

# ICSG Insight

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## NEW IMO REGULATIONS IMPACTING ON SHIPPING ORES AND CONCENTRATES

This thirteenth ICSG Insight provides members with a summary of regulations recently adopted by the International Maritime Organization (IMO) that impact on the shipping of metal ores and concentrates.

### Summary

New international maritime transport regulations will come into force on 1 January 2013 which will have a potentially significant impact on the bulk shipping of cargoes of ores and concentrates. Residues of certain cargoes can no longer be discharged into the sea if these fall into the classification of “harmful to the marine environment” (HME). Instead, dry residues and/or wash water containing residues meeting any of the HME criteria must be discharged at adequate port reception facilities. These regulations have been adopted by the International Maritime Organization under the International Convention for the Prevention of Pollution from Ships (MARPOL) which is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes.

### The IMO and MARPOL

The International Maritime Organization (IMO) is the specialized UN agency responsible for the safety and security of shipping and the prevention of marine pollution by ships. It currently has 170 Member States and three Associate Members. In addition there are 63 affiliated IGOs and over 70 NGOs with Consultative Status. The Study Groups have applied for IMO observer status but to date have not been accepted.

In 2012, the IMO formally adopted criteria to define substances deemed “harmful to the marine environment” (HME) under annex V of its MARPOL Convention, which deals with a wide range of substances including the residue of solid bulk cargoes.

These criteria are aligned with those of the UN’s Globally Harmonised System of Hazard Classification and Labelling (GHS). The adopted criteria for “harmful to the marine environment” are:

- 1) *Acute Aquatic Toxicity Category 1; or*
- 2) *Chronic Aquatic Toxicity Category 1 or 2; or*
- 3) *Carcinogenicity\* 1A/1B AND high bioaccumulation AND Not Rapidly degradable; and/or*

- 4) *Mutagenicity\* 1A/1B AND high bioaccumulation AND Not Rapidly degradable; and/or*
- 5) *Reproductive toxicity\* 1A/1B AND high bioaccumulation AND Not Rapidly degradable; and/or*
- 6) *Single Target Organ Toxicity-Repeated Exposure (STOT-RE)\* Category 1 AND high bioaccumulation AND Not Rapidly degradable; and/or*
- 7) *Solid bulk cargoes containing or consisting of synthetic polymers, rubber, plastics, or plastic feedstock pellets (this includes materials that are shredded, milled, chopped or macerated or similar materials).*

*\* Products that are classified for Carcinogenicity, Mutagenicity, Reproductive toxicity or Specific Target Organ Toxicity Repeated Exposure for oral and dermal hazards or without specification of the exposure route in the hazard statement.*

Under MARPOL Annex V, as of 1 January 2013 residues of cargoes meeting the definition can no longer be discharged into the sea. Instead, dry residues and/or wash water containing residues meeting any of the HME criteria must be discharged at adequate port reception facilities. Shippers will therefore have to ensure that ports of unloading have facilities to handle hull-washing residues if the cargoes they are carrying meet any of the agreed criteria.

The second criterion above, Chronic Aquatic Toxicity, potentially encompasses a range of non-ferrous metals and metal compounds. For cargoes identified as “harmful to the marine environment” shipping companies must determine whether adequate port reception facilities are available at the port of unloading or at the next port of loading. In case these facilities are not available, alternative solutions may need to be found (e.g. working directly with private contractors specialized in waste removal). If no facilities are available, the shipmaster can refuse shipment of such cargoes. Thus, the lack of Adequate Port Reception Facilities could result in disruptions to trade and have an impact on the market for concentrates and ores. According to a survey conducted by ICMM of member companies, it was revealed that over 80% of receiving ports currently being used do not have adequate port reception facilities.

The International Council on Mining and Metals (ICMM) and the commodity-specific industry associations have been very active in seeking to have industry’s concerns about the new regulations understood and taken into account by IMO. Several commodity-specific industry associations are providing assistance to companies transporting concentrates in the assessment of HME criteria and in complying with the new regulations.

### **Implementation of MARPOL Annex V**

As the new MARPOL regulations come into effect, there will be a need for changes in the way concentrate shipments are handled. Shippers, including mining companies, will have to assess whether cargoes are “harmful to the marine environment”. Shippers will also need to update the shipping documents specifying the identified hazards and correct description of the bulk cargo. In addition, shippers will also have to notify the competent authority of the port of loading and the competent authority of the port of unloading of the basis of the classification.

