

Annex to the Safety Data Sheet

According to Regulation (EC) No 1907/2006 (REACH)

Trade name:

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Table of content

Overview on the exposure scenarios

| ES No | Short title of the exposure scenario | SU | PROC | ERC | spERC | PC | AC |
|-------|--|----------------------|---|---------------|-------|----|----|
| 1 | <i>Manufacture of substance, use as a process chemical, Use as an intermediate</i> | <i>SU 3 SU 8</i> | <i>PROC 1 PROC 2 PROC 3 PROC 4 PROC 8a PROC 8b PROC 9</i> | <i>ERC 6c</i> | | | |
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| 1 | Exposure Scenario No 1 | |
| 1.1 | Short title of the exposure scenario | Content 1 |
| 1.1.1 | Use descriptors | |
| 1.1.1.1 | Sector of use [SU] | Content 2 |
| 1.1.1.2 | Process categories [PROC] | Content 3 |
| 1.1.1.3 | Product categories [PC] | Content 4 |
| 1.1.1.4 | Environmental release categories [ERC] | Content 5 |
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| 1.1.1.7 | Article categories [AC] | Content 6b |
| 1.1.2 | Processes, tasks, activities covered | Content 7 |
| 1.1.3 | Remark | Content 8 |

| | | |
|-------------|--|--------------------------|
| 1.2 | Operational conditions and risk management measures | |
| 1.2.1 | Control of environmental exposure | |
| 1.2.1.1 | Exposure assessment (method/calculation model) | Content 9 |
| 1.2.1.1.1 | Remark | Content 9c |
| 1.2.1.2 | Product characteristics | |
| 1.2.1.2.1 | Physical form of the product | Content 10 |
| 1.2.1.2.2 | Concentration of the substance in product | Content 11 |
| 1.2.1.2.3 | Concentration of the substance in article | |
| 1.2.1.2.4 | Vapour pressure | Content 12 |
| 1.2.1.2.5 | Temperature | Content 12a |
| 1.2.1.2.6 | Viscosity | |
| 1.2.1.2.7 | Molecular weight | only optional |
| 1.2.1.2.8 | pH value | only optional |
| 1.2.1.2.9 | Biodegradation | only optional |
| 1.2.1.2.10 | Bioaccumulation | only optional |
| 1.2.1.2.11 | Remark | |
| 1.2.1.3 | Operational conditions | |
| 1.2.1.3.1 | Amounts Used | |
| 1.2.1.3.1.1 | Annual amount per site | 5 kt/a |
| 1.2.1.3.1.2 | Daily amount per site | 250 kg |
| 1.2.1.3.1.3 | Maximum allowable site tonnage (M_{Safe}) | 0,34 kg/d |
| 1.2.1.3.1.4 | Remark | Content 9c |
| 1.2.1.3.2 | Duration and frequency of use | |
| 1.2.1.3.2.1 | Emission days per year | 300 |
| 1.2.1.3.2.2 | Remark | Content 14b |
| 1.2.1.3.3 | Environmental factors not influenced by risk management | |
| 1.2.1.3.3.1 | Local Freshwater dilution factor | 10 |
| 1.2.1.3.3.2 | Local marine water dilution factor | 100 |
| 1.2.1.3.3.3 | Type of Sewage treatment plant (STP) | Content 22a (onsite STP) |
| 1.2.1.3.3.4 | River flow rate | |
| 1.2.1.3.3.5 | Remark | Content 9c |

Kommentar [HA1]: No contributing environmental scenarios exist. For every ERC a completely new Exposure Scenario required.

