

Overview Use Map template for Solvents/mapping to DU Sector Use Maps

- **Background**

There are hundreds of solvents with widespread uses most of which have different applications across all market sectors and numerous different combinations of exposure. To meet the challenge of carrying out the many exposure assessments needed to demonstrate the safe use of solvents under REACH, and assure continuity of supply with minimal churn in the supply chain due to missing uses, the European Solvents Industry Group (ESIG) has developed a generic approach.

The approach adopted recognises that although there are numerous applications, the handling associated with these applications could readily be consolidated into approx. 40 Generic Exposure Scenario (GES) titles, covering workers (Industrial and Professional), Consumers and the Environment. Each GES title is supported by a list of Use Descriptors based on the ECHA guidance R12 Use Descriptors, a scope statement that summarises the activities covered and typical Operational Conditions and Risk Management Measures for reference in case these are needed for the demonstration of safe use. The development of the GES has been in liaison with associated DU Sectors with whom contact has continued at intervals.

The GES comprise a start point for Chemical Safety Assessments for solvents and aim to provide a consistent basis for use by Registrants in developing substance-specific exposure scenarios in support of their substance registrations. The GES files are available in both Chesar and Excel formats. All details are available on the ESIG website: <http://www.esig.org/regulatory/reach-ges/>

- **DU Sector Use Maps – mapping to the GES**

ESIG welcomes the initiative coordinated by ECHA for development of DU Sector Use Maps and supporting SWED, SCED and SpERCs using standard templates which are held in a central library managed by ECHA.

To show how the DU Sector details are matched to the GES, ESIG has undertaken an exercise to map the Sector information against the relevant GES Title(s) and associated Contributing Activities. This has been done by populating the ECHA Overview Use Map Template with the GES Titles and their supporting details and creating columns for each of the DU Sectors with Use Maps published in the Library against which each Contributing Activity of potential relevance to the use of solvents has been mapped.

ESIG has reached out to date to the following DU Sectors (AISE, CEPE, EFCC, FEICA) to share and discuss this exercise and captured key details within the Overview Use Map as follows:

ESIG (European Solvents Industry Group)
Avenue E. van Nieuwenhuysse 4 B-1160 Brussels Belgium
Tel. +32.2.676.72.69 esig@cefic.be www.esig.org

A sector group of Cefic 

European Chemical Industry Council - Cefic aisbl

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1. Contributing Activity/Scenario titles adjustments are in red text shown in 'CA name' column (column 'O') of each worksheet. Separate worksheet tabs represent the Life Cycle Stages for Manufacture, Formulation, Industrial Sites, Professional Workers and Consumers. Further explanation is included in the 'Information (optional)' column (column 'V').
 2. Consistency between PROC codes/Conditions of Use. Discussion on how this has been accomplished between the DU Sector and GES details is provided. Details are included in a 'comment' box within the relevant cell containing the Sector's activity details.
 3. Operational Conditions and Risk Management Measures revised to reflect details noted from DU Sector SWEDs. These being used for reference in case specific measures are required to demonstrate safe use.
 - Where there are various levels of control identified by Sectors for the same task to account for different product hazard levels, e.g. good GV versus enhanced GV versus LEV, these have been captured in the GES Typical RMM column. Ultimately the selection of the OC/RMM will be based on the demonstration of safe use by starting with the least stringent control, and, if needed, increasing the level of control to reflect the more stringent typical conditions, with limiting the substance concentration as the ultimate option.
 - For some substances with low DNELs/high volatility, it may not be possible to demonstrate safe use aligned with the DU Sector parameters. In these cases, a substance with a lower hazard/exposure potential may need to be considered.
 - Where Respiratory Protective Equipment (RPE) is assigned as a control, the associated maximum duration is set at 4 hours to meet workplace requirements for its use. This may be in conflict with some current DU Sector Use Map SWED details.
- **Worker GES – explanatory comments**
 - Each Worker GES is based on an example Vapour Pressure and DNEL band, and comprise:
 - a. a list of tasks (Contributing Scenarios/Activities - CA) described using common language, e.g. process sampling, material transfer, spraying, and mapped to a particular PROC Code and its associated exposure estimate as defined by the ECETOC TRA;
 - b. for each task, identified operational conditions (OC) and risk management measures (RMM) are selected from those considered to be typical for the task and as required to demonstrate safe use based on a target RCR of ~0.8;



- c. an Exposure Scenario narrative document summarising the outcome of the assessment for communication using standard phrases.
- A GES based on the example VP/DNEL banding is then adjusted to demonstrate safe use for a specific substance and its associated Vapour Pressure and DNEL values. In adjusting the OC/RMMs, either up or down as appropriate, reference to the typical conditions of use is advised taking account of the hierarchy of controls.
 - The GES are designed to be inclusive of all tasks potentially involving exposure that may be carried out as part of the scope of the GES, including general activities such as bulk deliveries, equipment cleaning and maintenance and storage. These are not always covered within the DU Sector Use Maps, but still relevant activities requiring risk assessment.
 - The selection of a PROC code for a task in some cases varies. Thus, different PROC codes could be selected by separate groups for a similar activity. In the GES development ESIG has tried to take this into account by assigning more than one PROC code for some tasks, but it is possible that there will be exceptions to those selected by a particular Sector.
 - The 'Process' PROCs - PROCs 1, 2, 3 and 4. These have been applied in the GES as follows:
 - to cover an overall operational process, such as to reflect general workplace exposures for operational staff whilst working within the plant/production/work areas, e.g. carrying out workplace inspections (CA 'General Exposures – closed systems/open systems'), substance 'Storage'.
 - to reflect specific tasks in response to DU Sector Use details where these PROCs may have been applied for example when conditions of use are known to be 'closed'.

