



Bundesrepublik Deutschland

Federal Republic of Germany



Approval of electronic record books on sea-going ships flying the German flag

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Contents

I.	Terms and definitions, legal provisions.....	page 2
	1. Navigational/Engineering/Maritime labour law	
	2. Environmental protection	
	3. Maritime Medicine	
	4. Other areas/legal bases	
II.	Format of record books.....	page 3
III.	Entries into record books.....	page 3
	1. General	
	2. In case of ship accidents in particular	
	3. Persons responsible for entries	
	4. Crossing out/deleting or making entries unrecognizable	
	5. Signature	
IV.	Specific requirements for electronic record books.....	page 5
	1. Admissibility of electronic record books	
	2. Approval obligations	
	3. Technical requirements for electronic record books	
	4. Retention periods	
V.	Approval procedure for electronic record books	page 7
	1. Navigational/engineering record books/record books under maritime labour law	
	2. Record books/Recordings regarding marine environment protection	
	3. Record books for all areas	
	4. Instructions and verification on board	
	5. Publication of the approvals	
	6. Changing flag procedures	

Used terms:

BG Verkehr = German Social Accident Insurance Institution for Commercial Transport, Postal Logistics and Telecommunication (Berufsgenossenschaft Verkehrswirtschaft Post-Logistik Telekommunikation)

BSH = Federal Maritime and Hydrographic Agency (Bundesamt für Seeschifffahrt und Hydrographie)

RO = Recognized Organization

I. Terms and definitions, legal provisions

The general term for all record books for sea-going ships flying the Federal flag is "record book".

There are different types of record books:

1. Navigational/Engineering/Maritime labour law

The term "record book acc. to SCHSV" ("Seetagebuch") means the record book according to:

- a) German "Schiffssicherheitsverordnung" (Ship Safety Ordinance, SchSV) Annex 1 Section B.II. Numbers 1.1 and 1.2,
- b) German "Seearbeitsgesetz" (Maritime Labour Act, SeeArbG) Section 3 Paragraph 5, Section 22 Paragraph 2 to 4, Section 67 Paragraph 2, Section 93 Paragraph 3, Section 97 Paragraph 2, Section 98, Section 121 Paragraph 6, Section 125 Paragraph 3, Section 128 Paragraph 3, Section 147 Paragraph 1.

In addition, the SchSV distinguishes between:

- 1.1 Ship's Logbook including Bridge Maintenance Logbook (= ancillary book as part of the Ship's Logbook)
- 1.2 Engine Logbook including
 - a) Sounding Book (= ancillary book as part of the Engine Logbook)
 - b) Bell Book (= ancillary book as part of the Engine Logbook)

2. Environmental protection

2.1 MARPOL record book, including mandatory record book entries acc. to the MARPOL Convention:

2.1.1 Oil Record Book (German "See-Umweltverhaltensverordnung" Sec. 4; MARPOL Convention Annex I Regulation 17 Paragraph 1 and Regulation 36 Paragraph 1)

2.1.2 Cargo Record Book (German "See-Umweltverhaltensverordnung" Sec. 7; MARPOL Convention Annex II Regulation 15 Paragraph 1)

2.1.3 Garbage Record Book (German "See-Umweltverhaltensverordnung" Sec. 10; MARPOL Convention Annex V Regulation 10 Paragraph 3 Sentences 1 and 2)

2.1.4 Ozone-depleting Substances Record Book (MARPOL Convention Annex VI Regulation 12 Paragraphs 6 and 7)

2.1.5 Recording of the tier and on/off status of marine diesel engines (MARPOL Convention Annex VI Regulation 13 Paragraph 5.3)

2.1.6 Record of Fuel Oil Changeover (German "See-Umweltverhaltensverordnung" Sec. 13 Paragraph 2; Annex VI Regulation 14.6)

2.1.7 Book of Engine Parameters (MARPOL Convention Annex VI Regulation 13 in conjunction with NO_x Technical Code 2008 Paragraph 6.2.2.7.1)

2.1.8 Exhaust Gas Cleaning (EGC) Record Book (MEPC.340(77) 2021 Guidelines for exhaust gas cleaning systems Sections 4.4.9 or 5.7.1, respectively / MEPC.259(68) 2015 Guidelines for exhaust gas cleaning systems Sections 4.4.10 and 5.5.2)

2.2 Ballast Water Record Book (German "See-Umweltverhaltensverordnung" Sec. 21; Ballast Water Management Convention Annex Regulation B-2 Paragraph 1)

3. Maritime Medicine

3.1 Patients' Register (German "Seearbeitsgesetz" Section 107 Paragraph 2 Sentence 2 No. 2, Section 108 Paragraph 4)

3.2 Controlled Drugs Register (German "Seearbeitsgesetz" Section 107 Paragraph 2 Sentence 2 No. 2 and Section 108 Paragraph 4)

The other forms regarding maritime medicine (Telemedical Assistance Form, Form of Course of Vital Signs, Medical Report Form) are not included in the "classic" record books.