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| 1.2.1.3 | Other given operational conditions of use affecting environmental exposure | |
| 1.2.1.3.1 | Release fraction to air from process (initial release prior to RMM) | 0.098 |
| 1.2.1.3.2 | Release fraction to wastewater from process (initial release prior to RMM) | 0.007 |
| 1.2.1.3.3 | Release fraction to soil from process (initial release prior to RMM) | 0 |
| 1.2.1.3.4 | Remark | Content 9c |
| 1.2.1.4 | Conditions in spERC fact sheet | |
| 1.2.1.4.1 | Release fraction to air: | |
| 1.2.1.4.2 | Release fraction to wastewater: | |
| 1.2.1.4.3 | Release fraction to soil: | |
| 1.2.1.4.5 | M _{safe} SPERC | |
| 1.2.1.4.6 | Remark | Content 9c |
| 1.2.1.5 | Risk management measures | |
| 1.2.1.5.1 | Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil | <p>Content 23 (example):</p> <p>Treat air emissions to provide a typical removal efficiency of > 90 %. [TCR 7]</p> <p>Typical onsite wastewater treatment technology provides removal efficiency of 93.67%. [TCR 11]</p> <p>Prevent discharge of undissolved substance to or recover from wastewater [TCR14].</p> <p>Soil emission controls are not applicable as there is no direct release to soil [TCR 4].</p> |
| 1.2.1.5.2 | Organisational measures to prevent/limit release from site | <p>Content 24 (example):</p> <p>Do not apply industrial sludge to natural soils [OMS2].</p> <p>Sludge should be incinerated, contained or reclaimed [OMS3].</p> |

Kommentar [HA2]:

Alternative to „Other given operational conditions of use“. Leave this section out if not appropriate resp. if no spERC factsheet developed.

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| 1.2.1.5.3 | Conditions and measures related to municipal sewage treatment plant | Content 25 (example): Estimated substance removal from wastewater via domestic sewage treatment 93.67 (%) [STP3]. Assumed domestic sewage treatment plant flow 2000 (m ³ /d) [STP5]. | |
| 1.2.1.5.4 | Conditions and measures related to external treatment of waste for disposal | Content 26 (example): External treatment and disposal of waste should comply with applicable local and/or national regulations. [ETW 3] | |
| 1.2.1.5.5 | Conditions and measures related to external recovery of waste | Content 27 (example): External recovery and recycling of waste should comply with applicable local and/or national regulations. [EWR 1] | |
| 1.2.1.5.6 | Other environmental control measures additional to above | Content 28 (example): None | |
| 1.2.1.5.7 | Remark | Content 9c | |
| 1.2.1.6 | Exposure estimation and reference to its source | | |
| | Content 31: Confirm that RMMs and OCs are as described or of equivalent efficiency. | | |
| | Environmental release categories [ERC] | Environmental compartment | Exposure assessment (environment) |
| | ERC 6a | Fresh water | |
| | | Marine water | |
| | | Fresh water sediment | |
| | | Marine water sediment | |
| | | STP | |
| | | Secondary Poisoning | |
| | | Soil | |
| | | Air | |
| | Remark | Content 32 | |
| 1.2.1.7 | Additional good practice advice beyond the REACH CSA | | |
| | Content 37 (example): Good practice RMM phrases may be incorporated in this section or consolidated into the main sections of the SDS, depending on the preference of the Registrant and functionality of the available e-SDS system. | | |

Kommentar [HA3]:
Predicted environmental exposition (PEC)

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| 1.2.2 | Control of worker exposure | | |
| 1.2.2.1 | Contributing exposure scenario controlling worker exposure | | |
| | Contributing scenario No 1 | Content 19 (example): General exposures [CS1]. Continuous process [CS54]. | PROC 1 |
| 1.2.2.1.1 | Exposure assessment (method/calculation model) | Content 9 | |
| 1.2.2.1.1.1 | Remark | Content 9b | |
| 1.2.2.1.2 | Product characteristics | | |
| 1.2.2.1.2.1 | Physical form of the product | Content 10 | |
| 1.2.2.1.2.2 | Concentration of substance in product | Content 11 | |
| 1.2.2.1.2.3 | Concentration of substance in the article | Content 11 | |
| 1.2.2.1.2.4 | Vapour pressure | Content 12 | |
| 1.2.2.1.2.5 | Temperature | Content 12a or number | |
| 1.2.2.1.2.6 | Viscosity | Content 10a or number | |
| 1.2.2.1.2.7 | Molecular weight | only optional | |
| 1.2.2.1.2.8 | pH value | only optional | |
| 1.2.2.1.2.9 | Remark | Content 9b | |
| 1.2.2.1.3 | Operational conditions | | |
| 1.2.2.1.3.1 | Area of use | Content 9a | |
| 1.2.2.1.3.2 | Amounts used | Content 13 | |
| 1.2.2.1.3.3 | Duration and Frequency of use | Content 14 | |
| 1.2.2.1.3.4 | Exposed skin surface assumed | Content 16 | |
| 1.2.2.1.3.5 | Human factors not influenced by risk management | Content 17 | |
| 1.2.2.1.3.6 | Other operational conditions affecting worker exposure | Content 18 Content 15 (e.g. "Indoor") | |
| 1.2.2.1.3.7 | Remark | Content 9b | |
| 1.2.2.1.4 | Risk management measures | | |
| 1.2.2.1.4.1 | Technical conditions and measures at process level (source) to prevent release | Content 20 (example): Handle substance within a closed system [E47]. | |
| 1.2.2.1.4.2 | Technical conditions and measures to control dispersion from source towards the worker | Provide extract ventilation to points where emissions occur [E54]. | |
| 1.2.2.1.4.3 | Organisational measures to prevent /limit releases, dispersion and exposure | Ensure material transfers are under containment or extract ventilation [E66]. | |
| 1.2.2.1.4.4 | Conditions and measures related to personal protection, hygiene and health evaluation | Wear suitable gloves tested to EN374 [PPE15]. | |
| 1.2.2.1.4.5 | Remark | | |

