

English is not an official language of the Swiss Confederation. This translation is provided for information purposes only and has no legal force.

Ordinance on Protection against Major Accidents (Major Accidents Ordinance, MAO)

of 27 February 1991 (Status as of 1 August 2019)

The Swiss Federal Council,

on the basis of Articles 10 paragraph 4 and 39 paragraph 1 of the Federal Act of 7 October 1983¹ on the Protection of the Environment (EPA) and Article 47 paragraph 1 of the Waters Protection Act of 24 January 1991^{2,3} ordains:

Section 1 General Provisions

Art. 1 Purpose and scope

¹ The purpose of this Ordinance is to protect the public and the environment against serious harm or damage resulting from major accidents.

² It applies to:

- a.⁴ establishments where the threshold quantities for substances, preparations or special wastes specified in Annex 1.1 are exceeded;
- b.⁵ establishments where an activity involving genetically modified or pathogenic organisms or alien microorganisms subject to compulsory containment is carried out which is to be assigned to Class 3 or Class 4 in accordance with the Containment Ordinance of 9 May 2012⁶;
- c.⁷ railway installations in accordance with Annex 1.2a;

AS 1991 748

¹ SR 814.01

² SR 814.20

³ Amended by No I of the O of 13 Feb. 2013, in force since 1 April 2013 (AS 2013 749).

⁴ Amended by No II 8 of the O of 18 May 2005 on the Repeal and Amendment of Ordinances in connection with the Commencement of the Chemicals Act, in force since 1 Aug. 2005 (AS 2005 2695).

⁵ Amended by No I of the O of 29 April 2015, in force since 1 June 2015 (AS 2015 1337).

⁶ SR 814.912

⁷ Amended by No I of the O of 29 April 2015, in force since 1 June 2015 (AS 2015 1337).

- d. transit roads, as defined in the Ordinance of 6 June 1983⁸ on Transit Roads, where dangerous goods are transported or transhipped in accordance with the Ordinance of 17 April 1985⁹ on the Carriage of Dangerous Goods by Road (SDR) or the relevant international agreements;
- e. the Rhine, where dangerous goods are transported or transhipped in accordance with the Ordinance of 29 April 1970¹⁰ on the Carriage of Dangerous Goods on the Rhine (ADNR);
- f.¹¹ pipeline installations as defined in the Pipelines Ordinance of 26 June 2019¹² which meet the criteria specified in Annex 1.3.

^{2bis} The enforcement authority may exempt establishments under paragraph 2 letter b from the scope of this Ordinance that:

- a. only carry out Class 3 activities with organisms in accordance with Annex 1.4 which, due to their properties, cannot spread uncontrollably among the public and in the environment; and
- b. due to their hazard potential, cannot seriously harm the public or the environment.¹³

³ In individual cases, the enforcement authority may make the following establishments, transport routes or pipeline installations subject to this Ordinance if, on account of their hazard potential, they could cause serious harm to the public or damage to the environment:¹⁴

- a.¹⁵ establishments handling substances, preparations or special wastes;
- b.¹⁶ establishments where an activity involving genetically modified or pathogenic organisms or alien microorganisms subject to compulsory containment is carried out which is to be assigned to Class 2 in accordance with the Containment Ordinance, in consultation with the Swiss Expert Committee for Biosafety;
- c. transport routes outside establishments, where dangerous goods are transported or transhipped in accordance with paragraph 2;

⁸ [AS 1983 678, AS 1992 341 Art. 7]. Now: Transit Roads Ordinance of 18 Dec. 1991 (SR 741.272).

⁹ [AS 1985 620, 1989 2482, 1994 3006, 1995 4425 Annex 1 No II 11 4866, 1997 422 No II, 1998 1796 Art. 1 No 18 and Art. 6, 1999 751 No II, 2002 419 1183, AS 2002 4212 Art. 29 para. 1]. Now: the O of 29 Nov. 2002 (SR 741.621).

¹⁰ [AS 1971 1957, 1977 768, 1983 486, 1987 1454, 1990 1356]. Now: O of 3 March 2010 (SR 747.224.141).

¹¹ Inserted by No I of the O of 13 Feb. 2013 (AS 2013 749). Amended by Annex No 2 of the Pipelines Ordinance of 26 June 2019, in force since 1 Aug. 2019 (AS 2019 2205). SR 746.11

¹² Inserted by No I of the O of 29 April 2015, in force since 1 June 2015 (AS 2015 1337).

¹³ Amended by No I of the O of 13 Feb. 2013, in force since 1 April 2013 (AS 2013 749).

¹⁴ Amended by No II 8 of the O of 18 May 2005 on the Repeal and Amendment of Ordinances in connection with the Commencement of the Chemicals Act, in force since 1 Aug. 2005 (AS 2005 2695).

¹⁵ Amended by No I of the O of 29 April 2015, in force since 1 June 2015 (AS 2015 1337).

d.¹⁷ pipeline installations as defined in the Pipelines Ordinance which do not meet the criteria specified in Annex 1.3.¹⁸

⁴ This Ordinance does not apply to installations and forms of transport which are subject to legislation on nuclear energy and radiological protection, insofar as the associated radiation could cause harm to the public or damage to the environment.¹⁹

⁵ The provisions of Article 10 EPA are directly applicable to establishments or transport routes which, in the case of exceptional events, could cause serious harm to the public or damage to the environment not arising from substances, preparations, special wastes or dangerous goods, or from genetically modified or pathogenic organisms or alien organisms subject to compulsory containment.²⁰

Art. 2 Definitions

¹ An *establishment* comprises installations as defined in Article 7 paragraph 7 EPA which have closely related operations and are in close proximity to each other (operating area).

² ...²¹

³ The *hazard potential* is the sum of the effects which could arise from the quantities and properties of the substances, preparations, special wastes, organisms or dangerous goods in question.²²

⁴ A *major accident* is an exceptional event occurring in an establishment, on a transport route or in a pipeline installation which has significant effects:²³

- a. outside the operating area;
- b. on or near the transport route;
- c.²⁴ near the pipeline installation.

⁵ The *risk* is determined by the extent of the possible harm to the public or damage to the environment resulting from major accidents and the likelihood of their occurrence.

¹⁷ Inserted by No I of the O of 13 Feb. 2013 (AS **2013** 749). Amended by Annex No 2 of the Pipelines Ordinance of 26 June 2019, in force since 1 Aug. 2019 (AS **2019** 2205).

¹⁸ Amended by Annex 5 No 2 of the Containment O of 25 Aug. 1999, in force since 1 Nov. 1999 (AS **1999** 2783).

¹⁹ Amended by No I of the O of 13 Feb. 2013, in force since 1 April 2013 (AS **2013** 749).

²⁰ Amended by No I of the O of 29 April 2015, in force since 1 June 2015 (AS **2015** 1337).

²¹ Repealed by No I of the O of 29 April 2015, with effect from 1 June 2015 (AS **2015** 1337).

²² Amended by No I of the O of 29 April 2015, in force since 1 June 2015 (AS **2015** 1337).

²³ Amended by No I of the O of 13 Feb. 2013, in force since 1 April 2013 (AS **2013** 749).

²⁴ Inserted by No I of the O of 13 Feb. 2013, in force since 1 April 2013 (AS **2013** 749).

