

# OEELs, DNEELs and Risk Assessments

How OSH and REACH work together



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# OELVs - Occupational Exposure Limit Values



- HSA Code of Practice for the chemical agents regulations 2016
- Exposure levels should be maintained well below the OELV



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# OELVs - Occupational Exposure Limit Values

## Schedule I

### List of Chemical Agents and Occupational Exposure Limit Values (OELVs)

Substance	EINECS No.	CAS No.	Occupational Exposure Limit Value (8-hour reference period)		Occupational Exposure Limit Value (15-minute reference period)		Notes
			ppm	mg/ m <sup>3</sup>	ppm	mg/ m <sup>3</sup>	
Acetaldehyde	200-836-8	75-07-0	25	45	25	45	-
Acetic acid	200-580-7	64-19-7	10	25	15	37	IOELV
Acetic anhydride	203-564-8	108-24-7	0.5	2.5	2	10	-
Acetone	200-662-2	67-64-1	500	1210	-	-	IOELV
Acetonitrile	200-835-2	75-05-8	40	70	-	-	Sk, IOELV
Acetophenone	202-708-7	98-86-2	10	49	-	-	-
Acetylene	200-816-9	74-86-2	-	-	-	-	Asphx
Acetylene Dichloride	208-750-2	540-59-0	200	790	250	1000	-
Acetylene Tetrabromide, see 1,1,2,2-Tetrabromoethane							
o-Acetylsalicylic acid, (Aspirin)	200-064-1	50-78-2	-	5	-	-	-
Acrolein	203-453-4	107-02-8	0.1	0.25	0.3	0.8	-
Acrylaldehyde, See Acrolein							
Acrylamide	201-173-7	79-06-1	-	0.03	-	-	Sk, Carc1B, Muta1B
Acrylic acid	201-177-0	79-10-7	2	4			-



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# DNELs - Derived No Effect Levels

...the level of exposure above which humans should not be exposed



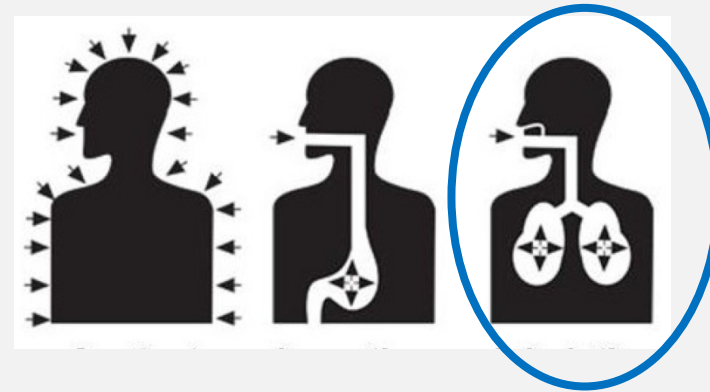
Manufacturers and importers of substances in EU must register under REACH (>1 tonne/year)



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# Finding DNEs

- Safety data sheet
- ECHA/information on chemicals
  - <http://echa.europa.eu>
- IFA/Gestis database
  - <http://dguv.de/ifa/gestis/gestis-dnel-datenbank>