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| 1.2.2.1.5 | Exposure estimation and reference to its source | | |
| | Content 29 (see example): | | |
| | Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted. | | |
| | Process categories [PROC] | Exposure route | Exposure assessment (human) |
| | PROC 1 | oral, short-term, systemic | |
| | | oral, long-term, systemic | |
| | | dermal, short-term, local (acute) | |
| | | dermal, short-term, systemic (acute) | |
| | | dermal, long-term, local | |
| | | dermal, long-term, systemic | |
| | | inhalative, short-term, local (acute) | |
| | | inhalative, short-term, systemic (acute) | |
| | | inhalative, long-term, local | |
| | | inhalative, long-term, systemic | |
| | Remark | Content 30 | |
| 1.2.2.1.6 | Additional good practice advice beyond the REACH CSA | | |
| | Content 35 (see example): | | |
| | No general information available | | |
| | Content 36 (see example): | | |
| | Good practice RMM phrases may be incorporated in this section or consolidated into the main sections of the SDS, depending on the preference of the Registrant and functionality of the available e-SDS system. | | |
| 1.3. | Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES | | |
| 1.3.1 | Guidance to check compliance with the Exposure Scenario | | |
| 1.3.1.1 | Human health | | |
| | Content 33 (example): | | |
| | For scaling see: http://www.ecetoc.org/tra | | |
| | Please note that a modified version has been used (see exposure estimates). | | |
| 1.3.1.2 | Environmental | | |
| | Content 34 (example): | | |
| | Risk from environmental exposure is driven by freshwater | | |
| | Further details on scaling and control technologies are provided in SpERC factsheet. | | |

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| 2 | Exposure Scenario No 2 | |
| 2.1 | Short title of the exposure scenario | Content 1 |
| 2.1.1 | Use descriptors | |
| 2.1.1.1 | Sector of use [SU] | Content 2 |
| 2.1.1.3 | Product categories [PC] | Content 4 |
| 2.1.1.4 | Article categories [AC] | Content 6b |
| 2.1.1.5 | Environmental release categories [ERC] | Content 5 |
| 2.1.1.6 | Specific consumer exposure determinants [SCED] | Content 6a |
| 2.1.2 | Processes, tasks, activities covered | Content 7 |
| 2.1.3 | Remark | Content 8 |
| 2.2 | Operational conditions and risk management measures | |
| 2.2.1 | Control of environmental exposure | |
| 2.2.1.1. | Exposure assessment (method/calculation model) | |
| 2.2.1.1.1 | Remark | Content 9 |
| 2.2.1.2 | Product characteristics | |
| 2.2.1.2.1 | Physical form of the product | Content 10 |
| 2.2.1.2.2 | Concentration of the substance in product | Content 11 |
| 2.2.1.2.3 | Concentration of the substance in article | |
| 2.2.1.2.4 | Vapour pressure | Content 12 |
| 2.2.1.2.5 | Temperature | Content 12a |
| 2.2.1.2.6 | Viscosity | |
| 2.2.1.2.7 | Molecular weight | |
| 2.2.1.2.8 | pH value | |
| 2.2.1.3 | Operational conditions | |
| 2.2.1.3.1 | Amounts Used | |
| 2.2.1.3.1.1 | Annual amount per site | |
| 2.2.1.3.1.2 | Daily amount per site | |
| 2.2.1.3.1.3 | Maximum allowable site tonnage (M_{Safe}) | |
| 2.2.1.3.1.4 | Remark | Content 9c |
| 2.2.1.3.2 | Duration and frequency of use | |
| 2.2.1.3.2.1 | Emission days per year | |
| 2.2.1.3.2.2 | Remark | Content 14b |
| 2.2.1.3.3 | Environmental factors not influenced by risk management | |
| 2.2.1.3.3.1 | Local Freshwater dilution factor | |
| 2.2.1.3.3.2 | Local marine water dilution factor | |
| 2.2.1.3.3.3 | Type of Sewage treatment plant (STP) | Content 22a |
| 2.2.1.3.3.4 | River flow rate | |
| 2.2.1.3.3.5 | Remark | Content 9c |