Section 2 Principles of Prevention

Art. 3 Safety measures²⁵

¹ The person responsible for an establishment, a transport route or a pipeline installation shall take all appropriate measures to reduce risk that are available in accordance with the state of the art of safety technology, supplemented by personal experience, and which are economically viable. These shall include measures to reduce the hazard potential, to prevent major accidents and to limit the effects thereof.²⁶

² When measures are selected, account shall be taken of operational and local factors which could cause major accidents, as well as actions of unauthorised persons.

³ When measures are implemented, account shall be taken in particular of the principles laid down in Annex 2, and in particular the measures in accordance with Annexes 2.2–2.5.²⁷

Art. 4²⁸

Art. 5 Summary report

¹ The person responsible for an establishment must submit a summary report to the enforcement authority. It shall include:

- a. a concise description of the establishment, together with a general plan and information on the surrounding area;
- b.²⁹ a list of the maximum quantities of the substances, preparations or special wastes present in the establishment which exceed the threshold quantities specified in Annex 1.1, together with the applicable threshold quantities;
- c.³⁰ the risk report specified in Article 8 of the Containment Ordinance of 9 May 2012³¹;
- d. documents drawn up in the preparation of any property and corporate liability insurance policies;
- e. details of safety measures;
- f. an estimate of the extent of possible harm to the public or damage to the environment resulting from major accidents.

²⁵ Amended by No I of the O of 29 April 2015, in force since 1 June 2015 (AS **2015** 1337).

²⁶ Amended by No I of the O of 13 Feb. 2013, in force since 1 April 2013 (AS **2013** 749).

²⁷ Amended by No I of the O of 29 April 2015, in force since 1 June 2015 (AS **2015** 1337).

²⁸ Repealed by No I of the O of 29 April 2015, with effect from 1 June 2015 (AS **2015** 1337)

²⁹ Amended by No II 8 of the O of 18 May 2005 on the Repeal and Amendment of Ordinances in connection with the Commencement of the Chemicals Act, in force since 1 Aug. 2005 (AS **2005** 2695).

³⁰ Amended by Annex 5 No 7 of the Containment O of 9 May 2012, in force since 1 June 2012 (AS **2012** 2777).

³¹ SR **814.912**

² The person responsible for a transport route shall submit a summary report to the enforcement authority. It shall include:

- a. a concise description of the structural and technical design of the transport route, together with a general plan and information on the surrounding area;
- b. data on the volume and structure of traffic on the transport route and accident statistics;
- c. details of safety measures;
- d. an estimate of the likelihood of a major accident causing serious harm to the public or damage to the environment.

³ The person responsible for a pipeline installation shall submit a summary report to the enforcement authority. It shall include:

- a. a concise description of the structural and technical design of the pipeline installation, together with a general plan and information on the surrounding area;
- b. data on the type, composition and physical state of the substances and preparations transported, together with the approved operating pressure and accident statistics;
- c. details of safety measures;
- d. an estimate of the likelihood of a major accident causing serious harm to the public or damage to the environment.³²

⁴ ...³³

⁵ The enforcement authority shall exempt the person responsible for a through road from the duty to submit a summary report if, based on the information available, it is able, without a summary report, to assess as valid the assumption that the likelihood of major accidents causing serious harm is sufficiently low.³⁴

Art. 6 Assessment of the summary report, risk report

¹ The enforcement authority shall verify that the summary report is complete and correct.

² In particular, it shall verify:

- a. in the case of establishments, whether the estimate of the extent of possible harm or damage (Art. 5 para. 1 let. f) is plausible;
- b. in the case of transport routes, whether the estimate of the likelihood of a major accident causing serious harm or damage (Art. 5 para. 2 let. d) is plausible;

³² Amended by No I of the O of 13 Feb. 2013, in force since 1 April 2013 (AS **2013** 749).

³³ Inserted by No I of the O of 13 Feb. 2013 (AS **2013** 749). Repealed by No I of the O of 29 April 2015, with effect from 1 June 2015 (AS **2015** 1337)

³⁴ Inserted by No I of the O of 29 April 2015, in force since 1 June 2015 (AS **2015** 1337).

c.³⁵ in the case of pipeline installations, whether the estimate of the likelihood of a major accident causing serious harm or damage (Art. 5 para. 3 let. d) is plausible.

³ Following an on-site inspection, where appropriate, it shall assess the validity of the assumption that:

- a. in the case of establishments, serious harm to the public or damage to the environment arising from major accidents is not to be expected;
- b. in the case of transport routes, the likelihood of occurrence of a major accident causing serious harm or damage is sufficiently low;
- c.³⁶ in the case of pipeline installations, the likelihood of occurrence of a major accident causing serious harm or damage is sufficiently low.

^{3bis} The enforcement authority shall set out the results of its assessment in writing.³⁷

⁴ If the assumption in accordance with paragraph 3 is not valid, it shall order the person responsible to prepare and submit to it a risk report in accordance with Annex 4.³⁸

Art. 7 Assessment of the risk report

¹ The enforcement authority shall review the risk report and assess whether the risk is acceptable. It shall set out its assessment in writing.³⁹

² When evaluating the acceptability of the risk, it shall take account of local risk factors and pay particular attention to the fact that the likelihood of occurrence of a major accident must be all the lower:

- a.⁴⁰ the more the need to protect the public or the environment against serious harm or damage arising from major accidents outweighs private and public interests in the operation of an establishment, a transport route or a pipeline installation;
- b. the greater the extent of the possible harm to the public or damage to the environment.

Art. 8 Additional safety measures

¹ If the risk is unacceptable, the enforcement authority shall order such additional measures as may be required. If necessary, these may include restrictions or prohibitions on operations and traffic.

² In the case of measures for which a different public body is responsible, the enforcement authority shall submit appropriate requests to the competent authority. If necessary, the Federal Council shall coordinate the adoption of measures.

³⁵ Inserted by No I of the O of 13 Feb. 2013, in force since 1 April 2013 (AS **2013** 749).

³⁶ Inserted by No I of the O of 13 Feb. 2013, in force since 1 April 2013 (AS **2013** 749).

³⁷ Inserted by No I of the O of 29 April 2015, in force since 1 June 2015 (AS **2015** 1337).

³⁸ Amended by No I of the O of 29 April 2015, in force since 1 June 2015 (AS **2015** 1337).

³⁹ Amended by No I. of the O of 29 April 2015, in force since 1 June 2015 (AS **2015** 1337).

⁴⁰ Amended by No I of the O of 13 Feb. 2013, in force since 1 April 2013 (AS **2013** 749).

Art. 8a⁴¹ Change in circumstances

¹ If the person responsible has prepared a summary report, but not a risk report and if the circumstances change significantly thereafter or relevant new findings become available, they must amend the summary report and resubmit it to the enforcement authority.

² If the person responsible has prepared a risk report and the circumstances change significantly thereafter or relevant new findings become available, they must:

- a. amend the risk report and resubmit it to the enforcement authority;
- b. amend the summary report instead of the risk report and resubmit it to the enforcement authority if:
 1. serious harm to the public or to the environment from major accidents need no longer be expected,
 2. in the case of transport routes and pipeline installations, the probability of a major accident causing serious harm is sufficiently low.

Art. 8b⁴² Inspections

¹ In order to verify if the person responsible is fulfilling their duties under this Ordinance, the enforcement authority shall conduct regular on-site inspections. It shall set out its assessment in writing.

