPG products. The GENERAL account is further divided into two sectors relating to Bulk Solids and Other HNS cargoes. These categories are reflected in the HNS Finder which aims to identify Hazardous and Noxious Substances (HNS) which are relevant to the Convention. Specifically, under Article 1.5, the HNS Convention defines HNS to mean substances, materials and articles carried on board a ship as cargo, as referred to in any of seven groups which are summarised below.

- (i) oils, carried in bulk, as defined in regulation 1 of Annex I of MARPOL
- (ii) noxious liquid substances (NLS), carried in bulk, as defined in regulation 1.10 of Annex II of MARPOL including substances and mixtures provisionally categorized with a Pollution Category of X, Y or Z
- (iii) dangerous liquid substances carried in bulk which are listed in chapter 17 of the IBC Code or which have had preliminary suitable carriage conditions prescribed by Administrations involved in shipments in accordance with this Code
- (iv) dangerous, hazardous and harmful substances, materials and articles in packaged form as covered by the IMDG Code
- (v) liquefied gases carried in bulk as listed in chapter 19 of the IGC Code and products for which preliminary suitable carriage conditions have been prescribed by the Administrations involved in shipments in accordance with this Code
- (vi) liquid substances carried in bulk with a flashpoint not exceeding 60°C (as measured by a closed-cup test)
- (vii) solid bulk materials possessing chemical hazards as covered by the IMSBC Code to the extent that these substances are also subject to the provisions of the IMDG Code in effect in 1996, when carried in packaged form

Aside from these listings, it should be noted that residues from the previous carriage in bulk of substances referred to in (i) to (iii) and (v) to (vii) above are also included in the definition of HNS.

In the following sections of this information note, key features of the groupings listed above are noted and explained to give a clear understanding of how the various entries for the HNS Finder are assembled.

## **(i) OIL PRODUCTS**

### MARPOL/IOPC Funds' Oils

Core entries (44 terms) are identified in Appendix I to Annex I of MARPOL. It is important to recognise that a footnote to this appendix makes it clear that the list of oils recorded should not necessarily be considered as being comprehensive. Other product names or synonyms may thus accordingly be used in shipments provided the cargo is deemed to require MARPOL Annex I controls. That said, many of the terms listed in Appendix I are rather generic in nature and therefore other product names would nevertheless likely fall within the scope of one of these product categories. As an example, Vacuum Gas Oil (VGO) is a very common product arising in many refineries but this is not mentioned as such in the listing of illustrative terms.

This is also the case when comparing the IOPC Funds guidance list of contributing (persistent) oils where 14 out of the 17 names noted may be readily associated with relevant terms found on the MARPOL list. For the three where there is not such an obvious link (Medium fuel oil, Blended fuel oils by viscosity or sulphur content, Fuel oil blend stocks) this is essentially due to the rather broad nature of these names and the consequent difficulty in identifying suitable MARPOL equivalents. In a similar manner, not all relevant MARPOL names can be readily matched with IOPC Funds' terms (examples would be Clarified Oil, Road Oil and others).

In the HNS Finder, all of the MARPOL terms and all of the IOPC Funds' contributing oil names are recorded. Note that in line with the HNS Convention, the MARPOL entries incorporate both persistent and non-persistent oils. HNS Finder entries in the Oil Account record can accordingly be sub-categorised in this manner.

### Related cargoes

In addition to the range of conventional petroleum products noted above, in recent years two further types of cargo have now been routinely transported by sea: Biofuels and Energy-rich fuels.

#### (a) Biofuels

Biofuels are non oil-based fuels usually produced from agricultural products (examples would be bioethanol and vegetable oil derivatives). They are typically used as a blend in conjunction with conventional oil-based fuel blendstocks to make diesel and gasoline products. These products/blends are non-persistent oils.

