

# ECETOC Targeted Risk Assessment (TRA)

## Erfahrungen mit der neuen Version

13.10. 2009

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## ECETOC TRA – Leitgedanken

- *“ein schrittweiser Ansatz zur Berechnung der unter definierten Bedingungen zu erwartenden Exposition (und ihrer Risiken) durch Chemikalien.”*
- *“... basiert auf der Voraussetzung, dass weitgefaste Expositions-/Risikomodelle durch geeignete, konservative Annahmen auf die identifizierten Verwendungen angewendet werden können, um die Notwendigkeit detaillierterer Risikobewertungen (falls zutreffend) zu ermitteln.”*

Quelle (übersetzt): <http://www.ecetoc.org/tra>



## Nutzbarkeit des ECETOC TRA Worker Tools

- Worst Case Expositionsszenarios
- Abstand zu z.B. NO(A)ELS oder DNELs
- Total Margin of Exposure (TMoE)
- Arbeitsschutzmaßnahmen / RMM
- CSR



# Definierte Bedingungen

## *ECETOC TRA Worker Tool*

- **Stoffeigenschaften (User Input)**
  - Molekulargewicht
  - Indikative Referenzwerte
  - Aggregatzustand
  - Staubungsverhalten
  - Dampfdruck



# Definierte Bedingungen

## *ECETOC TRA Worker Tool*

- **Verwendungs-/Anwendungsbereich (User Input)**
  - Standardprozess (PROC)
  - Sektor (Industrie / Professional)
  
- **Arbeitsbedingungen (User Input)**
  - Innen-/Außenbereich
  - Lokale Absaugung
  - Atemschutz



# Definierte Bedingungen

## *ECETOC TRA Worker Tool*

- **weitere Arbeitsbedingungen (User Input)**
  - Anwendungszeit
  - Stoff als Teil einer Zubereitung



# Konservative Annahmen (hinterlegt)

## *ECETOC TRA Worker Tool*

- **Kategorisierung des User Inputs**
  - Jeweils 3 Kategorien für volatility und dustiness
  - „*Natürliche Absaugung*“ (indoor/outdoor)
  - 2 Effizienzklassen für die LEV
  - 2 Kategorien für die inhalative Expositionsabschätzung (industrial / professional)



# Konservative Annahmen (hinterlegt)

## *ECETOC TRA Worker Tool*

- **Kategorisierung des User Inputs**
  - 2 Kategorien für die dermale Expositionsabschätzung (LEV Ja/Nein)
  - feste, dermale Expositionsfläche pro PROC
  - Inhalative und dermale Expositionsfaktoren gemäß EASE





# Mögliche Recheneingriffe

## *ECETOC TRA Worker Tool*

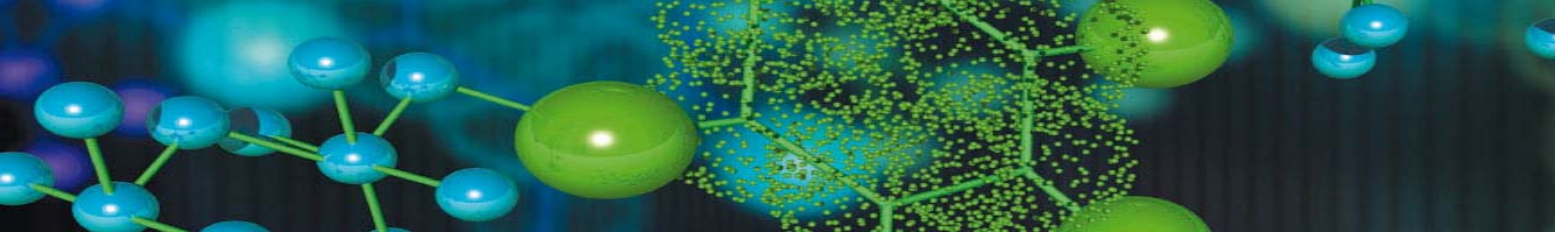
- „passendere“ PROCs
- Expositionsfläche
- indikative Referenzwerte



# Fallen und Lösungen

## *ECETOC TRA Worker Tool*

- ECETOC rechnet durch „Programmierfehler“ nur unter englischer, regionaler Computereinstellung richtig!
  - Keine LEV bei überwiegender, dermaler Exposition
- => getrennte Berechnung der dermalen Exposition z.B mit RISKOFDERM



# Fallbeispiele

- Microsoft Office-Dokument öffnen
- Neues Microsoft Office-Dokument
- Neues Office-Dokument
- Office-Dokument öffnen
- Programmzugriff und -standards
- Windows Update
- Windows-Katalog

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- Programme ▶
- Dokumente ▶
- Einstellungen ▶**
- Suchen ▶
- Hilfe und Support
- Ausführen...

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- "Theresia Jost" abmelden...
- Herunterfahren...

- Systemsteuerung ▶**
- Netzwerkverbindungen ▶
- Drucker und Faxgeräte ▶
- Taskleiste und Startmenü

- Anzeige
- Automatische Updates
- Benutzerkonten
- Chipkartenleser
- cyberJack
- Datum und Uhrzeit
- Drahtlosnetzwerkinstallation
- Drucker und Faxgeräte ▶
- Eingabehilfen
- Energieoptionen
- Gamecontroller
- Geplante Tasks ▶
- Hardware
- Homebanking Kontakte
- Internetoptionen
- Java
- Maus
- Netzwerkinstallations-Assistent
- Netzwerkverbindungen ▶
- Ordneroptionen
- Regions- und Sprachoptionen**
- Scanner und Kameras ▶
- Schriftarten ▶
- Sicherheitscenter
- Software
- Sounds und Audiogeräte
- Sprachein-/ausgabe
- System
- Taskleiste und Startmenü
- Tastatur
- Telefon- und Modemoptionen
- Verwaltung ▶
- VMware Tools
- Windows CardSpace
- Windows-Firewall
- BDE Administrator

## Regions- und Sprachoptionen



Regionale Einstellungen | Sprachen | Erweitert

### Standards und Formate

Diese Option bestimmt die Formate für Zahlen, Währungen, Uhrzeit und Datum.

Wählen Sie ein Element, um dessen Einstellungen anzuzeigen. Klicken Sie auf "Anpassen", um das Format selbst festzulegen:

Englisch (Großbritannien)

Anpassen...