4. Other areas/legal bases

A list of the legal bases according to which entries into the record book acc. to SCHSV have to be made is published regularly in the German "Verkehrsblatt" as "Amtliche Bekanntmachung der Tatbestände, die auf Grund besonderer Rechtsvorschriften in das Seetagebuch einzutragen sind" (last amended: VkB1. 2021, p. 416). In addition, the "Guidelines for the recording of events related to navigation" by the IMO (Resolution A.916(22)) of 22.01.2002 contain further guidance on maintaining record books.

II. Format of record books

For the record book acc. to SCHSV, the formatting requirements in Annex 1 Section B.II. apply. Among other things, every calendar day requires a page with columns and consecutive page numbers (comp. other requirements: German "Schiffssicherheitsverordnung" Annex 1 Section B.II. No. 3).

The MARPOL sample record books are specified in the German "See-Umweltverhaltensverordnung" (SeeUmwVerhV) and the respective Annex of the MARPOL Convention, as amended and nationally applicable. The format of the Ballast Water Record Book is specified in SeeUmwVerhV § 21 and the Ballast Water Management Convention, as amended and nationally applicable.

Regarding electronic record books: see below.

III. Entries into record books

1. General

The master is legally obligated to report about any events on board with particular importance concerning ship safety and protection of the environment or occupational health and safety with appropriate entries into the Ship's Logbook without delay (German "Schiffssicherheitsgesetz" Section 6 Paragraph 3 Sentence 1; German "Schiffssicherheitsverordnung" Section 13 Paragraph 2 No. 11).

Which events in detail have to be entered into the record book is provided in SchSV, SeeUmwVerhV and the relevant applicable IMO Convention (inter alia MARPOL and Ballast Water Management Convention).

The BG Verkehr (Ship Safety Division) regularly publishes a list of matters that have to be entered into the record book acc. to SCHSV in the German "Verkehrsblatt" (SchSV Annex 1

Section B.II. Number 7). The „Guidance for the recording of operations in the Oil Record Book Part I – Machinery space operations (all ships)“ (MEPC.1/Circ.736/Rev.2) has been published with regard to the Oil Record Book in particular.

2. In case of ship accidents in particular

The master has to enter all accidents concerning the ship, persons or cargo or any accident that may cause material disadvantage into the record book acc. to SCHSV (German "Handelsgesetzbuch" Section 479 Paragraph 2 Sentence 1). In case of an accident, the master has to secure the record book acc. to SCHSV (German "Schiffssicherheitsgesetz" Section 6 Paragraph 3 Sentence 2) and ensure that the recordings are protected and safe from overwriting or deleting (German "Verordnung über die Sicherung der Seefahrt" Section 7a).

3. Persons responsible for entries

a) Master

The main responsibility for the entries into the record book lies with the master (German "Schiffssicherheitsgesetz" Section 6 Paragraph 3 Sentence 1; German "Handelsgesetzbuch" Section 479 Paragraph 2; German "Seearbeitsgesetz" Section 22 Paragraphs 2 and 4).

b) Ship's officers

Maintaining the record book may be delegated from master to ship's officer (comp. German "See-Umweltverhaltensverordnung" Section 4 Paragraph 1 No. 2 and Paragraph 3, Section 7 Paragraph 1 No. 2 and Paragraph 3, Section 10 Paragraph 4, Section 21 Paragraph 1 No. 2 and Paragraph 3).

c) Chief engineering officers

Aside from the master, the chief engineering officer is responsible for maintaining the Engine Logbook. Both may delegate the task to other members of crew (German "Schiffssicherheitsverordnung" Annex 1 Section B.II. No. 2).

4. Crossing out/deleting or making entries unrecognizable

It is not permitted to make entries into the record book acc. to SCHSV unrecognizable, remove pages or modify automatic recordings. If an entry is crossed out, it needs to remain legible. Crossed-out sections and additions have to be attested with date and signature (German "Schiffssicherheitsverordnung" Annex 1, Section B.II. No. 4.3). This way retroactive manipulation of the record book acc. to SCHSV can be avoided.