They are listed by IMO in an MEPC.2/Circular issued annually addressing the 'Provisional Categorization of Liquid Substances in accordance with MARPOL Annex II and the IBC Code'. In this Circular they appear under Annex 11, 'Biofuels recognized under the 2019 Guidelines for the carriage of blends of biofuels and MARPOL Annex I cargoes'. Currently, there are just four entries listed in this annex.

#### (b) Energy-rich fuels

Energy-rich fuels are wholly or partly derived from non-petroleum feedstock (e.g. algae, vegetable oils) and they can be produced either without blending or by blending with petroleum products. An energy-rich fuel is comprised only of constituents that can be expressed as individual chemicals of the hydrocarbon family, for example, alkanes with straight or branched chain and cycloalkanes, etc. These products are complex mixtures with a relatively large number of constituents and as such, they cannot

be represented by a simple chemical structure. As with Biofuels, these products/blends are non-persistent oils.

They are listed by IMO in the MEPC.2/Circular noted above under Annex 12, 'Energy-rich fuels subject to Annex I of MARPOL' and currently, there are seven entries recorded.

#### Trade name products

Following a recent initiative taken by IMO to review two of the annexes (2 and 3) contained in the annual MEPC.2/Circular with a view to updating the listings presented, a number of products have been identified as needing to be re-assigned from MARPOL Annex II to MARPOL Annex I controls. Accordingly, a number of entries have been removed from these two annexes as they are now deemed to be MARPOL Annex I shipments.

Both annexes address trade-name products rather than chemical names. In terms of their carriage, these products should fall within one of the more general categories as outlined in the opening section above and as such, their specific trade names are not recorded in the HNS Finder as Oil Account entries.

Should there be a need to check on a specific trade name, a record of any product treated this way is contained in the reports of the IMO Technical Group on the Evaluation of Safety and Pollution Hazards of Chemicals (see for example IMO document PPR 10/3, Annexes 4 and 5).

### **(ii) MARPOL NOXIOUS LIQUID SUBSTANCES (NLS) PRODUCTS**

Core entries for these products are essentially defined by the latest listings in force for the IBC Code when entries have a Pollution Category of X, Y or Z assigned together with any products provisionally assessed via tripartite agreements as meeting this requirement. In practice, for the IBC Code this means listings in Chapters 17 and 18 (but note that the latter chapter also has some entries rated as OS (Other Substances) which means the product was evaluated but found to fall outside Categories X, Y or Z). Additionally in the Code, Chapter 19 lists approved Index Names which reflect agreed synonyms for the formal Product Names (PN) contained in the previous two chapters.

Note that unlike the case for oil products, the listings in the IBC Code and any related tripartite agreements are definitive and cannot be amended or added to without formal approval. This holds even for any synonyms given in the Chapter 19 Index.

Tripartite agreements are published annually in the MEPC.2/Circular on Lists 1-4 depending on a product's name (chemical or trade) and its properties. As a rule, List 1 entries will eventually be adopted into the IBC Code whilst Lists 2 and 3 (covering trade-named products) are retained in the Circular. List 4 (covering mixture products) is essentially a holding list pending a need for technical information on one or more components to complete an evaluation allowing then transfer to List 2 (or List 3 depending on the outcome).

### **(iii) IBC CODE CHAPTER 17 PRODUCTS**

The core entries for these products are essentially defined by the latest listings in force for Chapter 17 of the IBC Code. Technically, preliminary tripartite agreement proposals which include safety hazards also qualify for this group. In the HNS Finder, such tripartite agreement products have in the past generally just been recorded as Group (ii) substances. This is because, like all entries in Chapter 17,

these products invariably have a Pollution Category of X, Y or Z also assigned. Due to this feature, Group (iii) is basically a subset of the broader category of Group (ii) products.

If relevant tripartite agreements were also to be assigned Group (iii) status, a slight complication arises for trade-named products on List 3 of the MEPC.2/Circular. These initially appear with preliminary carriage proposals (and hence qualify in line with the 2010 HNS Convention definition for this group) but once reviewed, they assume a formal status and remain permanently on List 3. In this way, following review and agreement, permanent entries essentially become a Chapter 17 equivalent list but for trade-named products (rather than chemically named substances).