### Beispiele

Zahl: 123,456,789.00

Währung: £123,456,789.00

Uhrzeit: 16:56:27

Kurzes Datum: 05/10/2009

Langes Datum: 05 October 2009

### Standort

Geben Sie Ihren Standort ein, um lokale Informationen, wie Nachrichten und Wettervorhersagen, zu erhalten:

Deutschland

OK

Abbrechen

Übernehmen

Input parameters	
7	Substance Name <input type="text"/>
8	CAS Number <input type="text"/>
9	Molecular Weight <input type="text"/>
10	Indicative Reference Value (Inhalation) mg/m3 <input type="text"/>
11	Basis of the Inhalation Indicative Reference Value <input type="text"/>
12	Indicative Reference Value (Dermal) mg/kg bw/day <input type="text"/>
13	Basis of the Dermal Indicative Reference Value <input type="text"/>
Likelihood to become Airborne	
15	Is this substance Solid? <input type="text"/>
16	Dustiness <input type="text"/>
17	Volatility (Pa) <input type="text"/>
Exposure Scenario Builder	
Step 1 - Select a REACH Process descriptor	
20	Enter a short scenario name <input type="text"/>
21	Select a Process Category (PROC) <input type="text"/>
22	Industrial or Public Domain (Professional) Activity? <input type="radio"/> Industrial Activity <input type="radio"/> Public Domain (Professional) Activity
Step 2 - Apply Exposure Modifiers (Operational Conditions)	
24	<b>EM1 Ventilation</b>
25	Does this activity take place indoors or outdoors? <input type="radio"/> Indoors <input type="radio"/> Outdoors
26	Is Local Exhaust Ventilation present? <input type="radio"/> No <input type="radio"/> Yes <span style="float: right;">Only relevant if "Indoors" is chosen above</span>
27	<b>EM2 Duration of Activity</b>
28	What is the Duration of the Activity? <input type="text"/>
29	<b>EM3 Respiratory Protection</b>
30	What type of respiratory protection is used? <input type="text"/>
31	<b>EM4 Use in Preparations</b>
32	Is the substance used in a Preparation? <input type="text"/>
33	Select the concentration range (w/w) <input type="text"/> <span style="float: right;">Only relevant if the substance is used in a Preparation</span>

Clear All

Clear Scenario

Generate Report

Copy Scenario results to the Linear Report

Input parameters			
7	Substance Name	democsub1	?
8	CAS Number	01-02-03	?
9	Molecular Weight	100	
10	Indicative Reference Value (Inhalation) mg/m3	10	?
11	Basis of the Inhalation Indicative Reference Value	CNEL	?
12	Indicative Reference Value (Dermal) mg/kg bw/day	20	?
13	Basis of the Dermal Indicative Reference Value	CNEL	?
Likelihood to become Airborne			
15	Is this substance Solid?	No	?
16	Dustiness		?
17	Volatility (Pa)	5000	?

Exposure Scenario Builder			
Step 1 - Select a REACH Process descriptor			
20	Enter a short scenario name		?
21	Select a Process Category (PROC)		?
22	Industrial or Public Domain (Professional) Activity?	<input type="radio"/> Industrial Activity <input type="radio"/> Public Domain (Professional) Activity	?
Step 2 - Apply Exposure Modifiers (Operational Conditions)			
24	<b>EM1 Ventilation</b>		
25	Does this activity take place indoors or outdoors?	<input type="radio"/> Indoors <input type="radio"/> Outdoors	?
26	Is Local Exhaust Ventilation present?	<input type="radio"/> No <input type="radio"/> Yes	?
		Only relevant if "Indoors" is chosen above	
27	<b>EM2 Duration of Activity</b>		
28	What is the Duration of the Activity?		?
29	<b>EM3 Respiratory Protection</b>		
30	What type of respiratory protection is used?		?
31	<b>EM4 Use in Preparations</b>		
32	Is the substance used in a Preparation?		?
33	Select the concentration range (w/w)		
		Only relevant if the substance is used in a Preparation	

Clear All	Clear Scenario	Generate Report	Copy Scenario results to the Linear Report
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6 **Input parameters**

7	Substance Name	demosub1	[?]
8	CAS Number	01-02-03	[?]
9	Molecular Weight	100	
10	Indicative Reference Value (Inhalation) mg/m3	10	[?]
11	Basis of the Inhalation Indicative Reference Value	DNEL	[?]
12	Indicative Reference Value (Dermal) mg/kg bw/day	20	[?]
13	Basis of the Demal Indicative Reference Value	DNEL	[?]

14 **Likelihood to become Airborne**

15	Is this substance Solid?	No	[?]
16	Dustiness		[?]
17	Volatility (Pa)	5000	[?]

18 **Exposure Scenario Builder**

19 **Step 1 - Select a REACH Process descriptor**

20	Enter a short scenario name	SU1 PROC1	[?]
21	Select a Process Category (PROC)		[?]
22	Industrial or Public Domain (Professional) Activity?		[?]
23	<b>Step 2 - Apply Exposure Modifiers (EM)</b>		
24	<b>EM1 Ventilation</b>		
25	Does this activity take place indoors or outdoors?		[?]
26	Is Local Exhaust Ventilation present ?		[?]
27	<b>EM2 Duration of Activity</b>		
28	What is the Duration of the Activity?		[?]
29	<b>EM3 Respiratory Protection</b>		
30	What type of respiratory protection is used?		[?]
31	<b>EM4 Use in Preparations</b>		
32	Is the substance used in a Preparation?		[?]
33	Select the concentration range (w/w)		Only relevant if the substance is used in a Preparation



Input parameters			
6			
7	Substance Name	demosub1	[?]
8	CAS Number	01-02-03	[?]
9	Molecular Weight	100	
10	Indicative Reference Value (Inhalation) mg/m3	10	[?]
11	Basis of the Inhalation Indicative Reference Value	DNEL	[?]
12	Indicative Reference Value (Dermal) mg/kg bw/day	20	[?]
13	Basis of the Demal Indicative Reference Value	DNEL	[?]
<b>Likelihood to become Airborne</b>			
15	Is this substance Solid?	No	[?]
16	Dustiness		[?]
17	Volatility (Pa)	5000	[?]

