

Annex table 6. Results of the testing of the ES tool with nine downstream users of chemicals.

Reproducibility of answers/risk levels (e.g. 90%/90%) are given after the data on the individual chemicals of a company (see table 4 of the manuscript of the branches of the DU).

Preparation or substance, the main component(s)	R-phrases	Answers FIOH Inhalation Skin ¹⁾	Risk levels Inhalation on Skin FIOH ²⁾	Answers of the person from the company Inhalation Skin ³⁾	Risk levels Inhalation Skin Company ⁴⁾	Number of differing answers ⁵⁾
Methanol	R23/24/25, R39	11 101000 <i>1010</i>	m <i>h</i>	11 101000 <i>1000</i>	m <i>m</i>	1/12 (11)
(Specific Resin)	R36/38, R43	11 011000 <i>1000</i>	l <i>l</i>	11 001000 <i>1000</i>	l <i>l</i>	1/12 (4)
Isopropanol	R36, R67	11 101101 <i>1010</i>	l <i>l</i>	10 101101 <i>1000</i>	l <i>l</i>	3/12 (2, 8, 11)
Nitric acid	R35	11 101000 <i>1010</i>	m <i>m</i>	10 111000 <i>1010</i>	h <i>h</i>	1/12 (2)
Reproducibility of answers/risk levels						90%/90%
Lubricant Shurlube	R22, R36, R41, R67	11 111101 <i>1010</i>	m/h <i>l</i>	11 001100 <i>1001</i>	m <i>m</i>	5/12 (3,4, 8,11, 12)
Bitumen + naphta + xylene + ethylbenzene	R48/28, R20/21	11 011101 <i>1010</i>	m <i>m</i>	11 001101 <i>1010</i>	l <i>m</i>	1/12 (4)
Glass fiber dust	R43	11 101101 <i>1000</i>	m <i>h</i>	11 111111 <i>1111</i>	h <i>h</i>	5/12 (4, 7,10,11,12)
White spirit	<u>R65</u> , R66, R67	11 101101 <i>1010</i>	l <i>l</i>	11 001100 <i>1000</i>	l <i>l</i>	3/12 (4,8,11)
Ethylene glycol	R22	11 001110 <i>1010</i>	l <i>l</i>	11 001110 <i>1000</i>	l <i>l</i>	1/12 (11)
Reproducibility of answers/risk levels						75%/50%
Paint: solvents and epoxy compounds	R20/21/22, R34, R36/37/38, R41, R43, R67	11 101101 <i>1110</i>	h <i>h</i>	11 111100 <i>1000</i>	h <i>m</i>	4/12 (4,8,10,11)
Paint: solvents and epoxy compounds	R20/21/22, R23/24/25, R34, R36/37/38, R41, R43, R67, R68	11 101101 <i>1110</i>	h <i>h</i>	11 111000 <i>1000</i>	m <i>m</i>	5/12 (4,6,8,10,11)
Paint: solvents and epoxy compounds	R20/21/22, R36/37/38, R41, R42/43, R67	11 111011 <i>1111</i>	h <i>h</i>	11 111000 <i>1001</i>	m <i>m</i>	4/12 (6, 8, 10, 11)
Paint: solvents and epoxy compounds	R20/21/22, R36/37/38, R41, R65, R67, R68	11 111111 <i>1011</i>	h <i>h</i>	10 101100 <i>1010</i>	l (ei R!) <i>m</i>	5/12 (2,4,7,8,12)
Reproducibility of answers/risk levels						63%/13%
Revised questionnaire						
Hydrochloric acid	R34, R37	11 101110 <i>1000</i>	m <i>l</i>	11 101001 <i>1000</i>	l <i>l</i>	3/12 (6,7,8)