Implementation of the regulations will hinge on the cleaning of cargo holds and the discharge of water from cleaning. Ship cleaning is a necessity only if required to prevent contamination of the next cargo, for example, when switching from concentrates to food/cereals. After cleaning, the hold is inspected for acceptance. When the next cargo is loaded in the same port, cleaning

operations and facilities for on-shore waste water disposal may already exist as current regulations do not allow discharge of waste in port waters. When the next cargo is loaded at another port and cleaning is needed, the waste water can be discharged either at the port facilities of loading or unloading but not at sea on the trip in between ports.

Within the EU ports there is a legal obligation to accept waste water, but this service must be paid for. However, outside the EU reception can be refused when there is no access to waste water treatment facilities.

When a cargo is classified “non-harmful to marine environment”, there are no issues related to hold cleaning. However, when the cargo involves substances classified as “harmful to marine environment” the shipmaster cannot use hold cleaning at sea.

Classification has not yet been fully worked out, and can be complex. Criteria for identifying substance as “harmful” under IMO regulations are linked to new GHS classification criteria which use the concept of a substance being “rapidly biodegradable”. “Degradability” is a measure of the potential of a substance to have long term (chronic) effects in water. The term is related to the degradation of organic substances, thus it is not directly applicable to metals which are elements and not degradable. Therefore, a surrogate concept for “degradability” has been devised for metals. This concept uses a measure of “removal from the water column” as an equivalent for degradability. Regulatory acceptance of this approach is still under discussion. Consistency of classification between commodities is also needed.

### **Additional International Maritime Solid Bulk Cargo Code (IMSBC) Regulations After 1 January 2015**

In a separate but related issue, the IMO has also adopted regulations on the International Maritime Solid Bulk Cargo Code (IMSBC). The IMSBC sets out the minimum requirements of a vessel for transporting a given cargo. Under this code there is a class of goods defined as ‘materials hazardous only in bulk’ (MHB), which carry particular requirements. While mineral concentrates do not currently meet the criteria for MHB, the IMO has been redefining these and the following criteria for MHB were approved in September 2012:

- Combustible solids
- Self-heating solids
- Solids that evolve flammable gas when wet
- Solids that evolve toxic gas when wet (toxic gas = Acute toxicity Category 4 – Inhalation (gas/vapour)
- Acute toxicity Category 4-Inhalation (dust, dermal)
- Corrosive solids– Metal corrosion rate between 4-6.25mm/yr (if not already IMDG class 8)
- STOT-SE Category 1 – Inhalation (dust), Dermal
- STOT-RE Category 1 – Inhalation (dust), Dermal
- Respiratory sensitizer Category 1
- Skin corrosion/irritation Category 2
- Serious Eye Damage/Eye Irritation Category 2A

- Carcinogenicity Category 1A or 1B
- Mutagenicity Category 1A or 1B
- Reproductive Toxicity Category 1A or 1B

The consequences of the new regulations are not yet clear but one concern is that cargoes such as mineral concentrates (which may meet some of the above criteria) will have to be shipped as a different class of cargo, which may necessitate additional control measures, or different ship design aspects. The IMSBC regulations will become mandatory from 1 January 2015.

Suppliers of products such as metal ores and concentrates will have to assess whether their product meets any of the IMSBC criteria. Since hazard classification is complex and requires a high level of expertise, companies may need to seek the support of their industry associations, several of which have developed extensive databases and have in-house expertise.

### **Conclusions**

Mining companies, shippers, smelting companies and waste processing firms may all be affected by the new regulations adopted by the IMO. Shipping companies will be obliged to comply with the new discharge requirements at ports from 1 January 2013. While the details of the classification of cargoes are not yet entirely clear, the relevant industry associations are actively involved in providing advice and assistance to companies. Uncertainty regarding the classification of various ores and concentrates, the need for further details on how the new regulations will be applied in practice, and unavoidable compliance costs make the implementation of these new regulations a significant challenge for companies. Member country representatives may wish to discuss industry concerns regarding the implementation of these new regulations with their IMO representatives.

### **Further information**

The full text of the *IMO 2012 Guidelines For The Implementation Of Marpol Annex V* (Adopted 2 March 2012) can be accessed at:

<http://www.imo.org/ourwork/environment/pollutionprevention/garbage/documents/219%2863%29.pdf>

### **Comments or Questions**

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