

## **Common Declaration II**

by

**scienceindustries (Business Association Chemistry Pharma  
Biotech)**

and

**Swiss Federal Railways AG (SBB AG)**

and

**VAP (Association of Freight Carriers)**

and

**Federal Office of Transport  
(FOT)**

and

**Federal Office for the Environment  
(FOEN)**

**on**

**the reduction of the risks to the population resulting from the  
transport of chlorine in tank wagons**

### **Preamble**

Fuels, along with chemical precursors and preparations, are vital to our society and economy. In this context, the chemical industry and the transport of these goods play an important role which must be ensured in the long term. Production, storage, transport and use of these hazardous goods within the urban structure and the existing transport infrastructure always involve risks, which must be continually monitored and reduced as much as possible.

Rail transport is very safe and is therefore the best option for moving large quantities of hazardous goods. Nonetheless, accidents can never be completely ruled out. This also applies to the transport of chlorine in tank wagons, which entails a huge potential for damage as the release of chlorine into densely populated areas would have a very severe impact on the population. Due to the development of settlements along the Lake Geneva basin and the quantities of chlorine being transported, monitoring has shown that these risks will continue to rise if countermeasures are not put in place and that there is a need for action.

The parties involved in chlorine transport and the cantons mostly affected by it held a constructive dialogue to develop solutions that would reduce the risks induced by this activity. They unanimously agreed that the transport of chlorine, a hazardous substance, should continue to be done by rail, but that safety measures must be taken given the huge potential for damage that an accident involving a chlorine tank wagon would entail.

This declaration therefore follows a first common declaration made by the Federal Department of the Environment, Transport, Energy and Communications (DETEC), scienceindustries and SBB AG in 2002, which already contained a number of measures for improving safety. These measures were implemented by late 2010. This Common Declaration II supplements the first declaration and lays the foundations for further continued successful cooperation.

For these reasons, the signing parties agree the following:

## **1. Objectives**

The Major Accidents Ordinance (MAO) calls for the protection of the population and the environment against severe harm due to major accidents. Given the potential for damage that an accident involving the transport of chlorine (UN 1017) in tank wagons would entail, all the parties involved must take all the necessary and proportionate measures to reduce the risks.

From 1 January 2019, the risks to the population posed by chlorine transport in tank wagons must on any part of the Swiss railway network no longer exceed the “middle of the transition area” according to the Assessment Criteria II related to the Major Accidents Ordinance (MAO 2001<sup>1</sup>). In order to guarantee this, in a first short term phase, the measures listed under Clause 2 are to be implemented as quickly as possible and no later than 31 December 2018.

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<sup>1</sup> [www.bafu.admin.ch/publikationen](http://www.bafu.admin.ch/publikationen) > Beurteilungskriterien II (Assessment Criteria II – not available in English)

The signing parties will continue their successful joint efforts to further improve the safety of chlorine use. The initial short-term measures already represent a significant improvement in safety. A second phase, running over a longer period of time, will involve a reduction of the risk so that it is as close as possible to the acceptable range specified in the assessment criteria related to the Major Accidents Ordinance. As part of this, options according to Clause 3 for further reducing the risk will be evaluated by the end of 2018 and will be summarised in a corresponding roadmap for the period to 2025 and implemented in accordance with the specified deadlines. Such measures must be proportionate, technically feasible and economically viable.

## **2. Measures**

### **2.1 Chlorine supply from abroad**

The industry will continue its efforts to supply chlorine from Italy for operations in Valais with the goal of reducing the transport routes lengths and avoiding urban agglomerations.

Furthermore, the industry and SBB commit to not distributing the risks across other transport routes than those currently used, except if the overall risk can be reduced when considering the network as a whole and the parties involved (see Clause 5) agree to this move. The affected cantons will be consulted. The average transported quantities, as shown in Figure 1 of Annex 1, shall be used as a reference.

### **2.2 Using the safest tank wagons currently available**

The industry undertakes to only procure chlorine - as soon as possible but no later than January 1, 2019 - from suppliers who transport the goods using tank wagons that have the best safety features currently available and exceed the relevant RID requirements as per Annex 2.

On the other hand, in order to safeguard the necessary investments and hire contracts, the authorities also agree not to initiate any tightening of the Swiss requirements for tank wagons before the end of 2025, that goes beyond the requirements defined in Annex 2, within the framework of the legislation in force.

### **2.3 Double transit and block trains**

The FOT and the affected railway companies shall together investigate the extent to which chlorine can be transported in block trains (short special trains with chlorine wagons only) in Switzerland. Where safety- and security- related risks can be significantly reduced, the FOT will enforce this measure via the infrastructure managers.

