

ICS 43.02

CCS T00



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 34402-2017

**Risk assessment and risk control of motor vehicle product
safety**

汽车产品安全 风险评估与风险控制指南

Issued on: September 29, 2017

Implemented on: April 1, 2018

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of the PRC**

Table of Contents

- 1 Scope
- 2 Terms and definitions
- 3 General rules...
- 4 Risk assessment
 - 4.3 Identify dangerous events or situations
 - 4.5 Assess the probability of dangerous events or situations

1 Scope

China's national standard for assessing and controlling the safety risk of a motor vehicle product. It specifies the basic process of risk assessment and the basic methods of risk control, and it applies to the risk assessment and control of hazards found during the analysis and identification of motor vehicle product defects. This is the document behind a recall decision. When a fault pattern appears in a vehicle in service, somebody has to decide whether it constitutes a defect requiring action, and if so what action: a recall, a service campaign, a warning, or nothing. That decision is not obvious. It depends on how likely the failure is, how likely it is to cause harm if it occurs, how severe that harm would be, and whether the driver would have any warning or control. Making the process explicit does two things: it lets a manufacturer reach the same conclusion the regulator would, and it makes the reasoning reviewable afterwards, when the question is why a decision was taken and when.

This standard specifies the basic process of risk assessment and the basic methods of risk control of motor vehicle product safety. This standard applies to the situation that in the process of motor vehicle product defect analysis and identification, make risk assessment and risk control for the dangerous events or situations of the motor vehicle products that have been sold.

2 Terms and definitions

The following terms and definitions apply to this document.

2.1 Hazard of motor vehicle product Due to design, manufacture or identification, the vehicle itself, system, assembly or parts are in an unsafe condition. It is appeared in the form of fault and failure of the vehicle itself, system, assembly and parts.

2.2 Safety risk of motor vehicle product It is the combination of the severity of dangerous events or situations that may result from the risk of motor vehicle product endangering the

safety of person or property and the probability of occurrence.

Note. The dangerous events or situations in this standard include both what happened and what could happen.

2.3 Severity It is the degree of damage to personal and property safety that dangerous events or situations can do.

2.4 Probability It is the probability that motor vehicle product will have dangerous events or situations in its useful life cycle.

Note. Probability refers to the probabilistic predictions of dangerous events or situations and

4 Risk assessment

4.1 The basic procedure of risk assessment The basic procedure of risk assessment mainly includes. -- Determine risk assessment objects; -- Identify dangerous events or situations; -- Assess the severity of dangerous events or situations; -- Assess the probability of dangerous events or situations occurring; -- Determine comprehensive risk level.

4.2 Determine objects of risk assessment During the assessment process, determine the risk assessment object after analyzing reasonably and trace back according to the actual situation of the fault or failure of motor vehicle product. In particular, it is necessary to analyze whether the fault or failure is related to design, manufacture or identification of motor vehicle product. -- In the event of the fault or failure of motor vehicle product due to the design, the risk assessment object is all the batch of motor vehicle products that may have adopted the same design; -- In the event of the fault or failure of motor vehicle product due to the manufacture, the risk assessment object is all the batch of motor vehicle products that may have adopted the same manufacturing process; -- In the event of the fault or failure of motor vehicle product due to the identification, the risk assessment object is all the batch of motor vehicle products that may have adopted the same identification.

4.3 Identify dangerous events or situations

4.3.1 Risk-transfer process Identifying dangerous events or situations begins with a study of risk-transfer process, and a technical analysis of the fault or failure of motor vehicle product. Moreover, simulate potentially dangerous events or situations as well as possible accidents or injury scenario. Risk-transfer process is shown in Figure 2. Different types of vehicles have certain impacts on the severity in their use, speed, accurate load number, weight, geometric dimensions, the level of active and passive safety and nature of cargo. Such as, high-speed sports car, medium and large buses, trucks and other high-speed, high-load vehicles, and dangerous goods transport vehicles, etc. It is necessary to increase the severity grade. In addition to the above correction factors, in the process of correction of preliminary assessment results of severity grade, correction may also be made after comprehensive analysis based on the factors such as fault or failure mode, situation of

vehicle accident depth investigation, degree of casualties, and analysis test results of defect engineering.

4.5 Assess the probability of dangerous events or situations

4.5.1 Probability level of occurrence of dangerous events or situations The probability of occurrence of dangerous events or situations is divided into five levels. high, relative-high, medium, relative-low and low. The probability assessment includes two steps. preliminary assessment and result correction. Probability assessment methods include. quantitative method, qualitative method and combination of quantitative and qualitative.