As the formal HNS Convention definition in Article 1.5 (iii) [aside from Chapter 17] only refers to dangerous products with preliminary conditions assigned, this would mean that once reviewed, such entries would lose Group (iii) qualification. List 3 would then always contain a mixture of entries; some of these will be permanent Group (ii) only entries, and some will have a temporary Group (ii) and Group (iii) assignment. A similar situation arises for MEPC.2/Circular List 1 products (chemically-named substances) as again, once reviewed they assume a permanent status on the List. In this case, however, there is a difference as such products are effectively then being held for the IBC Code and accordingly, they are removed from List 1 whenever the next update of the Code is released (with Group (iii) status then consequently being assigned).

On the basis of the above and in the interest of avoiding any confusion from products shifting between Group assignments, the Finder historically has thus simply utilised Chapter 17 listings for Group (iii) entries.

#### **(iv) IMDG CODE PRODUCTS**

Core entries here are defined by the latest listings in force for the IMDG Code, including any amendments or additions as approved by the IMO Maritime Safety Committee which arise between formal updates of the Code. To tie in with the schedule for releasing updates of the Transport of Dangerous Goods Model Regulations, the complete IMDG Code is reissued every four years, with interim amendments at two-year intervals. As with the IBC Code, the listings in the Code including synonyms in the Index are definitive and cannot be amended or added to without formal approval. There is no equivalent MARPOL/IBC Code tripartite process in place for introducing amendments or new products and all changes go through the Editorial and Technical Group (E&T) of the Sub-Committee on Carriage of Cargoes and Containers (CCC). Products are assigned a Proper Shipping Name (PSN) and are also associated with an appropriate United Nations number (UN no. as relating to the transport of dangerous substances) which is included in the HNS Finder product information. As packaged goods, all Group (iv)/IMDG Code entries are classified as non-contributing cargo with respect to the HNS Convention reporting requirements.

#### **(v) IGC CODE PRODUCTS**

The core entries for these liquified gases are essentially defined by the latest listings in force for Chapter 19 of the IGC Code. Tripartite arrangement possibilities exist to cover any new shipments not listed in Chapter 19 but this rarely (if ever) appears to have been used. Chapter 19 currently contains just 38 Product Name (PN) entries. As with the IBC and IMDG Codes, the listings in this Code are definitive and cannot be amended without formal approval.

One difference with the IGC Code is that no approved synonyms are used with the Chapter 19 entries. Under the Code, it is possible for an additional name to be included in brackets after the formal PN but

in practise, bracketed terms are generally just used to qualify an entry (eg. by indicating a name to be relevant for 'all isomers').

#### **(vi) PRODUCTS WITH FLASHPOINTS OF 60°C OR LESS**

In this Group, there is no list of core entries as such, since examples may be found in a number of the other groupings defined in the HNS Convention. As this Group relates only to bulk liquid shipments, however, there is no overlap with either Group (iv) (packaged goods) or Group (vii) (bulk solids). In Groups (i), (ii), (iii) and (v), where a product has flashpoint properties meeting this criterion, they are also recorded as Group (vi) substances along with their other assigned groups.

Of special note, Group (vi) does include all products within the LNG and LPG Accounts. In these cases, neither account is subject to a prescribed list of formally approved names and so there is a degree of freedom available to register suitable terms. In this context, a collection of relevant names has been assembled for both Accounts (where some names are also used in Groups (iv) or (v)) in order to provide better guidance for LNG/LPG reporting purposes. In the case where IGC Code names (Group (v)) are utilised, these entries show only LNG or LPG as the relevant account to use (so not GENERAL/Other HNS as would otherwise be specified). Requesting a listing of IGC Code/Group (v) products in the Finder will generate all relevant names but, as appropriate, the account information will be modified as indicated.

