

# Risk Assessment for RAPEX

## General Information

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### Product

Product name: Wheeled child conveyance

Product category: Child care article

Description: This is a PROSAFE risk assessment template for wheeled child conveyances (prams, strollers, pushchairs, etc.). It describes likely injury scenarios for the most common and risky non-compliances for wheeled child conveyances according to EN 1888:2012.

The scenarios consider the following non-compliances according to EN1888:2012:

§8.2.1 Holes, gaps and openings

§8.2.2 Entrapment between handle and pram body

§8.3 Moving parts

§8.3.3 Locking mechanism

§8.5 Choking and ingestion hazards

§8.6 Suffocation hazards

§8.8 Parking and braking devices

§8.9 Stability

§8.10 Structural integrity

### How to use

Users should select those scenarios that correspond to the non-compliances identified in the product under assessment.

All other scenarios are deleted.

The probabilities are estimated in the remaining scenarios.

Users are reminded that the scenarios presented in the template are likely scenarios. Users should always assure that the scenarios do indeed give a good representation of the situation that is being assessed. This includes among other things checking that the scenario is suitable, that the steps are correct and that the injury level is appropriate.

### Disclaimer

The template has been developed by a PROSAFE working group composed of market surveillance experts. The intention is to support market surveillance officials assessing the risk with a particular product as part of a market surveillance case.

The template is not authorized or endorsed in any way and it is not binding for Member State market surveillance authorities.

The contents of the original template is subject to

change without notice.

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### **Product risks - Overview**

- Scenario 1 : **Risk to be determined** - §8.2.1 Holes, gaps and openings.  
There is a finger-size opening inside the protected volume. A child puts its finger into the hole. The finger gets trapped. The finger breaks.
- Scenario 2 : **Risk to be determined** - §8.3 Moving parts.  
The stroller has hazardous shear and compression points between rigid parts inside the protected volume (for instance in the folding system in the canopy).  
A child is sitting in the stroller. The child plays inside the protected volume. A finger gets entrapped between the moving parts. The finger is crushed.
- Scenario 3 : **Risk to be determined** - §8.3.3 locking mechanism.  
A child is sitting in the stroller. The locking mechanism breaks or is incompletely engaged. The stroller folds unintended. A finger is entrapped. The finger breaks.
- Scenario 4 : **Risk to be determined** - §8.5 Choking and ingestion hazards (e.g. arising from small parts inside the protected volume).  
A child detaches a small part from the stroller.  
The child puts the part into the mouth.  
The part gets stuck in the larynx and blocks the airways.
- Scenario 5 : **Risk to be determined** - §8.9 Stability  
A stroller has low stability. The stroller is parked on a slope. The child is excited and moves rapidly from side to side. The stroller tips over. The child hits the ground with the head.  
The child suffers concussion
- Scenario 6 : **Risk to be determined** - §8.8 Parking and braking devices.  
The brakes work inadequately or release by themselves so the stroller can move.  
The stroller is parked on a slope.  
The stroller begins to roll by itself.  
It hits an object and turns over.  
The child hits the ground with the head.  
The child suffers concussion.

Scenario 7 : **Risk to be determined** - §8.2.2 Entrapment between handle and pram body.

A child sleeps in a pram and wakes up. The child tries to get out over the end of the pram body. It gets stuck between the pram body and the handle. The child is strangulated.

Scenario 8 : **Risk to be determined** - §8.6 Suffocation hazards e.g. arising from textiles inside the protected volume.

The lining is improperly fastened inside the pram body. The child loosens some of the lining and pulls it in front of its face. The child suffocates.

Overall risk :

**Risk to be determined**

# Scenario 1 : Very young children - Gap or opening between elements

## Product hazard

Hazard Group: Size, shape and surface  
Hazard Type: Gap or opening between elements

## Consumer

Consumer Type: Very young children - 0 to 36 months (Very vulnerable consumers)

## How the hazard causes an injury to the consumer

Injury scenario: §8.2.1 Holes, gaps and openings.  
There is a finger-size opening inside the protected volume. A child puts its finger into the hole. The finger gets trapped. The finger breaks.

## Severity of Injury

Injury: Fracture  
Level: 2 Extremities (finger, toe, hand, foot)  
Wrist  
Arm  
Rib  
Sternum  
Nose  
Tooth  
Jaw  
Bones around eye

## Probability of the steps to injury

	Step(s) to Injury	Probability
Step 1:	A child is sitting in the stroller. There is a finger-size hole inside the protected volume.	1
Step 2:	The child puts a finger in the hole. (Between 0.1 and 1: The probability depends on where the hole is inside the protected volume.)	
Step 3:	The finger gets trapped. (The probability depends on the size and shape of the hole and decreases towards the threshold values given in the standard, 7 and 12 mm.)	
Step 4:	The child becomes excited and tries to pull out the finger.	
Step 5:	The finger breaks.	

