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MS  **Amlin**

Scrap metal cargoes: an underestimated risk



The carriage of scrap is a lucrative business. Nevertheless, every year a number of scrap metal related claims are reported. Hazardous materials can be present in the cargo, which can ignite or explode, causing damage to the vessel and environmental damages, as well as personal injury or even death.

In this circular MS Amlin promotes further awareness of the dangers and risks associated with the loading and carriage of scrap metal cargoes with some recommendations to carry such cargoes in a safe manner.

Scrap Metal Cargoes

Scrap metal consists of recyclable materials left over from product manufacturing and consumption, such as vehicle parts and surplus materials.

There are two main categories of scrap metal:

- Mixed scrap, which comes in different sizes. It may contain car body parts or shredded pieces of metal, the size of coins.
- Ferrous metal borings, shavings, turnings or cuttings
 - Turnings, shavings and cuttings are formed by drilling, turning, cutting of steel. Turnings can be long and form a tangled mass or be cut in shorter pieces.
 - Borings are the rest material of iron castings and tend to be finer and have a greater bulk density than turnings.

Mixed scrap



Stainless steel turnings and cuttings



Risks

As the title of this circular already indicates, carrying scrap metal cargoes is not without risk. The most common risks are:

- **Spontaneous combustion**

Iron can oxidize rapidly which will release heat. In large compact quantities the heat will be largely retained and, as a result, the temperature of the mass will increase. There are known cases where the temperature reached a stunning 500 °C just a few meters below the surface of the cargo without producing flames.

- **Fire**

The mixed scrap cargoes may be polluted with paper, car tyres, rags and all different kinds of flammable material. If seawater and salt crystals are present in the cargo hold this can lead to a rapid oxidation resulting in rising temperatures and setting the contaminants on fire.

- **Damage to the cargo hold during loading**

Scrap metal consists of heavy pieces which can easily penetrate the tank top and the sides of the cargo hold. As a result, ballast and fuel tanks may be ruptured and start leaking, which can be difficult to notice when the cargo holds are full of cargo.

Moreover, pieces of scrap can fall from the grab or magnet during loading and damage decks, railings and hatch coamings.



“Scrap metal has monetary value and therefore it is a lucrative cargo to ship”.



Claims example

A recent case illustrates the danger and risks of scrap metal cargo. A vessel was loading heavy scrap metal cargo in the UK. The cargo was contaminated with combustible materials, such as fuel liquids and gasses. As the stevedores were dropping cargo in the cargo hold, sparks were created. These sparks in combination with the flammable gasses and liquids resulted in a fire. It took two full days to extinguish the fire due to the high temperatures in the hold. In order to extinguish the fire large amounts of wash water were used, which had to be disposed separately as this was considered waste.

This resulted in a substantial claim as the owners had to extinguish the fire, unload the cargo, discard 3000 MT dirty wash water which was still in the hold, leading to extensive repairs to the hull. Subsequently, the vessel was unable to proceed to the next port of call, resulting in delays, loss of hire and cancellation of the next fixture.

Contractual Considerations

Under most charter parties, the charterer is responsible for the loading and discharging of the cargo under the supervision of the master. However, during loading the parties may not notice damages to the vessel caused by the scrap metal cargo as the holds are full with cargo. In order to protect both the owner and charterer in case of damages, special rider clauses can be inserted in the charter party.