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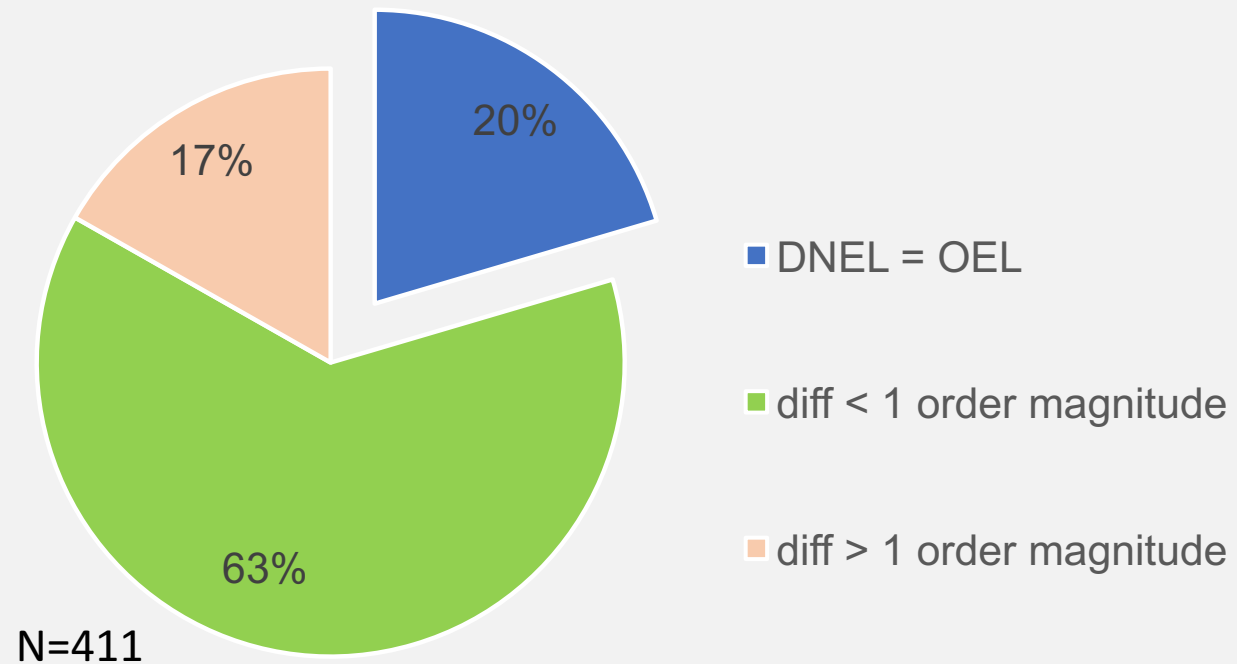
# Comparing role of OELs and DNELs

	OELVs	DNELs
How many?	~700 OELVs, of which ~120 IOELVs	As appropriate for all registered substances (>17000 registered)
Who sets them?	HSA	REACH registrants
When?	Update period varies	On registration. Occasional update
How?	Based on ACGIH TLVs and EC/SCOEL (IOELVs/BOELVs ). Public consultation	Based on ECHA guidance. Registrants may use OELs if justified. No public consultation
Why?	Limit value for worker exposure - Safety, Health and Welfare at Work Regulations (OSH)	Establishing control measures for REACH exposure scenarios - REACH regulation



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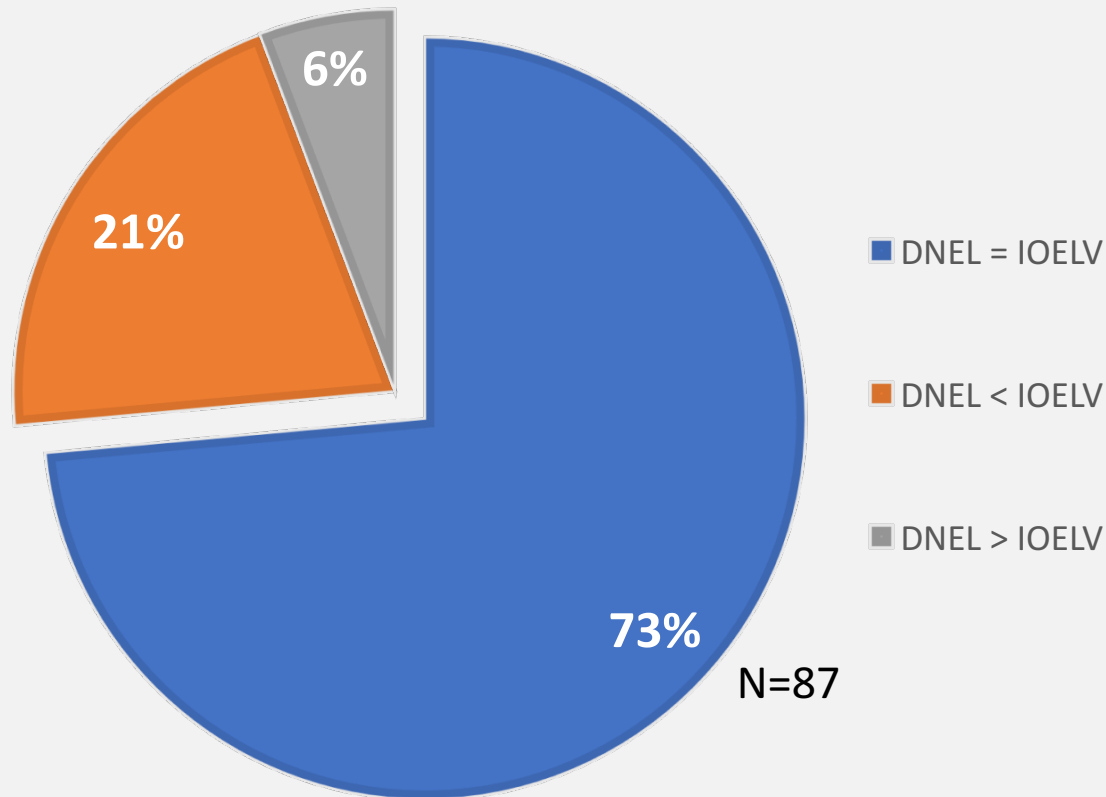
# Comparison of OELs and DNELs



