1 | General Information and Overview

Product		Risk assessor	
Product name:	Impact drills	Organisation:	
Product category:	Power tools	Country:	COUNTRIES.NAME_
Description:	This is a PROSAFE risk assessment template for impact drills. It describes likely injury scenarios linked to non-conformity with the following clauses of EN 60745-1:2009: §20.3, mechanical strength, drop test §21.18, construction, locking devices on mains switch and EN 60745-2-1:2010: §19.1, mechanical hazards, chuck key §19.101, mechanical hazards, stalling torque How to use Users of the template should select the scenario(s) corresponding to the non-conformities identified for the product under assessment. All other scenarios can then be deleted. The probabilities are estimated in the remaining scenarios. The scenarios presented in the template are likely scenarios. Users should ensure that the scenarios are suitable, that the steps are correct and that the injury level is appropriate. Disclaimer: The template has been developed by a Joint Action 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		

Product	Risk assessor
without notice. Disclaimer: This Risk Assessment Template arises from the Joint Market Surveillance Action on GPSD Products – JA2016, which received funding from the European Union in the framework of the 'Programme of Community Action in the field of Consumer Policy (2014-2020)'. The content of this document represents the views of the author only and it is his sole responsibility; it cannot be considered to reflect the views of the European Commission and/or the Consumers, Health, Agriculture and Food Executive Agency or any other body of the European Union. The European Commission and the Agency do not accept any responsibility for use that may be made of the information it contains.	

2 | Product risks - Overview

Scenario 1 :	To be determined - A person is using the impact drill. The person drops the drill on a concrete floor. The casing on the drill breaks near the electrical parts. The user doesn't notice but grabs the drill to pick it up and touches live parts. The user suffers a fatal electrical shock.
Scenario 2 :	To be determined - A person is drilling a hole in a concrete wall. The lock-on switch doesn't release when the user lets go of the drill and places it on the floor. The user gets in touch with the rotating drill. The user suffers minor injuries on his feet.
Scenario 3 :	To be determined - The user uses the chuck key to fasten a drill in the machine. The chuck key is stuck and the user leaves it in (perhaps because he is distracted). The user starts drilling and the chuck key flies off. The chuck key hits the user or a bystander in the eye. The injured suffers a loss of sight on one eye.
Scenario 4 :	To be determined - A user is drilling a hole in a concrete wall using the drilling machine. The drill gets stuck and the machine stalls. The stalling torque is higher than allowed in the standard. The user is not prepared for this, doesn't release his grip on the handle and breaks his wrist.
Scenario 5 :	To be determined - A user is standing on a ladder drilling a hole in a concrete wall using the drilling machine. The drill gets stuck and the machine stalls. The stalling torque is higher than allowed in the standard. The user is not prepared for this, and is unable to release his grip on the handle. The user falls from the ladder and breaks a leg.

Scenario 1 : Other consumers - High/low voltage

1 | Product hazard

Hazard Group: **Electrical energy**

Hazard Type: **High/low voltage**

2 | Consumer

Consumer type: **Other consumers - Consumers other than vulnerable or very vulnerable consumers**

3 | How the hazard causes an injury to the consumer

Injury scenario: **A person is using the impact drill. The person drops the drill on a concrete floor. The casing on the drill breaks near the electrical parts. The user doesn't notice but grabs the drill to pick it up and touches live parts. The user suffers a fatal electrical shock.**

4 | Severity of Injury

Injury: **Electric shock**

Level: **4 Electrocution**

5 | Probability of the steps to injury

Step	Step(s) to Injury	Probability
1	A person is using the impact drill.	1
2	The person drops the drill on a concrete floor. (Highly possible - almost certain.)	1
3	The casing on the drill breaks near the electrical parts. (The probability depends upon the mechanical strength of the casing. It can be estimated from the results of the lab test.)	0
4	The user doesn't notice but grabs the drill to pick it up and accidentally touches live parts.	0
5	The user suffers a fatal electrical shock. (Other less severe outcomes may be more likely and result in a higher risk.)	0

Calculated probability	Overall probability	Risk of this scenario
To be determined	To be determined	Risk to be determined

Scenario 2 : Other consumers - Moving product

1 | Product hazard

Hazard Group: **Kinetic energy**

Hazard Type: **Moving product**

2 | Consumer

Consumer type: **Other consumers - Consumers other than vulnerable or very vulnerable consumers**

3 | How the hazard causes an injury to the consumer

Injury scenario: **A person is drilling a hole in a concrete wall. The lock-on switch doesn't release when the user lets go of the drill and places it on the floor. The user gets in touch with the rotating drill. The user suffers minor injuries on his feet.**