Exposure Scenario Builder			
<b>Step 1 - Select a REACH Process descriptor</b>			
20	Enter a short scenario name	SU1 PROC1	[?]
21	Select a Process Category (PROC)	1 - Use in closed process , no likelihood of exposure	[?]
22	Industrial or Public Domain (Professional) Activity?	<input checked="" type="radio"/> Industrial Activity <input type="radio"/> Public Domain (Professional) Activity	[?]
<b>Step 2 - Apply Exposure Modifiers (Operational Conditions)</b>			
<b>EM1 Ventilation</b>			
25	Does this activity take place indoors or outdoors?	<input checked="" type="radio"/> Indoors <input type="radio"/> Outdoors	[?]
26	Is Local Exhaust Ventilation present ?	<input checked="" type="radio"/> No <input type="radio"/> Yes	[?]
			Only relevant if "Indoors" is chosen above
<b>EM2 Duration of Activity</b>			
28	What is the Duration of the Activity?		[?]
<b>EM3 Respiratory Protection</b>			
30	What type of respiratory protection is used?		[?]
<b>EM4 Use in Preparations</b>			
32	Is the substance used in a Preparation?		[?]
33	Select the concentration range (w/w)		Only relevant if the substance is used in a Preparation

Input parameters			
7	Substance Name	democub1	[?]
8	CAS Number	01-02-03	[?]
9	Molecular Weight	100	
10	Indicative Reference Value (Inhalation) mg/m3	10	[?]
11	Basis of the Inhalation Indicative Reference Value	DNEL	[?]
12	Indicative Reference Value (Dermal) mg/kg bw/day	20	[?]
13	Basis of the Demal Indicative Reference Value	DNEL	[?]
<b>14 Likelihood to become Airborne</b>			
15	Is this substance Solid?	No	[?]
16	Dustiness		[?]
17	Volatility (Pa)	5000	[?]

Exposure Scenario Builder			
<b>19 Step 1 - Select a REACH Process descriptor</b>			
20	Enter a short scenario name	SU1 PROC1	[?]
21	Select a Process Category (PROC)	1 - Use in closed process , no likelihood of exposure	[?]
22	Industrial or Public Domain (Professional) Activity?	<input checked="" type="radio"/> Industrial Activity <input type="radio"/> Public Domain (Professional) Activity	[?]
<b>23 Step 2 - Apply Exposure Modifiers (Operational Conditions)</b>			
<b>24 EM1 Ventilation</b>			
25	Does this activity take place indoors or outdoors?	<input checked="" type="radio"/> Indoors <input type="radio"/> Outdoors	[?]
26	Is Local Exhaust Ventilation present ?	<input checked="" type="radio"/> No <input type="radio"/> Yes <span style="float: right;">Only relevant if "Indoors" is chosen above</span>	[?]
<b>27 EM2 Duration of Activity</b>			
28	What is the Duration of the Activity?	[?]	[?]
<b>29 EM3 Respiratory Protection</b>			
30	What type of respiratory protection is used?	<div style="border: 1px solid black; padding: 2px;">           &gt;4 hours (default)            1 - 4 hours            15 mins - 1 hour            &lt; 15 mins         </div>	[?]
<b>31 EM4 Use in Preparations</b>			
32	Is the substance used in a Preparation?	[?]	[?]
33	Select the concentration range (w/w)	[?]	Only relevant if the substance is used in a Preparation

6 **Input parameters**

7	Substance Name	democub1	[?]
8	CAS Number	01-02-03	[?]
9	Molecular Weight	100	
10	Indicative Reference Value (Inhalation) mg/m3	10	[?]
11	Basis of the Inhalation Indicative Reference Value	DNEL	[?]
12	Indicative Reference Value (Dermal) mg/kg bw/day	20	[?]
13	Basis of the Dermal Indicative Reference Value	DNEL	[?]

14 **Likelihood to become Airborne**

15	Is this substance Solid?	No	[?]
16	Dustiness		[?]
17	Volatility (Pa)	5000	[?]

18 **Exposure Scenario Builder**

19 **Step 1 - Select a REACH Process descriptor**

20	Enter a short scenario name	SU1 PROC1	[?]
21	Select a Process Category (PROC)	1 - Use in closed process , no likelihood of exposure	[?]
22	Industrial or Public Domain (Professional) Activity?	<input checked="" type="radio"/> Industrial Activity <input type="radio"/> Public Domain (Professional) Activity	[?]

23 **Step 2 - Apply Exposure Modifiers (Operational Conditions)**

24	<b>EM1 Ventilation</b>		
25	Does this activity take place indoors or outdoors?	<input checked="" type="radio"/> Indoors <input type="radio"/> Outdoors	[?]
26	Is Local Exhaust Ventilation present ?	<input checked="" type="radio"/> No <input type="radio"/> Yes	[?]
27	<b>EM2 Duration of Activity</b>		
28	What is the Duration of the Activity?	>4 hours (default)	[?]
29	<b>EM3 Respiratory Protection</b>		
30	What type of respiratory protection is used?		[?]
31	<b>EM4 Use in Preparations</b>	Respiratory protection is not used Respiratory protection capable offering a 90% reduction in inhaled concentrations of the substance Respiratory protection capable offering a 95% reduction in inhaled concentrations of the substance	[?]
32	Is the substance used in a Preparation?		
33	Select the concentration range (w/w)		[?]

6 **Input parameters**

7	Substance Name	democsub1	[?]
8	CAS Number	01-02-03	[?]
9	Molecular Weight	100	
10	Indicative Reference Value (Inhalation) mg/m3	10	[?]
11	Basis of the Inhalation Indicative Reference Value	DNEL	[?]
12	Indicative Reference Value (Dermal) mg/kg bw/day	20	[?]
13	Basis of the Demal Indicative Reference Value	DNEL	[?]

14 **Likelihood to become Airborne**

15	Is this substance Solid?	No	[?]
16	Dustiness		[?]
17	Volatility (Pa)	5000	[?]

18 **Exposure Scenario Builder**

19 **Step 1 - Select a REACH Process descriptor**

20	Enter a short scenario name	SU1 PROC1	[?]
21	Select a Process Category (PROC)	1 - Use in closed process , no likelihood of exposure	[?]
22	Industrial or Public Domain (Professional) Activity?	<input checked="" type="radio"/> Industrial Activity <input type="radio"/> Public Domain (Professional) Activity	[?]

23 **Step 2 - Apply Exposure Modifiers (Operational Conditions)**

24 **EM1 Ventilation**

25	Does this activity take place indoors or outdoors?	<input checked="" type="radio"/> Indoors <input type="radio"/> Outdoors	[?]
26	Is Local Exhaust Ventilation present ?	<input checked="" type="radio"/> No <input type="radio"/> Yes <b>Only relevant if "Indoors" is chosen above</b>	[?]

27 **EM2 Duration of Activity**

28	What is the Duration of the Activity?	>4 hours (default)	[?]
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29 **EM3 Respiratory Protection**

30	What type of respiratory protection is used?	Respiratory protection is not used	[?]
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31 **EM4 Use in Preparations**

32	Is the substance used in a Preparation?	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	[?]
33	Select the concentration range (w/w)		<b>Only relevant if the substance is used in a Preparation</b>

Input parameters			
7	Substance Name	demosub1	[?]
8	CAS Number	01-02-03	[?]
9	Molecular Weight	100	
10	Indicative Reference Value (Inhalation) mg/m3	10	[?]
11	Basis of the Inhalation Indicative Reference Value	DNEL	[?]
12	Indicative Reference Value (Dermal) mg/kg bw/day	20	[?]
13	Basis of the Dermal Indicative Reference Value	DNEL	[?]
Likelihood to become Airborne			
15	Is this substance Solid?	No	[?]
16	Dustiness		[?]
17	Volatility (Pa)	5000	[?]