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Source: Sheffers, Wielling BOHS 2014  
[www.dohsbase.com](http://www.dohsbase.com)

# Comparison of IOELVs (Finland) with DNELs,



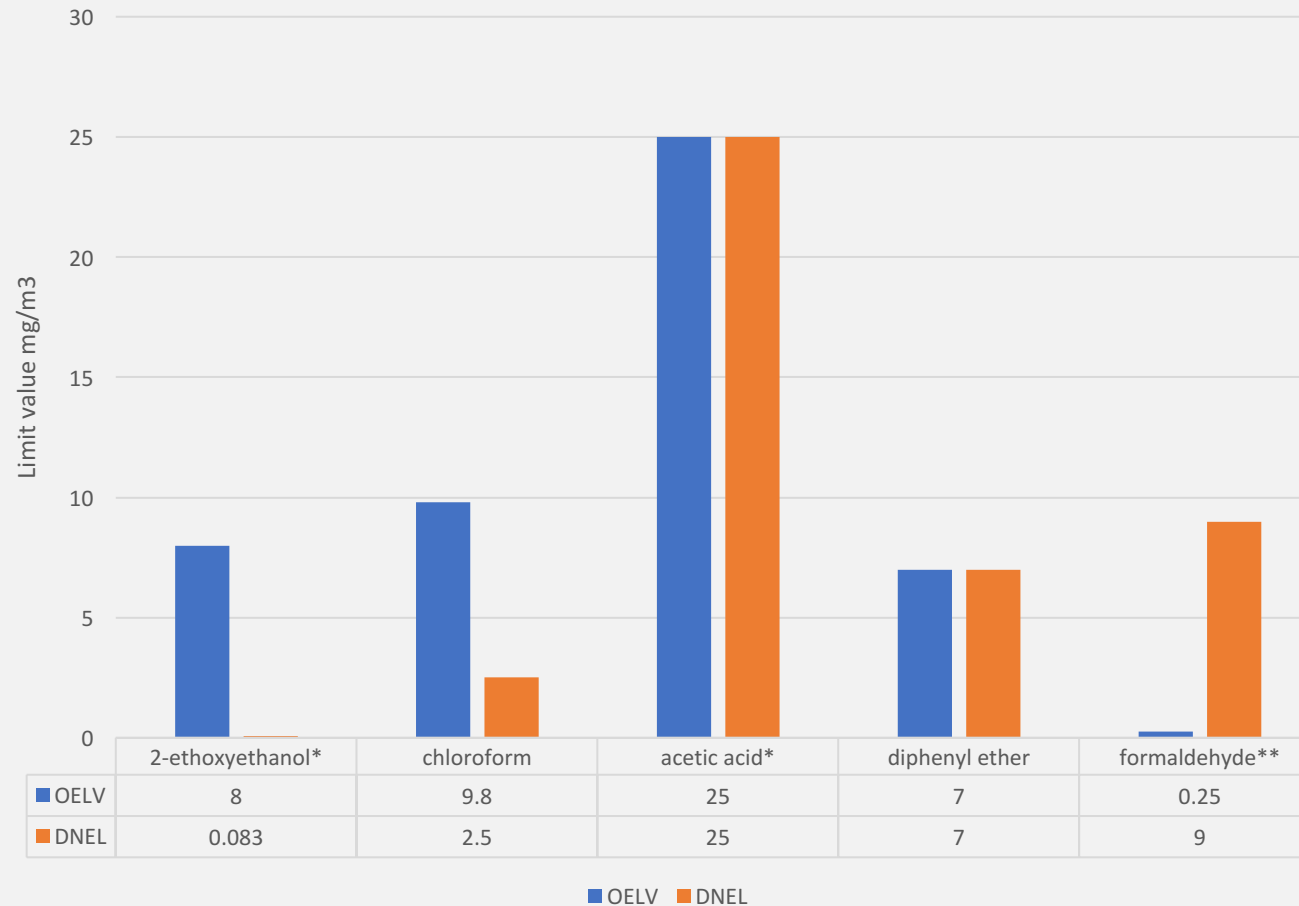
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Source: *Ann.Occup. Hyg*, 2015, Vol 59, NO 4, 401-415