² The enforcement authority shall decide on the frequency of inspection based on the hazard potential, the type and complexity of the establishment, transport route or pipeline installation and the results of earlier inspections.

Art. 9 and 10⁴³**Section 3 Response to Major Accidents****Art. 11**

¹ The person responsible shall make every effort to respond to major accidents.

² In particular, he shall:

- a. immediately tackle major accidents and notify the point of contact;
- b. immediately secure the accident site and prevent further effects;
- c. remedy any effects as soon as possible.

³ He shall submit a report to the enforcement authority within three months after the accident. The report shall include:

⁴¹ Inserted by No I of the O of 29 April 2015, in force since 1 June 2015 (AS **2015** 1337).

⁴² Inserted by No I of the O of 29 April 2015, in force since 1 June 2015 (AS **2015** 1337).

⁴³ Repealed by No I of the O of 29 April 2015, with effect from 1 June 2015 (AS **2015** 1337)

- a. a description of the course and effects of the major accident, and of the response provided;
- b. information on the effectiveness of the safety measures;
- c. an assessment of the accident.

⁴ If the person responsible is unable to draw up the report within the period specified, he must submit an application for an extension to the enforcement authority, stating the reasons, together with an interim report on the state of the investigations.

Section 3a Coordination with Spatial Planning Activities⁴⁴

Art. 11a⁴⁵ ...⁴⁶

¹ The cantons shall take major accident prevention into account in structure and land use plans and in their other spatial planning activities.⁴⁷

² For establishments, transport routes and pipeline installations, the enforcement authority shall designate the adjoining area in which the construction of buildings and installations may lead to a significant increase in the risk.

³ Before the competent authority makes a decision on a change to a structure or land use plan in an area as specified in paragraph 2, it shall obtain an expert opinion from the enforcement authority for risk assessment purposes.

Section 4⁴⁸ Responsibilities of the Cantons

Art. 12 Point of contact

¹ The cantons shall designate a point of contact, which is responsible for receiving notifications of major accidents at any time and immediately alerting the emergency services.

² The cantons shall also ensure that a central office is designated, which immediately forwards notifications of major accidents to the National Emergency Operations Centre (NEOC) Emergency Desk (ASN).⁴⁹

⁴⁴ Inserted by No I of the O of 21 Sept. 2018, in force since 1 Nov. 2018 (AS **2018** 3505).

⁴⁵ Inserted by No I of the O of 13 Feb. 2013, in force since 1 April 2013 (AS **2013** 749).

⁴⁶ Repealed by No I of the O of 21 Sept. 2018, with effect from 1 Nov. 2018 (AS **2018** 3505).

⁴⁷ Amended by No I of the O of 21 Sept. 2018, in force since 1 Nov. 2018 (AS **2018** 3505).

⁴⁸ Originally before Art. 11a.

⁴⁹ Amended by No I of the O of 13 Feb. 2013, in force since 1 April 2013 (AS **2013** 749).

Art. 13⁵⁰ Information and alerts

¹ The cantons shall inform the public of:

- a. the geographical location of establishments and transport routes;
- b. the adjoining areas in accordance with Article 11a paragraph 2.

² The cantons shall ensure that, in the event of a major accident, the population affected is informed in good time and, if necessary, alerted and advised how to act.

³ They shall also ensure that neighbouring cantons and states are informed in good time and, if necessary, alerted, if major accidents could have significant effects beyond cantonal or national borders.

Art. 14 Coordination of emergency services

The cantons shall coordinate the emergency services with the responsible persons' emergency plans.

Art. 15⁵¹ Coordination of inspections

As far as possible, the cantons shall coordinate the inspections of establishments and transport routes which they are required to carry out under this and other legislation.

Art. 16 Provision of information to the FOEN⁵²

¹ The cantons shall periodically provide the Federal Office for the Environment (FOEN) with information in the form of an overview of the hazard potentials and risks within their territory (risk register), together with the measures implemented.⁵³

² To this end, the competent federal and cantonal authorities shall make the necessary information available on request.

³ The above is subject to legal requirements concerning secrecy.

Section 5 Responsibilities of the Confederation**Art. 17** Data collection by the FOEN⁵⁴

¹ The competent federal and cantonal authorities shall forward to the FOEN on request any information collected in accordance with this Ordinance.

⁵⁰ Amended by No I of the O of 29 April 2015, in force since 1 June 2015 (AS 2015 1337).

⁵¹ Amended by No I of the O of 29 April 2015, in force since 1 June 2015 (AS 2015 1337).

⁵² Amended by No I of the O of 29 April 2015, in force since 1 June 2015 (AS 2015 1337).

⁵³ Amended by No I of the O of 29 April 2015, in force since 1 June 2015 (AS 2015 1337).

⁵⁴ Expression in accordance with No I of the O of 29 April 2015, in force since 1 June 2015 (AS 2015 1337). This amendment has been made throughout the text.

² The FOEN shall ensure that the data is processed and made available to the competent authorities, insofar as this is necessary for the implementation of this Ordinance.

³ The above is subject to legal requirements concerning secrecy.

Art. 18 and 19⁵⁵

Art. 20⁵⁶ Information

¹ The competent federal authorities shall inform the public of:

- a. the geographical location of establishments, transport routes and pipeline installations;
- b. the adjoining areas in accordance with Article 11a paragraph 2.

² In the event of major accidents which could have significant effects beyond national borders, the competent federal authorities shall inform the relevant Swiss missions abroad and the foreign authorities concerned.

Art. 21⁵⁷

Art. 22 Guidelines

The FOEN shall, as required, publish guidelines which explain the essential provisions of the Ordinance; these include, in particular, the provisions concerning the scope of the Ordinance, safety measures, the preparation of the summary report and risk report, and the review and assessment thereof.

Section 6 Final Provisions

Art. 23⁵⁸ Enforcement

¹ The cantons shall enforce this Ordinance unless responsibility for enforcement is assigned to the Confederation.

² When applying other federal acts or international agreements or resolutions relating to matters regulated by this Ordinance, federal authorities shall also be responsible for enforcing this Ordinance. Participation of the FOEN and the cantons is governed by Article 41 paragraphs 2 and 4 EPA; these provisions are subject to legal requirements concerning secrecy.

⁵⁵ Repealed by No I of the O of 29 April 2015, with effect from 1 June 2015 (AS 2015 1337)

⁵⁶ Amended by No I of the O of 29 April 2015, in force since 1 June 2015 (AS 2015 1337).

⁵⁷ Repealed by No I of the O of 29 April 2015, with effect from 1 June 2015 (AS 2015 1337)

⁵⁸ Amended by No II 8 of the O of 2 Feb. 2000 to the Federal Act on the Coordination and Simplification of Decision-Making Procedures, with effect from 1 March 2000 (AS 2000 703).

³ The FOEN shall specify the minimal geodata models and presentation models for official geodata in accordance with this Ordinance for which it is designated as the competent federal authority in Annex 1 of the Ordinance of 21 May 2008⁵⁹ on Geoinformation.⁶⁰

Art. 23a⁶¹ Amendment of Annexes

¹ DETEC may, having consulted the persons concerned and insofar as is required by the state of the art in safety technology, the hazard potential and the volume of hazardous goods, amend Annexes 1.1 No 3 and 1.2a of this Ordinance.

