

## 2.D.3.b - Road Paving

### Short description

| Category Code | Method          |                 |                 |        |    | AD |    |    |    |      | EF  |     |     |                  |                   |
|---------------|-----------------|-----------------|-----------------|--------|----|----|----|----|----|------|-----|-----|-----|------------------|-------------------|
| 2.D.3.b       | T1              |                 |                 |        |    | AS |    |    |    |      | CS  |     |     |                  |                   |
| Key Category  | SO <sub>2</sub> | NO <sub>x</sub> | NH <sub>3</sub> | NM VOC | CO | BC | Pb | Hg | Cd | Diox | PAH | HCB | TSP | PM <sub>10</sub> | PM <sub>2.5</sub> |
| 2.D.3.b       | -/-             | -/-             | -               | -/-    | -  | -  | -  | -  | -  | -    | -   | -   | -/- | -/-              | -/-               |

**T** = key source by Trend **L** = key source by Level

| Methods   |                                 |
|-----------|---------------------------------|
| <b>D</b>  | Default                         |
| <b>T1</b> | Tier 1 / Simple Methodology *   |
| <b>T2</b> | Tier 2*                         |
| <b>T3</b> | Tier 3 / Detailed Methodology * |
| <b>C</b>  | CORINAIR                        |
| <b>CS</b> | Country Specific                |
| <b>M</b>  | Model                           |

\* as described in the EMEP/EEA Emission Inventory Guidebook - 2019, in the group specific chapters.

| AD - Data Source for Activity Data |                                      |
|------------------------------------|--------------------------------------|
| <b>NS</b>                          | National Statistics                  |
| <b>RS</b>                          | Regional Statistics                  |
| <b>IS</b>                          | International Statistics             |
| <b>PS</b>                          | Plant Specific data                  |
| <b>As</b>                          | Associations, business organisations |
| <b>Q</b>                           | specific Questionnaires (or surveys) |
| <b>M</b>                           | Model / Modelled                     |
| <b>C</b>                           | Confidential                         |
| EF - Emission Factors              |                                      |
| <b>D</b>                           | Default (EMEP Guidebook)             |
| <b>C</b>                           | Confidential                         |
| <b>CS</b>                          | Country Specific                     |
| <b>PS</b>                          | Plant Specific data                  |
| <b>M</b>                           | Model / Modelled                     |

Currently, the report tables list produced quantities of mixed asphalt products (from stationary installations only) and NMVOC, NO<sub>x</sub> and SO<sub>2</sub> emissions caused of this. Only emissions from asphalt production are reported. Figures relative to emissions released during laying of asphalt have not been examined.

### Method

#### Activity data

The applicable quantity of mixed asphalt products produced (activity rate) has been taken from communications of the Deutscher Asphaltverband (DAV; German asphalt association). In total about 660 asphalt-mixing plants produce more than 40 Million tonnes of hot-mix for road paving [1].

#### Emission factors

Emission factors have been determined country-specifically, pursuant to Tier 2. For determination of emission factors for emissions measurements from over 400 asphalt-mixing plants, made during the period 1989 through 2000, were used. The

majority of the emissions occur during drying of pertinent mineral substances. Almost all of the NMVOC emissions originate in the organic raw materials used, and they are released primarily in parallel-drum operation, as well as from mixers and loading areas. On average, about 50% of the NO<sub>x</sub> and SO<sub>2</sub> involved come from the mineral substances (proportional process emissions). CO emissions are calculated solely in connection with fuel inputs.

Table 1: Overview of applied emission factors, in kg/t

| <b>pollutant</b>        | <b>Name of Category</b>     | <b>EF value</b> | <b>EF trend</b> |
|-------------------------|-----------------------------|-----------------|-----------------|
| <b>NMVOC</b>            | Production of mixed asphalt | 0.030           | constant        |
| <b>NO<sub>x</sub></b>   | Production of mixed asphalt | 0.015           | constant        |
| <b>SO<sub>x</sub></b>   | Production of mixed asphalt | 0.030           | constant        |
| <b>TSP</b>              | Production of mixed asphalt | 0.006           | constant        |
| <b>PM<sub>10</sub></b>  | Production of mixed asphalt | 0.0057          | constant        |
| <b>PM<sub>2.5</sub></b> | Production of mixed asphalt | 0.003           | constant        |

## Recalculations

With activity data and emission factors remaining unrevised, no recalculations have been carried out compared to last year's submission.

## Planned improvements

At the moment, no category-specific improvements are planned.