

Exposure to respirable cancer risk factors in Europe – Findings from the Workers' Exposure Survey

Marine Cavet, survey coordinator

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European Agency for Safety and Health at Work

EU-OSHA – Who we are

The European Union body responsible for the collection, analysis and dissemination of relevant information to serve the needs of those involved in safety and health at work.

- Set up in **1994**
- Based in **Bilbao, Spain**
- Governed by **European law**
- Mostly **financed** from the general EU budget
- Independent in the execution of its **mission/tasks**
- **A tripartite network organisation**, closely linked to EU actors and national networks through the **national focal points** (HSA in Ireland)

The survey in short

Telephone survey with 24,402 workers in six EU Member States

Coverage: employed population in Germany, Spain, Finland, France, Hungary, and **Ireland** (both employees and self-employed) representing **98.5 million workers**.

Based on Australian Workplace Exposure Study (AWES)

Standardised sets of questions (modules) covering 50 occupations.
Short, precise and factual customised questions about tasks.

Expert assessment of probable exposure to 24 known cancer risk factors using a web-based application

OccIDEAS website for more information

OccIDEAS

EU-OSHA website to explore the WES survey

Cancer risk factors covered in WES

- Physical, chemical, or biological exposures can be assessed in OccIDEAS
- **For WES: 24 cancer risk factors** (CRF) including industrial chemicals, inorganic and organic dusts, metals, oils, products of combustion, solvents, and radiation

INDUSTRIAL CHEMICALS
1,3 butadiene
acrylamide
diethyl/dimethyl sulphate
epichlorohydrin
ethylene oxide
formaldehyde
ortho-toluidine

INORGANIC DUSTS/ FIBRES
asbestos
respirable crystalline silica

ORGANIC DUSTS
leather dust
wood dust

METALS
arsenic
cadmium
cobalt
hexavalent chromium (VI)
lead and inorganic compounds
nickel

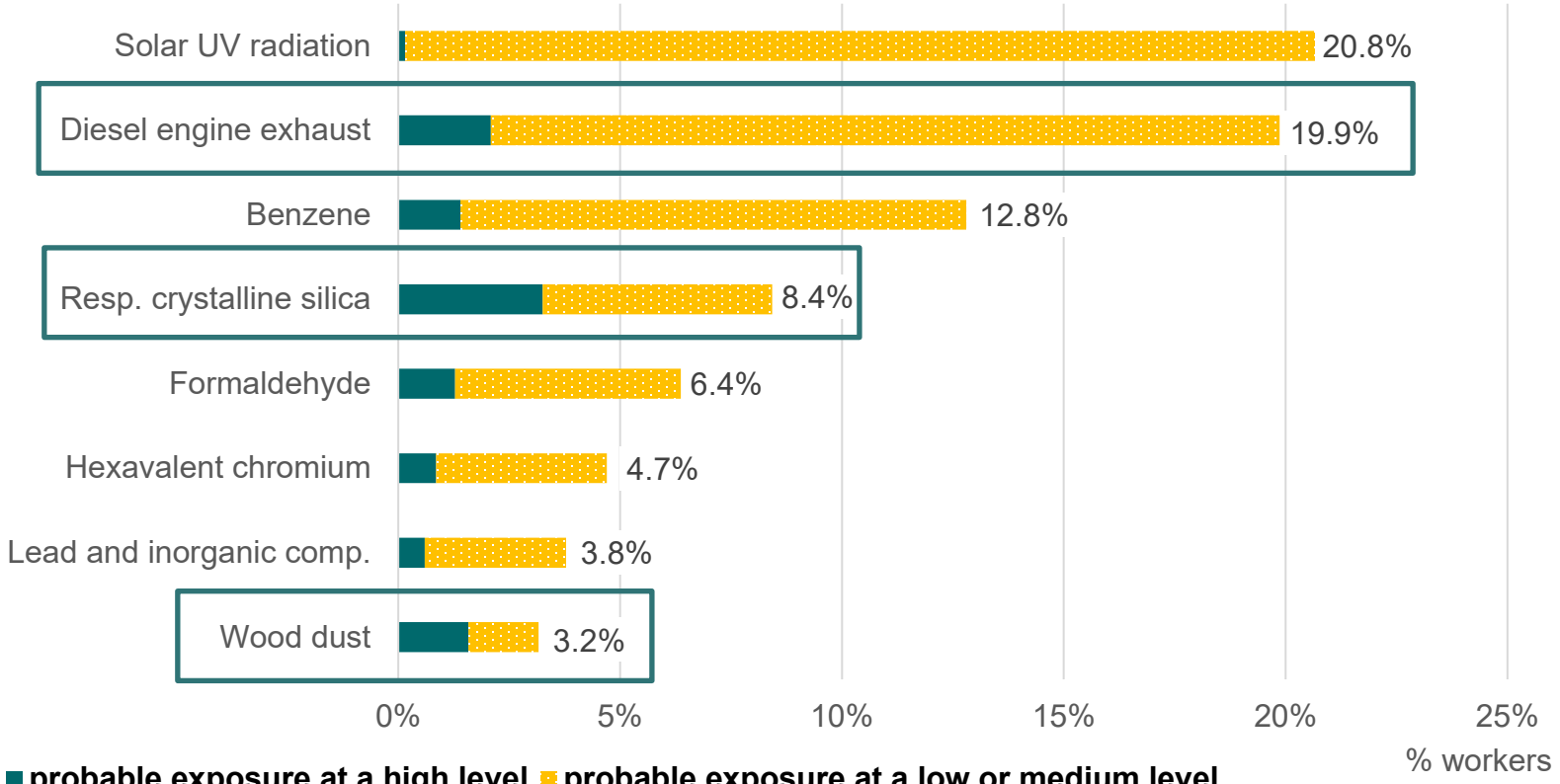
OILS
mineral oils (as mists)