Exposure Scenario Builder			
Step 1 - Select a REACH Process descriptor			
20	Enter a short scenario name	SU1 PROC1	[?]
21	Select a Process Category (PROC)	1 - Use in closed process, no likelihood of exposure	[?]
22	Industrial or Public Domain (Professional) Activity?	<input checked="" type="radio"/> Industrial Activity <input type="radio"/> Public Domain (Professional) Activity	[?]
Step 2 - Apply Exposure Modifiers (Operational Conditions)			
<b>EM1 Ventilation</b>			
24	Does this activity take place indoors or outdoors?	<input checked="" type="radio"/> Indoors <input type="radio"/> Outdoors	[?]
26	Is Local Exhaust Ventilation present?	<input checked="" type="radio"/> No <input type="radio"/> Yes <span style="float: right;">Only relevant if "Indoors" is chosen above</span>	[?]
<b>EM2 Duration of Activity</b>			
28	What is the Duration of the Activity?	>4 hours (default)	[?]
<b>EM3 Respiratory Protection</b>			
29	What type of respiratory protection is used?	Respiratory protection is not used	[?]
<b>EM4 Use in Preparations</b>			
31	Is the substance used in a Preparation?	Yes	[?]
33	Select the concentration range (w/w)		Only relevant if the substance is used in a Preparation

Clear All

> 25%

5 - 25%

1 - 5%

< 1 %

Generate Report

Copy Scenario results to the Linear Report

	A	B	C	D	E	F	G	H	I	J
1	Concentration in mixture (w/w)	Exposure modifying factor								
2	<i>Not in a mixture</i>	1								
3	> 25%	1	*							
4	5 – 25%	0.6								
5	1 – 5%	0.2								
6	< 1 %	0.1								
7										
8	* Highest concentration in 1999/45/EE the EU Dangerous Preparations Directive									
9										
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41										
42										
43										

Zwischenablage

Schriftart

D19

$f_{ex}$

	A	B
1	Concentration in mixture (w/w)	Exposure modifying factor
2	<i>Not in a mixture</i>	1
3	> 25%	1
4	5 – 25%	0.6
5	1 – 5%	0.2
6	< 1%	0.1

\* Highest concentration in 1999/45/EE the EU Dangerous Preparations Directive

Input parameters			
7	Substance Name	democub1	[?]
8	CAS Number	01-02-03	[?]
9	Molecular Weight	100	
10	Indicative Reference Value (Inhalation) mg/m3	10	[?]
11	Basis of the Inhalation Indicative Reference Value	DNEL	[?]
12	Indicative Reference Value (Dermal) mg/kg bw/day	20	[?]
13	Basis of the Dermal Indicative Reference Value	DNEL	[?]
Likelihood to become Airborne			
15	Is this substance Solid?	No	[?]
16	Dustiness		[?]
17	Volatility (Pa)	5000	[?]

Exposure Scenario Builder			
Step 1 - Select a REACH Process descriptor			
20	Enter a short scenario name	SU1 PROC1	[?]
21	Select a Process Category (PROC)	1 - Use in closed process, no likelihood of exposure	[?]
22	Industrial or Public Domain (Professional) Activity?	<input checked="" type="radio"/> Industrial Activity <input type="radio"/> Public Domain (Professional) Activity	[?]
Step 2 - Apply Exposure Modifiers (Operational Conditions)			
EM1 Ventilation			
25	Does this activity take place indoors or outdoors?	<input checked="" type="radio"/> Indoors <input type="radio"/> Outdoors	[?]
26	Is Local Exhaust Ventilation present ?	<input checked="" type="radio"/> No <input type="radio"/> Yes <span style="float: right;">Only relevant if "Indoors" is chosen above</span>	[?]
EM2 Duration of Activity			
28	What is the Duration of the Activity?	>4 hours (default)	[?]
EM3 Respiratory Protection			
30	What type of respiratory protection is used?	Respiratory protection is not used	[?]
EM4 Use in Preparations			
32	Is the substance used in a Preparation?	Yes	[?]
33	Select the concentration range (w/w)	> 25%	Only relevant if the substance is used in a Preparation



**Worker Exposure report for Substance demosub1 (CAS NO. 01-02-03) - Version 1.0**

Medium fugacity

Exposure Estimate (Units ppm)

**Exposure scenario (SU1 PROC1)**

Process Category 1 - Use in closed process, no likelihood of exposure.

Industrial activity

Initial Exposure Estimate

0.01

**Exposure modifiers**

The activity takes place **Indoors**

**Ventilation is not present**

0.01

The maximum duration of the activity is **>4 hours (default)**

0.01

**Respiratory protection is not used**

0.01

Is this substance part of a preparation? Yes at > 25% w/w

Assessment factor applied is 1

0.01

**The Inhalative Exposure Estimate for this Exposure Scenario is**

**0.01 ppm**

Dermal exposures may arise from this Exposure Scenario and assuming a maximal exposed skin area

240 (sq cm)

are estimated at

**0.3429 mg/kg/day**

Input parameters	
7 Substance Name	democub1
8 CAS Number	01-02-03
9 Molecular Weight	100
10 Indicative Reference Value (Inhalation) mg/m3	10
11 Basis of the Inhalation Indicative Reference Value	DNEL
12 Indicative Reference Value (Dermal) mg/kg bw/day	20
13 Basis of the Dermal Indicative Reference Value	DNEL
Likelihood to become Airborne	
15 Is this substance Solid?	No
16 Dustiness	
17 Volatility (Pa)	5000
Exposure Scenario Builder	
Step 1 - Select a REACH Process descriptor	
20 Enter a short scenario name	SU1 PROC1
21 Select a Process Category (PROC)	1 - Use in closed process, no likelihood of exposure
Industrial or Public Domain (Professional) Activity?	<input checked="" type="radio"/> Industrial Activity <input type="radio"/> Public Domain (Professional) Activity
Step 2 - Apply Exposure Modifiers (Operational Conditions)	
EM1 Ventilation	
25 Does this activity take place indoors or outdoors?	<input checked="" type="radio"/> Indoors <input type="radio"/> Outdoors
26 Is Local Exhaust Ventilation present?	<input checked="" type="radio"/> No <input type="radio"/> Yes <span style="float: right;">Only relevant if "Indoors" is chosen above</span>
EM2 Duration of Activity	
28 What is the Duration of the Activity?	>4 hours (default)
EM3 Respiratory Protection	
30 What type of respiratory protection is used?	Respiratory protection is not used
EM4 Use in Preparations	
32 Is the substance used in a Preparation?	Yes
33 Select the concentration range (w/w)	> 25% <span style="float: right;">Only relevant if the substance is used in a Preparation</span>
<input type="button" value="Clear All"/> <input type="button" value="Clear Scenario"/> <input type="button" value="Generate Report"/> <input style="border: 2px solid red;" type="button" value="Copy Scenario results to the Linear Report"/>	