² DETEC may, in agreement with the Federal Department of Economic Affairs, Education and Research and the Federal Department of Home Affairs and having consulted the Swiss Expert Committee for Biosafety, amend the list in Annex 1.4 if new findings as to the properties of certain organisms so require.

Art. 24 Amendment of existing legislation

...⁶²

Art. 25⁶³

Art. 25a⁶⁴ Transitional provisions relating to the amendment of 13 February 2013

¹ The person responsible for a pipeline installation shall submit the summary report (Art. 5 para. 3) to the enforcement authority no later than 5 years after this amendment to the Ordinance comes into force.

² The enforcement authority shall waive the requirement to provide information in accordance with paragraph 1 in cases where it already has the necessary information.

⁵⁹ SR **510.620**

⁶⁰ Inserted by Annex 2 No 5 of the O of 21 May 2008 on Geoinformation, in force since 1 July 2008 (AS **2008** 2809).

⁶¹ Inserted by No I of the O of 29 April 2015, in force since 1 June 2015 (AS **2015** 1337).

⁶² The amendments may be consulted under AS **1991** 748.

⁶³ Repealed by No I of the O of 29 April 2015, with effect from 1 June 2015 (AS **2015** 1337)

⁶⁴ Inserted by No I of the O of 13 Feb. 2013, in force since 1 April 2013 (AS **2013** 749).

Art. 25^{b65} Transitional provisions relating to the amendment of 29 April 2015

Persons responsible for establishments that fall within the scope of this Ordinance for the first time following the amendment of 29 April 2015 must submit the summary report to the enforcement authority at the latest three years after the said amendment to the Ordinance comes into force.

Art. 26 Commencement

This Ordinance comes into force on 1 April 1991.

⁶⁵ Inserted by No I of the O of 29 April 2015, in force since 1 June 2015 (AS **2015** 1337).

Scope and summary report

Annex 1.1⁶⁶
(Art. 1 and 5)

Threshold quantities for substances, preparations or special wastes

1 ...

2 Determination of threshold quantities

21 Substances or preparations

¹ For substances or preparations listed in the table under number 3, the threshold quantities specified therein apply.

² For other substances or preparations, the person responsible shall determine the threshold quantity using the criteria specified in number 4 in accordance with Annex I of Regulation (EC) No 1272/2008⁶⁷ and the criteria specified in number 5 for highly active substances and preparations. The lowest threshold quantity determined in this way is decisive.

³ The person responsible need not determine the threshold quantity for a criterion or area if he can argue convincingly that the costs of acquiring the data would be disproportionate.

22 Special wastes

The Federal Department of the Environment, Transport, Energy and Communications (DETEC) shall specify the threshold quantities for special wastes designated as such in the waste list issued in accordance with Article 2 of the Ordinance of 22 June 2005⁶⁸ on Movements of Waste. In doing so, it shall take account of their:

- a. health risks;
- b. physical risks;

⁶⁶ Amended by No II para. 2 of the O of 29 April 2015 (AS 2015 1337). Revised by No II para. 1 of the O of 21 Sept. 2018, in force since 1 Nov. 2018 (AS 2018 3505).

⁶⁷ Regulation (EC) No 1272/2008 of 16 Dec. 2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006, OJ L 353 of 31.12.2008, S. 1; last amended by Regulation (EU) No 2016/1179, OJ. L 195 of 20.7.2016, p. 11.

⁶⁸ SR 814.610

- c. environmental risks;
- d. other risks.

3 Substances and preparations with specified threshold quantities

No	Substance name	CAS No ¹	TQ (kg) ²
1	Acetylene	74-86-2	5 000
2	4-Aminodiphenyl and its salts ³		500
3	Ammonium nitrate fertiliser with a nitrogen content $\geq 25\%$		20 000
4	Ammonium nitrate fertiliser with a nitrogen content $\geq 25\%$ and a verifiable negative detonation and smoulder test		200 000
5	Arsenic(III) oxide, arsenic(III) acid and their salts	1327-53-3	100
6	Arsenic(V) oxide, arsenic(V) acid and/or their salts	1303-28-2	1 000
7	Benzidine and its salts ³		500
8	Gasoline (regular, super)		200 000
9	Chlorine	7782-50-5	200
10	Chromium (VI) and its salts		200
11	1,2-Dibromo-3-chloropropane ³	96-12-8	500
12	1,2-Dibromethane ³	106-93-4	500
13	Diethyl sulfate ³	64-67-5	500
14	Dimethylcarbamoyl chloride ³	79-44-7	500
15	1,2-Dimethylhydrazine ³	540-73-8	500
16	Ethanol motor fuels ⁴		200 000
17	Heating oil, diesel		500 000
18	Hexamethylphosphoric triamide ³	680-31-9	500
19	Hydrazine ³	302-01-2	500
20	Kerosene		200 000
21	Methyl isocyanate	624-83-9	150
22	2-Naphthylamine and its salts ³		500
23	Nickel compounds in inhalable powder form		1 000
24	4-Nitrodiphenyl ³	92-93-3	500
25	1,3-Propane sultone ³	1120-71-4	500
26	Sulphur dichloride	10545-99-0	1 000
27	Hydrogen	1333-74-0	5 000

¹ Substance identifier in the Chemical Abstract system

² TQ (kg)=Threshold quantity in kg

³ Carcinogens or preparations that contain these carcinogens in concentrations of over 5 per cent by weight

⁴ Ethanol fuels with various percentages of ethanol in gasoline

4 Criteria for determining threshold quantities

41 Health risks

Criteria	Values for criteria			
	TQ ¹ = 200 kg	TQ ¹ = 2000 kg	TQ ¹ = 20 000 kg	TQ ¹ = 200 000 kg
Classification/labelling ²	H330	H300 ³ , H310, H331, H370	H301 ³ , H302 ³ , H311, H 312, H314 ⁴ , H 332, H371	

¹ TQ (kg) = Threshold quantity in kg

² Chemicals Ordinance, SR **813.11**

³ If the substance or preparation is verifiably not toxic through inhalation nor dermally, for CLP categories 1+2 (H300), a threshold quantity of 20 000 kg applies and for CLP categories 3+4 (H301/H302), a threshold quantity of 200 000 kg applies.

⁴ Corrosive substances and preparations (H314) that are also categorised and labelled as «gases under pressure» (H280/ H281) and/or as oxidising gases, liquids or solids (H270/H 271/H272) have a threshold quantity of 2000 kg, unless they have a lower threshold quantity due to other criteria.

42 Physical risks

Criteria	Values for criteria			
	TQ ¹ = 200 kg	TQ ¹ = 2000 kg	TQ ¹ = 20 000 kg	TQ ¹ = 50 000 kg
Classification/labelling ²		H200 ³ , H201 ³ , H202 ³ , H203 ³ , H240, H241	H220, H221, H224, H225, H226, H242, H250, H251, H252, H260, H261, H270, H271, H272	H222 ⁴ , H223 ⁴ , H228

¹ TQ (kg) = Threshold quantity in kg

² Chemicals Ordinance, SR **813.11**

³ The threshold quantity relates to the net quantity of the active explosive substance.

⁴ To determine whether a threshold quantity has been exceeded, the stored quantities of flammable aerosol dispensers in the relevant CLP categories must be added together on the basis of their net mass.

