



The technical association  
of the European lubricants  
industry



The technical committee  
of petroleum additive  
manufacturers in Europe

ATIEL/ATC  
Generic Exposure  
Scenarios

# Document 9: Environmental GES - Explanation of Fields and Checks

**This document is designed to support Step 5 of the GES Process Flow Chart - "Does the RM ES specify equally/less stringent conditions of use than the allocated GES(s)?" and "Can scaling be applied to demonstrate that the allocated GES(s) are applicable?"**

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## Environmental GES - Explanation of Fields and Checks

### **Purpose**

To support in step 5 of the flow chart two diamonds "Does the RM ES specify equally/less stringent conditions of use than the allocated GES(s)?" and "Can scaling be applied to demonstrate that the allocated GES(s) are applicable? "

This spreadsheet table is intended to help the user with the checking process.

It first provides an explanation of fields the user finds in the GESs and the RM ESs.

This spreadsheet is intended for use by formulators of finished lubricants, not for their customers.

## Environmental GES - Explanation of Fields and Checks

Section 2.2	Control of environmental exposure	Explanatory information	Does the formulator need to check this parameter on the supplier ext-SDS (y/n)?	Further action		In deciding the action it has been assumed that other conditions are met, unless indicated otherwise.
				Not required	Required	
<b>Amounts used</b>						
EU tonnage of RDS (tonnes per year) [ATE phrase change]	<i>insert value from Environmental GES values table</i>	The value is the estimate of EU tonnage for this RDS (code) and has been used by the supplier in the risk assessment. The data is for information only.	n			
Fraction of EU tonnage used in region [A1]	0.1	The value is an estimate of the distribution of the EU tonnage over EU region.	n			
Fraction of Regional tonnage used locally [A3]	0.1	The value is an estimate of the distribution of the regional tonnage and the size of the main source within a region. The value represents dispersive use rather than a single point source.	n			
<b>Frequency and duration of use</b>						
Emission days (days/year) [FD4]	300	This value is the default based on ECHA guidance. For low tonnage substances a smaller value has been used. The data is for information only and has been used by the supplier to determine the safe use quantity (Msafe) for the product.	y	supplier value ≥ GES value supplier value < GES value if other conditions met	supplier value < GES value if other conditions not met	If supplier specification is a lower value, the DU can still use the product for a longer period providing all other conditions are met.
<b>Environmental factors not influenced by risk management</b>						
Local freshwater dilution factor [EF1]	10	This value is based on the default flow rate of receiving surface water (m3/d, usually 18,000 m3/d for the standard town by default), as the assumed domestic sewage treatment plant flow is 2000 m3/d by default. It is not common for a registrant to deviate from the default value as shown.	n			
Local marine water dilution factor [EF2]	100	This value follows from the local freshwater dilution by adding another factor of 10. It is not common for a registrant to deviate from the default value as shown.	n			
<b>Other given operational conditions affecting environmental exposure</b>						
Negligible wastewater emissions as process operates without water contact. [OOC20]		This is a general statement to provide an indication of the operational conditions. Technology or process techniques determining the initial release of substance from process (via air and waste water); dry or water based processes; conditions related to temperature and pressure; indoor or outdoor use of products; work in confined area or open air; etc.	n			
Release fraction to air from process (after typical onsite RMMs) [ATE11]	<i>insert value from Environmental GES values table</i>	This is the fraction released to air after abatement. In many instances abatement is standard practice to comply with other operating permit conditions. For air this can include technology in relation to VOCs.	y	supplier value ≥ GES value	supplier value < GES value	If the supplier specifies a lower value, the formulator should find elsewhere in the ext-SDS more details on measures to control emissions to air. Otherwise the formulator should go back to the supplier to clarify. If the supplier insists on maintaining the lower value, then the formulator can attach the GES (providing the other conditions in the GES are met) but this would constitute a DU CSA approach.
Release fraction to wastewater from process (after typical onsite RMMs and before sewage treatment plant): [ATE phrase change]	<i>insert value from Environmental GES values table</i>	This is the fraction to water after abatement. In many instances abatement is standard practice to comply with other operating permit conditions. For water this can include technology such as oil-water separators (see below) in relation to maximum levels of oil in water.	y	supplier value ≥ GES value	supplier value < GES value	If the supplier specifies a lower value, the formulator should find elsewhere in the ext-SDS more details on measures to control emissions to water. Otherwise the formulator should go back to the supplier to clarify. If the supplier insists on maintaining the lower value, then the formulator can attach the GES (providing the other conditions in the GES are met) but this would constitute a DU CSA approach.