PRODUCTS OF COMBUSTION
diesel engine exhaust emissions

SOLVENTS
benzene
trichloroethylene

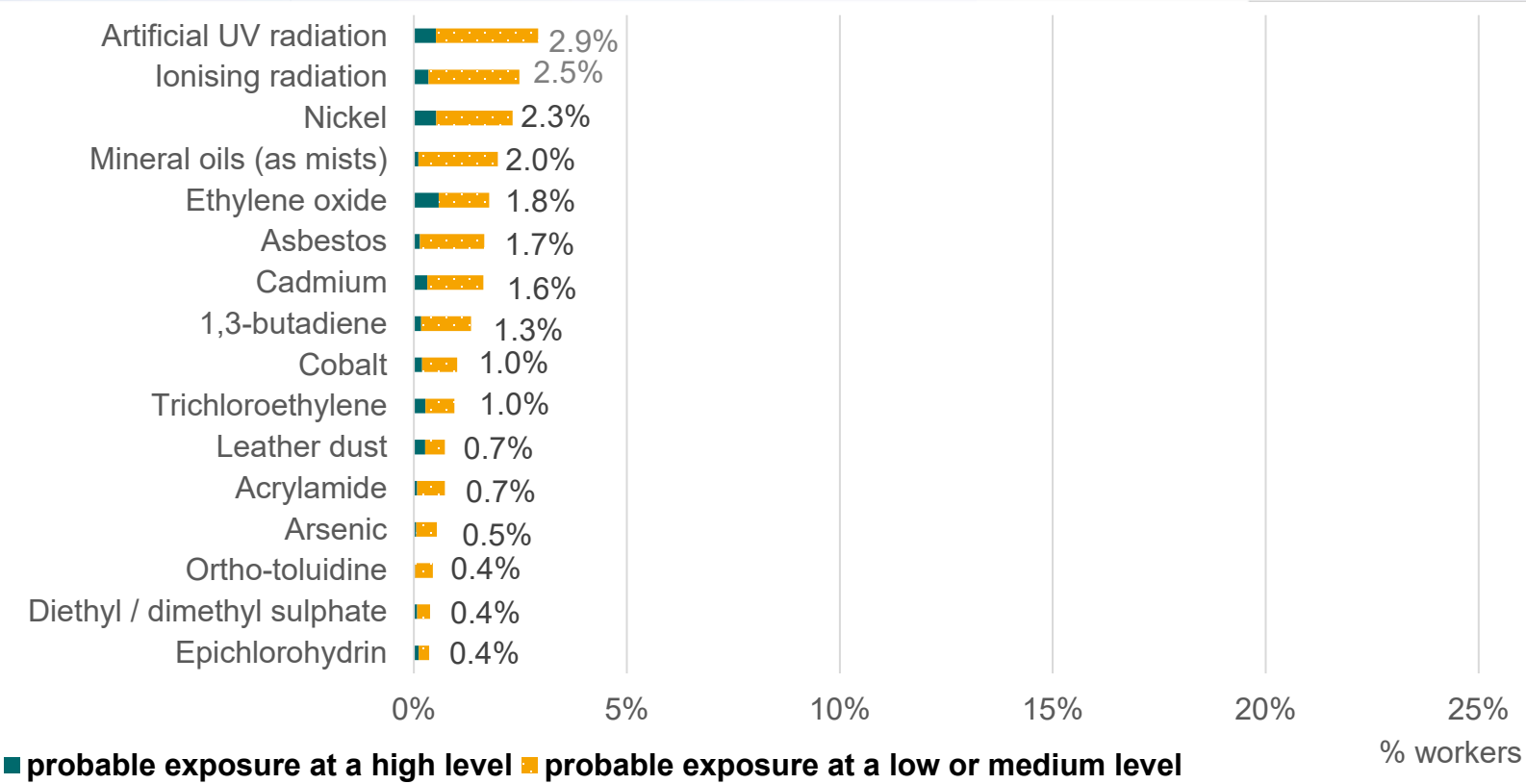
RADIATION
ionising radiation
artificial UV radiation, including ocular exposure
solar UV radiation, including ocular exposure