	?
<b>Exposure Scenario Builder</b>	?
	?
o likelihood of exposure	?
ublic Domain (Professional) Activity	?
	?
<b>Only relevant if "Indoors" is chosen above</b>	?
	?
	?
used	
<b>Only relevant if the substance is used in a Preparation</b>	
Generate Report	Copy Scenario results to the Linear Report

The Inhalative Exposure Estimate for this Exposure Scenario is: [blank]

Dermal exposures may arise from this Exposure Scenario. The Dermal Exposure Estimate for this Exposure Scenario is: [blank]

Microsoft Excel

Scenario results copied successfully

OK

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
	Short Exposure Scenario name	Process Category	Activity Type	Indoors or Outdoors use?	Ventilation present?	Presumed efficiency %	Maximum duration (hours)	Respiratory protection used?	Presumed efficiency %	Substance is in a Preparation?	Dermal exposures may arise from this Exposure Scenario, assuming a maximal exposed skin area (cm2)	Inhalative Exposure Estimate (ppm)	Inhalative Exposure Estimate (mg/m3)	Dermal Exposure Estimate (mg/kg bw/day)	Total Exposure = Dermal + Inhalative (mg/kg bw/day)	Risk Characterisation - Inhalative Margin of Exposure	Risk Characterisation - Dermal Margin of Exposure	Risk Characterisation - Total Margin of Exposure
4	SU1 PROC1	1 - Use in closed process, no likelihood of exposure	Industrial	Indoors	No		>4 hours (default)	No		Yes at > 25% w/w	240	0.01	0.0416667	0.3429	0.348852381	0.004166667	0.017145	0.017442619
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L	M	N	O	P	Q	R
<u>Inhalative Exposure Estimate</u> (ppm)	<u>Inhalative Exposure Estimate</u> (mg/m <sup>3</sup> )	<u>Dermal Exposure Estimate</u> (mg/kg bw/day)	<u>Total Exposure = Dermal + Inhalative</u> (mg/kg bw/day)	<u>Risk Characterisation - Inhalative</u> Margin of Exposure	<u>Risk Characterisation - Dermal</u> Margin of Exposure	<u>Risk Characterisation - Total</u> Margin of Exposure
0.01	0.0416667	0.3429	0.34885238	0.004166667	0.017145	0.017442619

14	<b>Likelihood to become Airborne</b>		
15	Is this substance Solid?	No	?
16	Dustiness		?
17	Volatility (Pa)	5000	?
18	<b>Exposure Scenario Builder</b>		
19	<b>Step 1 - Select a REACH Process descriptor</b>		
20	Enter a short scenario name	SU22 PROC11	?
21	Select a Process Category (PROC)	1 - Use in closed process, no likelihood of exposure	?
22	Industrial or Public Domain (Professional) Activity?	8a - Transfer of chemicals from/to vessels/ large containers at non dedicated facilities 8b - Transfer of chemicals from/to vessels/ large containers at dedicated facilities 9 - Transfer of chemicals into small containers (dedicated filling line) 10 - Roller application or brushing 11 - Non industrial spraying 12 - Use of blow agents for foam production 13 - Treatment of articles by dipping and pouring 14 - Production of preparations or articles by tableting, compression, extrusion, pelletisation	?
23	<b>Step 2 - Apply Exposure Modifiers (EM)</b>		
24	<b>EM1 Ventilation</b>		
25	Does this activity take place indoors or outdoors?		?
26	Is Local Exhaust Ventilation present ?		?
27	<b>EM2 Duration of Activity</b>		
28	What is the Duration of the Activity?	>4 hours (default)	?
29	<b>EM3 Respiratory Protection</b>		
30	What type of respiratory protection is used?	Respiratory protection is not used	?
31	<b>EM4 Use in Preparations</b>		
32	Is the substance used in a Preparation?	Yes	?
33	Select the concentration range (w/w)	> 25%	Only relevant if the substance is used in a Preparation
34			
35	<input type="button" value="Clear All"/> <input type="button" value="Clear Scenario"/> <input type="button" value="Generate Report"/> <input type="button" value="Copy Scenario results to the Linear Report"/>		
36			

14	<b>Likelihood to become Airborne</b>		
15	Is this substance Solid?	No	?
16	Dustiness		?
17	Volatility (Pa)	5000	?
18	<b>Exposure Scenario Builder</b>		
19	<b>Step 1 - Select a REACH Process descriptor</b>		
20	Enter a short scenario name	SU22 PROC11	?
21	Select a Process Category (PROC)	11 - Non industrial spraying	?
22	Industrial or Public Domain (Professional) Activity?	<input type="radio"/> Industrial Activity <input checked="" type="radio"/> Public Domain (Professional) Activity	?
23	<b>Step 2 - Apply Exposure Modifiers (Operational Conditions)</b>		
24	<b>EM1 Ventilation</b>		
25	Does this activity take place indoors or outdoors?	<input checked="" type="radio"/> Indoors <input type="radio"/> Outdoors	?
26	Is Local Exhaust Ventilation present ?	<input checked="" type="radio"/> No <input type="radio"/> Yes	?
		<b>Only relevant if "Indoors" is chosen above</b>	
27	<b>EM2 Duration of Activity</b>		
28	What is the Duration of the Activity?	>4 hours (default)	?
29	<b>EM3 Respiratory Protection</b>		
30	What type of respiratory protection is used?	Respiratory protection is not used	?
31	<b>EM4 Use in Preparations</b>		
32	Is the substance used in a Preparation?	Yes	?
33	Select the concentration range (w/w)	> 25%	?
		<b>Only relevant if the substance is used in a Preparation</b>	
34			
35	<input type="button" value="Clear All"/> <input type="button" value="Clear Scenario"/> <input type="button" value="Generate Report"/> <input style="border: 2px solid red;" type="button" value="Copy Scenario results to the Linear Report"/>		
36			
37			

