



Downstream Users of Chemicals Co-ordination group

The SCED Concept (Specific Consumer Exposure Determinants)

Chris Money, ExxonMobil

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- ▶ Chapter R15 of the TGD is conservative. It is meant to be. It aims to ensure that no consumer uses exist that are unsafe.
 - ▶ Only two consumer Tier 1 model available for developing CSAs i.e. Chesar and ECETOC TRA
 - ▶ TRA takes the basic algorithms of the ESR TGD but adopts them to reflect the inherent precaution expressed by ChR15
 - ▶ Utility of TRA v2 limited. TRAv3 offers improved accuracy but is still constrained in the extent to which iteration is possible.
- ❑ So how can the process be improved?
 - ❑ The solution is to move away from the standard TRA default values by allowing the use of relevant and justified exposure determinants
- *Specific Consumer Exposure Determinants (SCEDs)*



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- ▶ ECETOC understands the science of exposure assessment. Only the industry sectors really have knowledge of where (and how) their products are used
- ▶ Specific Consumer Exposure Determinants (SCEDs) should be available to support the primary uses of the principle consumer products that contain chemicals
 - ▶ PCs and PC_sub categories covered by the TRA together with further sub categories where considered appropriate
 - ▶ SCEDs can also be developed to cover articles that contain chemical substances
- ▶ SCEDs require clear and transparent justification in order that they can be seen to be reliable and representative for the described use
- ▶ SCEDs need to be applied in a manner that aligns with the expectations of ChR15 of the TGD



1. SCEDs are developed by trade groups/associations.
 - ▶ the group commits to communicate and apply its contents
2. The format and content of the SCED uses the template described in Appendix F of ECETOC Technical Report 114.
3. The application of the information within a SCED will be consistent with the process described in ChR15 of the TGD
 - ▶ Tier 1 information will first be applied to determine the nature of any exposure/risk.
4. The minimum content of the SCED addresses exposure determinants necessary to run the TRAv3 consumer module
5. SCEDs are intended to be available for all circumstances where consumer exposures to chemicals are commonly encountered.
6. SCEDs should cover all relevant routes of exposure for the use.
7. Each data point within the SCED must be substantiated/verified by reference to suitable 'open access' information sources



8. Where habits and practices differ across countries/regions, then the SCED reflects those areas with the highest uses/exposure conditions.
9. The trade group commits to routinely review the SCED's content to ensure it remains accurate and current.
 - ▶ And to close identified information deficiencies
10. DUCC commits to make available SCEDs in a publically accessible SCED library.