The most common exposures in the last week



Source: WES 2023, EU-OSHA; reference population: all workers in Germany, Spain, Finland, France, Hungary, and Ireland.

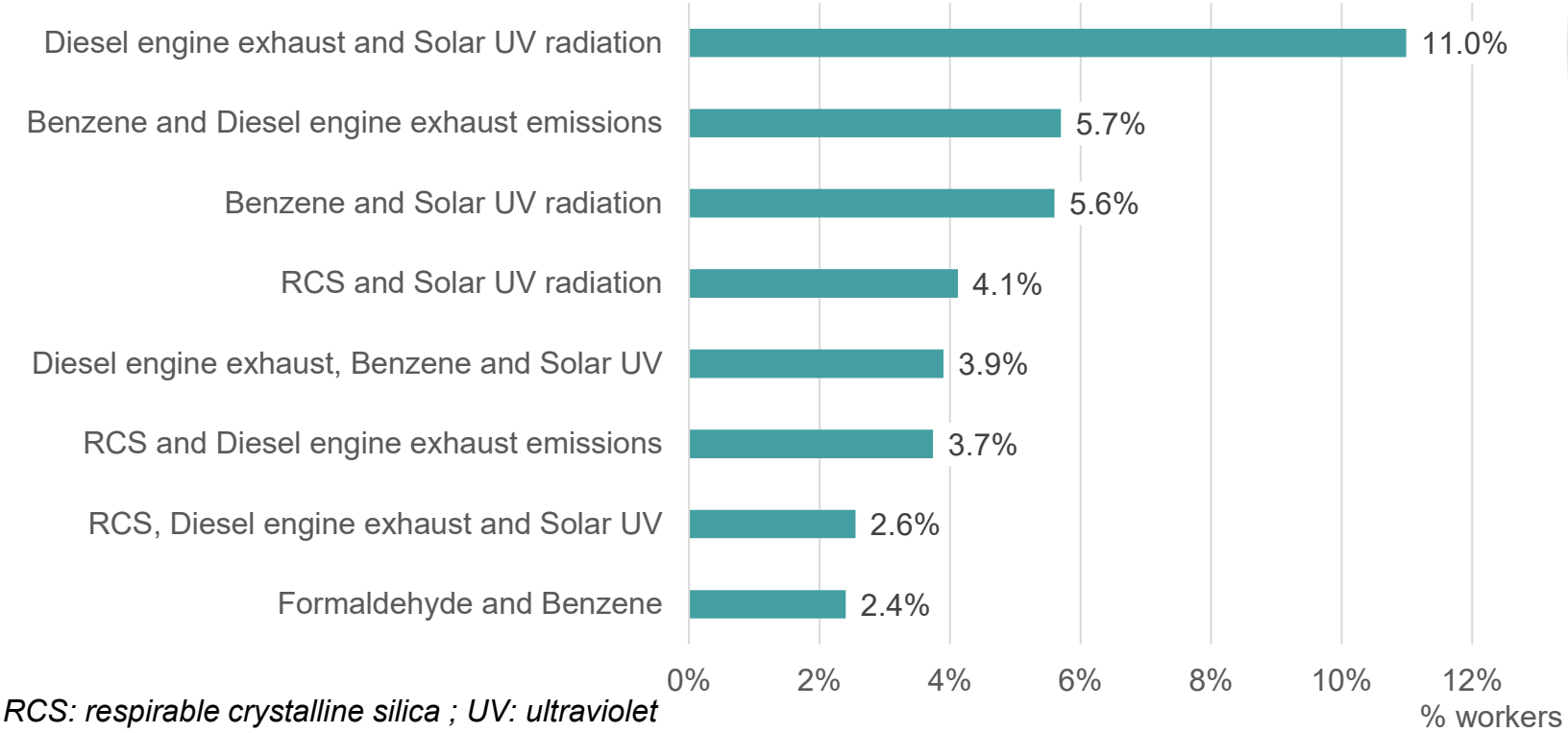
Other exposures in the last working week



