

# Waterbase - Emissions to water v.4

## Cross records checks within tables:

In certain records of emissions tables, value of the Emission field contains the **sum of emissions** reported in other records representing the partial emission values related to the **identical Spatial Unit, Period and Substance** (if provided). For such purposes, filed **Source of Point / Diffuse Emissions** is used to distinguish different types of records from this point of view.

## Tables Haz Subst Diffuse Emission and Nutrients Diffuse Emission:

### Codelist of Source of Diffuse Emissions field:

Code	Definition
NP1	Agricultural Emissions
NP2	Atmospheric Deposition
NP3	Un-Connected Dwellings Emissions
NP4	Urban Diffuse Emissions
NP5	Storm Overflow Emissions
NP6	Abandoned Industrial Site Emissions
NP7	Other Diffuse Emissions
NP8	Background Emissions
NP9	NP3 + NP8
NP	Total Diffuse Emissions to Inland Waters

### Relevant QA rule::

$$NP = NP1 + NP2 + NP3 + NP4 + NP5 + NP6 + NP7 + NP8 + NP9$$

Because in certain cases the countries can not classify the source of emissions into proper category, the rule was modified to:

$$NP \geq NP1 + NP2 + NP3 + NP4 + NP5 + NP6 + NP7 + NP8 + NP9$$

## Tables Haz Subst Point Emission and Nutrients Point Emission:

### Codelist of Source of Point Emissions field:

Code	Definition
U11	Urban Waste Water Untreated Discharges < 2 000 p.e.
U12	Urban Waste Water Untreated Discharges 2 000 ≥ p.e. ≤ 10 000
U13	Urban Waste Water Untreated Discharges 10 000 > p.e. ≤ 100 000
U14	Urban Waste Water Untreated Discharges > 100 000 p.e.
U1	Urban Waste Water Untreated Discharges total
U21	Urban Waste Water Treated Discharges < 2 000 p.e.
U22	Urban Waste Water Treated Discharges 2 000 ≥ p.e. ≤ 10 000
U23	Urban Waste Water Treated Discharges 10 000 > p.e. ≤ 100 000

<b>U24</b>	Urban Waste Water Treated Discharges > 100 000 p.e.
<b>U2</b>	Urban Waste Water Treated Discharges total
<b>U</b>	Urban Waste Water Discharges total
<b>I3</b>	Industrial Waste Water Treated Discharges
<b>I4</b>	Industrial Waste Water Untreated Discharges
<b>I</b>	Industrial Waste Water Discharges total
<b>O5</b>	Other Waste Water Treated Discharges
<b>O6</b>	Other Waste Water Untreated Discharges
<b>O</b>	Other Waste Water Discharges total
<b>PT</b>	Point Sources to Inland Surface Water total
<b>G7</b>	Point Sources to Groundwater total
<b>D0</b>	Direct Discharges to Coastal and Transitional Water total
<b>R</b>	Riverine Input to Coastal Water

**Relevant QA rules:**

$U1 = U11 + U12 + U13 + U14$   
 $U2 = U21 + U22 + U23 + U24$   
 $U = U1 + U2$   
 $I = I3 + I4$   
 $O = O5 + O6$   
 $PT = U + I + O$

Because in certain cases the countries can not classify the source of emissions into proper category, the rules were modified by following way:

$U1 \geq U11 + U12 + U13 + U14$   
 $U2 \geq U21 + U22 + U23 + U24$   
 $U \geq U1 + U2$   
 $I \geq I3 + I4$   
 $O \geq O5 + O6$   
 $PT \geq U + I + O$

***Detailed description of Logical values tests specified by expert***

```

Declare @Toler float
Set      @Toler = 100
(@Toler = toleration used for comparison of calculated and reported values;
        200 = 0.5%, 100 = 1%, 50 = 2%,...)