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				Not required	Required	
Release fraction to soil from process (after typical onsite RMMs): [ATE13]	fixed according to use group	This is the fraction released to soil, usually through sludge or solids settling during abatement. In virtually every case no industrial substances are allowed to be deposited onto soil (see also below).	y	supplier value ≥ GES value	none	If the supplier specifies a higher value, the formulator can use the GES and its conditions.
Technical conditions and measures at process level (source) to prevent release						
Common practices vary across sites thus conservative process release estimates used [TCS1]		This is an acknowledgment that conditions of use can be different.	n			
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil						
Treat air emission to provide a typical removal efficiency of (%):	70	This is a general statement to provide an indication of the operational conditions for the efficiency of treatment of emissions to air. This does not apply to use group Bi, because Bi covers use in closed systems.	n			
Prevent discharge of undissolved substance to or recover from onsite wastewater. [TCR14]		This is a general statement to provide an indication of the operational conditions for the efficiency of treatment of emissions to water.	n			
User sites are assumed to be provided with oil/water separators or equivalent and for waste water to be discharged via a sewage treatment plant. <a href="#">[ATE phrase change]</a>		This is a qualitative check to ensure that the release fraction to waste water can be met.	n			It is not prescriptive of the methodology but a suitable measure needs to be in place. Without this general RMM it will be extremely difficult to achieve the limit value.
Organisational measures to prevent/limit release from site						
Do not apply industrial sludge to natural soils [OMS2].		This indicates that the sludge generated on-site should not be applied to soil. It is a qualitative statement.	n			It is envisaged that a supplier will not specify more stringent measures.
Sludge should be incinerated, contained or reclaimed [OMS3].		This indicates that how the sludge generated on-site could be treated. It is a qualitative statement.	n			It is envisaged that a supplier will not specify more stringent measures.
Conditions and measures related to municipal sewage treatment plant						
Estimated substance removal from wastewater via domestic sewage treatment (%) - F <sub>STP</sub> [STP3]	insert value from Environmental GES values table	This indicates the percentage of the substance which will be removed when treated in a typical domestic sewage treatment plant.	n			This figure is determined by the physico-chemical parameters and biodegradability profile of the RDS. It is not a determinant for acceptance or rejection of the supplier ext-SDS on its own. Note that the parameters which determine the RDS code have been checked earlier in step 5.
Assumed domestic sewage treatment plant flow (m <sup>3</sup> /d) [STP5]	2.00E+03	This indicates the capacity of the domestic sewage treatment plant.	n			The GES value is the default value used in the risk assessment which is expected on the supplier ext-SDS if quoted.

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				Not required	Required	
	<i>insert value from Environmental GES values table</i>	This is the amount of product which can be used safely based on the OCs, RMMS and Release Fractions specified above.	y	supplier value > GES value  supplier value < GES value if other conditions are met	supplier value < GES value if other conditions are not met	<p>The value in the Environmental GES Values Table refers to the RDS in the product at 2%.</p> <p>If the supplier specifies a higher value (adjusted for the RDS percentage in the product) and the formulator wishes to use the GES, the formulator is limited by the GES Msafe value and its conditions, unless he takes further action.</p> <p>If the supplier specifies a lower value, the formulator needs to check whether this is a result of the OCs / RMMS specified by the supplier. If the supplier release fractions are higher than those in the ATC-ATIEL GES, the Msafe of the GES is applicable, providing the other conditions of the ATC-ATIEL GES are met.</p> <p>If the supplier specifies a lower value, the user needs to check whether this is a result of the OCs / RMMS specified by the supplier. If the supplier release fractions are lower than those in the ATC-ATIEL GES, the Msafe of the ATC-ATIEL GES can be used providing the other conditions of the ATC-ATIEL GES are met, however the use of the ATC-ATIEL GES constitutes a DU CSA approach.</p> <p>Further guidance is given in the document "Checking Environmental Conditions of Use and Scaling".</p>
<b>Conditions and measures related to external treatment of waste for disposal</b>						
External treatment and disposal of waste should comply with applicable local and/or national regulations. [ETW3].		A qualitative statement.	n			
<b>Conditions and measures related to external recovery of waste</b>						
External recovery and recycling of waste should comply with applicable local and/or national regulations. [ERW1]		A qualitative statement.	n			
<b>Other environmental control measures additional to above</b>						
None [ATE16]			n			
<b>Section 3 Exposure Estimation</b>						
<b>3.2. Environment</b>						
Used ECETOC TRA model. [EE1]		For information	n			
<b>Section 4 Guidance to check compliance with the Exposure Scenario</b>						
<b>4.2. Environment</b>						
Guidance is based on assumed operating conditions which may not be applicable to all sites: thus scaling may be necessary to define appropriate site-specific risk management measures [DSU1].		For information	n			
Further details on scaling and control technologies are provided in SpERC factsheet ( <a href="http://cefic.org/en/reach-for-industries-libraries.html">http://cefic.org/en/reach-for-industries-libraries.html</a> ) [DSU4].)		For information	n			
If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMS or a site-specific chemical safety assessment is required. [DSU8]		For information	n			
For further information see <a href="http://www.ATIEL.org/REACH_GES">www.ATIEL.org/REACH_GES</a> [ATG02]		For information	n			