Source: WES 2023, EU-OSHA; reference population: all workers in Germany, Spain, Finland, France, Hungary, and Ireland.

Multiple exposures over the same working week

The most common multiple exposures:

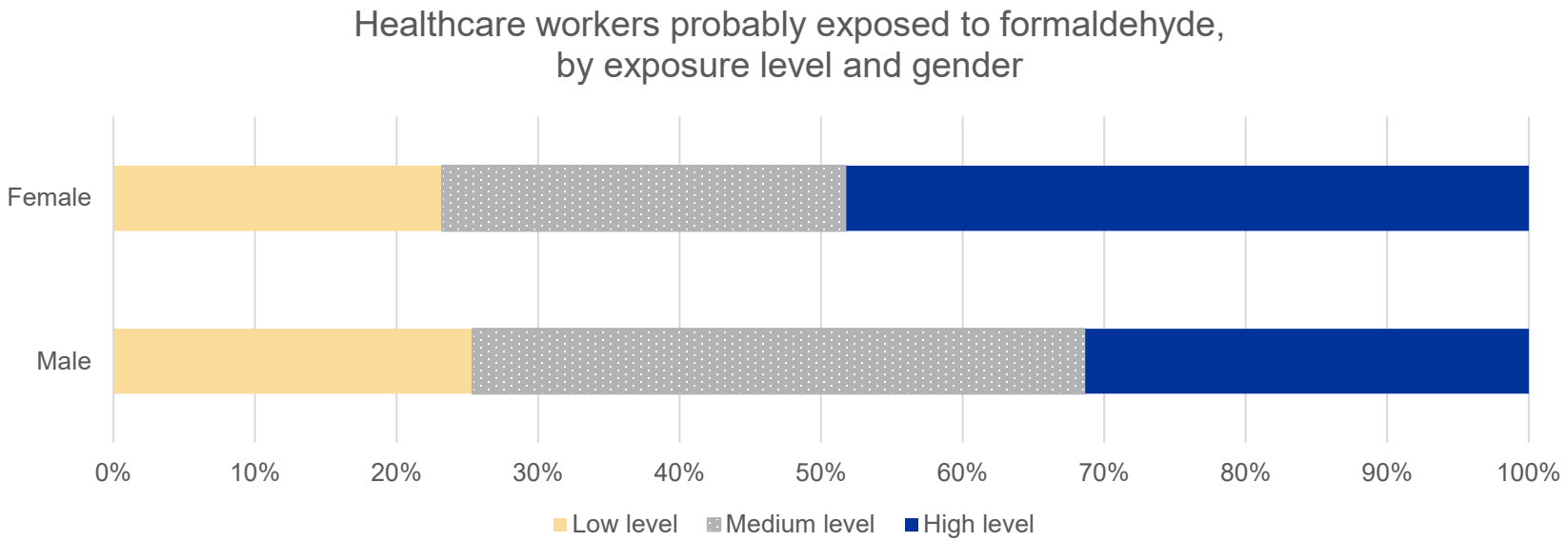


RCS: respirable crystalline silica ; UV: ultraviolet