With respect to LNG/LPG names which are also listed in the IMDG Code/Group (iv), as these appear in a Finder search separately from bulk entries (since they are packaged goods), there is no re-assignment of Account details required in these cases.

Whilst there are many products in the Finder that have been assigned as Group (vi) status, among these there are currently just five entries for the LNG Account and seven for LPG.

#### **(vii) IMSBC CODE PRODUCTS**

Core entries for this Group are contained amongst the products listed in Appendix 1 of the latest version in force of the IMSBC Code. Not all of the entries shown here are valid however, as the HNS Convention also requires that substances must have been subject to the provisions of the IMDG Code in effect in 1996, when carried in packaged form. This additional requirement was introduced at the drafting stage of the Convention and its purpose was simply to exclude a certain number of IMSBC cargoes (such as coal, fishmeal, wood chips and others) from the scope of the 1996 HNS Convention. This was done since it was recognised that a number of solid bulk materials mentioned by name in the IMSBC Code as possessing chemical hazards, do not present significant hazards when carried in packaged form (as per the IMDG Code in effect in 1996). These materials were thus defined as 'materials hazardous only in bulk' (MHB) and were assigned to fall under Group B of the IMSBC Code. As noted in Section 1.7 (Definitions) of the Code, 'Group B consists of cargoes which possess a chemical hazard which could give rise to a dangerous situation on a ship'.

To assist in identifying substances falling within the scope of this Group of the HNS Convention, IMO issued Circular Letter No.3144 in January 2011 which lists products which met the conditions outlined above at that point in time. This guidance is qualified as being indicative and it is noted that the list should not be considered as exhaustive.

In practice, the list in Circular Letter No.3144 is what is used in the Finder for Group (vii) products. Various updates of the IMSBC Code have taken place since 2011 but mostly, these have related to text

modifications to existing parts of the Code. A limited number of new product entries have been introduced in these updates but no revision of the original Circular Letter has been released.

As with the other IMO Codes, the listings for both of the qualifying conditions are definitive and cannot be amended or added to without formal approval. There is however a tripartite process available for introducing new products but this seems only to be used on a limited basis. Ultimately, as with the IMDG Code, new products and all changes go through the Editorial and Technical Group (E&T) of the Sub-Committee on Carriage of Cargoes and Containers (CCC) for endorsement. Proposals are reviewed every two years thus allowing the E&T Group to alternate its work on an annual basis between IMSBC and IMDG Code requirements.

During transport by sea, cargoes are identified by a Bulk Cargo Shipping Name (BCSN). This appears in capital letters in the individual schedules of the IMSBC Code (Appendix 1). There is an index in the Code (Appendix 4) which features all BCSNs together with a number of recognised secondary names which always appear as lower case and relate to the appropriate BCSN. These terms, as appropriate, are also recorded for Group (vii) in the HNS Finder.

When a cargo is recognised to be dangerous goods as defined in the IMDG Code, as set out in regulation VII/1.1 of the SOLAS Convention, the Proper Shipping Name of that cargo is the Bulk Cargo Shipping Name. In view of this relationship, within the IMSBC Code United Nations numbers (UN nos.) are recognised and these, accordingly, are included in the HNS Finder product information when applicable.

#### **OTHER POINTS FOR CONSIDERATION**

1. Some HNS names are listed in more than one of the source regulations and in the Finder, this is reflected by showing an association with all of the relevant classification groups. Sometimes, a formal name under one regulatory Group may be used as a synonym in another Group. Additionally, it can be the case that quite different synonyms of the same formal name are found in different regulations. This all reflects the complexity of chemical nomenclature itself and arises furthermore since regulatory text has been generated by different working groups over a prolonged period of time. In cases where synonyms or secondary names are recognised as with IBC, IMDG and IMSBC Code products (covering HNS Groups ii, iii, iv and vii), formal shipping names are usually recorded in upper case in the HNS Finder whilst any associated terms are then shown as lower case entries.
2. Formal names found in the Finder are displayed under heading titles as appropriate to the IMO Codes involved as follows:  
  