43 Environmental risks

Criteria	Values for criteria			
	TQ ¹ = 200 kg	TQ ¹ = 2000 kg	TQ ¹ = 20 000 kg	TQ ¹ = 200 000 kg
Classification/labelling ²		H400, H410	H411	

¹ TQ (kg) = Threshold quantity in kg

² Chemicals Ordinance, SR **813.11**

44 Other risks

Criteria	Values for criteria			
	TQ ¹ = 200 kg	TQ ¹ = 2000 kg	TQ ¹ = 20 000 kg	TQ ¹ = 200 000 kg
Classification/labelling ²	EUH032	EUH014, EUH029, EUH031		

¹ TQ (kg) = Threshold quantity in kg

² Chemicals Ordinance, SR 813.11

5 Highly active substances (HAS)

Criteria ¹	Values for criteria
	TQ ² = 20 kg
a. Workplace inhalation threshold in the air ³	<10 µg/m ³
b. Effect dose (ED50) ⁴	≤ 10 mg
c. CMR substances with major accident potential	Categories 1A and 1B

¹ The listed criteria apply, and the order of the criteria (letters) denotes their priority, i.e. if there is a value under criteria a, criteria b and c are no longer relevant. If a person responsible for a substance/preparation that meets one of the criteria concludes based on their self-assessment that harm to the public in the event of exposure on one occasion may be excluded or that the more serious effect of the substance/ preparation is not relevant to major accidents, the substance/ preparation is not deemed to be an HAS in terms of the Major Accidents Ordinance. In order to assess whether an effect is relevant to major accidents, the definition of «Temporary Emergency Exposure Limits (TEEL-2)» applies. The Major Accidents Ordinance does not apply to establishments that handle HAS only in the form of finished products that are intended for their own use or for supply to professional or commercial users or the general public.

² TQ (kg) = Threshold quantity in kg

³ MAK, TLV, OEL, IOEL, etc.

⁴ Corresponds to the effect dose ED₅₀ of 0.17 mg/kg at a body weight of 60 kg. The effect dose relates to the worst effect of the substance/preparation according to the self-assessment by the person responsible.

*Annex 1.2*⁶⁹
(Art. 1 and 5)

⁶⁹ Repealed by Annex 5 No 2 of the Containment O of 25 Aug. 1999, with effect from 1 Nov. 1999 (AS **1999** 2783).

*Annex 1.2a*⁷⁰
(Art. 1)

Scope for railway installations

1 Track sections

The Major Accidents Ordinance applies to the track sections between the following operating points (with the exception of sections on foreign territory). The operating points are based on official geodata identifier 98.1 under the Ordinance of 21 May 2008⁷¹ on Geoinformation (GeoIO).

Kilometre line	From operating point	To operating point	Usual name of the kilometre line on which the operating points lie
100	LS	STDG	Lausanne – Simplon Tunnel I – Iselle
109	BRTU	STDG(109)	Simplon Tunnel II
131	PDS	MTH	Les Paluds – St-Gingolph (Frontière)
150	LS	SJ	Lausanne – Geneva Airport
151	SJ	LPFR	Geneva St-Jean – La Plaine-Frontière
152	SJ	GEPB	St-Jean – Geneva-Eaux-Vives – Annemasse
154	FUBI	JON	Furet – Jonction
160	RENO	LTSE	Renens VD Ouest – Lausanne-Triage sect.
161	LTF	LONA	Lausanne-Triage F – Lonay A (bif)
162	LTP	LONB	Lausanne-Triage P1 – Lonay B
164	LECR	DENA	Lécheires – Denges A
166	RENO	LT	Renens VD Ouest – Lausanne-Triage Est
169	LTSE	BY	Lausanne-Triage sect. – Bussigny
170	LTE	LTS	Lausanne-Triage (Est – Sud)
200	RENO	DAIB	Renens VD Ouest – Vallorbe
206	RENO	BYE(206)	Renens VD Ouest – Bussigny Est
210	DAIB	BI	Daillens – Biel/Bienne
260	ZOLN	BIAE	Zollikofen Nord – Biel/Bienne Aebistr.
265	BIMA	BIO	Biel Mett Abzweigung – Biel/Bienne Ost
266	MAD	BIRW	Madretsch – Biel/Bienne RB West
290	WKD	THEG	Bern Wylerfeld – Thun
291	LGUS	WKD	Löchligut – Wankdorf
299	THAB	THSC	Thun Abzweigung – Thun GB – Thun Schadau
300	SPNI	BRLO	Spiez – Kandersteg – Brig
302	MGTN	MGTN(302)	Zweiter Mittalgrabentunnel
310	THEG	SPNI	Thun – Spiez – Interlaken Ost
330	WENE	STGE	Wengi-Ey – Lötschberg – St.German (Ost)

⁷⁰ Inserted by No II para. 1 of the O of 29 April 2015 (AS 2015 1337). Amended by No II para. 2 of the O of 21 Sept. 2018, in force since 1 Nov. 2018 (AS 2018 3505).

⁷¹ SR 510.620

Kilometre line	From operating point	To operating point	Usual name of the kilometre line on which the operating points lie
331	FERD	STGE(331)	Wengi-Ey – Lötschberg – St.German (West)
332	FRS	FRNP	Frutigen – Frutigen Nordportal (Ost)
400	LGUT	RTRW	Löchligut – Wanzwil – Rothrist West
410	OL	BI	Olten – Solothurn – Biel/Bienne
450	OLS	LGUS	Olten Süd – Bern
451	ABO	RTR(451)	Aarburg-Oftringen – Rothrist Gleis 1
453	BFG	RTR(453)	Rothrist Ost – Rothrist Gleis 4
455	UHDB	AESP	Unterhalden BE – Aespli
456	OHBD	AESP	Oberhard BE – Aespli
457	OHBD	MAT	Hardfeld (Spw) – Mattstetten
459	RUTT	LGUT(459)	Rütti – Löchligut
500	MU	RBG	Basel SBB – Olten – Lucerne
510	BSFR	BSW	Mulhouse-Ville – Basel SBB
511	BSO	BSNK	Basel SBB – Basel GB – Basel RB
514	BSW	BSO	SNCF Verbindungslinie
518	8519315	BAD	Müllheim (Baden) – Basel Bad Bhf
520	GELN	BAD	Gellert – Basel Bad DB
521	BSNK	MU	Umfahrung Süd: Basel SBB RB I – Muttenz
522	GELN	BSNK	Umfahrung Nord: Gellert – Pratteln
523	BAD	BSKE	Basel Bad RB – Kleinhünigen Hafen
525	BSNK	BSAU	Basel SBB RB – Basel Auhafen
531	OLN	OLO	Olten Verbindungslinie
540	OL	WOES	Olten – Wöschnau
594	RYSP	POZZ	GBT West
595	RYSP	GIDI	GBT Ost
600	IMW	CHIE	Immensee – Bellinzona – Chiasso
601	RYAB	ERNA(601)	Rynächt – Erstfeld Nord Gleis links
604	BRUA	SKN(604)	Brunnen – Sisikon (Gleis links)
605	SK	GRUO(605)	Sisikon – Gruonbach (Gleis links)
606	ALSA	ALME(606)	Al Sasso – Al Motto (binario sinistro)
607	MCEN	RIBN(607)	Mt. Ceneri – Rivera (binario destro)
608	MASN	LGN(608)	Massagno – Lugano (binario destro)
630	GIUS	CDO	Giubiasco – Locarno
631	CDO	PINC	Cadenazzo – Pino confine
638	BASM	CHSM	Balerna SM – Chiasso Smistamento
639	CHIE	CHSM	Monte Olimpino II – Chiasso Smistamento
640	BG	RU	Brugg – Rapperswil
641	RUO	RU(641)	Rapperswil Ost – Rapperswil Gleis rechts
647	BG	HDKN	Brugg – Henschiken Nord
648	BGS	BGN	Brugg Süd – Brugg Nord (VL)
649	AA	WOET(649)	Aarau – Wöschnau Tunnel alt

