

CCS

Circular

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To CCS plan approval centers, surveyors, design units, shipbuilders, shipowners and ship management companies

Notice on Revision of Rules for Construction and Equipment of Ships Carrying Liquefied Gases in Bulk, 2006

The present revision of CCS Rules for Construction and Equipment of Ships Carrying Liquefied Gases in Bulk, 2006, including its 2008 Amendments (hereinafter referred to as CCS Liquefied Gas Rules), is revised as follows for the purpose of implementation of requirements of BLG.1/Circ.32 regarding the introduction of the new entry of Mixed C4 to IGC code. The amendments hereinafter will be incorporated into the next edition of CCS Liquefied Gas Rules.

1. New entry of Mixed C4 is included in the Chapter 19 of Liquefied Gas Rules;
2. Special requirements assigned for Mixed C4 is added into Chapter 17.

This Circular enters into force from the date of promulgation. Shipowners or ship management companies should submit the relevant plans and documents to CCS plan approval centers for approval, if the Mixed C4 is intended to be shipped. Based on the approved plans and documents, CCS surveyors should verify whether the equipment, arrangements, documents and the operations comply with the requirements of this circulation. The Certificate of Fitness shall be re-issued after such an inspection. This Circular will be revoked when the next

edition of CCS Liquefied Gas Rules enter into force.

Annex 1: Revision of Rules for Construction and Equipment of Ships Carrying Liquefied Gases in Bulk, 2006

Annex 2: BLG.1/Circ.32 - Carriage conditions and special requirements assigned to mixed C4

Please feel free to contact Technical Management Department of CCS for any inquiry. E-mail: rt@ccs.org.cn

This Circular is available on www.ccs.org.cn and forwarded by each branch to relevant design units, shipbuilders, shipowners and ship management companies within its business area.

Revision of Rules for Construction and Equipment of Ships Carrying Liquefied Gases in Bulk, 2006

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CHAPTER 17 SPECIAL REQUIREMENTS

The following section into Chapter 17 as 17.22:

“17.22 Mixed C4 cargoes

17.22.1 Cargoes that may be carried individually under the requirement of this Code, notably Butane, Butylenes and Butadiene, may be carried as mixtures subject to the provisions of this section. These cargoes may variously be referred to as 'Crude C4', 'Crude Butadiene', 'Crude steam-cracked C4', 'Spent steam-cracked C4', 'C4 stream', 'C4 raffinate' or may be shipped under a different description. In all cases, the Material Safety Data Sheet (MSDS) shall be consulted as the Butadiene content of the mixture is of prime concern as it is potentially toxic and reactive. While it is recognized that Butadiene has a relatively low vapour pressure, if such mixtures contain Butadiene they shall be regarded as toxic and the appropriate precautions applied.

17.22.2 If the Mixed C4 cargo shipped under the terms of this section contains more than 50% (mole) of Butadiene, the inhibitor precautions in 17.8 shall apply.

17.22.3 Unless specific data on liquid expansion coefficients is given for the specific mixture loaded, the Filling Limit restrictions of chapter 15 shall be calculated as if the cargo contained 100% concentration of the component with the highest expansion ratio.”

CHAPTER19 SUMMARY OF MINIMUM REQUIREMENTS

New entry of the product “Mixed C4” is added into chapter 19 as follow:

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Column	Property	Entry Detail
a	Product name	Mixed C4
b	UN number	-
c	Ship Type	2G/2PG
d	Independent tank type "C" required	-
e	Control of vapour space within cargo tank	-
f	Vapour detection	F+T
g	Gauging	C
h	MFAG table no.	-
i	Special requirements	14.4.2,14.4.3,17.2.2, 17.4.2,17.4.3,17.6,17.22
CCSj	Relative density of liquid at atmospheric boiling point(water=1)	-

CCSk	Relative density of gas(air=1)	-
CCSl	Boiling Point(°C)	-
CCSm	Critical temperature(°C)	-

”

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CARRIAGE CONDITIONS AND SPECIAL REQUIREMENTS ASSIGNED TO MIXED C4

1 The Sub-Committee on Bulk Liquids and Gases (BLG), at its fifteenth session (7 to 11 February 2011), approved the issuance of BLG.1/Circ.32 on Carriage conditions and special requirements assigned for Mixed C4, for inclusion as a new entry into the IGC Code, as set out in annexes 1 and 2, which was endorsed by the Maritime Safety Committee, at its eighty-ninth session, and the Marine Environment Protection Committee, at its sixty-second session.

2 Member Governments are invited to bring the attached information on the Carriage conditions and special requirements assigned for Mixed C4 to the attention of shippers, terminal operators, shipowners, ship operators, charterers, shipmasters and all other entities concerned.

ANNEX 1

**EVALUATION OF MIXED C4 FOR INCLUSION
IN THE IGC CODE**

Column in the IGC Code	Property	Entry
a	Product name	Mixed C4
b	UN number	-
c	Ship Type	2G/2PG
d	Independent tank type "C" required	-
e	Control of vapour space within cargo tank	-
f	Vapour detection	F+T
g	Gauging	C
h	MFAG table no.	-
i	Special requirements	14.4.2, 14.4.3, 17.2.2, 17.4.2, 17.4.3, 17.6, 17.22

ANNEX 2

ADDITION TO CHAPTER 17 (SPECIAL REQUIREMENTS) IN THE IGC CODE

17.22 Mixed C4 cargoes

17.22.1 Cargoes that may be carried individually under the requirement of this Code, notably Butane, Butylenes and Butadiene, may be carried as mixtures subject to the provisions of this section. These cargoes may variously be referred to as 'Crude C4', 'Crude Butadiene', 'Crude steam-cracked C4', 'Spent steam-cracked C4', 'C4 stream', 'C4 raffinate' or may be shipped under a different description. In all cases, the Material Safety Data Sheet (MSDS) shall be consulted as the Butadiene content of the mixture is of prime concern as it is potentially toxic and reactive. While it is recognized that Butadiene has a relatively low vapour pressure, if such mixtures contain Butadiene they shall be regarded as toxic and the appropriate precautions applied.

17.22.2 If the Mixed C4 cargo shipped under the terms of this section contains more than 50% (mole) of Butadiene, the inhibitor precautions in 17.8 shall apply.

17.22.3 Unless specific data on liquid expansion coefficients is given for the specific mixture loaded, the Filling Limit restrictions of chapter 15 shall be calculated as if the cargo contained 100% concentration of the component with the highest expansion ratio.