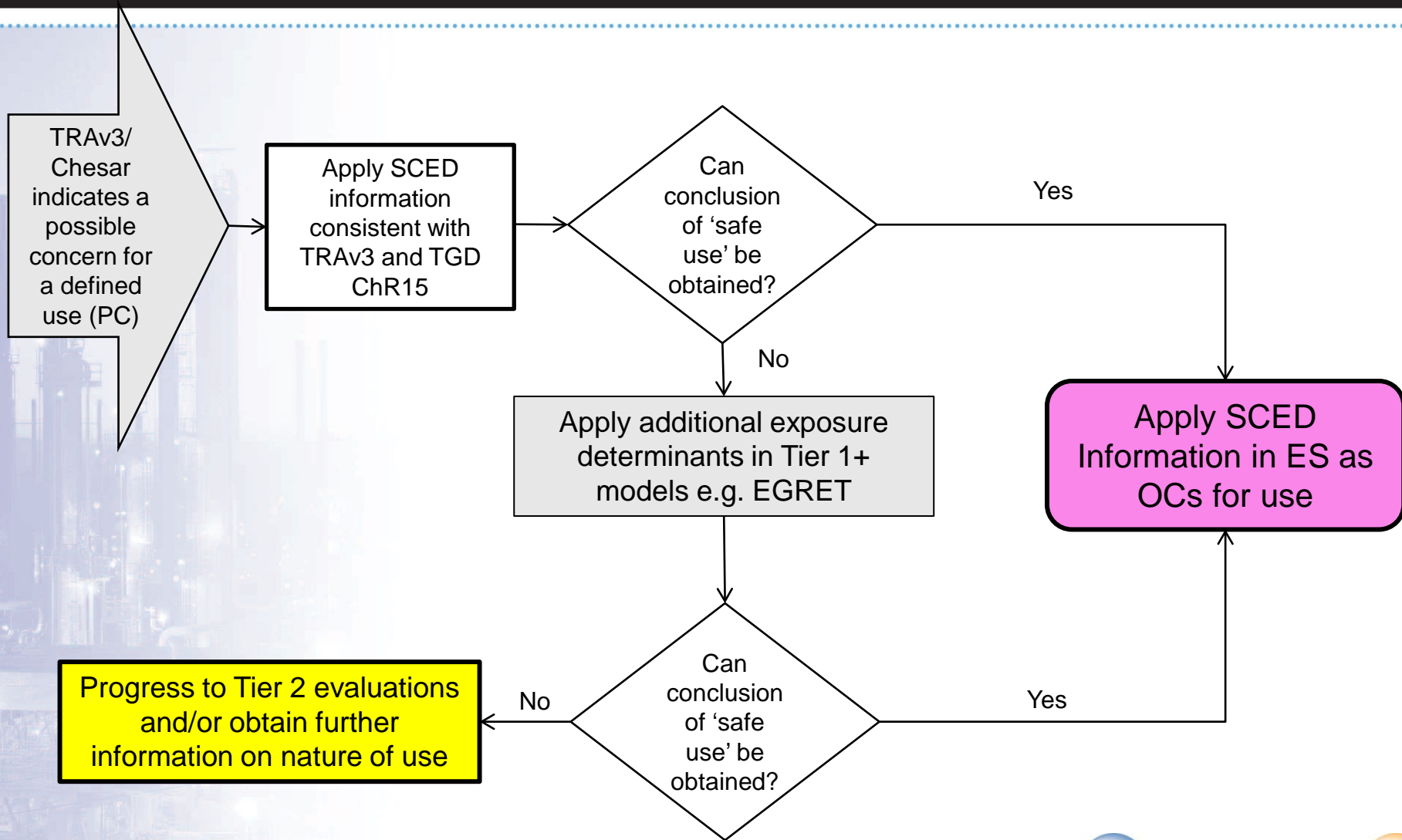
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Use descriptor or determinant: explanation		Relevance in ECETOC TRA v3⁴	Inhalation Specific Parameters		Standard TRA Extended TRA																					
Title of the use, generic description: e.g. ES short title		Standard TRA, extended TRA, other tools	Amount of Product used per application	Amount used, in g, based on product-specific information.	Standard TRA, Extended TRA																					
Product/Article Use Category	The <u>product category</u> (PC) describes in which types of chemical products (substances as such or in mixtures) the substance is finally contained when it is supplied, in this case to consumers. The <u>article category</u> (AC) describes the type of article into which the substance has eventually been processed.	Standard TRA , Extended TRA	Exposure Time	Duration of the exposure, in hr, based on product-specific information and consumer habits.	Standard TRA, Extended TRA																					
PC/AC Subcategory	If one of the product or article sub-categories used as entries to the ECETOC TRA is more suitable than a product category it shall be stated here.	Standard TRA, Extended TRA	Inhalation rate	In m ³ /hr	Standard TRA, Extended TRA																					
Product Ingredient Fraction (by weight)	Concentration of the substance in the product, based on product-specific information.	Standard TRA, Extended TRA	Room Volume	Room volume, in m ³ .	Standard TRA, Extended TRA																					
Frequency of Use (events/day, and for an infrequently used product also provide days/year)	Number of times per day that a product is used, based on product-specific information.	Standard TRA, Extended TRA	Is product use outdoors only?	Information on whether the use occurs only outdoors.	Extended TRA																					
Relevant Route(s) of Exposure	Consumer exposure estimation needs to consider three separate exposure routes: inhalation exposure, dermal exposure, oral exposure. Indication of which of these route is (are) relevant for the use of the product.	Standard TRA, Extended TRA	Ventilation specified or likely due to properties (i.e., odour, etc.)- if so what type – (open window, fan)	Number of air changes per hour. <table border="1"> <thead> <tr> <th colspan="3">Inhalation Specific Parameters</th> </tr> </thead> <tbody> <tr> <td>Amount of product used per application (g)</td> <td>37500</td> <td>Based on 50 litres and density of 750 g/l</td> </tr> <tr> <td>Exposure Time (hr)</td> <td>0.05</td> <td>3 minutes, 97th value from Vainivalo et al, 1999</td> </tr> <tr> <td>Is product used outdoors only?</td> <td>Outdoor use</td> <td></td> </tr> <tr> <td>Room Volume (m³)</td> <td>100</td> <td>100m³ used as default volume (consistent with Stoffenmanager)</td> </tr> <tr> <td>Ventilation specified or likely due to properties (i.e. odour, etc.) - if so what type – (open window, fan)</td> <td>0.6</td> <td>Outdoor air exchange rate considered to equivalent to value cited by BIVM for garages (0.6/h)</td> </tr> <tr> <td>Inhalation factor (fraction of total amount handled to air)</td> <td>0.2%</td> <td>Expositive losses during refuelling expected to be <<1% based on mass balances</td> </tr> </tbody> </table>	Inhalation Specific Parameters			Amount of product used per application (g)	37500	Based on 50 litres and density of 750 g/l	Exposure Time (hr)	0.05	3 minutes, 97 th value from Vainivalo et al, 1999	Is product used outdoors only?	