SBB Infrastructure shall optimize the transport routes in such a way that, where possible from an operational perspective, there is no double transit with chlorine tank wagons on the rail network. In this context, the risks linked to parking at the place of use must also be taken into account.

### **2.4 Speed reductions and operating times**

SBB Infrastructure shall ensure that block trains carrying chlorine will run at a reduced speed of 40 km/h at all times.<sup>2</sup>

The transport runs must therefore be scheduled in such a way that they do not interfere with other traffic and do not lead to any limitations in the capacity of the SBB network.

### **2.5 Removing obstacles**

SBB Infrastructure shall inspect the railway lines for obstacles that are not strictly necessary from an operational or technical standpoint but could increase the risk of chlorine being released during a derailment (damage to the tank wall) and shall remove these if in compliance with the principle of proportionality. This shall be done by 2019 on the railway lines that bear risks relating to chlorine transport in the transition area, while on the remaining lines involved in chlorine transport the measure shall be implemented as part of the routine renovation and renewal work.

### **2.6 Checking the emergency planning and response**

By the end of 2018, SBB shall check the emergency planning for routes bearing risks induced by chlorine transport in the transition area to ensure that they are suitable for accidents

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<sup>2</sup> One train path per day for freight trains with chlorine tank wagons has already been provided for from an operational standpoint, allowing these trains to travel through the urban agglomerations of Geneva (km 64.4 to km 58.5) and Renens-Lausanne (km 5.5 to km 0.8) at a reduced speed of 40 km/h maximum. These trains shall continue to travel at a reduced speed on the segments mentioned.

involving this substance. They will coordinate the planning with the relevant cantonal authorities.

## **2.7 Further safety measures**

In the framework of the execution of the Major Accidents Ordinance, the Federal Office of Transport (FOT) can order the infrastructure managers to implement further measures that increase the safety of chlorine transport. These measures shall be reported as part of the monitoring process (Clause 5).

## **2.8 Introduction of transport restrictions**

If the target “the middle of the transition area” cannot be achieved even after the above-mentioned measures have been implemented, the FOT shall introduce restrictions on the quantities of chlorine (UN 1017) that can be transported in tank wagons, following consultation with the parties involved (see Clause 5). These limitations shall apply to import, export and domestic traffic as well as to transit traffic.

## **2.9 International communication of the measures**

The FOT shall notify the body responsible for international rail traffic (Intergovernmental Organisation for International Carriage by Rail, OTIF) of the introduction of quantity restrictions in good time.

In order to make the RID signatory states aware of the other operational measures that are to be implemented (Clause 2.3, 2.4 and 2.7), the FOT shall inform the OTIF of these in advance, indicating the necessity of the measures. It shall also inform the responsible authorities in the affected neighbouring countries directly.

## **2.10 Supporting measures**

*Assessment criteria for chlorine (UN 1017)*

The FOEN shall work with the FOT and the affected stakeholders to draw up the “Assessment criteria for the transport of chlorine in tank wagons” by the end of 2017 (directive according to Article 22 of the MAO), which will look at the risks of chlorine

transport as a special case of hazardous goods transport due to its great potential for harm and will set out in a binding manner the objectives listed under Clause 1.

#### *User-based transport costs*

The FOT shall initiate the appropriate amendments to the ordinance so that the costs of the measures (Clause 2.3 - 2.7) undertaken by the infrastructure manager (SBB) in order to comply with the objectives listed under Clause 1 and with the safety requirements as well as the necessary preventive measures (including insurance premiums) along the infrastructure are mapped in the train-path pricing system. The industry acknowledges that the clearly identified costs of the safety measures (including insurance premiums) relating to the chlorine supply shall be passed on in full in the transport prices.

#### *International regulations*

The FOT commits itself to rally within the bodies responsible for international safety regulations for tank wagons (RID) for further improving the standards according to Clause 2.2. SBB AG and the industry (scienceindustries and VAP, including via their international associations [UIP, AIEP, CIT and ERFA]) shall support the FOT in this regard.

#### *Liability*

The FOT shall evaluate possible amendments to the legislation, related to liability aspects, in order to take into account the division of roles between infrastructure managers, transport companies, keepers and entities in charge of maintenance (ECM) in the future.

### **3. Options for further reducing the risks**

The parties shall develop a roadmap for the second phase based on the objectives. Possible measures may include: Developing a completely new generation of tank wagons, chlorine supply from northern Italy by renovating the facilities there or creating the adequate framework for the construction of a new chlorine production facility close to the major consumers.

### **4. Proviso**

This common declaration is based on the assumption that existing laws are sufficient and shall remain unchanged from a transport safety perspective, unless this declaration itself explicitly puts forward some amendments. If these laws are changed, this common declaration must be checked and, where necessary, amended.