Groups (ii)/(iii) – Product Name (MARPOL/IBC)  
Group (iv) – Proper Shipping Name (IMDG)  
Group (v) – Product Name (IGC)  
Group (vii) – Bulk Cargo Shipping Name (IMSBC)
3. The HNS Finder is updated on an annual basis on the 31st May reflecting the entries valid for the previous calendar year. In terms of updating HNS information, the following sources need to be considered/monitored for the different HNS Groups involved:

Group (i) – the MARPOL list being illustrative only is very unlikely to change. This is also the case for the IOPC Funds. For other products (Biofuels and Energy-rich fuels), any future changes are likely to be limited but these would be recorded in the annual MEPC.2/Circular.

Groups (ii)/(iii) – the IBC Code is usually only formally reissued every four or five years (timeline is not fixed). The main focus is on new tripartite agreements which are recorded in the annual MEPC.2/Circular. Note however that this circular runs from 1st December through to 30th November for each issue and hence there is always a need to check with IMO for any relevant notifications received in December for a calendar year update.

Group (iv) – the IMDG Code is formally reissued every four years with amendments being released at two years intervals. As with all other Codes, a key point to note is that any update for the HNS Finder only becomes relevant once such changes have entered into force (including if an earlier date has been specified as an option, on a voluntary basis, in the adoption of the amendments).

Group (v) – the IGC Code is not usually reissued until changes to parts of the text have accrued to a significant level (which can be a lengthy process). Amendments to the products list or use of the tripartite process are rare but any changes will be recorded in relevant Maritime Safety Committee (MSC) resolutions.

Group (vi) – any updates made here should be taken into account when considering the flashpoint properties of new entries for Groups (i), (ii/iii) and (v). Further additions to the entries currently assigned to LNG/LPG Accounts might also arise should industry identify, during reporting activities, that the inclusion of other names or terms may be appropriate for these accounts.

Group (vii) – the IMSBC Code is also a Code which is not re-issued with any great regularity. However, amendments are usually released every two years or so and on occasion these can include new product listings. No checks of new entries against the further requirement of complying with the 1996 IMDG Code seem to be made and as noted above, Circular Letter No.3144 issued in 2011 has never been updated.

Updating the database for the Finder clearly requires input from a number of sources. Most changes will arise from the annual MEPC.2/Circular along with the ongoing updating processes which occur for the IBC and IMDG Codes.

#### 4. IMO documentation supporting the HNS Finder

**MARPOL** (International Convention for the Prevention of Pollution from Ships) + MEPC (Marine Environment Protection Committee) Resolutions for amendments

**SOLAS** (International Convention for the Safety of Life at Sea) + MSC (Maritime Safety Committee) Resolutions for amendments

**IBC Code** (International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk) + MEPC (Marine Environment Protection Committee) Resolutions for amendments

**IMDG Code** (International Maritime Dangerous Goods Code) + MSC (Maritime Safety Committee) Resolutions for amendments

**IGC Code** (International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk) + MSC (Maritime Safety Committee) Resolutions for amendments

**IMSBC Code** (International Maritime Solid Bulk Cargoes Code) + MSC (Maritime Safety Committee) Resolutions for amendments

**MEPC.2/Circular** (Provisional Categorization of Liquid Substances in accordance with MARPOL Annex II and the IBC Code), updated annually on 1st December

**IMO Website** (for tripartite agreements arising in December after publication of the MEPC.2/Circular in order to have a full record for a calendar year)

**Circular letter No.3144** (List of solid bulk materials possessing chemical hazards which are mentioned by name in the IMSBC Code and also in the IMDG Code in effect in 1996; and list of solid bulk materials possessing chemical hazards which are mentioned by name in the IMSBC Code but not in the IMDG Code in effect in 1996)

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