```

**Logical values test (Rule No. 261):**

$NP \geq NP1 + NP2 + NP3 + NP4 + NP5 + NP6 + NP7 + NP8 + NP9$

Total Diffuse Emissions to Inland Waters have to be greater or equal to the sum of partial diffuse emissions, related to the **identical** Spatial Unit, Period and Substance.

$$\text{NP\_calculated} = \text{NP1\_reported} + \text{NP2\_reported} + \text{NP3\_reported} + \text{NP4\_reported} + \text{NP5\_reported} + \text{NP6\_reported} + \text{NP7\_reported} + \text{NP8\_reported} + \text{NP9\_reported}$$

**set rule violation if:**

where  $((\text{NP\_calculated} - ((\text{NP\_reported} + \text{NP\_calculated})/2)/@Toler)) > \text{NP\_reported}$

**Logical values test (Rule No. 262):**

$$\text{U1} \geq \text{U11} + \text{U12} + \text{U13} + \text{U14}$$

Total Urban Waste Water Untreated Discharges emissions have to be greater or equal to the sum of partial Urban Waste Water Untreated Discharges emissions, related to the **identical** Spatial Unit, Period and Substance.

$$\text{U1\_calculated} = \text{U11\_reported} + \text{U12\_reported} + \text{U13\_reported} + \text{U14\_reported}$$

**set rule violation if:**

where  $((\text{U1\_calculated} - ((\text{U1\_reported} + \text{U1\_calculated})/2)/@Toler)) > \text{U1\_reported}$

**Logical values test (Rule No. 263):**

$$\text{U2} \geq \text{U21} + \text{U22} + \text{U23} + \text{U24}$$

Total Urban Waste Water Treated Discharges emissions have to be greater or equal to the sum of partial Urban Waste Water Treated Discharges emissions, related to the **identical** Spatial Unit, Period and Substance.

$$\text{U2\_calculated} = \text{U21\_reported} + \text{U22\_reported} + \text{U23\_reported} + \text{U24\_reported}$$

**set rule violation if:**

where  $((\text{U2\_calculated} - ((\text{U2\_reported} + \text{U2\_calculated})/2)/@Toler)) > \text{U2\_reported}$

**Logical values test (Rule No. 264):**

$$\text{U} \geq \text{U1} + \text{U2}$$

Total Urban Waste Water Discharges emissions have to be greater or equal to the sum of Urban Waste Water Untreated Discharges emissions and Urban Waste Water Treated Discharges emissions, related to the **identical** Spatial Unit, Period and Substance.

$$\text{U\_calculated} = \text{U1\_reported} + \text{U2\_reported}$$

**set rule violation if:**

where  $((\text{U\_calculated} - ((\text{U\_reported} + \text{U\_calculated})/2)/@Toler)) > \text{U\_reported}$

**Logical values test (Rule No. 265):**

$$\text{I} \geq \text{I3} + \text{I4}$$

Total Industrial Waste Water Discharges emissions have to be greater or equal to the sum of Industrial Waste Water Untreated Discharges emissions and Industrial Waste Water Treated Discharges emissions, related to the **identical** Spatial Unit, Period and Substance.

$$\text{I\_calculated} = \text{I3\_reported} + \text{I4\_reported}$$

**set rule violation if:**

where  $((\text{I\_calculated} - ((\text{I\_reported} + \text{I\_calculated})/2)/@Toler)) > \text{I\_reported}$

**Logical values test (Rule No. 266):**

$$O \geq O5 + O6$$

Total Other Waste Water Discharges emissions have to be greater or equal to the sum of Other Waste Water Untreated Discharges emissions and Other Waste Water Treated Discharges emissions, related to the **identical** Spatial Unit, Period and Substance.

$$O_{\text{calculated}} = O5_{\text{reported}} + O6_{\text{reported}}$$

**set rule violation if:**

$$\text{where } ((O_{\text{calculated}} - ((O_{\text{reported}} + O_{\text{calculated}})/2)/@Toler)) > O_{\text{reported}}$$

**Logical values test (Rule No. 267):**

$$PT \geq U + I + O$$

Total Point Sources to Inland Surface Water emissions have to be greater or equal to the sum of Total Urban Waste Water Discharges emissions, Total Industrial Waste Water Treated Discharges emissions and Total Other Waste Water Discharges emissions, related to the **identical** Spatial Unit, Period and Substance.

$$PT_{\text{calculated}} = U_{\text{reported}} + I_{\text{reported}} + O_{\text{reported}}$$

**set rule violation if:**

$$\text{where } ((PT_{\text{calculated}} - ((PT_{\text{reported}} + PT_{\text{calculated}})/2)/@Toler)) > PT_{\text{reported}}$$