Kommentar [HA4]:
No environmental hazard assessment and risk characterization was carried out because no environmental hazard could be determined.

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| 2.2.1.3 | Other given operational conditions of use affecting environmental exposure | |
| 2.2.1.3.1 | Release fraction to air from wide dispersive use (regional only): | |
| 2.2.1.3.2 | Release fraction to wastewater from wide dispersive use: | |
| 2.2.1.3.3 | Release fraction to soil from wide dispersive use (regional only): | |
| 2.2.1.3.4 | Remark | Content 9c |
| 2.2.1.4 | Conditions in spERC fact sheet | |
| 2.2.1.4.1 | Release fraction to air from wide dispersive use (regional only): | |
| 2.2.1.4.2 | Release fraction to wastewater from wide dispersive use: | |
| 2.2.1.4.3 | Release fraction to soil from wide dispersive use (regional only): | |
| 2.2.1.4.5 | M _{safe} SPERC | |
| 2.2.1.4.6 | Remark | Content 9c |
| 2.2.1.5 | Risk management measures | |
| 2.2.1.5.1 | Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil | Content 23 |
| 2.2.1.5.2 | Organisational measures to prevent/limit release from site | Content 24 |
| 2.2.1.5.3 | Conditions and measures related to municipal sewage treatment plant | Content 25 |
| 2.2.1.5.4 | Conditions and measures related to external treatment of waste for disposal | Content 26 |
| 2.2.1.5.5 | Conditions and measures related to external recovery of waste | Content 2 |
| 2.2.1.5.6 | Other environmental control measures additional to above | Content 28 |
| 2.2.1.5.7 | Remark | Content 9c |

Kommentar [HA5]:

Alternative to „Other given operational conditions of use“. Leave this section out if not appropriate resp. if no spERC factsheet was developed.

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| 2.2.1.6 | Exposure estimation and reference to its source | | | |
| | Content 31: Confirm that RMMs and OCs are as described or of equivalent efficiency. | | | |
| | Environmental release categories [ERC] | Environmental compartment | Exposure assessment (environment) | Risk characterisation ratio (RCR) |
| | ERC 8d | Fresh water | | |
| | | Marine water | | |
| | | Fresh water sediment | | |
| | | Marine water sediment | | |
| | | STP | | |
| | | Secondary Poisoning | | |
| | | Soil | | |
| Air | | | Not applicable | |
| Remark | Content 32 | | | |
| 2.2.1.7 | Additional good practice advice beyond the REACH CSA | | | |
| | Content 37 (example): Good practice RMM phrases may be incorporated in this section or consolidated into the main sections of the SDS, depending on the preference of the Registrant and functionality of the available e-SDS system. | | | |
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| | | | |
|-------------|--|--------------------|--|
| 2.2.2 | Control of consumer exposure | | |
| 2.2.2.1 | Contributing exposure scenario controlling consumer exposure | | |
| 2.2.2.1.1 | Exposure assessment (method/calculation model) | Content 9 | |
| 2.2.2.1.1.1 | Remark | Content 9b | |
| 2.2.2.1.2 | Product characteristics | | |
| 2.2.2.1.3 | Physical form of the product | Content 10 | |
| 2.2.2.1.4 | Concentration of substance in product | Content 11 | |
| 2.2.2.1.5 | Concentration of substance in the article | | |
| 2.2.2.1.6 | Vapour pressure | Content 12 | |
| 2.2.2.1.7 | Viscosity | Content 12a | |
| 2.2.2.1.8 | Molecular weight | only optional | |
| 2.2.2.1.9 | pH value | Only optional | |
| 2.2.2.1.10 | Remark | Content 9b | |
| 2.2.2.1.3 | Exposure determinants | | |
| 2.2.2.1.3.1 | Area of use | | |
| 2.2.2.1.3.2 | Amounts used | Content 13 | |
| 2.2.2.1.3.3 | Duration and Frequency of use | Content 14 | |
| 2.2.2.1.3.4 | Exposed skin surface assumed | Content 16 | |
| 2.2.2.1.3.5 | Human factors not influenced by risk management | Content 17 | |
| | | Content 15 | |
| 2.2.2.1.3.6 | Other exposure determinants affecting consumer exposure | Content 18a | |
| 2.2.2.1.3.7 | Remark | Content 9b | |
| 2.2.2.1.4 | Risk management measures | | |
| 2.2.2.1.4.1 | Technical conditions and measures at process level (source) to prevent release | | |
| 2.2.2.1.4.2 | Technical conditions and measures to control dispersion from source towards the consumer | | |