5. Signature

a) Record book acc. to SCHSV

The entries into the record book acc. to SCHSV require a signature from the person responsible (German "Schiffssicherheitsverordnung" Annex 1, Section B.II. No. 4.4).

b) Record books for marine environment protection

The ship's officer responsible for maintaining the record books has to sign the entries in the MARPOL record books and the Ballast Water Record Book **without delay** (= without culpable delay, comp. German Civil Code Section 121 Paragraph 1 Sentence 1), in case of certain entries into the Garbage Record Book at the latest on the day of the entry (German "See-Umweltverhaltensverordnung" Section 10 Paragraph 4). The master has to sign each page of the above-mentioned record books after the last entry on the respective page without delay (German "See-Umweltverhaltensverordnung" Sections 4 Paragraph 2, 7 Paragraph 2, 10 Paragraph 2, 21 Paragraph 2).

IV. Specific requirements for electronic record books

1. Admissibility of electronic record books

On ships flying the German flag, the record book acc. to SCHSV may also be maintained electronically ("mit anderen Datenträgern" – with other data carriers: German "Schiffssicherheitsverordnung" Annex 1 Section B.II. No. 4.4).

Both the MARPOL Convention and the Ballast Water Management Convention permit to electronically maintain the record books and entries mandatory under these conventions (see I. above) (German "See-Umweltverhaltensverordnung" Sections 4 Paragraph 4 Sentence 2, 7 Paragraph 4 Sentence 2, 10 Paragraph 5 Sentence 2, 21 Paragraph 4 Sentence 2).

2. Approval obligations

Electronic record books have to be approved for their use on board sea-going ships flying the German flag by the BG Verkehr (Ship Safety Division) (German "Schiffssicherheitsverordnung" Annex 1 Section B.II. No. 3.4).

MARPOL record books also have to be approved by the Flag State Administration (here: BG Verkehr) taking into consideration the Guidelines for the use of electronic record books under MARPOL (Resolution MEPC.312(74)) (MARPOL Convention Annex I Regulation 17 Paragraph 1 and Regulation 36 Paragraph 1, Annex II Regulation 15 Paragraph 1, Annex V Regulation 10 Paragraph 3 Sentence 2, Annex VI Regulation 12 Paragraph 6, Regulation 13 Paragraph 5.3, Regulation 14 Paragraph 6 Sentence 2 and Regulation 13 in conjunction with the NOx Technical Code 2008 Paragraph 6.2.2.7.1; German "Schiffssicherheitsgesetz" Sections 1 Paragraph 1 and 2, 2 Paragraph 1 Number 1 in conjunction with Annex Section C. Number II.1, II.2, II. 4, II. 5 and II.6).

3. Technical requirements for electronic record books

3.1 Electronic record books acc. to SCHSV (Navigational/Engineering/Maritime Labour Law)

The recorded data in electronic record books acc. to SCHSV have to be comprehensible on their own, it has to be possible to display them in a readable fashion at any time and retroactive modification or the deletion of recordings has to be discernible (German "Schiffssicherheitsverordnung" Annex 1 Section B II No. 3.4).

The technical requirements (IT security etc.) for electronic record books acc. to SCHSV are specified in ISO 21745 "Electronic record books for ships - Technical specifications and operational requirements" (current version: 09/2019). The most important requirements in ISO 21745 are (the abbreviation ELRB means Electronic Record Book):

- The ELRB should facilitate the recording of events such as the state of the ship with either manual or automatic entries.
- The information recorded and saved in an ELRB is the same as in the hardcopy record book. The information has to be recorded and stored with Coordinated Universal Time (UTC) and location (latitude and longitude).
- The data recorded and stored in the ELRB has to be protected from tampering.
- The ELRB has to contain an electronic approval process that identifies a person using the ELRB by ID and password, biometric authentication or an equal procedure according to ISO 7498-2 and that ensures an individual private profile for each user.
- The number of external connection points such as USB ports or CD-ROM drives has to be limited to the absolute minimum required for the operation of the system, its lifetime maintenance and support.