## **5. Monitoring**

The parties shall meet regularly – at least once a year – to regulate, monitor and discuss the implementation of the measures that are set out in this common declaration, as well as those that are yet to be defined (Chapter 2, 3 and 4), under the chair of the FOEN. They shall provide annual updates and ensure that the affected cantons are involved to an appropriate extent. The parties may enlist working groups to look at detailed technical issues.

If the FOT establishes that the measures in this declaration cannot be implemented on time or to a sufficient extent, or cannot be implemented at all, it shall, based on the applicable legal framework, put forward these or alternative measures which aim to increase safety in a different way.

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**Annex 1: Organising chlorine procurement abroad in accordance with Clause 2.1**

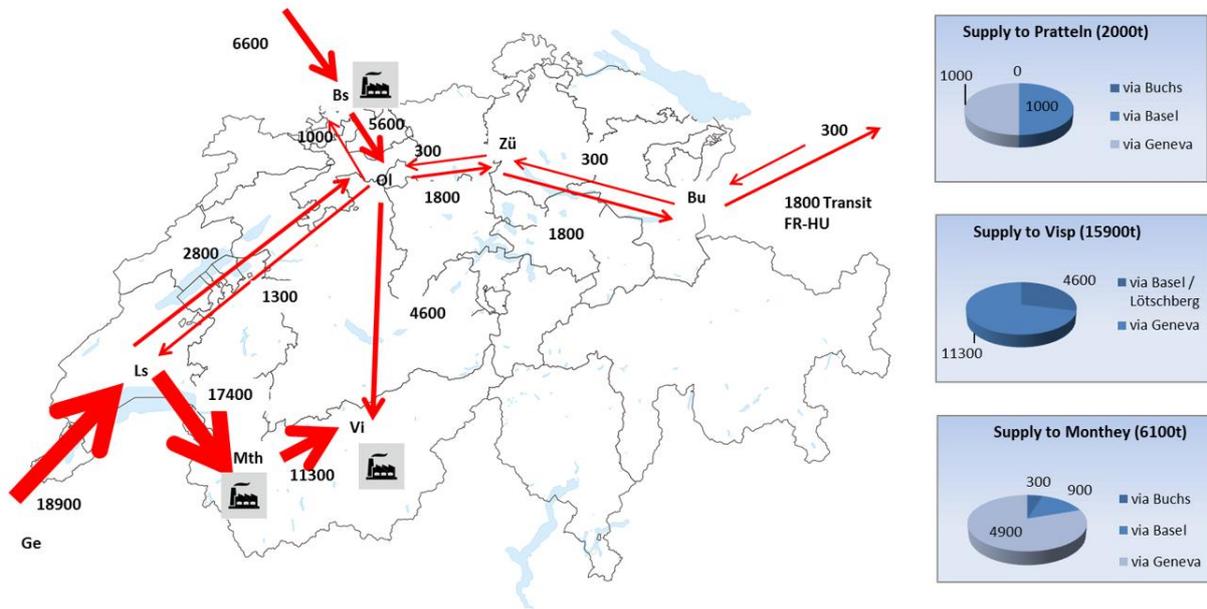


Figure 1 Chlorine transport in Switzerland (import and transit transport, reference years 2013-2015, taking into account the launch of operations at the renewed production facility in Pratteln in October 2016)

**Annex 2: Minimum requirements for tank wagons in accordance with Clause 2.2**

Criteria and features which are to serve as minimum requirements that must be met by tank wagons used for importing chlorine (UN 1017) into Switzerland (see Clause 2.2). These requirements go beyond those of the RID and ATMF in part and apply in addition to the RID.

<b>Requirement</b>	<b>Description</b>	<b>Comments</b>
Detection of derailments	Elements for detecting derailments (e.g. derailment detector)	
TE22 extended	Energy absorption elements (crash buffer) with optimised energy intake	
TE25 combined	Buffer override protection according to TE25a or a combination of two measures for limiting damage caused by buffer overriding according to RID TE25b up to/including TE25e.	
Valves	Protective mechanism between the outer and inner valves (two-part valve with predetermined breaking point) so that, in the event that the outer top valve is torn, the inner bottom valve guarantees full leak-tightness of the wagon.  Further safety-enhancing measures in addition to RID 6.8.2.2.1.	
Brakes with automatic load conversion	This prevents brakes being incorrectly set manually.	
Optimised wheelset axle	Wheelset axle with higher load capacity: install 25 t wheelsets instead of 22.5 t.	Implement measures for new wagons. Existing wagons can be retrofitted.
No ladders	Reduces the chance of the valves being opened by a third party.	The loading and unloading companies must confirm that they do not need ladders.