

Informal meeting on Code of Practice for Packing of Cargo Transport Units

at the request of the United Nations Economic Commission for Europe Working Party on Intermodal Transport and Logistics

Geneva and virtual, 12-13 July 2022

Stabilizers

Submitted by World Shipping Council

Introduction

This document proposes a new section to Chapter 10 of the CTU Code on Additional advice on the packing of dangerous goods. This new section pertains to controls implemented to ensure stabilization for an inhibited polymerizing substance. This proposal can be also considered in the context of the submission of World Shipping Council on stabilizers to IMO Sub-Committee on Carriage of Cargoes and Containers, as annexed to this document.

New section 10.4

10.4 Stabilizers

10.4.1 The shipper should advise the carrier of critical information which pertains to controls implemented to ensure stabilization for an inhibited polymerizing substance. Such information is essential to safe carriage of goods in particular in situations of significant delays in supply chain as shown in the COVID pandemic. Such information should include the Self-accelerating decomposition temperature (SADT) or Self-accelerating polymerization temperature (SAPT), any temperature control measures applied, including operations controls considered and/or imposed, together with the duration of effectiveness of chemical inhibitors.

10.4.2 Carriers are encouraged to use the SADT/SAPT to validate that the corresponding regulatory requirements are met as a condition of acceptance. Similarly, if operational controls are used as a means to stabilize a substance, carriers would need this information to ensure that the operational controls are properly implemented and that mitigation actions can be considered when delays occur.

10.4.3 Carriers are also encouraged to use the SADT/SAPT and anticipated duration for the effectiveness of inhibitors to anticipate contingencies and/or prepare for imminent dangers in the event of delays.

AMENDMENTS TO THE IMDG CODE AND SUPPLEMENTS

Stabilized substances

ICS, International Group of P&I Associations, BIMCO, IVODGA and WSC

SUMMARY

<i>Executive summary:</i>	This document sets forth proposals to amend the IMDG Code to address identified deficiencies regarding special transport conditions and operational controls in order to ensure safe transport.
<i>Strategic direction, if applicable:</i>	
<i>Output:</i>	7.10
<i>Action to be taken:</i>	Paragraph 15
<i>Related documents:</i>	CCC 5/6/10; CCC 5/13

Discussion: Special transport conditions and/or operational controls used for stabilization

1 The *MSC Flaminia* incident¹ identified a number of issues regarding additional information concerning special transport conditions and operational controls required for safe transport. A particular concern pertains to controls implemented to ensure stabilization for an inhibited polymerizing substance.

2 In the aftermath of the incident, the IMDG Code was amended by assigning a new Special Provision (SP 386) to Proper Shipping Names (PSNs) which include “STABILIZED“. These may be substances that are self-reactive and/or substances that can polymerize.

3 Among other things, SP 386 (see also discussion below) provides that where chemical stabilization becomes ineffective at lower temperatures within the anticipated duration of transport, temperature control may be required. In making this determination the duration of the journey and the ambient temperature conditions typically encountered in the journey, the effectiveness and other properties of the stabilizer employed, and applicable operational controls implemented or imposed by regulation are to be considered.

4 While a shipper may be able to determine the anticipated duration of a given voyage, it would not be able to anticipate disruptions that may alter a voyage duration e.g. bad weather, port disruptions, operational delays, changes in port rotations and other factors influencing the time and length of the voyage. Therefore, carriers must also be advised of critical information to enable safe transport. This information could include the SADT² or SAPT³, any temperature control measures applied, including operations controls considered and/or imposed, together with the duration of effectiveness of chemical inhibitors.

5 While IMDG Code section 3.1.1.5 (“special transport conditions”) may provide a basis for “operational controls imposed by regulation“, and the SADT/ SAPT may be used to determine applicable regulatory requirements and stowing requirements, there are no requirements in the IMDG Code for a shipper to divulge to the carrier any special transport conditions considered and/or imposed by the shipper.

¹ The investigation report by the German Federal Bureau of Maritime Casualty Investigation is available by clicking here: [Investigation Report 255/12](#).