Kilometre line	From operating point	To operating point	Usual name of the kilometre line on which the operating points lie
650	KLWW	WOES	Killwangen West – Lenzburg – Däniken Ost
653	GEXO	IMW	Gexi Ost – Rotkreuz – Immensee West
691	RBL	KLWW	RBL Kopf Zurich – Killwangen West
692	RBLZ	RBLD	RBL Nord
693	RBLD	RBLE	RBL Mitte
698	KLWW	HBLO(698)	Killwangen West -411- Heitersbergl. Ost
699	SDO	EFG(699)	Neuer Bözbergtunnel
700	BG	PRO	Brugg – Pratteln Ost
701	EGL	STSO	Eglisau – Koblenz – Stein Säckingen Ost
703	ZSEO	GMT	ZH Oerlikon Nord – Wettingen – Gruemet
704	WUER	KLWW	Würenlos – Killwangen West (RBL)
706	ZSEO	OPS	Zurich Seebach – Glattbrugg Süd
710	ZASO	BG	Zurich HB – Brugg AG
711	ZASN	ZASS	ZH Hardbrücke – Kollermühle
715	ZASO	HRD	Zurich Altstetten Ost – Zurich Hard
718	ZAU	ZASS	ZH Aussersihl – ZH Altstetten Süd
720	ZAU	ZB	ZH Langstrasse – Thalwil – Ziegelbrücke
721	TW	TWS(721)	Thalwil – Thalwil Süd
722	ZAU	NIDS	ZH Langstrasse – Nidelbad – Littli
723	NIDS	TWNO	Nidelbad Süd – Thalwil Nord
725	NIDB	NIDO	Nidelbad – Nidelbad Ost
751	HUER	WNO	ZH Langstr. – Wallisellen – Winterthur
752	ZOEN	HUER	Zurich Oerlikon Nord – Hürlistein (Abzw)
757	KL	DORF	Kloten – Dorfnest (Überwerfung)
760	ZHDB	BUE	Zurich Hardbrücke – Bülach
762	NH	SH	Winterthur Nord – Schaffhausen RB Ost
763	BAD	8519316	Basel Bad Bhf – Waldshut – Schaffhausen
764	SH	EULG	Schaffhausen – Singen – Konstanz
770	BUE	NH	Bülach – Eglisau – Neuhausen
824	RH	KGHR	Romanshorn – Konstanz
830	WIL	WF	Wil – Weinfelden
840	WF	RH	Winterthur Nord – Romanshorn
850	GSS	WNO	St.Gallen – Winterthur Nord
880	TRUE	HAG	Sargans Ost – St.Gallen
881	SASL	TRUE	Sargans Schl. West – Schleife – Trübbach
890	SASO	ZB	Sargans Ost – Ziegelbrücke
900	SASO	CHW	Sargans Ost – Chur West (Gleisende)

2 Freight installations

The Major Accidents Ordinance applies to the following freight installations:

- Basel SBB RB (BSRB)
- Zurich RB Limmattal (RBL)
- Lausanne-Triage (LT)
- Chiasso Smistamento (CHSM)
- Geneva-La-Praille

*Annex 1.3*⁷²
(Art. 1)

Criteria for pipeline installations

¹ Pipeline installations for the transport of gaseous thermal and motor fuels fall within the scope of this Ordinance if they meet the following criteria:

- a. the approved operating pressure is greater than 5 bar and less than or equal to 25 bar and the product of the approved operating pressure in pascals (Pa) and the external diameter in metres is greater than 500,000 Pa m (500 bar cm) («pressure» is to be taken to mean «positive pressure»); or
- b. the approved operating pressure is greater than 25 bar and the product of the approved operating pressure in pascals (Pa) and the external diameter in metres is greater than 1,000,000 Pa m (1,000 bar cm) («pressure» is to be taken to mean «positive pressure»).

² Pipeline installations for the transport of liquid thermal and motor fuels fall within the scope of this Ordinance if, with an approved operating pressure of greater than 5 bar, the product of the approved operating pressure in pascals (Pa) and the external diameter in metres is greater than 200,000 Pa m (200 bar cm) («pressure» is to be taken to mean «positive pressure»).

⁷² Inserted by No II of the O of 13 Feb. 2013, in force since 1 April 2013 (AS 2013 749).

Annex I.473
(Art. 1 para. 2^{bis})

List of organisms which, due to their properties, cannot spread uncontrollably among the public and in the environment

Deutscher Name	Nom français	Nome italiano	English name	Remarks
Östliche Pferde-encephalomyelitis	Virus de l'encéphalite équine de l'Est	Virus dell'encefalite equina dell'Est	Eastern equine encephalitis virus	Only if not working with insect vectors
Hepatitis B Virus	Virus de l'hépatite B	Virus dell'epatite B	Hepatitis B virus	
Hepatitis C Virus	Virus de l'hépatite C	Virus dell'epatite C	Hepatitis C virus	
Hepatitis D Virus	Virus de l'hépatite D	Virus dell'epatite D	Hepatitis D virus	
Hepatitis E Virus	Virus de l'hépatite E	Virus dell'epatite E	Hepatitis E virus	
Hepatitis G Virus	Virus de l'hépatite G	Virus dell'epatite G	Hepatitis G virus	
Humane Immundefizienz-Virus	Virus de l'immuno-déficience humaine	Virus dell'immuno-deficienza umana	Human immunodeficiency virus	
Gelbfieber-Virus	Virus de la fièvre jaune	Virus della febbre gialla	Yellow fever virus	Only if not working with insect vectors
Trypanosomen	Trypanosoma	Trypanosoma	Trypanosoma	If working with insect vectors
Plasmodien	Plasmodium	Plasmodium	Plasmodium	If working with insect vectors
Humanes T-lymphotropes Virus 1 and 2	Virus T-lymphotrope humain 1 et 2	Virus T-linfotropico dell'uomo 1 e 2	Human T-lymphotropic virus 1 and 2	
Frühsommer-Meningo-encephalitis (FSME)	Virus de la méningo-encéphalite à tiques, (VMET)	Virus meningoencefalite da zecche (FSME)	Tick-borne encephalitis virus (TBE)	Only if not working with insect vectors
Bovine spongiforme Enzephalopathie (BSE)	Encephalopathie spongiforme bovine (ESB)	Encefalopatia spongiforme bovina (BSE)	Bovine spongiform encephalopathy (BSE)	

⁷³ Inserted by No II para. 1 of the O of 29 April 2015 (AS **2015** 1337). Amended by No II para. 2 of the O of 21 Sept. 2018, in force since 1 Nov. 2018 (AS **2018** 3505).