**Calculated probability:**

**To be determined**

**Overall probability:**

**To be determined**

**Risk of this scenario:**

**Risk to be determined**

## Scenario 2 : Very young children - Parts moving against one another

### Product hazard

Hazard Group: Kinetic energy  
Hazard Type: Parts moving against one another

### Consumer

Consumer Type: Very young children - 0 to 36 months (Very vulnerable consumers)

### How the hazard causes an injury to the consumer

Injury scenario: §8.3 Moving parts.  
The stroller has hazardous shear and compression points between rigid parts inside the protected volume (for instance in the folding system in the canopy).  
A child is sitting in the stroller. The child plays inside the protected volume. A finger gets entrapped between the moving parts. The finger is crushed.

### Severity of Injury

Injury: Crushing  
Level: 3    Extremities (fingers, toe, hand, foot)  
                  Elbow  
                  Ankle  
                  Wrist  
                  Forearm  
                  Leg  
                  Shoulder  
                  Trachea  
                  Larynx  
                  Pelvis

### Probability of the steps to injury

Step(s) to Injury	Probability
Step 1: The stroller has hazardous shear and compression points between rigid parts inside the protected volume. A child is sitting in the stroller.	1
Step 2: The child plays inside the protected volume. (Normal behaviour - probability close to 100%.)	

Step 3: A finger gets entrapped between the moving parts after or while the parent has folded the canopy. (The probability depends upon where the dangerous point is, the area and size of the dangerous point and the construction of the stroller and the canopy.)

Step 4: The finger is crushed. (The probability depends upon the sharpness, the material, where the finger is trapped and the force applied.)

**Calculated probability:**

**To be determined**

**Overall probability:**

**To be determined**

**Risk of this scenario:**

**Risk to be determined**

## Scenario 3 : Very young children - Low mechanical stability

### Product hazard

Hazard Group: Potential energy  
Hazard Type: Low mechanical stability

### Consumer

Consumer Type: Very young children - 0 to 36 months (Very vulnerable consumers)

### How the hazard causes an injury to the consumer

Injury scenario: §8.3.3 locking mechanism.  
A child is sitting in the stroller. The locking mechanism breaks or is incompletely engaged. The stroller folds unintended. A finger is entrapped. The finger breaks.

### Severity of Injury

Injury: Fracture  
Level: 2    Extremities (finger, toe, hand, foot)  
                  Wrist  
                  Arm  
                  Rib  
                  Sternum  
                  Nose  
                  Tooth  
                  Jaw  
                  Bones around eye

### Probability of the steps to injury

Step(s) to Injury	Probability
Step 1: A child is sitting in the stroller and the locking mechanism breaks or is incompletely engaged.	1
Step 2: The stroller folds unintended. (The probability can be found from analysis of the test report and the construction of the stroller.)	
Step 3: A finger is entrapped. (The probability depends upon the construction of the stroller and the folding mechanism.)	
Step 4: The finger breaks. (The probability depends upon the construction of the stroller and the folding mechanism.)	

**Calculated probability:**

To be determined



**Overall probability:**

**To be determined**

**Risk of this scenario:**

**Risk to be determined**

## Scenario 4 : Very young children - Product is or contains small part

### Product hazard

Hazard Group: Size, shape and surface  
Hazard Type: Product is or contains small part

### Consumer

Consumer Type: Very young children - 0 to 36 months (Very vulnerable consumers)

### How the hazard causes an injury to the consumer

Injury scenario: §8.5 Choking and ingestion hazards (e.g. arising from small parts inside the protected volume).  
A child detaches a small part from the stroller.  
The child puts the part into the mouth.  
The part gets stuck in the larynx and blocks the airways.

### Severity of Injury

Injury: Internal airway obstruction  
Level: 3 Oxygen flow to brain blocked without permanent consequences

### Probability of the steps to injury

	Step(s) to Injury	Probability
Step 1:	A child detaches a small part inside the protected volume. (The probability depends upon the force required to detach the small part)	
Step 2:	The child puts the part into its mouth. (Children of this age normally always put things in their mouth.)	
Step 3:	The part gets stuck in the larynx. (The probability is often estimated to 1/1.000 in other risk assessment.)	
Step 4:	The small part blocks the airways. (The probability depends upon the shape, size and presence of holes in the object.)	

