

Title	IMDG Code 2016 / SUPPLEMENT / DSC/Circ. 4
Effective Date	1-1-2012
Invalid from	1-1-2014
Note	Incorporating Amendment 35-10

DSC/Circ. 4 of 4 April 1997

REPORTS ON INCIDENTS INVOLVING DANGEROUS GOODS OR MARINE POLLUTANTS IN PACKAGED FORM ON BOARD SHIPS OR IN PORT AREAS

1 The Sub-Committee on Dangerous Goods, Solid Cargoes and Containers (DSC), at its second session (24 to 28 February 1997), considered four incident reports which had been submitted by Member Governments in accordance with MSC/Circ.559, "Development of Guidelines to ensure the reporting to the Organization of incidents involving dangerous goods or marine pollutants in packaged form on board ships or in port areas" (see attached annexes).

2 Recognizing the importance of alerting Administrations and other parties concerned to the dangers involved in handling dangerous goods and highlighting the consequences of non-compliance with the requirements of the IMDG and BC Codes, the Sub-Committee agreed to disseminate the collated information on incidents involving dangerous goods or marine pollutants by means of a DSC circular.

3 Member Governments are invited to bring this circular to the attention of shipowners, ship operators, seafarers, shippers, terminal operators and other parties concerned.

ANNEX 1

Chemical Incident Involving Polymeric Beads, Expandable (Hong Kong)

1 On 29 July 1996, whilst in Hong Kong waters, a 793 GT single-hold vessel sustained an explosion and flash fire in the cargo hold, resulting in the hospitalization of seven crew men. Two were so seriously burned that they were not released until October 1996, and are still in need of medical treatment.

2 At the time of the explosion, the vessel had on board 18 containers loaded with "Expandable Polystyrene" and 14 containers loaded with "Polyester Yarn".

3 The seat of the explosion was found to be in three of the containers loaded with "Expandable Polystyrene". The source of ignition has not been established nor why only three containers were affected.

4 A subsequent investigation showed:

- 1 the cargo was Class 9 UN No. 2211 POLYMERIC BEADS, expandable evolving flammable vapour;
- 2 there was no declaration by the shipper that the goods were dangerous goods within the meaning of the IMDG Code;
- 3 the goods were packed in paper bags. Paper bags are not acceptable as appropriate packing for UN No. 2211; and
- 4 the cargo was stowed under deck without any mechanical ventilation.

5 As a result of the non declaration by the shipper, all parties involved in the transport chain were not aware of the dangers. There was no dangerous goods declaration nor packing certificates in respect of the cargo.

6 Finally, the force of the explosion shifted the remainder of the cargo, causing the vessel to list five degrees. On this occasion, this was not critical as the vessel was in smooth waters. No cell guides could be found inside the cargo hold - the containers being secured by the combined use of chains, hooks, turnbuckles and steel wires. A more adequate securing system may have prevented the cargo from shifting.

ANNEX 2

Chemical Incident Involving Thiourea Dioxide (Hong Kong)

1 Shortly before noon on 6 October 1996, a 20 foot freight container in a Hong Kong container terminal port began to emit dense white fumes containing ammonia, carbon dioxide and hydrogen sulphide.

2 It took the Hong Kong Fire Services three hours to control the situation. During this period over 400 workers were evacuated from the container terminal port. Eight persons were taken to hospital suffering from the effects of inhaling the vapour; six were released and two were detained overnight.

3 A subsequent investigation showed that the container had 320 fibre drums of Thiourea Dioxide and more than 80% of them were leaking. The weight of the shipment was said to be 16,000 kilograms.

4 The container originated from Xingang, China and was in the container terminal port for 6 days prior to being exported to Jakarta, Indonesia.

5 The ambient temperature was 29°C with a relative humidity of 77%. In the preceding twenty four hours there had been 4.1 millimetres of precipitation. Isolated and violent showers had occurred that morning at a location 2 kilometres from the container yard.

ANNEX 3

Self-heating and fire in a bulk cargo of Direct Reduced Iron (United States)

1 On 29 February 1996, the M/V B. ONAL anchored in Delaware Bay reported that it was experiencing a fire in its Number five cargo hold. Responding to this report, the U.S. Coast Guard discovered that the cargo in this hold, identified as "Passivated Direct Reduced Iron" was self-heating and emitting flammable gases. The cargo hatch had been lifted by pressure build-up, and the paint on the engine-room side of the bulkhead separating the engine-room from the hold was blistered. The temperature on the exterior (engine-room) side of this bulkhead reached 149°C (300°F). The situation was stabilized by injecting nitrogen into the cargo hold to create an inert atmosphere. This proved effective and the temperature of the cargo decreased drastically within 24 hours. The vessel remained in this condition for eight weeks while the cargo's owners sought a shore facility willing to provide a suitable area for unloading the affected cargo. On 27 April the cargo was finally offloaded and quenched with fresh water. There was no significant structural damage to the vessel that could be attributed to this incident.

2 It is suspected that water may have entered the cargo hold during the voyage through an ill-fitting cargo hatch. This would lead to the oxidation of the Direct Reduced Iron, resulting in the condition described above.

3 When transported on the territorial waters of United States, Direct Reduced Iron is subject to United States Federal Regulations and may only be transported under the terms of a Special Permit issued by the U.S. Coast Guard. The terms of such Special Permits are consistent with the provisions of the BC Code.

ANNEX 4

Fire in Charcoal, non activated (The Netherlands)

1 During the course of 1996, the port authorities of the Port of Rotterdam were confronted with four almost identical cases of fire on board ships due to self-heating of charcoal.

2 It concerned Charcoal, non-activated, shipped under UN No 1361, Class 4.2. The charcoal was packaged in small (UN-approved) bags, which were packed for handling purposes in large bags and loaded into containers. The majority of the containers was loaded under deck.

3 Due to the fire, some of the containers had collapsed and the bottom had fallen out, whereby the charcoal was released into the hold. As the result thereof, the bilge-system became clogged with charcoal and the water used for fire fighting accumulated in the hold. Fortunately, no personal injuries were reported and the fire did not spread to other cargoes.

4 When in the Port of Rotterdam, the local fire-fighting was asked for assistance, using deep-well pumps to drain the water. Unloading of the remainder of the cargo was complicated as the bottom of the containers had been burnt away. In some cases the waste cargo was removed by using barges. It is needless to say that high removal costs were involved.

5 These incidents show that charcoal, non-activated is indeed dangerous material and that it is essential for safety on board that all the requirements as mentioned in the IMDG Code are complied with. It is therefore extremely important that the material is sufficiently heat-treated and cooled down before packing. Also, the self-heating test for carbon as required on the schedule should be passed successfully.