Ethylacetate	<i>R36, R66, R67</i>	11 101001 <i>100 0</i>	l <i>l</i>	11 101001 <i>1010</i>	l <i>l</i>	1/12 (11)
Potassium cyanide-ammonium	<i>R23/24/25, R32</i>	11 001101 <i>1010</i>	l(eiR!) <i>m</i>	11 101001 <i>1000</i>	l <i>l</i>	2/12 (3,6)
Sodium hypochlorite	<i>R31, R34</i>	11 101001 <i>1000</i>	l <i>l</i>	11 101011 <i>1000</i>	m <i>l</i>	1/12 (7)
Tributyl phosphate	<i>R22</i>	11 001101 <i>1010</i>	l <i>l</i>	11 001101 <i>1010</i>	l <i>l</i>	0/12
Reproducibility of answers/risk levels						88%/80%
H ₂ SO ₄ , HPO ₃	R35	11 010001 <i>1010</i>	m <i>h</i>	11 010001 <i>1000</i>	m <i>m</i>	1/12 (11)
(Avesta RedOne)	<i>R23/24/25, R35</i>	11 011101 <i>1000</i>	h <i>m</i>	11 011101 <i>1000</i>	h <i>m</i>	0/12
Hydrogen fluoride	R26/27/28, R35	11 100100 <i>1000</i>	m <i>m</i>	11 000000 <i>1000</i>	l(eiR!) <i>m</i>	2/12 (3,6)
CC Major	<i>R34</i>	10 <i>0</i>	l <i>l</i>	10 <i>0</i>	l <i>l</i>	0/3
Reproducibility of answers/risk levels						92%/75%
Hydro chloric acid	<i>R34, R37</i>	11 101110 <i>1000</i>	m <i>l</i>	11 111110 <i>1001</i>	h <i>l</i>	2/12 (4,12)
Potassium carbonate	<i>R36/37/38</i>	11 111101 <i>1000</i>	l/m <i>l</i>	11011111 <i>1011</i>	m <i>m</i>	3/12 (7,12)
Methyl pyrrolidone	<i>R36/38</i>	11 111101 <i>1000</i>	l/m <i>l</i>	11 111111 <i>1000</i>	m <i>l</i>	1/12 (7)
Na perjodate + NaOH glycoether acetate	<i>R36, R21/22, R38, R31, R35</i>	11 101101 <i>1000</i>	h <i>m</i>	11 101111 <i>1011</i>	h <i>h</i>	3/12 (7, 11,12)
NaOH + Na permanganate	R35, R22, R34	11 111101 <i>1000</i>	h <i>m</i>	11 11111111 <i>1000</i>	h <i>m</i>	1/12 (7)
Reproducibility of answers/risk levels						83%60%
Methanol	<i>R23/24/25, R39/23/24/25</i>	11 111111 <i>1111</i>	h <i>h</i>	11 111111 <i>1101</i>	h <i>h</i>	1/12 (11)
Epichlorohydrine	R45, R23/24/24, R34, R43	11 100001 <i>1010</i>	m <i>h</i>	11 100001 <i>1000</i>	m <i>m</i>	1/12 (11)
Pentaethylene hexamine	<i>R20/21/22, R34, R43</i>	11 001001 <i>1010</i>	l (eiR!) <i>l</i>	11 011001 <i>1000</i>	l <i>l</i>	2/12 (4,11)
Acrylic acid	<i>R20/21/22, R35</i>	11 001001 <i>1010</i>	l (eiR!) <i>h</i>	11 001001 <i>1000</i>	l (eiR!) <i>h</i>	1/12 (11)
Sodium azide	R28, R32	11 101001 <i>1000</i>	m <i>m</i>	11 101001 <i>1000</i>	m <i>m</i>	0/12
Reproducibility of answers/risk levels						92%80%
Some revisions in questionnaire and in the bridging rules						
Methanol and acetic acid	<i>R23/24/25, R39, R35</i>	11 100001 <i>1010</i>	m <i>l</i>	11 100001 <i>1010</i>	m <i>h</i>	0/12
Guadinium thiocyanate	R32, R21/22	11 001101 <i>1000</i>	l (eiR!) <i>h</i>	11 001101 <i>1000</i>	l (eiR!) <i>h</i>	0/12
(Detergent)	R65	11 001001 <i>1000</i>	l <i>l</i>	11 011001 <i>1000</i>	l <i>l</i>	1/12 (4)
Xylene	<i>R20/21, R38</i>	11 100000 <i>1000</i>	l <i>l</i>	11 100010 <i>1000</i>	l <i>l</i>	1/12 (7)
Formalin (in methanol)	<i>R23/24/25, R39/23/24/25,</i>	11 001001 <i>1000</i>	l <i>m</i>	11 001001 <i>1000</i>	l <i>m</i>	0/12

	R34, R40, R43					
		Reproducibility of answers/risk levels				97%/100%
Hydrazin	R45 , R43, R34, R20/21/22	11 101101 <i>1010</i>	h <i>h</i>	11 101101 <i>1010</i>	h <i>h</i>	0/12
Sulphuric acid	R35	11 111101 <i>1000</i>	h <i>m</i>	11 111101 <i>1000</i>	h <i>m</i>	NB.
Sodium hydroxide	R35	11 111101 <i>1000</i>	h <i>m</i>	11 001101 <i>1000</i>	l <i>m</i>	Not suitable for comparison
Ferrisulphate + sulphuric acid	R34	11 001101 <i>1000</i>	l <i>l</i>	11001111 <i>1000</i>	l <i>l</i>	1/12 (7)
Sodium aluminate	"C"	11 101101 <i>1000</i>	l <i>l</i>	11101101 <i>1000</i>	l <i>l</i>	0/12
		Reproducibility of answers/risk levels				97%/100%

¹⁾ The answers given by the assessor from Finnish Institute of Occupational Health are indicated in this column. "0" means the answer pointing to no/very limited exposure and "1" means high/potential exposure; see the questionnaire table 1 for specific answer options. Answers to first 8 questions on inhalation exposure are given in normal font and the answers to the questions on the dermal exposure are given in *italics*.

²⁾ The level of the risk is based on the answers (to the questionnaire) and on the R-phrases. The levels indicated in this column are: l=low, m=medium, h=high, given in normal font for inhalation and in *italics for the dermal route*.

³⁾ The answers given by the assessor of the company i.e. the downstream user of the chemical are indicated in this column. "0" means the answer pointing to no/very limited exposure and "1" means high/potential exposure. Answers to first 8 questions on inhalation exposure are given in normal font and the answers to the questions on the dermal exposure are given in *italics*.

⁴⁾ The level of the risk is based on the answers and on the R-phrases. The levels indicated in this column are: l=low, m=medium, h=high, given in normal font for inhalation and in *italics for the dermal route*.

⁵⁾ For example 1/12 implies that one of 12 answers was different between the two independent assessors, and that question is "11. Personal Protective Equipment (gloves, protective clothing.)", methanol was assessed in the first company (first row of the table).