Deutscher Name	Nom français	Nome italiano	English name	Remarks
Transmissible Spongiforme Enzephalopathie (TSE)	Encéphalopathies spongi- formes transmissibles (EST)	Encefalopatie spongiformi trasmissibili (TSE)	Transmissible spongiform encephalopathies (TSEs)	
Louping ill Virus	Louping ill Virus	Louping ill Virus	Louping ill virus	Only if not working with insect vectors

Annex 2⁷⁴

Safety Measures

*Annex 2.1
(Art. 3)*

Procedure for establishments, transport routes and pipeline installations

When adopting safety measures, the person responsible for an establishment, transport route or pipeline installation must:

- a. select a suitable site or a suitable route and ensure that appropriate safety distances are maintained;
- b. establish the organisational requirements;
- c. arrange for the training of staff and the provision of information to third parties;
- d. establish the procedures for determining and evaluating major accident scenarios;
- e. establish the procedures for planning and implementing measures;
- f. arrange for the monitoring, servicing and review of the safety-critical components;
- g. establish the procedures for emergency planning;
- h. arrange for the systematic review of the organisational requirements and procedures and deal with change management (inside and outside the installations);
- i. document the significant results under letters b–h.

⁷⁴ Amended by No II para 2 of the O of 29 April 2015, in force since 1 June 2015 (AS 2015 1337).

Annex 2.2
(Art. 3)

Measures for establishments handling substances, preparations or special wastes

When adopting general safety measures, the person responsible for an establishment handling substances, preparations or special wastes must:

- a. as far as possible, replace dangerous substances or preparations with less dangerous ones, or limit the quantities thereof and as far as possible, avoid hazardous processes, methods or operating procedures;
- b. design load-bearing structures in such a way that no additional serious effects arise as a result of the stresses to be expected in the event of a major accident;
- c. install adequate warning and alarm systems;
- d. install suitable and reliable measurement or control systems, which, insofar as required for safety reasons, are multiple, of different types and operate independently of each other;
- e. install the necessary safety equipment and take the necessary structural, technical and organisational protective measures;
- f. monitor equipment and the operation of safety-critical components and carry out regular maintenance and inspections and document the checks;
- g. store substances, preparations or special wastes in an orderly manner, taking account of their properties, and keep up-to-date records of their quantities and location;
- h. deploy a sufficient number of suitably qualified staff, inform them about high-risk methods and processes used in the establishment, train them to prevent, limit and respond to major accidents, and ensure that the level of expertise is maintained in the event of staff changes;
- i. document any significant operational failures, their causes and the measures adopted, and retain the documents for a sufficient length of time;
- j. control access to the establishment;
- k. provide sufficient own resources for responding to major accidents, draw up an emergency plan for major accidents and discuss it with the emergency services, and carry out periodic exercises on the basis of this plan.

Measures for establishments handling microorganisms

When adopting general safety measures, the person responsible for an establishment where an activity involving genetically modified or pathogenic alien organisms or alien organisms subject to compulsory containment is carried out must:

- a. as far as possible, replace dangerous organisms with less dangerous ones;
- b. install suitable and reliable measurement or control systems, which, insofar as required for safety reasons, are multiple, of different types and operate independently of each other;
- c. install the necessary safety equipment and take the necessary structural, technical and organisational protective measures;
- d. monitor equipment and the operation of safety-critical components and carry out regular maintenance and inspections and document the checks
- e. install adequate warning and alarm systems;
- f. store organisms or special wastes in an orderly manner, taking account of their properties, and keep up-to-date records of their quantities and location;
- g. deploy a sufficient number of suitably qualified staff, inform them about high-risk methods and processes used in the establishment, train them to prevent, limit and respond to major accidents, and ensure that the level of expertise is maintained in the event of staff changes;
- h. document any significant operational failures, their causes and the measures adopted, and retain the documents for a sufficient length of time;
- i. provide sufficient own resources for responding to major accidents, draw up an emergency plan for major accidents and discuss it with the emergency services, and carry out periodic exercises on the basis of this plan.

Annex 2.4
(Art. 3)

Measures for transport routes

When adopting general safety measures, the person responsible for a transport route must:

- a. design the transport route in such a way that no additional serious effects arise as a result of the stresses to be expected in the event of a major accident;
- b. install the necessary safety equipment and take the necessary structural, technical and organisational protective measures;
- c. install adequate warning and alarm systems;
- d. monitor equipment and the operation of safety-critical elements of the transport route and carry out regular servicing;
- e. take the necessary traffic management or control measures for the transport of dangerous goods;
- f. collect, assess and pass on to the staff concerned any information available on the transport of dangerous goods;
- g. in cooperation with the emergency services, draw up an emergency plan for major accidents and carry out periodic exercises on the basis of this plan.

Measures for pipeline installations

When adopting general safety measures, the person responsible for a pipeline installation must:

- a. taking the surrounding area into account, install the necessary safety equipment and take the necessary structural, technical and organisational protective measures;
- b. collect, assess and pass on to interested third parties (e.g. staff, emergency services and land owners) any information available on the hazards posed by the thermal and motor fuels transported.

Annex 3⁷⁵

⁷⁵ Repealed by No II para. 3 of the O of 29 April 2015, with effect from 1 June 2015 (AS 2015 1337)

Risk report

Annex 4.1⁷⁶
(Art. 6)

Establishments handling substances, preparations or special wastes

1 Principles

¹ The risk report must contain all the information required by the enforcement authority in order to verify and assess, in accordance with Article 7, the risk posed by the establishment to the public or the environment. This includes, in particular, all the information listed in numbers 2–5.

² In justified cases, certain items of information may be omitted or replaced by others which are equally valid or more appropriate.

³ The scope and degree of detail of the information given for each item will depend on the specific circumstances; in particular, consideration is to be given to the type of establishment, the hazard potential, the surrounding area and the safety measures.

⁴ Documentation used for the risk report, particularly test results, empirical data, literature references, results of calculations and detailed analyses, are to be kept at the disposal of the enforcement authority.

2 Basic data

21 Establishment and surrounding area

- Description of the establishment, together with a site plan, including any licences, planning approvals or concessions,
- characterisation of the establishment (main activities, organisational structure, number of staff, etc.),
- details of the surrounding area, together with a general plan,
- division of the establishment into study units and the reasons for this division.

22 List of substances, preparations or special wastes present in each study unit

- Designation (chemical name, CAS number, trade name, etc.),

⁷⁶ Revised in accordance with No II 8 of the O of 18 May 2005 on the Repeal and Amendment of Ordinances in connection with the Commencement of the Chemicals Act, in force since 1 Aug. 2005 (AS 2005 2695).

- maximum quantity,
- location,
- details of physical and chemical properties.

23 Description of installations in each study unit

- Structure of buildings,
- methods and processes,
- storage,
- incoming and outgoing shipments,
- provision of supplies and disposal,
- installation-specific major accidents.

24 Safety measures in each study unit

- Regulations applied and experience,
- measures taken to reduce the hazard potential,
- measures taken to prevent major accidents,
- measures taken to limit the effects of major accidents.

3 Analysis for each study unit

31 Methods

- Description of the methods used.

32 Hazard potentials

- Overview and characterisation of the main hazard potentials.

33 Main major accident scenarios

331 Release process

- Possible causes,
- description of significant release processes,
- estimate of the likelihood of occurrence, given the safety measures in place.

332 Effects of release

- Description of effects, based on dispersion considerations,
- estimate of the likelihood of occurrence, given the safety measures in place.