**Calculated probability:**

To be determined

**Overall probability:**

To be determined

**Risk of this scenario:**

Risk to be determined



## Scenario 5 : Very young children - Low mechanical stability

### Product hazard

Hazard Group: Potential energy  
Hazard Type: Low mechanical stability

### Consumer

Consumer Type: Very young children - 0 to 36 months (Very vulnerable consumers)

### How the hazard causes an injury to the consumer

Injury scenario: §8.9 Stability  
A stroller has low stability. The stroller is parked on a slope. The child is excited and moves rapidly from side to side. The stroller tips over. The child hits the ground with the head.  
The child suffers concussion

### Severity of Injury

Injury: Concussion  
Level: 3 Prolonged unconsciousness

### Probability of the steps to injury

	Step(s) to Injury	Probability
Step 1:	A stroller has low stability.	1
Step 2:	The stroller is parked on a slope.	
Step 3:	The child is excited and moves rapidly from side to side. (This is common behavior for the age Group.)	
Step 4:	The stroller tips over. (The probability can be derived from an analysis of the test report and the construction in general.)	
Step 5:	The child hits the ground with its head. (The probability depends upon the direction of the fall and the construction of the stroller.)	
Step 6:	The child suffers concussion. (The probability depends upon the hardness of the surface, the height of the stroller and the direction of the fall.)	

**Calculated probability:**

To be determined

**Overall probability:**

To be determined

**Risk of this scenario:**

**Risk to be determined**

## Scenario 6 : Very young children - Low mechanical stability

### Product hazard

Hazard Group: Potential energy  
Hazard Type: Low mechanical stability

### Consumer

Consumer Type: Very young children - 0 to 36 months (Very vulnerable consumers)

### How the hazard causes an injury to the consumer

Injury scenario: §8.8 Parking and braking devices.  
The brakes works inadequately or release by themselves so the stroller can move.  
The stroller is parked on a slope.  
The stroller begins to roll by itself.  
It hits an object and turns over.  
The child hits the ground with the head.  
The child suffers concussion.

### Severity of Injury

Injury: Concussion  
Level: 3 Prolonged unconsciousness

### Probability of the steps to injury

Step(s) to Injury	Probability
Step 1: The brakes works inadequately or release by themselves so the stroller can move.	1
Step 2: The stroller is on a slope. (The probability is less than 100%. It depends upon how often parents leaves or release the grip of a strollers on a sloped surface without noticing.)	1
Step 3: The stroller begins to roll by itself.	
Step 4: The stroller hits an object. (The probability depends upon the surroundings.)	
Step 5: The stroller turns over. (The probability depends upon the speed, the object that is hit and the stability of the stroller.)	
Step 6: The child hits the ground or something else with the head. (The probability depends on the direction of the fall and the construction of the stroller.)	

Step 7: The child suffers a concussion. (The probability depends upon the hardness of the surface, the height of the stroller and the direction of the fall.)

**Calculated probability:**

**To be determined**

**Overall probability:**

**To be determined**

**Risk of this scenario:**

**Risk to be determined**

## Scenario 7 : Very young children - Gap or opening between elements

### Product hazard

Hazard Group: Size, shape and surface  
Hazard Type: Gap or opening between elements

### Consumer

Consumer Type: Very young children - 0 to 36 months (Very vulnerable consumers)

### How the hazard causes an injury to the consumer

Injury scenario: §8.2.2 Entrapment between handle and pram body.  
A child sleeps in a pram and wakes up. The child tries to get out over the end of the pram body. It gets stuck between the pram body and the handle. The child is strangulated.

### Severity of Injury

Injury: Suffocation / Strangulation  
Level: 4 Fatal suffocation / strangulation

### Probability of the steps to injury

Step(s) to Injury	Probability
Step 1: A child sleeps in a pram and wakes up.	1
Step 2: The child tries to get out over the end of the pram body. (The probability presumes that there is no parental supervision and no functioning restraint system. The probability depends upon culture and habits in the country.)	
Step 3: The child gets stuck between the pram body and the handle. (The probability depends upon the construction of the pram. Help can be found in the test report.)	
Step 4: The child is strangulated. (The probability close to 100% and depends upon presence of parental supervision.)	

**Calculated probability:**

To be determined

**Overall probability:**

To be determined

**Risk of this scenario:**

Risk to be determined



## Scenario 8 : Very young children - Product is impermeable to air

### Product hazard

Hazard Group: Size, shape and surface  
Hazard Type: Product is impermeable to air

### Consumer

Consumer Type: Very young children - 0 to 36 months (Very vulnerable consumers)

### How the hazard causes an injury to the consumer

Injury scenario: §8.6 Suffocation hazards e.g. arising from textiles inside the protected volume.  
The lining is improperly fastened inside the pram body.  
The child loosens some of the lining and pulls it in front of its face. The child suffocates.

### Severity of Injury

Injury: Suffocation / Strangulation  
Level: 3 Oxygen flow to brain blocked without permanent consequences

### Probability of the steps to injury

Step(s) to Injury	Probability
Step 1: The lining is improperly fastened inside the pram body.	1
Step 2: The child loosens some of the lining and pulls it in fronts of its face. (The probability can be derived from an analysis of the test report and examination of the construction of the pram.)	
Step 3: The child suffocates. (The probability depends upon the material and the size of the loosened material.)	

**Calculated probability:**

To be determined

**Overall probability:**

To be determined

**Risk of this scenario:**

Risk to be determined