² Self-accelerating decomposition temperature.

³ Self-accelerating polymerization temperature.

6 Although the IMDG Code, Chapter 5.4 Note 5, includes a provision that additional information *may* be included, it does not *require* that the SADT/SAPT or special transport conditions and/or operational controls required for proper loading and stowing arrangements and for safe transport be provided to the carrier. Nor does it require that any additional safety information be provided together with the Dangerous Goods information.

7 While SOLAS Chapter VI Regulation 2 would seem to provide a regulatory basis for such information to be provided by the shipper to the carrier, without an explicit requirement in the IMDG Code to provide such information at the time of booking, and that it be provided together with the dangerous goods booking information and transport document, the safety of the crew, the ship, the environment and cargoes remain at risk.

8 In addition to providing carriers with critical temperature-related information, the SADT/SAPT provides necessary information for carriers to validate that the corresponding regulatory requirements are met as a condition of acceptance. Similarly, if operational controls are used as a means to stabilize a substance, carriers would also need this information to ensure they are properly implemented and mitigation actions can be considered when delays occur.

9 Without knowing, at minimum, the SADT/SAPT and anticipated duration for the effectiveness of inhibitors, carriers would be unable to anticipate contingencies and/or prepare for imminent dangers in the event of delays.

Proposal to amend IMDG Code Section 5.4.1.4

10 In order to address the deficiencies identified above, the co-sponsors propose that IMDG Code Section 5.4.1.4 be amended to include the following text:

5.4.1.4.3.8 *Stabilized Substances*: If the goods to be transported contain the word ‘STABILIZED’ in the proper shipping name and are assigned SP386, the SADT/SAPT shall be indicated as “*SADT/SAPT xx° C*” together with the anticipated duration of the effectiveness of inhibitors. Additionally, any special transport conditions or operational controls required for the safe transport shall be included on the dangerous goods transport document.

Discussion: SP 386

11 SP 386 states that “cargo transported at a temperature above ambient“ falls under the definition of an operational control imposed by regulation.

12 Sources of Heat are defined as “heated ship structures, where the surface temperature is liable to exceed 55° C“ (refer to section 7.1.2 of the IMDG Code). Cargo transported at a temperature above ambient are not considered heat sources under the regulations.

13 Other than Elevated Temperature Substances and DG cargoes identified as molten, carriers would not be aware of other cargo transported at a temperature above ambient. Additionally, Elevated Temperature Substances and molten cargoes are not generally transported under active heating. Some molten cargoes may be below ambient temperatures at the time of transport or loading. Non-regulated substances may also be moving as molten unknown to the carrier.

Proposal to amend SP 386

14 In order to ensure greater visibility into cargo transported at a temperature higher than ambient, the co-sponsors propose to amend SP 386 as follows (deletion indicated by ~~strikethrough~~; addition indicated with **highlighted grey**):

When substances are stabilized by temperature control, the provisions of 7.3.7 apply. When chemical stabilization is employed, the person offering the packaging, IBC or tank for transport shall ensure that the level of stabilization is sufficient to prevent the substance in the packaging, IBC or tank from dangerous polymerization at a bulk mean temperature of 50°C, or, in the case of a portable tank, 45°C. Where chemical stabilization becomes ineffective at lower temperatures within the anticipated duration of transport, temperature control is required. In making this determination factors to be taken into consideration include, but are not limited to, the capacity and geometry of the packaging, IBC or tank and the effect of any insulation present, the temperature of the substance when offered for transport, the duration of the journey and the ambient temperature conditions typically encountered in the journey (considering also the season of year and that other cargo may be transported at a temperature above ambient), the effectiveness and other properties of the stabilizer employed, applicable operational controls imposed by regulation (e.g.

requirements to protect from sources of heat, ~~including other cargo transported at a temperature above ambient~~) and any other relevant factors.

Action requested of the Sub-Committee

15 The Sub-Committee is invited to consider the proposals in paragraphs 10 and 14 and take action, as appropriate.