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
	Short Exposure Scenario name	Process Category	Activity Type	Indoors or Outdoors use?	Ventilation present?	Presumed efficiency %	Maximum duration (hours)	Respiratory protection used?	Presumed efficiency %	Substance is in a Preparation?	Dermal exposures may arise from this Exposure Scenario, assuming a maximal exposed skin area (cm2)	Inhalative Exposure Estimate (ppm)	Inhalative Exposure Estimate (mg/m3)	Dermal Exposure Estimate (mg/kg bw/day)	Total Exposure = Dermal + Inhalative (mg/kg bw/day)	Risk Characterisation - Inhalative Margin of Exposure	Risk Characterisation - Dermal Margin of Exposure	Risk Characterisation - Total Margin of Exposure
4	SU1 PROC1	1 - Use in closed process, no likelihood of exposure	Industrial	Indoors	No		>4 hours (default)	No		Yes at > 25% w/w	240	0.01	0.0416667	0.3429	0.348852381	0.004166667	0.017145	0.017442619
5	SU22 PROC11	11 - Non industrial spraying	Public Domain (Professional)	Indoors	No		>4 hours (default)	No		Yes at > 25% w/w	1500	500	2083.3333	107.1429	404.7619476	208.3333333	5.357145	20.23809738
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14	<b>Likelihood to become Airborne</b>			
15	Is this substance Solid?	No		?
16	Dustiness			?
17	Volatility (Pa)	5000		?
18	<b>Exposure Scenario Builder</b>			
19	<b>Step 1 - Select a REACH Process descriptor</b>			?
20	Enter a short scenario name	SU22 PROC11		?
21	Select a Process Category (PROC)	11 - Non industrial spraying		?
22	Industrial or Public Domain (Professional) Activity?	<input type="radio"/> Industrial Activity <input checked="" type="radio"/> Public Domain (Professional) Activity		?
23	<b>Step 2 - Apply Exposure Modifiers (Operational Conditions)</b>			
24	<b>EM1 Ventilation</b>			
25	Does this activity take place indoors or outdoors?	<input checked="" type="radio"/> Indoors <input type="radio"/> Outdoors		?
26	Is Local Exhaust Ventilation present ?	<input checked="" type="radio"/> No <input type="radio"/> Yes	Only relevant if "Indoors" is chosen above	?
27	<b>EM2 Duration of Activity</b>			
28	What is the Duration of the Activity?	>4 hours (default)		?
29	<b>EM3 Respiratory Protection</b>			
30	What type of respiratory protection is used?	Respiratory protection is not used		?
31	<b>EM4 Use in Preparations</b>			
32	Is the substance used in a Preparation?	Yes		?
33	Select the concentration range (w/w)	> 25%	Only relevant if the substance is used in a Preparation	
34				
35	<input type="button" value="Clear All"/> <input type="button" value="Clear Scenario"/> <input type="button" value="Generate Report"/> <input type="button" value="Copy Scenario results to the Linear Report"/>			
36				
37				

Likelihood to become Airborne		
Is this substance Solid?	No	?
Dustiness		?
Volatility (Pa)	5000	?

### Exposure Scenario Builder

#### Step 1 - Select a REACH Process descriptor

Enter a short scenario name	SU22 PROC11	?
Select a Process Category (PROC)	11 - Non industrial spraying	?
Industrial or Public Domain (Professional) Activity?	<input type="radio"/> Industrial Activity <input checked="" type="radio"/> Public Domain (Professional) Activity	?

#### Step 2 - Apply Exposure Modifiers (Operational Conditions)

EM1 Ventilation		
Does this activity take place indoors or outdoors?	<input checked="" type="radio"/> Indoors <input type="radio"/> Outdoors	?
Is Local Exhaust Ventilation present ?	<input type="radio"/> No <input checked="" type="radio"/> Yes	?
<b>Only relevant if "Indoors" is chosen above</b>		
EM2 Duration of Activity		
What is the Duration of the Activity?	>4 hours (default)	?
EM3 Respiratory Protection		
What type of respiratory protection is used?	<input type="radio"/> >4 hours (default) <input type="radio"/> 1 - 4 hours <input type="radio"/> 15 mins - 1 hour <input checked="" type="radio"/> < 15 mins	?
EM4 Use in Preparations		
Is the substance used in a Preparation?	Yes	?
Select the concentration range (w/w)	> 25%	?
<b>Only relevant if the substance is used in a Preparation</b>		

Clear All

Clear Scenario

Generate Report

Copy Scenario results to the Linear Report

Likelihood to become Airborne		
Is this substance Solid?	No	?
Dustiness		?
Volatility (Pa)	5000	?

### Exposure Scenario Builder

Step 1 - Select a REACH Process descriptor		
Enter a short scenario name	SU22PROC11	?
Select a Process Category (PROC)	11 - Non industrial spraying	?
Industrial or Public Domain (Professional) Activity?	<input type="radio"/> Industrial Activity <input checked="" type="radio"/> Public Domain (Professional) Activity	?

Step 2 - Apply Exposure Modifiers (Operational Conditions)		
<b>EM1 Ventilation</b>		
Does this activity take place indoors or outdoors?	<input checked="" type="radio"/> Indoors <input type="radio"/> Outdoors	?
Is Local Exhaust Ventilation present ?	<input type="radio"/> No <input checked="" type="radio"/> Yes	?
<b>Only relevant if "Indoors" is chosen above</b>		
<b>EM2 Duration of Activity</b>		
What is the Duration of the Activity?	< 15 mins	?
<b>EM3 Respiratory Protection</b>		
What type of respiratory protection is used?	Respiratory protection is not used	?
<b>EM4 Use in Preparations</b>		
Is the substance used in a Preparation?	Respiratory protection is not used Respiratory protection capable offering a 90% reduction in inhaled concentrations of the substance Respiratory protection capable offering a 95% reduction in inhaled concentrations of the substance	?
Select the concentration range (w/w)	> 25%	?
<b>Only relevant if the substance is used in a Preparation</b>		

Clear All	Clear Scenario	Generate Report	Copy Scenario results to the Linear Report
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Likelihood to become Airborne		
Is this substance Solid?	No	[?]
Dustiness		[?]
Volatility (Pa)	5000	[?]

### Exposure Scenario Builder

Step 1 - Select a REACH Process descriptor		
Enter a short scenario name	SU22 PROC11	[?]
Select a Process Category (PROC)	11 - Non industrial spraying	[?]
Industrial or Public Domain (Professional) Activity?	<input type="radio"/> Industrial Activity <input checked="" type="radio"/> Public Domain (Professional) Activity	[?]

