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The release estimation from landfill, needs to consider the residence time of the substance in the landfill body. The substance is continuously entered and accumulates into the landfill body until its closure. In the derivation of the default RF proposed in the [Table R.18- 4](#), it is assumed that the average residence time is 20 years. Hence, the annual release factor of the substance during service life is multiplied by the residence time of 20 years to obtain the RFs for the landfill. It must be noted that when refinements are required this assumption and factors from ERC cannot be used. Refinements shall have to be based on measured data (where accumulation is integrated) or modelling from leachate testing⁵³.

Table R.18- 4: Defaults for the landfill scenario

Parameter	Default	Reasoning
# of landfills	8400 ⁵⁴	Approximate number of landfills in EU-27
Emission days	365	Releases from landfill are continuous
WWTP (%)	100	All leachate is collected and treated on site.
Release factor to air (F_{air})	Non-VOCs: 0 VOCs 0.0005	Releases of non-VOC are regarded as negligible. Volatile substances can be released via landfill gas. No release factors were found or derived from measured data. The proposed factor corresponds to releases of substances to air during service life (ERC 10a).
Release factor to water (F_{water})	0.032	Highest release factor of plastic additives to water during service life of articles proposed in OECD ESD for plastic additives. Release is estimated over a lifetime of 20 years. This release factor relates to the service life of articles and there is NO WWT foreseen. As worst-case assumption an efficacy of 50% for the on-site WWTP as average and applicable for all substances may be used.
Release factor to soil (F_{soil})	0.0016	Release factor of ERC 10a

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7.4.4 Derivation of release factor from shredding to water

Emissions to water could only occur from shredding via leaching from dust emissions. As a realistic worst case assumption, the final release rate to air (0.000075) is multiplied with the release rate of the OECD ESD for plastic additives (outdoor service life, multiplied with 20 years of lifetime), which is 0.032. This results in $RF_{\text{water,initial}} = 0.000075 * 0.032 = \mathbf{0.0000024}$.

No risk management measures exist for releases to water, hence the initial release factor equals to the final one: $RF_{\text{water}} = RF_{\text{water,initial}} = \mathbf{0.0000024}$