T-shore Education

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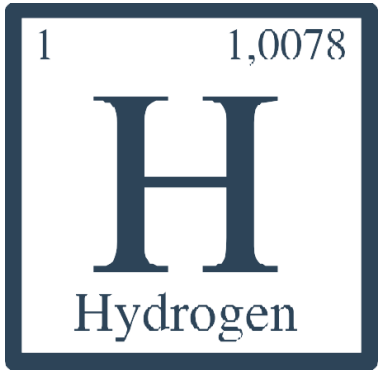
# Risk Assessment:

*Example for Instructor*




**Module:**

**Power-to-X**

**Learning scenario:**

**Introduction to Power-To-X**

# General information

This document shall be used as a template for creating Risk Assessment and Safety Measure document for T-shore learning scenarios

This risk assessment document shall as a minimum include:

- mitigations for at least weather and safe evacuation procedures
- testification that the equipment and locations are safe and functional, as well as compliant with the requirements for the applicable learning scenario.

Document control

| Version | Date of issue | Author | Approved Management |
|---|---|---|---|
| **01** | 27.05.2025 | Jens høffner | |



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# Keys

| | |
|---|---|
| **Likelihood:** | **1=Highly unlikely; 2=Unlikely; 3=Possible; 4=Likely; 5=Certain** |
| **Severity:** | 1=No injury; 2=Minor injury; 3=Medical treatment; 4=Injury with lost working time; 5=Major injury/ fatality |
| **Risk:** | Likelihood x Severity |

# Risk categorisation

| | |
|---|---|
| Low: 1-5, Green | Tolerable low risk |
| Medium: 6-11, Yellow | Monitor, control and maintain strict control measures |
| High: 12-25, Red | Stop activity! Reassess and apply new control measures to reduce risk to an acceptable level (bellow 11)! |

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# Risk and control measures

| Potential hazards | Who is affected? | Risk | Rating | | | Control Measures to minimise risk | Residual (new) rating | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | A | x B | = C | | A | x B | = C |
| | | | Likelihood | Severity | Risk | | Likelihood | Severity | Risk |
| **Incorrect use of measuring instruments (e.g. multimeter)** | Participants | Risk of electric shock or equipment damage | 3 | 3 | 9 | - - Instructor-led demonstrations before training participant use<br>- Supervised hands-on practice only<br>- Use of low-voltage circuits for training | 1 | 2 | 2 |
| **Failure to use PPE (e.g. gloves, glasses)** | Participants / Instructors | Exposure to electric components, arc flashes, or tool-related injuries | 3 | 4 | 12 | - Mandatory PPE briefing before each session<br>- Visual PPE check by instructor<br>- No access to practical zones without PPE | 1 | 3 | 3 |

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|---|---|---|---|---|---|---|---|---|---|
| **Use of damaged training equipment** | Participants | Faulty circuits, short circuits, or unexpected behaviour in components | 2 | 4 | 8 | - Equipment must be checked and signed off before use<br>- Defective items clearly marked and removed from area<br>- Periodic instructor inspections | 1 | 2 | 2 |
| **Incorrect use of measuring instruments (e.g., multimeter, pressure gauge)** | Participants | Risk of electric shock, equipment damage | 3 | 3 | 9 | - Instructor demonstration before use- Only supervised operation- Use of low-voltage systems | 1 | 1 | 2 |
| **Failure to use PPE (e.g., gloves, goggles, antistatic clothing)** | Participants / Instructors | Exposure to electric components, gas or physical injury | 3 | 4 | 12 | Mandatory PPE briefing- Visual check before entry- No access to lab without PPE | 1 | 1 | 3 |
| **Hydrogen leak during electrolysis** | Participants / Instructors | Fire/explosion risk, respiratory hazard | 2 | 5 | 10 | Work in ventilated zones- Continuous leak monitoring- Emergency stop systems in place | 1 | 4 | 4 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Mishandling of electrolysis materials (e.g., electrolyte like KOH)** | Participants | Skin/eye burns, chemical exposure | 3 | 4 | 12 | Use of chemical-resistant gloves and goggles- Demonstration on safe handling- Immediate access to eye wash and first aid | 1 | 2 | 2 |
| **Gas ignition from demonstration (burning soap bubbles)** | Participants / Instructor | Burns, fire risk | 3 | 4 | 12 | - Only instructor performs demo- Demo only in ventilated, open areas- Keep safety distance- Fire extinguisher nearby | 1 | 3 | 3 |
| **Manual handling of equipment** | Participants | Back strain, injury due to improper lifting | 3 | 2 | 6 | - Warm-up and lifting techniques taught- Instructor supervision- No solo lifting of heavy items | 1 | 2 | 2 |
| **Insufficient understanding of ATEX regulations** | Participants | Uncontrolled operation in hazardous zones | 3 | 5 | 15 | - ATEX theory covered in detail- Scenarios explained before exercises- Use of ATEX-compliant tools and environments | 1 | 3 | 3 |

# Signatures

This document must carry the signature of at least two competent persons, usually one of the instructors and a person representing the legal owner of the on-site structure, prior to training delivery. The signature states that they understand and comply with the requirements.

| Position | Print Name | Signature | Date |
|---|---|---|---|
| | | | |
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