Step 2 - Apply Exposure Modifiers (Operational Conditions)		
<b>EM1 Ventilation</b>		
Does this activity take place indoors or outdoors?	<input checked="" type="radio"/> Indoors <input type="radio"/> Outdoors	[?]
Is Local Exhaust Ventilation present ?	<input type="radio"/> No <input checked="" type="radio"/> Yes	[?]
<i>Only relevant if "Indoors" is chosen above</i>		
<b>EM2 Duration of Activity</b>		
What is the Duration of the Activity?	< 15 mins	[?]
<b>EM3 Respiratory Protection</b>		
What type of respiratory protection is used?	Respiratory protection capable offering a 95% reduction in inhaled concentrations of the substance	[?]
<b>EM4 Use in Preparations</b>		
Is the substance used in a Preparation?	Yes	[?]
Select the concentration range (w/w)	< 1 %	[?]
<i>Only relevant if the substance is used in a Preparation</i>		

Clear All

- < 1 %
- > 25%
- 5 – 25%
- 1 – 5%
- < 1 %

Generate Report

Copy Scenario results to the Linear Report

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
	Short Exposure Scenario name	Process Category	Activity Type	Indoors or Outdoors use?	Ventilation present?	Presumed efficiency %	Maximum duration (hours)	Respiratory protection used?	Presumed efficiency %	Substance is in a Preparation?	Dermal exposures may arise from this Exposure Scenario, assuming a maximal exposed skin area (cm2)	Inhalative Exposure Estimate (ppm)	Inhalative Exposure Estimate (mg/m3)	Dermal Exposure Estimate (mg/kg bw/day)	Total Exposure = Dermal + Inhalative (mg/kg bw/day)	Risk Characterisation - Inhalative Margin of Exposure	Risk Characterisation - Dermal Margin of Exposure	Risk Characterisation - Total Margin of Exposure
4	SU1 PROC1	1 - Use in closed process, no likelihood of exposure	Industrial	Indoors	No		>4 hours (default)	No		Yes at > 25% w/w	240	0.01	0.0416667	0.3429	0.348852381	0.004166667	0.017145	0.017442619
5	SU22 PROC11	11 - Non industrial spraying	Public Domain (Professional)	Indoors	No		>4 hours (default)	No		Yes at > 25% w/w	1500	500	2083.3333	107.1429	404.7619476	208.3333333	5.357145	20.23809738
6	SU22 PROC11	11 - Non industrial spraying	Public Domain (Professional)	Indoors	Yes	80	< 15 mins	Yes	95%	Yes at < 1% w/w	1500	0.05	0.2083333	2.1429	2.172661905	0.020833333	0.107145	0.108633095
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2 PROC11	11 - Non industrial spraying	(Professional) Public Domain (Professional)	Indoors	No		< 15 mins	Yes	95%	Yes w/w
2 PROC11	11 - Non industrial spraying	Public Domain (Professional)	Indoors	Yes	80	< 15 mins	Yes	95%	Yes w/w

InputModule / fugacity / Value look up / PROC / Duration of activity / RPE / Mixtures / Dermal / **demosub1 (01-02-03)** / 

Wiederhergestellt

	A	B	C	D	E	F	G	H
			Significant Dermal Exposure Likely?	LEV present?	Predicted EASE dermal exposure (ug/cm2/day)	Exposed skin surface (cm2)	Predicted dermal exposure (mg/kg/day)	Comments
2								
3	PROC	Wide Dispersive Uses						
4	1	Use in closed process, no likelihood of exposure	Yes	Yes	10		0.03	PROC expected to have minimal exposure are assigned predicted exposures consistent with Riskofderm and other comparable source data. One hand face only
5				No	100	240	0.34	
6	2	Use in closed, continuous process with occasional controlled exposure	Yes	Yes	20		0.14	EASE predicts very low (non-dispersive, non-direct handling).u.ig/cm2 a realistic worst case. 2 hands face only EASE predicts (signif breaching, direct handling, intermittent exposure). Assumes 2 hands face only
7				No	200	480	1.37	
8	3	Use in closed batch process (synthesis or formulation)	Yes	Yes	10		0.03	PROC expected to have minimal exposure are assigned predicted exposures consistent with Riskofderm and other comparable source data. One hand face only
9				No	100	240	0.34	
10	4	Use in batch and other process (synthesis) where opportunity for exposure arises	Yes	Yes	100		0.69	EASE predicts very low (non-dispersive, non-direct handling).0.1g/cm2 a realistic worst case. 2 hands face only EASE predicts (signif breaching, direct handling, intermittent exposure). Assumes 2 hands face only
11				No	1000	480	6.86	
12	5	Mixing or blending in batch processes (multistage and/or significant contact)	Yes	Yes	10		0.07	EASE predicts very low. Assumes 2 hands face only. EASE predicts >g/cm2 (wide-dispersive, mobile dust, direct handling, intermittent).2g/cm2 a more realistic worst case. 2 hands face only. EASE predicts (wide-dispersive, mobile dust, no direct handling) very low.
13				No	2000	480	13.71	
14	6	Calendering operations	Yes	Yes	100		1.37	Assumes 2 hands face only. EASE predicts >g/cm2 (wide-dispersive, mobile dust, direct handling, intermittent).2g/cm2 a more realistic worst case. 2 hands face only. EASE predicts u.i (wide-dispersive, mobile dust, direct handling, incidental).
15				No	2000	960	27.43	
16	7	Industrial spraying	Yes	Yes	100		2.14	Assumes 2 hands and forearms EASE predicts (wide-dispersive, mobile dust, no direct handling) very low. Assumes 2 hands and forearms
17				No	2000	1500	42.86	
18	8a	Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	Yes	Yes	10		0.14	EASE predicts (wide dispersive, direct handling, intermittent exposure). Assumes 2 hands EASE predicts >g/cm (wide dispersive, direct handling, intermittent exposure). 1g/cm2 a more realistic worst case. 2 hands
19				No	1000	960	13.71	
20	8b	Transfer of chemicals from/to vessels/ large containers at dedicated facilities	Yes	Yes	100		0.69	EASE predicts (wide dispersive, direct handling, intermittent exposure). Assumes 2 hands EASE predicts >g/cm (wide dispersive, direct handling, intermittent exposure). 2g/cm2 a more realistic worst case. 2 hands
21				No	1000	480	6.86	
22	9	Transfer of chemicals into small containers (dedicated filling line)	Yes	Yes	100		0.69	EASE predicts very low (non-dispersive, non-direct handling).u.ig/cm2 a realistic worst case. 2 hands face only EASE predicts (signif breaching, direct handling, intermittent exposure). Assumes 2 hands face only
23				No	1000	480	6.86	
24	10	Roller application or brushing	Yes	Yes	100		1.37	Assumes 2 hands EASE predicts (wide dispersive, mobile dust, direct handling, incidental). EASE predicts >g/cm2 (wide dispersive, mobile dust, direct handling, intermittent). 2g/cm2 a more realistic worst case. 2 hands
25				No	2000	960	27.43	
26	11	Non industrial spraying	Yes	Yes	100		2.14	Assumes 2 hands and forearms EASE predicts >g/cm2 (wide dispersive, mobile dust, direct handling, intermittent). Assumes 2 hands and forearms
27				No	5000	1500	107.14	
28	12	Use of blowing agents for foam production	Yes	Yes	10		0.03	PROC expected to have minimal exposure are assigned predicted exposures consistent with Riskofderm and other comparable source data. One hand face only
29				No	100	240	0.34	
30	13	Treatment of articles by dipping and pouring	Yes	Yes	100		0.69	EASE predicts very low (wide-dispersive, mobile dust, no direct handling) 0.1g/cm2 a realistic worst case.2 hands face only. EASE predicts >g/cm2 (wide-dispersive, mobile dust, direct handling, intermittent).2g/cm2 a more realistic worst case. 2 hands face only.
31				No	2000	480	13.71	
32	14	Production of preparations or articles by tableting, compression,	Yes	Yes	50		0.34	EASE predicts very low (non-dispersive, non-direct handling).u.ig/cm2 a realistic worst case. 2 hands face only EASE predicts (signif breaching, direct handling, intermittent exposure). Assumes 2 hands face only
33				No	500	480	3.43	
34	15	Use of laboratory reagents in small scale laboratories	Yes	Yes	10		0.03	PROC expected to have minimal exposure are assigned predicted exposures consistent with Riskofderm and other comparable source data. One hand face