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| 2.2.2.1.4.3 | Organisational measures to prevent /limit releases, dispersion and exposure | | |
| 2.2.2.1.4.4 | Conditions and measures related to personal protection, hygiene and health evaluation | | |
| 2.2.2.1.4.5 | Remark | | |
| 2.2.2.1.5 | Exposure estimation and reference to its source | | |
| | Content 29 (see example): | | |
| | Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted. | | |
| | Product categories [PC] | Exposure route | Exposure assesment (human) |
| | Article categories [AC] | | Risk charac-terisation ratio (RCR) |
| | PC 1 | oral, short-term, systemic | |
| | | oral, long-term, systemic | |
| | | dermal, short-term, local (acute) | |
| | | dermal, short-term, systemic (acute) | |
| | | dermal, long-term, local | |
| | | dermal, long-term, systemic | |
| | | inhalative, short-term, local (acute) | |
| | | inhalative, short-term, systemic (acute) | |
| | | inhalative, long-term, local | |
| | | inhalative, long-term, systemic | |
| | AC 1 | oral, short-term, systemic | |
| | | oral, long-term, systemic | |
| | | dermal, short-term, local (acute) | |
| | | dermal, short-term, systemic (acute) | |
| | | dermal, long-term, local | |
| | | dermal, long-term, systemic | |
| | | inhalative, short-term, local (acute) | |
| | | inhalative, short-term, systemic (acute) | |
| | | inhalative, long-term, local | |
| | | inhalative, long-term, systemic | |
| | SCED | oral, short-term, systemic | |
| | | oral, long-term, systemic | |
| | | dermal, short-term, local (acute) | |
| | | dermal, short-term, systemic (acute) | |
| | | dermal, long-term, local | |
| | | dermal, long-term, systemic | |
| | | inhalative, short-term, local (acute) | |
| | | inhalative, short-term, systemic (acute) | |
| | inhalative, long-term, local | | |
| | inhalative, long-term, systemic | | |
| | Remark | Content 30 | |
| 2.2.2.1.6 | Additional good practice advice beyond the REACH CSA | | |
| | Content 35 (see example): | | |
| | No general information available | | |
| | Content 36 (see example): | | |
| | Good practice RMM phrases may be incorporated in this section or consolidated into the main sections of the SDS, depending on the preference of the Registrant and functionality of the available e-SDS system. | | |

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| 2.3. | Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES |
| 2.3.1 | Guidance to check compliance with the Exposure Scenario |
| 2.3.1.1 | Human health |
| | Content 33 (example): |
| | For scaling see: http://www.ecetoc.org/tra |
| | Please note that a modified version has been used (see exposure estimates). |
| 2.3.1.2 | Environmental |
| | Content 34 (example): |
| | Risk from environmental exposure is driven by freshwater |
| | Further details on scaling and control technologies are provided in SpERC factsheet. |

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