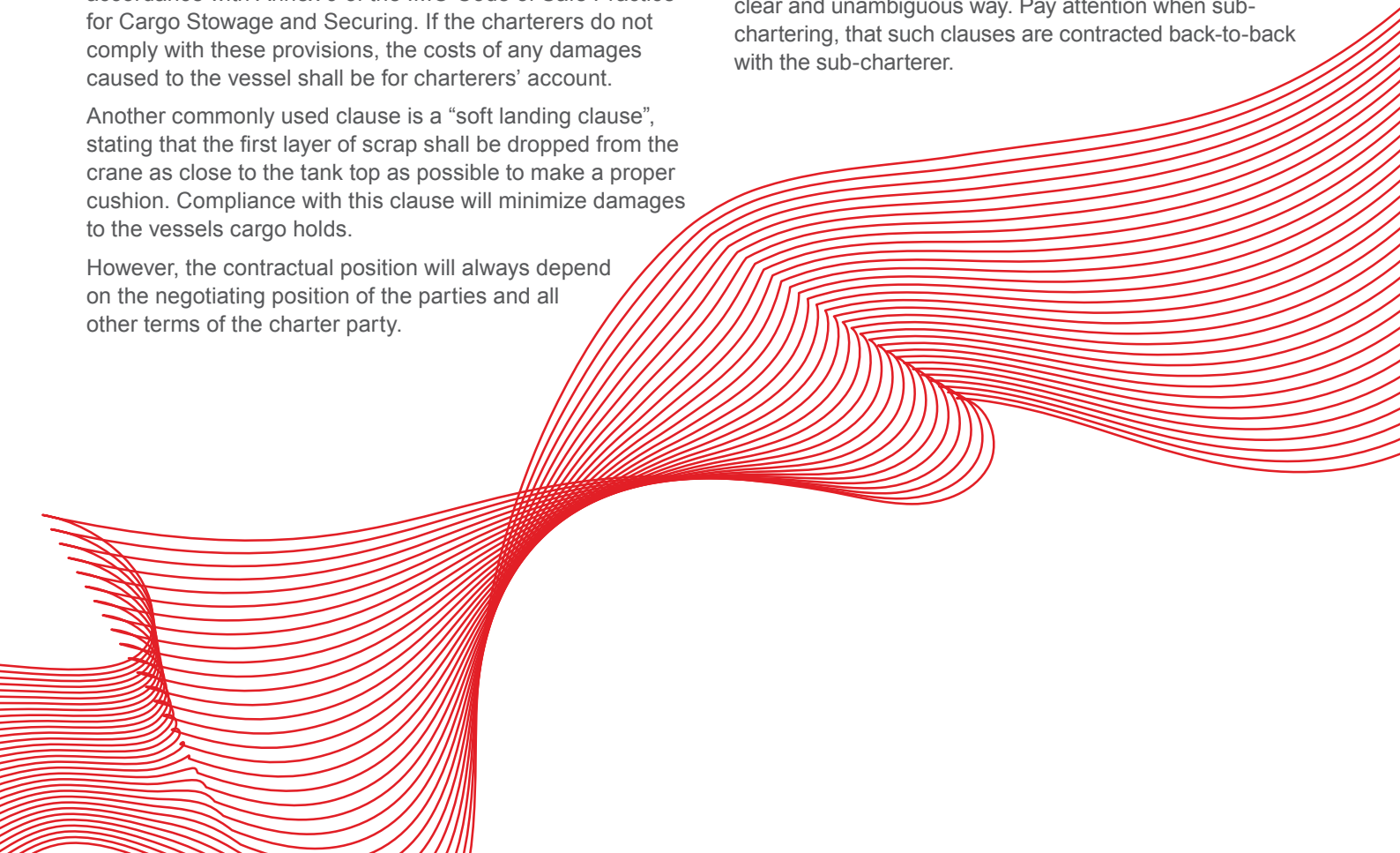
One example of such clause is the “BIMCO Scrap Metal Clause 1998”, which states that the cargo must be loaded in accordance with Annex 9 of the IMO Code of Safe Practice for Cargo Stowage and Securing. If the charterers do not comply with these provisions, the costs of any damages caused to the vessel shall be for charterers’ account.

Another commonly used clause is a “soft landing clause”, stating that the first layer of scrap shall be dropped from the crane as close to the tank top as possible to make a proper cushion. Compliance with this clause will minimize damages to the vessels cargo holds.

However, the contractual position will always depend on the negotiating position of the parties and all other terms of the charter party.

Recommendations

MS Amlin recommends appointing the professional services of a qualified cargo surveying company to assist the Master prior and during loading. Furthermore, the following precautionary measures should be taken.

- As with any other cargo, the cargo spaces must be prepared as per general loading practice.
 - Loading must be performed in accordance with the International Maritime Solid Bulk Cargoes Code (IMSBC Code).
 - The shipper has to declare in writing that the scrap metal cargo does not include borings, shavings, turnings or cuttings that encourage self-heating.
 - Do not load items containing pressurized gases, oil and/or fuel (engines), bombs, radio-active and material of an inflammable nature (like timber or rubber tyres).
 - Temperatures must be checked regularly. If the temperature is higher than 55 °C, the cargo should not be loaded. If, during the voyage the temperature rises to 80 °C, this is a potential fire risk and the vessel should immediately proceed to the nearest port.
 - If the crew has to enter the cargo hold special breathing apparatus should be used, as there can be a lack of oxygen. Due to the lack of oxygen the crew members can suffocate.
 - Do not pump bilge wells unless absolutely necessary, as a certain amount of dirt and oil can be expected, which can result in an oil pollution claim.
 - Amend charter parties accordingly, by inserting special clauses which allocate liabilities between the parties in a clear and unambiguous way. Pay attention when sub-chartering, that such clauses are contracted back-to-back with the sub-charterer.
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