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# Comparing some Irish OELVs and DNELs



\*IOELV

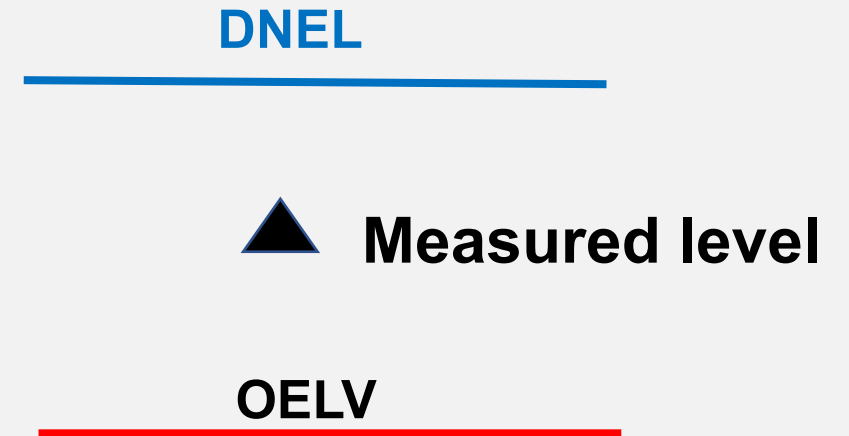
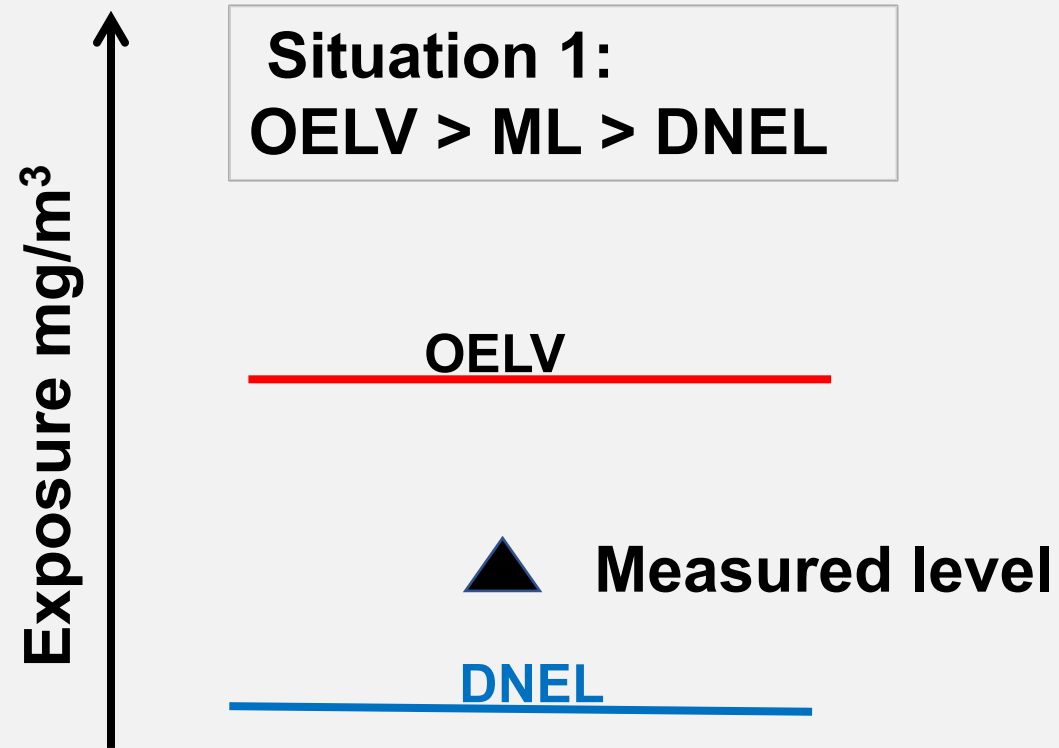
\*\*Recommendation