Source: WES 2023, EU-OSHA; reference population: all workers in Germany, Spain, Finland, France, Hungary, and Ireland.

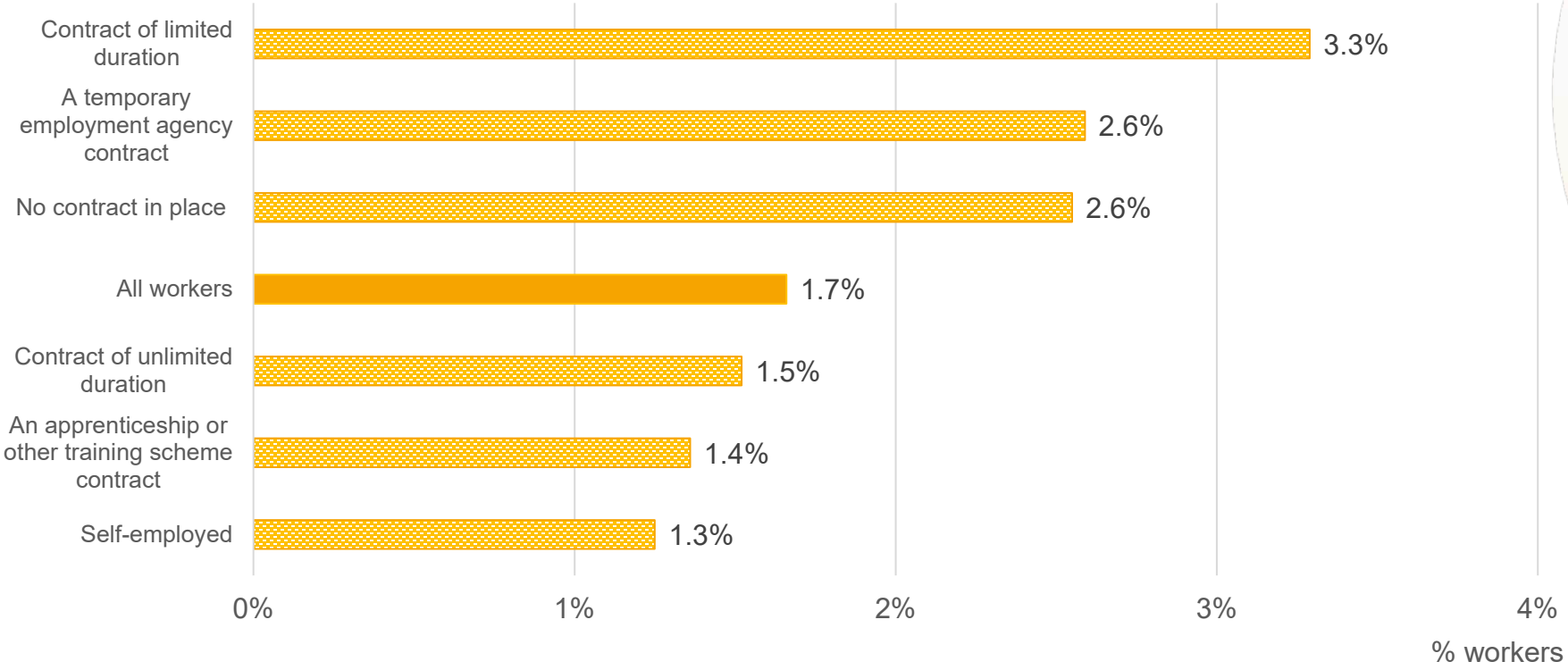
Exposure by gender – formaldehyde in healthcare

See the flyer on the gender perspective



Source: WES 2023, EU-OSHA; reference population: healthcare workers exposed to formaldehyde in Germany, Spain, Finland, France, Hungary, and Ireland.