13								
18	<b>PROC</b>	<b>Wide Dispersive Uses</b>	<b>Significant Dermal Exposure Likely?</b>	<b>LEV present?</b>	<b>Predicted EASE dermal exposure (ug/cm2/day)</b>	<b>Exposed skin surface (cm2)</b>	<b>Predicted dermal exposure (mg/kg/day)</b>	<b>Comments</b>
19	<b>11</b>	<b>Non industrial spraying</b>	<b>Yes</b>	Yes	100	1500	2.14	EASE predicts (wide-dispersive, mobile dust, direct handling, incidental). Assumes 2 hands and forearms
20				No	5000		107.14	EASE predicts 5g/cm2 (wide dispersive, mobile dust, direct handling, intermittent). Assumes 2 hands and forearms
21								
22								
23								
24								
25								
26								

	A	B	C	D	E	F	G	H
	PROC	Wide Dispersive Uses	Significant Dermal Exposure Likely?	LEV present?	Predicted EASE dermal exposure (ug/cm2/day)	Exposed skin surface (cm2)	Predicted dermal exposure (mg/kg/day)	Comments
18	11	Non industrial spraying	Yes	Yes	100	1500	2.14	EASE predicts (wide-dispersive, mobile dust, direct handling, incidental). Assumes 2 hands and forearms
19				No	5000		107.14	EASE predicts 5g/cm2 (wide dispersive, mobile dust, direct handling, intermittent). Assumes 2 hands and forearms
20	7	Industrial spraying	Yes	Yes	100	1500	2.14	EASE predicts 0.1 (wide-dispersive, mobile dust, direct handling, incidental). Assumes 2 hands and forearms
21				No	2000		42.86	EASE predicts (wide-dispersive, mobile dust, no direct handling) very low. Assumes 2 hands and forearms
22	13	Treatment of articles by dipping and pouring	Yes	Yes	100	480	0.69	EASE predicts very low (wide-dispersive, mobile dust, no direct handling) 0.1g/cm2 a realistic worst case.2 hands face only,
23				No	2000		13.71	EASE predicts 5g/cm2 (wide-dispersive, mobile dust, direct handling, intermittent).2g/cm2 a more realistic worst case. 2 hands face only,

	A	B	C	D	E	F	G	H	I	J	K	
1	Rationale Behind TRA Worker v2 Exposure Predictions											
2												
3	PROC	Exposure scenario	LEV	Fugacity	Predicted EASE Exposure (95th%)	TR93 exposure prediction	Industrial exposure prediction	Professional exposure prediction	EASE LEV Effectiveness Industrial (%)	EASE LEV Effectiveness Professional (%)	Comments on Choice of LEV %	
159	11	Non-industrial spraying (solids) mg/m3	yes	High	10	10			n/a	80	EASE offers 95%	
160			no		200	200	n/a	200				
161			yes	Moderate	1	1			n/a	80		
162			no		20	20	n/a	20				
163			yes	Low	0.1	0.1			n/a	80		
164		no		1	1	n/a	1					
165												
166			(volatiles)	yes	High	500	100			n/a	80	EASE offers 50%
167		no		1000	1000	n/a	1000					
168		yes	Moderate	200	50			n/a	80			
169	no		500	500	n/a	500						
170	yes	Low	200	20			n/a	80				
171	no		500	100	n/a	100						
172												
173	12	Use as a blowing agent (solids) mg/m3	yes	High	N/a	N/a			N/a	N/a	Solids will never be used as blowing agent. Incidental exposures to aerosol as a consequence of blowing should be assessed under PROC13	
174			no		N/a	N/a	N/a	N/a				
175			yes	Moderate	N/a	N/a			N/a	N/a		
176			no		N/a	N/a	N/a	N/a				
177			yes	Low	N/a	N/a			N/a	N/a		
178		no		N/a	N/a			N/a	N/a			
179												
180			(volatiles)	yes	High	200	40			80	80	EASE offers 60%
181		no		500	100	100	500					
182		yes	Moderate	50	10			80	80			
183	no		100	20	20	100						
184	yes	Low	3	0.5			80	80				
185	no		10	2	2	10						
186												
187	13	Treatment of articles by dipping and pouring (solids) mg/m3	yes	High	1	1			90	80	EASE offers 80%	
188			no		5	5	5	5				
189			yes	Moderate	1	1			90	80		
190			no		5	5	1	5				
191			yes	Low	0.1	0.1			90	80		
192		no		0.1	0.5	0.1	0.5					
193												
194			(volatiles)	yes	High	200	200			90	80	EASE offers 80%
195		no		500	500	250	250					
196		yes	Moderate	50	50			90	80			
197	no		100	100	50	100						
198	yes	Low	3	3			90	80				
199	no		10	10	10	10						

Microsoft Office Excel



**Microsoft Office Excel hat ein Problem festgestellt und muss beendet werden.**



Falls Sie Ihre Arbeit noch nicht gespeichert hatten, können Daten möglicherweise verloren gegangen sein.

Microsoft Office Excel neu starten

**Informieren Sie Microsoft über dieses Problem.**

Wir haben eine Fehlerberichterstattung erstellt. Bitte leiten Sie diese an uns weiter, damit wir Microsoft Office Excel verbessern können. Die Berichterstattung wird von uns vertraulich und anonym behandelt.

[Welche Daten sind in diesem Fehlerbericht enthalten?](#)

[Warum an Microsoft berichten?](#)

Fehlerberichterstattung senden

Nicht berichten



***Vielen Dank für Ihre Aufmerksamkeit!***

***Dipl.-Biol. Nico Adler***

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