- Information recorded in the ELRB has to be sent automatically to the Voyage Data Recorder (VDR), if a VDR is required.
- The output files of the ELRB have to be in a file format which does not permit any modifications or editing. The documents should be provided in pdf format; however, they may be stored in a different file format if any tampering can be excluded.
- The names of the persons undertaking the electronic entries have to be recorded in the ELRB. Every recording has to describe which person entered what content at which time (time and date). With each entry into the ELRB, the following information has to be recorded:
 - a data set has been generated,
 - a data set has been edited or added to,
 - a data set has been deleted or
 - a data set has been confirmed (verified).
- As a minimum, an entry into the ELRB may only be accessible with a unique personal login identifier including a password (or a comparable standard) so that all entries – even faulty ones – can always be allocated to a user.
- Every user is granted an authorization for the ELRB based on their tasks (role based access control). The users should only have access to those data or make entries of those data that they need for their work or that corresponds to their tasks. This minimizes the risk that externals (e.g. hackers) have access to all data and manipulate them.
- The master has to confirm (verify) the entries into the ELRB made by the ship's officers. For this, the ELRB has to have the relevant status fields (e.g. "pending", "verified") as well as a reminder for the master for pending verifications. When a verification was not undertaken, it has to be recorded in a secondary medium.
- Data entered into the ELRB have to be saved automatically, as a minimum every 15 minutes.
- Two independent storage media have to be provided to ensure availability of the recordings at all times. The system has to be designed to facilitate access to precious recordings as well as new recordings after a system failure into one of the storage media.

3.2 Electronic MARPOL record books

The "Guidelines for the use of electronic record books under MARPOL" (MEPC.312(74)) contain specific technical requirements for electronic MARPOL record books. The most important difference to the requirements of ISO 21745 is that the electronic information has to be sent to the voyage data recorder (VDR).

4. Retention periods

The following remarks on retention periods are also relevant for manufacturers and when using the electronic record books.

4.1 Record books acc. to SCHSV (Navigation/Engineering/Maritime labour law): 3 or 5 years, respectively

The retention period for record books acc. to SCHSV is **3 years** unless required otherwise (SchSV Annex 1 Section B.II. Number 6). The German Maritime Labour Act stipulates for its application a retention period of **5 years** (either as hardcopy or electronically) (German Maritime Labour Act Section 22 Annex 3). The retention period is calculated from the day of the last entry (SchSV

Annex 1 Section B.II. Number 6; German Maritime Labour Act Section 22 Paragraph 3 Sentence 2). According to this regulation, for electronic record books this period is likewise calculated from the day of the respective entry.

4.2 Record books for marine environment protection: 3 or 2 years, respectively

According to the MARPOL Convention, the retention period after the last entry is 3 years, different to that, for the Garbage Record Book it is 2 years (Oil Record Book: Annex I Regulation 17 Paragraph 6, Regulation 36 Paragraph 7; Cargo Record Book: Annex II Regulation 15 Paragraph 3; Garbage Record Book: Annex V Regulation 10 Paragraph 2). A 2-year period is also required for the Ballast Water Record Book (BWM Convention Annex Regulation B-2 Paragraph 2).

If entries for the protection of the marine environment are made in the record book acc. to SCHSV (Ship's or Engine Logbook), the same requirements as for record books acc. to SCHSV apply (SchSV Annex 1 Section B.II. Number 6), unless the Convention or any other provision states other requirements for the retention period.

4.3 Record books in maritime medicine: No retention period

No explicit retention period for the Patients' Register or the Controlled Drugs Register has been legally stipulated.

4.4 Recommendation for all electronic record books: 5 years

For the sake of practicality and given the above-mentioned requirements, manufactures of electronic record books are recommended to design record books in a way that a retention period of at least five years is ensured.

V. Approval procedure for electronic record books

1. Navigational/engineering record books/record books under maritime labour law

a) Application

The applicant (manufacturer) has to submit a formless application for approval of an electronic record book acc. to SCHSV for sea-going vessels flying the German flag to the BG Verkehr (Ship Safety Division).

b) Technical Assessment

The BSH assesses compliance with the relevant technical requirements. In accordance with SCHSV Annex 2 Section 3 Number 3.1, it may delegate this task to a recognized organization (RO) with whom a contractual relationship is established in accordance with SchSV Annex 2 Section 3 Number 3.2.

The applicant can commission such a RO to conduct the technical assessment (= verification of compliance with the technical requirements). In this case, the RO submits the test report including assessment results to the BSH. The applicant has to submit the required documentation proving compliance with the technical requirements to the BSH and the RO.