Outdoor use		Room Volume (m ³)	100	100m ³ used as default volume (consistent with Stoffenmanager)	Ventilation specified or likely due to properties (i.e. odour, etc.) - if so what type – (open window, fan)	0.6	Outdoor air exchange rate considered to equivalent to value cited by BIVM for garages (0.6/h)	Inhalation factor (fraction of total amount handled to air)	0.2%	Expositive losses during refuelling expected to be <<1% based on mass balances	Extended TRA
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Product Characteristics / Properties	<i>In case there is a characteristic/property than can/will affect the value of some of the exposure determinants (e.g. volatility) it shall be stated here. Such physchem-based considerations may be relevant for certain sector, e.g. for the use of fuels of varying volatility.</i>	Extended TRA	Inhalation Transfer Factor	Fraction (>0 to 1) of the substance transferred from the product into the air. If the user has relevant, specific information or knowledge on the pattern of transfer, he can enter transfer fraction values to refine the exposure estimate (by varying the 'effective' amount of substance handled). If no data is available, a conservative estimate of 100% is assumed.	Standard TRA, Extended TRA																					
Dermal Specific Parameters			Oral Specific Parameters																							
Skin Contact Area	Skin area (in cm ²) which is exposed to the product. This value can only be entered for either the adult or child, but not both.	Extended TRA	Volume Ingested	In cm ³ .	Standard TRA, Extended TRA																					
Skin Transfer Factor	Fraction (>0 to 1) of the substance transferred from the product to the skin. If the user has relevant, specific information or knowledge on the pattern of transfer, he can enter transfer fraction values to refine the exposure estimate. If no data is available, a conservative estimate of	Standard TRA, Extended TRA	Oral Transfer Factor	Fraction (>0 to 1) of the substance transferred from the product to the mouth, after mouthing of a product. If the user has relevant, specific information or knowledge on the pattern of transfer, he can enter transfer fraction values to refine the exposure estimate. If no data is available, a conservative estimate of 100% is assumed.	Standard TRA, Extended TRA																					



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- ▶ Need for SCEDs identified by ECETOC in TR114
- ▶ Intention of SCEDs is to enable consumer CSAs to be reliably, efficiently and consistently developed for common situations where exposures to chemicals occurs
- ▶ DUCG has coordinated a cross-industry activity aimed at developing an initial SCED library
 - ▶ AISE, FEICA, CEPE, FEA, CONCAWE
- ▶ Principles for SCEDs developed, piloted and tested
 - ▶ build on those pioneered for SpERCs
- ▶ The SCED delivers the ability to exploit the new functionality of TRAv3 as well as companion tools (e.g. EGRET, CONSEXPO)
- ▶ There are gaps in the current coverage of SCEDs
 - ▶ Other sectors now need to step forward



Questions ?

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