Exposure by contract type – asbestos (all sectors)



Source: WES 2023, EU-OSHA; reference population: all workers exposed to asbestos in Germany, Spain, Finland, France, Hungary and Ireland.

Exposure to respirable crystalline silica (RCS)

Most common circumstances of exposure among the workers exposed to RCS (the same worker may get exposed in more than one circumstance):

Exposure circumstances (tasks conducted in the last week)	**Proportion of exposed workers working in each circumstance**
Driving in a construction site, a mine or a quarry (not specific to any job)	26%
Presence of sand dust on working site (in construction trades)	20%
Drilling or making holes in walls (in construction trades)	16%
Working with concrete, stone, artificial stone, slate, ceramic tiles or bricks, including: (not specific to any job)	14%
Working with ceramic tiles	*3%*
Working with artificial stone	*3%*
Mixing concrete or cement (in construction trades)	13%
Ploughing, harrowing, or otherwise disturbing soil (in crop and livestock farm workers)	8%

Source: WES 2023, EU-OSHA; reference population: workers exposed to RCS in Germany, Spain, Finland, France, Hungary, and Ireland and working in one or more of the circumstances listed.

Control measures – exposure to RCS

Use of control measures among the workers exposed to RCS and for each circumstance of exposure, when available (the same worker may use more than one measure):

Exposure circumstances	Water dust suppression	Enclosed box, system or cab	LEV	Relevant RPE	None
Presence of sand dust on working site	30%	Not asked	Not asked	Not asked	70%
Drilling or making holes in walls	Not asked	Not asked	37%	Not asked	63%
Working with concrete, stone, artificial stone, slate, ceramic tiles or bricks:	30%	Not asked	30%	35%	44%
Working with ceramic tiles	*36%*	*Not asked*	*47%*	*34%*	*36%*
Working with artificial stone	*24%*	*Not asked*	*35%*	*44%*	*48%*
Ploughing, harrowing, or otherwise disturbing soil	Not asked	46%	Not asked	Not asked	54%

Source: WES 2023, EU-OSHA; reference population: workers exposed to RCS in Germany, Spain, Finland, France, Hungary, and Ireland and working in one or more of the circumstances listed.

How can the survey contribute?

- Quality information for both **prevention and policy making purposes**
- **Stimulating research** by providing public access to the dataset and questionnaire
- Contribution to OSH actions – **Europe's Beating Cancer Plan**
- Support one of key objectives – **EU strategic framework on health and safety at work 2021-2027**
- Provision of **information for updating EU legislation** to improve the protection against dangerous substances and fight occupational cancer
  - Preparation of possible future amendment proposals of the CMR Directive
- Participation in the activities around the **Roadmap on carcinogens**
- Feeding new EU-OSHA research project on occupational exposure to CRF

Research sub-projects for 2026-2028

- Understanding EU Member States practices for the recognition of occupational cancer 2026-2027
- Mapping of EU databases on exposure data to cancer risk factors and comparison with WES data (when feasible) 2026-2027
- Occupational exposure to combined/multiple CMR substances (with ECHA) 2027
- Review of practices on chemical substitution (specific chemicals) and ‘As low as is technically possible’ principle 2027-2028
- *Topic still to be confirmed* 2028

Practices for the recognition of occupational cancer

- **Main aim of the ongoing study**
  - **Improve understanding** of the different practices in the EU members states
  - **Provide recommendations** for improvement of practices and procedures
- **Objectives**
  - **Description of the systems and practices** (e.g. list system, complementary systems, mixed system, non-mandatory system)
  - **Description of the different conditions and information required** to demonstrate a worker has been exposed to the carcinogen agent
  - **How the systems operate in practice**: main challenges, limitations and strengths
- **Timeline and deliverables**
  - Technical report, summary and policy brief to be published by **Q1 2028**

Thank you!

Go raibh maith agaibh!

Check all related publications here, including the detailed methodology report and the overview report

In memory of Nuala Flavin, coordinator of the Irish team of national experts for WES



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