4 | Severity of Injury

Injury: **Laceration, cut**

Level: **1 Superficial**

5 | Probability of the steps to injury

Step	Step(s) to Injury	Probability
1	A person is drilling a hole in a concrete wall.	1
2	The lock-on switch doesn't release when the user lets go of the drill and places it on the floor. (The probability depends upon how easily the lock releases. It can be estimated from the results from the lab test.)	0
3	The user gets in touch with the rotating drill.	0
4	The user suffers minor injuries on his feet.	0

Calculated probability	Overall probability	Risk of this scenario
To be determined	To be determined	Risk to be determined

Scenario 3 : Other consumers - Moving product

1 | Product hazard

Hazard Group: **Kinetic energy**

Hazard Type: **Moving product**

2 | Consumer

Consumer type: **Other consumers - Consumers other than vulnerable or very vulnerable consumers**

3 | How the hazard causes an injury to the consumer

Injury scenario: **The user uses the chuck key to fasten a drill in the machine. The chuck key is stuck and the user leaves it in (perhaps because he is distracted). The user starts drilling and the chuck key flies off. The chuck key hits the user or a bystander in the eye. The injured suffers a loss of sight on one eye.**

4 | Severity of Injury

Injury: **Eye injury, foreign body in eye**

Level:

5 | Probability of the steps to injury

Step	Step(s) to Injury	Probability
1	The user uses the chuck key to fasten a drill in the machine.	1
2	The chuck key is stuck and the user leaves it in (perhaps because he is distracted). (The probability can be estimated from the test results.)	0
3	The user starts drilling and the chuck key flies off. (The velocity can be estimated from the test results.)	0
4	The chuck key hits the user or a bystander in the eye.	0
5	The injured suffers a loss of sight on one eye. (Other less or more severe injuries are possible.)	0

Calculated probability	Overall probability	Risk of this scenario
To be determined	To be determined	Risk to be determined

Scenario 4 : Other consumers - Inability to stop

1 | Product hazard

Hazard Group: **Product operating hazards**

Hazard Type: **Inability to stop**

2 | Consumer

Consumer type: **Other consumers - Consumers other than vulnerable or very vulnerable consumers**

3 | How the hazard causes an injury to the consumer

Injury scenario: **A user is drilling a hole in a concrete wall using the drilling machine. The drill gets stuck and the machine stalls. The stalling torque is higher than allowed in the standard. The user is not prepared for this, doesn't release his grip on the handle and breaks his wrist.**

4 | Severity of Injury

Injury: **Fracture**

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

5 | Probability of the steps to injury

Step	Step(s) to Injury	Probability
1	A user is drilling a hole in a concrete wall using the drilling machine.	1
2	The drill gets stuck and the machine stalls.	1
3	The stalling torque is higher than allowed in the standard.	0
4	The user is not prepared for this, is unable to release his grip on the handle and breaks his wrist. (The probability will depend upon the actual torque that is measured in the lab tests and the shape of the handle.)	0

Calculated probability	Overall probability	Risk of this scenario
To be determined	To be determined	Risk to be determined

Scenario 5 : Other consumers - Inability to stop

1 | Product hazard

Hazard Group: **Product operating hazards**

Hazard Type: **Inability to stop**

2 | Consumer

Consumer type: **Other consumers - Consumers other than vulnerable or very vulnerable consumers**

3 | How the hazard causes an injury to the consumer

Injury scenario: **A user is standing on a ladder drilling a hole in a concrete wall using the drilling machine. The drill gets stuck and the machine stalls. The stalling torque is higher than allowed in the standard. The user is not prepared for this, and is unable to release his grip on the handle. The user falls from the ladder and breaks a leg.**

4 | Severity of Injury

Injury: **Fracture**

Level: **3 Ankle, Leg (femur and lower leg), Hip, Thigh, Skull, Spine (minor compression fracture), Jaw (severe), Larynx, Multiple rib fractures, Blood or air in chest**

5 | Probability of the steps to injury

Step	Step(s) to Injury	Probability
1	A user is standing on a ladder drilling a hole in a concrete wall using the drilling machine.	1
2	The drill gets stuck and the machine stalls.	1
3	The stalling torque is higher than allowed in the standard.	0
4	The user is not prepared for this, and is unable to release his grip on the handle, looses his balance and falls down from the ladder.	0
5	The user breaks a leg.	0

Calculated probability	Overall probability	Risk of this scenario
To be determined	To be determined	Risk to be determined