ART REPORT – Shoe repair – 14-Nov-12

Exposure to Ethyl Acetate. Example 3 in Advanced REACH Tool (ART): A Bayesian model for exposure assessment

Chemical details	
Chemical	Ethyl acetate
CAS No.	141-78-6

Scenario details	
Number of activities	1
Total duration (mins)	480
Nonexposure period (mins)	0

Metadata	
ART version	1.5
Creator	Suzanne.spaan@tno.nl
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Details for Activity Gluing

Emission sources: Near field ✓
Far field

Duration (mins): 480

Near-field exposure

Operational Conditions

Substance emission potential	
Substance product type	Liquids
Process temperature	Room temperature
Vapour pressure	9700 Pa
Liquid mole fraction	0.15
Activity coefficient	1

Activity emission potential	
Activity class	Spreading of liquid products
Situation	Spreading of liquids at surfaces or work pieces 0.3 - 1.0 m^2 / hour

Surface contamination	
Process fully enclosed?	No
Effective housekeeping practices in place?	No
General housekeeping practices in place?	No

Dispersion	
Work area	Indoors
Room size	300 m^3

Risk Management Measures

Localised controls	
Primary	Fixed capturing hood (90.00 % reduction)
Secondary	No localized controls (0.00 % reduction)

Dispersion	
Ventilation rate	No restriction on general ventilation characteristics

Predicted exposure levels

ART predicts air concentrations in a worker's personal breathing zone outside of any Respiratory Protection Equipment (RPE). The use of RPE must be considered separately.

Mechanistic model results

The predicted 50th percentile full-shift exposure is 17 mg/m³.

The 90% confidence interval is 3.5 mg/m³ to 84 mg/m³.