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# What would you do?



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# Advice from inspectors

## **DNEL < OEL**

Implement risk management measures (RMMs) from exposure scenario (ES). If these do not achieve the DNEL, contact supplier (even if exposure is below OEL)

## **DNEL > OEL**

Implement RMMs from ES. Control the exposure to below the OEL.

## **DNEL = OEL**

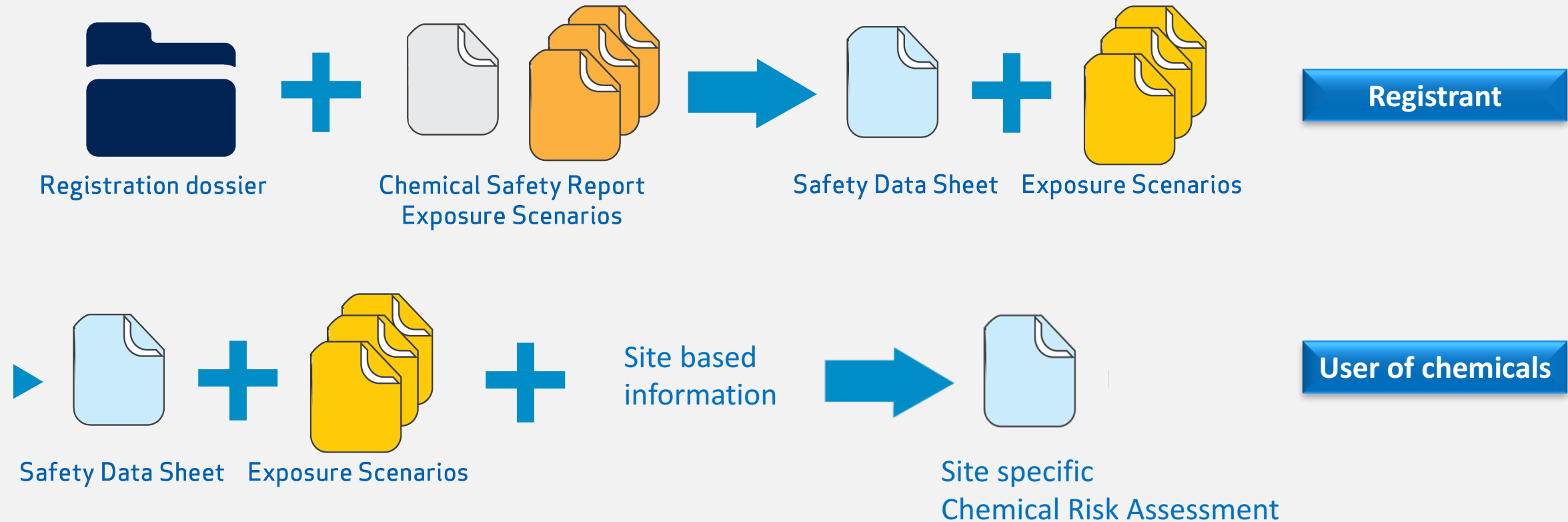
Implement RMMs from ES. Assess to ensure exposure is below OEL/DNEL. Check the hierarchy of controls is implemented.



