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Misdeclared cargoes of iron fines containing DRI (C)

Since the publication of a Notice to Members in December 2012 concerning [information required when offered a shipment of iron fines that may contain DRI \(C\)](#), Gard has again been made aware of instances of cargoes being offered for shipment and shipped that do not have direct reduced iron (DRI) in their descriptions, but which in fact are blends containing a significant proportion of DRI (C) fines. The most recent information involves cargoes of “processed iron ore fines” being lifted in Qatar for which samples taken during discharge showed the presence of DRI (C). Reports suggest that similar cargoes have been shipped from the United Arab Emirates, Saudi Arabia and Oman.

Gard’s Members and clients are therefore advised to exercise caution when loading cargoes which may contain DRI (C). This could typically involve cargoes described as reoxidised iron fines, iron fines (blend), iron ore pellet chips, oxide fines, pond fines, sludge fines, remets, clarifier slush and dust, spent iron fines and lodos (sludge). Caution should be exercised also when loading other cargoes of a similar nature that include DRI in the description, but are offered on the basis that they are not DRI (C) and therefore do not need to be carried in accordance with the DRI (C) Schedule of the IMSBC Code.¹

The guidance included in Gard’s Notice to Members of December 2012 concerning information that should be requested before loading in order to assist in the identification of DRI cargoes remains valid:

- Cargo blends containing DRI (C) can be identified by their chemical composition, details of which must be requested. The chemical composition must include the *total iron content (Fe)*, the *metallic (or free) iron content (Fe⁰)* and the *moisture content*. This information should preferably be supported by a certificate from an independent testing laboratory and must relate to the cargo that is being offered for shipment: in other words, a “generic” analysis is not acceptable. The certificate should state the method and standards that have been followed when obtaining the samples that have been tested (preferably ISO 10835:2000) and the standards that have been followed to determine the metallic iron content (preferably BS ISO 5416:2006). The date on which the sampling took place should also be checked to ensure relevance.
- The iron in a cargo of iron ore is chemically bound with other elements and therefore it contains no metallic (or free) iron. *If the cargo contains any metallic iron (Fe⁰), then it must be a DRI derivative*: DRI (A) and (B) cargoes typically contain about 85% metallic iron, whereas in blends containing DRI (C) it can be as low as 1% or 2%.
- Such blended cargoes should be regarded as the hazardous commodity DRI (C) and be carried in accordance with the provisions of the Code. If in doubt, Members should consult their Association.
- Having identified the cargo as DRI (C), the IMSBC Code sets out the information that must be provided to the master. In addition to the general requirements, the entry for DRI (C) specifies the following:
 - *“Prior to loading the cargo, the shipper shall provide the master with a certificate issued by a competent person recognised by the National Administration of the port of loading stating that the cargo, at the time of loading, is suitable for shipment; that it conforms with the requirements of this Code; that the moisture content is less than 0.3%; and the temperature does not exceed 65°C. The certificate shall state that the cargo meets the loading criteria in regards to ageing and material temperature.”*
 - *“Prior to shipment, the cargo shall be aged for at least 30 days and a certificate confirming this shall be issued by a competent person recognised by the National Administration of the port of loading.”*
 - *Shippers shall provide to the master, prior to loading, comprehensive information on the cargo and safety procedures to be followed in the event of emergency.”*
 - *“The cargo temperature shall be monitored during loading and recorded in a log detailing the temperature for each lot of cargo loaded, a copy of which shall be provided to the master. After loading, a certificate shall be issued by a competent person recognised by the National Administration of the port of loading confirming that throughout the whole consignment of fines and small particles the moisture content has not exceeded 0.3% and the temperature does not exceed 65°C”.*

For additional advice and information concerning DRI and the various DRI products, please refer to Gard’s loss prevention compilation [“Dangerous solid cargoes in bulk – DRI, nickel and iron ores”](#).

¹ A new schedule for this material was included in the 2009 edition of the IMSBC Code and became mandatory on 1 January 2011. Its bulk cargo shipping name (BCSN) is **DIRECT REDUCED IRON (C) (By-product fines)** and the definition of the material is based on its production, particle size and density.

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