333 Consequences for the public and the environment

- Description of the extent of possible harm to the public or damage to the environment,
- estimate of the likelihood of occurrence, given the safety measures in place.

4 Conclusions

- Account of the risk for each study unit, given the safety measures in place,
- estimate of the risk posed by the establishment as a whole.

5 Summary of the risk report

- Characterisation of the establishment and of the main hazard potentials,
- description of the safety measures,
- description of the main major accident scenarios,
- estimate of the risk posed by the establishment as a whole.

Annex 4.2⁷⁷
(Art. 6)

Establishments handling organisms

1 Principles

¹ The risk report must contain all the information required by the enforcement authority in order to verify and assess, in accordance with Article 7, the risk posed by the establishment to the public or the environment. This includes, in particular, all the information listed in numbers 2–5.

² In justified cases, certain items of information may be omitted or replaced by others which are equally valid or more appropriate.

³ The scope and degree of detail of the information given for each item will depend on the specific circumstances; in particular, consideration is to be given to the nature of the establishment, the hazard potential, the surrounding area and the safety measures. Items marked with an asterisk (*) are generally only applicable to production facilities.

⁴ Documentation used for the risk report, particularly test results, empirical data, literature references, results of calculations and detailed analyses, are to be kept at the disposal of the enforcement authority.

2 Basic data

21 Establishment and surrounding area

- Description of the establishment, together with a site plan, including any permits or planning approvals,
- characterisation of the establishment,
- names of the persons responsible,
- information on the surrounding area, together with a general plan.

22 Activities involving organisms

- Risk assessment in accordance with Article 8 of the Containment Ordinance of 9 May 2012⁷⁸; in particular, the identity and characteristics of the organisms and the nature and scale of the activity,
- the purpose of the contained use,

⁷⁷ Revised by Annex 5 No 2 of the Containment O of 25 Aug. 1999 (AS **1999** 2783), Annex 5 No 7 of the Containment O of 9 May 2012 (AS **2012** 2777) and No II para. 2 of the O of 29 April 2015, in force since 1 June 2015 (AS **2015** 1337).

⁷⁸ SR **814.912**

- the culture volumes,
- * the nature of the intended product and of any by-products which are or may be produced in the course of the activity.

23 Installation

- Description of the sections of the installation,
- * the maximum number of persons working in the installation and of persons working directly with the microorganisms.

24 Waste, wastewater and exhaust air

- Types and quantities of waste and wastewater arising from the use of organisms,
- ultimate form and destination of inactivated wastes.

25 Safety measures

- Class of the activity in accordance with the Containment Ordinance
- measures specified in the Containment Ordinance,
- measures taken to prevent major accidents,
- measures taken to limit the effects of major accidents.

3 Analysis

31 Methods

- Description of the methods used.

32 Hazard potentials

- Overview and characterisation of the main hazard potentials.

33 Main major accident scenarios

- Possible causes of major accidents,
- description of significant release events and their effects, based on dispersal considerations,
- description of the extent of possible harm to the public or damage to the environment,
- estimate of the likelihood of occurrence, given the safety measures in place.

4 Conclusions

- Account of the risk, given the safety measures in place,
- estimate of the risk posed by the establishment.

5 Summary of the risk report

- Characterisation of the establishment and of the main hazard potentials,
- description of the safety measures,
- description of the main major accident scenarios,
- estimate of the risk posed by the establishment.

Transport routes

1 Principles

¹ The risk report must contain all the information required by the enforcement authority in order to verify and assess, in accordance with Article 7, the risk posed by the transport route to the public or the environment. This includes, in particular, all the information listed in numbers 2–5.

² In justified cases, certain items of information may be omitted or replaced by others which are equally valid or more appropriate.

³ The scope and degree of detail of the information given for each item will depend on the specific circumstances; in particular, consideration is to be given to the specific features and location of the transport route, the surrounding area, the volume and structure of traffic, accident statistics and safety measures.

⁴ Documentation used for the risk report, particularly test results, empirical data, literature references, results of calculations and detailed analyses, are to be kept at the disposal of the enforcement authority.

2 Basic data

21 Transport route and surrounding area

- Description of the transport route, together with a site plan,
- information on the structure of the transport route and technical and organisational data,
- information on safety equipment,
- information on the surrounding area, including a general plan.

22 Volume and structure of traffic and accident statistics

- Traffic data, such as the total volume of traffic and the proportion of heavy goods traffic,
- data on the volume of dangerous goods traffic as a proportion of total heavy goods traffic,
- data on the accident rate, accident black spots and general accident statistics.

23 Safety measures

- Regulations applied and experience,
- measures taken to reduce the hazard potential,

- measures taken to prevent major accidents,
- measures taken to limit the effects of major accidents.

3 Analysis

31 Methods

- Description of the methods used,
- description of the survey method used to determine the proportion of dangerous goods traffic.

32 Hazard potentials

- Overview and characterisation of the main hazard potentials.

33 Main major accident scenarios

- Possible causes of major accidents,
- description of significant release events and their effects, based on dispersion considerations,
- description of the extent of possible harm to the public or damage to the environment,
- estimate of the likelihood of occurrence, given the safety measures in place.

4 Conclusions

- Account of the risk, given the safety measures in place,
- estimate of the risk posed by the transport route.

5 Summary of the risk report

- Characterisation of the transport route and of the main hazard potentials,
- description of the safety measures,
- description of the main major accident scenarios,
- estimate of the risk posed by the transport route.

*Annex 4.4*⁷⁹
(Art. 6)

Pipeline installations

1 Principles

¹ The risk report must contain all the information required by the enforcement authority in order to verify and assess, in accordance with Article 7, the risk posed by the pipeline installation to the public or the environment. This includes, in particular, all the information listed in numbers 2–5.

² In justified cases, certain items of information may be omitted or replaced by others which are equally valid or more appropriate.

³ The scope and degree of detail of the information given for each item will depend on the specific circumstances; in particular, consideration is to be given to the specific type of pipeline installation, its hazard potential and the surrounding area, as well as to safety measures.

⁴ Documentation used for the risk report, particularly test results, empirical data, literature references, results of calculations and detailed analyses, are to be kept at the disposal of the enforcement authority.

2 Basic data

21 Pipeline installation and surrounding area

- Description of the pipeline installation, together with a route/site plan,
- information on the structure of the pipeline installation and technical and organisational data,
- information on safety equipment,
- information on the surrounding area, including a general plan.

22 Safety measures

- Technical standards,
- measures taken to reduce the hazard potential,
- measures taken to prevent major accidents,
- measures taken to limit the effects of major accidents.

⁷⁹ Inserted by No II of the O of 13 Feb. 2013, in force since 1 April 2013 (AS 2013 749).

3 Analysis**31 Methods**

- Description of the methods used.

32 Hazard potentials

- Overview and characterisation of the main hazard potentials.

33 Main major accident scenarios

- Possible causes of major accidents,
- description of significant release events and their effects, based on dispersion considerations,
- description of the extent of possible harm to the public or damage to the environment,
- estimate of the likelihood of occurrence, given the safety measures in place.

4 Conclusions

- Account of the risk, given the safety measures in place,
- estimate of the risk posed by the pipeline installation.

5 Summary of the risk report

- Characterisation of the pipeline installation and of the main hazard potentials,
- description of the safety measures,
- description of the main major accident scenarios,
- estimate of the risk posed by the pipeline installation.