Based on their own technical assessment (test report) or the test report and assessment results of the RO, the BSH compiles an assessment report. The BSH submits the test report or, respectively, its assessment report including the RO test report to the BG Verkehr (Ship Safety Division).

c) Issuance of the approval

Provided the BSH establishes compliance with the technical requirements, the BG Verkehr (Ship Safety Division) will approve the electronic record book and issues an approval.

d) Practical use of record books

If the record books regarding the protection of the marine environment are maintained or respective entries are made – either voluntarily or based on an appropriate provision (e.g. the German "See-Umweltverhaltensverordnung" Section 13 Paragraph 2) – in the Ship's or Engine Logbook, the approval requirements for record books acc. to SCHSV as well as the requirements for the respective record book regarding the protection of the marine environment apply. This means that if a record book is solely approved according to ISO 21745, it may not be used for MARPOL record books and entries according to the MARPOL Convention. Ship's and Engine Logbooks to be provided with such entries require an additional approval according to the Guidelines MEPC.312(74) (see 2. below).

2. Record books/Recordings regarding marine environment protection

For use on German-flagged ships, electronic MARPOL record books require a ship-specific approval in accordance with the Guidelines for the use of electronic record books under MARPOL by the BG Verkehr (Ship Safety Division).

a) Application

The ship-specific approval has to be applied for at the BG Verkehr (Ship Safety Division) by submitting a formless application for electronic MARPOL record books for use on ships flying the German flag.

There is also the option for manufacturers of electronic MARPOL record books to apply for a product-specific approval with the BG Verkehr (Ship Safety Division) in order to prove that the electronic record book meets the mandatory requirements for use on ships flying the German flag. Although, this product-specific approval is not provided for in the Guidelines MEPC.312(74), the Ship Safety Division issues them upon application of the manufacturer.

The application needs to be attached with documentation proving the compliance with the technical requirements.

b) Technical Assessment

The BSH verifies compliance with the "Guidelines for the use of electronic record books under MARPOL (Resolution MEPC.312(74))" in regard to the MARPOL Convention. In accordance with the German "Schiffssicherheitsverordnung" Annex 2 Section 3 Number 3.1, the BSH may delegate this task to a recognized organization (RO) with whom a contractual relationship is established in accordance with the German "Schiffssicherheitsverordnung" Annex 2 Section 3 Number 3.2.

Alternatively, the applicant may commission such a RO to conduct the technical assessment (= verification of compliance with the technical requirements). In this case, the RO submits the test report (including assessment results and information on the installation on board) to the BSH. The applicant has to submit the required documentation proving compliance with the technical requirements to the BSH and the RO.

Based on their own technical assessment (test report) or the test report and assessment results of the RO, the BSH compiles an assessment report. The BSH submits the test report or, respectively, its assessment report including the RO test report to the BG Verkehr (Ship Safety Division).

c) Issuance of the approval

If the BSH has established the compliance with the technical requirements, the BG Verkehr (Ship Safety Division) will issue as per application a ship or product-specific approval of the electronic MARPOL record book and issues the relevant certificate of approval. In case of the ship-specific approval, the BG Verkehr (Ship Safety Division) will issue a certificate in accordance with the appendix of Resolution MEPC.312(74).

3. Record books for all areas

If a manufacturer applies for the approval of electronic record books as one system for various areas (e.g. navigational and MARPOL record books), both the requirements for record books acc. to SCHSV (ISO 21745 – in particular integration with the voyage data recorder, VDR) as well as for MARPOL record books according to MEPC.312(74) have to be met.

4. Verification and instruction on board

Prior to the first use of the electronic record book on board a ship flying the German flag - aside from the approval:

1. the person installing the electronic record book system on any ship has to present evidence of the testing and correct functioning on board in written form or electronically to the BG Verkehr (Ship Safety Division),
2. the shipping company/the operator has to assure the BG Verkehr (Ship Safety Division) in written form or electronically that all crew members using the electronic record book have been instructed in its safe handling. The instruction has to be documented in an appropriate form on board.

5. Publication of the approvals

The BG Verkehr (Ship Safety Division) publishes the product-specific approved electronic record books on the website www.deutsche-flagge.de.

6. Changing flag procedures

If a sea-going vessel that already uses an electronic record book approved by another flag state changes to the German flag, the BG Verkehr (Ship Safety Division) will verify with assistance of the BSH, if required, as part of the individual case review, whether, with regard to the requirements applying for ships flying the German flag, the existing electronic record book is equivalent to a record book approved according to one of the procedures outlined in this document.