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# Risk Assessments with REACH and OSH



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# Working towards alignment of OSH and REACH



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# Working towards alignment of OSH and REACH ....on OELs



**RAC : Risk Assessment  
Committee**

<https://echa.europa.eu/about-us/who-we-are/committee-for-risk-assessment/opinions-of-the-rac-adopted-under-specific-echa-s-executive-director-requests>



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# Working towards alignment of OSH and REACH .... COM and member states



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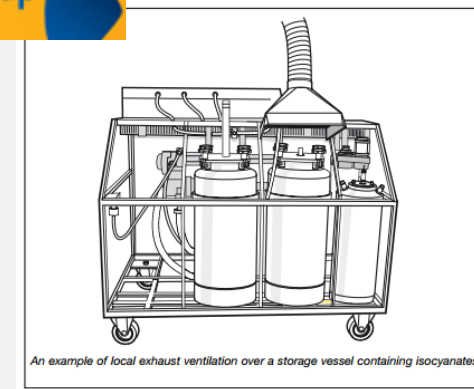
# Working towards alignment of OSH and REACH ....EU agencies



The Healthy Workplaces Campaign 2018-19



Dangerous Substances



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# Working towards alignment of OSH and REACH ....other stakeholders

SUMI: Safe Use of Mixtures Information for end-users		Sector / Company logo
Sector_SUMI_code: Title of SUMI		
Description of process covered Sector codes or reference to SWED		
Additional Conditions		
		xx min.
		xxx
Risk Management Measures		
Required RMMs, use of pictograms		
Reference to Section 8 of SDS for RMM specifications		
If applicable: any environmental measures		
Disclaimer		
Disclaimer on boundaries of SUMI use		



DUCCG



Downstream Users of Chemicals Co-ordination group

CSR/ES Roadmap

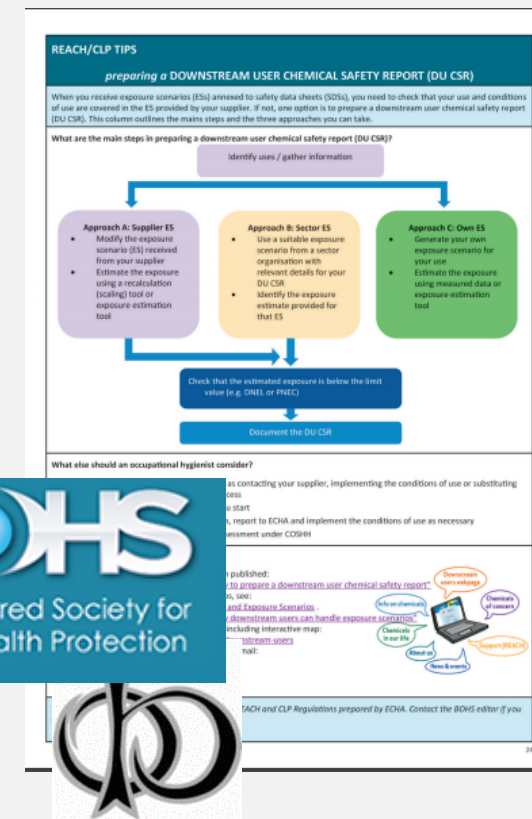


Reprotoxins that should be subject  
to limit values for workers' exposure

Report 100



etui.



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# 4 reasons a day

to work towards better assessment and  
control of exposure to chemicals

*Takala J Occup Environ Hyg.* 2014 May 11(5) 326-337.



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# Thank you



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