# 1.A.3.b vii - Road Transport: Automobile Road Abrasion

# **Short description**

In sub-category 1.A.3.b vii - Road Transport: Automobile Road Abrasion emissions from road abrasion in Road Transport are reported. Therefore, this sub-category is an important source for a) particle emissions and b) emissions of heavy metals, POPs etc. included in these particles.

Category Code	Method			AD				EF							
1.A.3.b.vii	T1, T3			NS, M				CS							
Key Category	SO <sub>2</sub>	NOx	NH₃	NMVOC	со	BC	Pb	Hg	Cd	Diox	PAH	нсв	TSP	$PM_{10}$	PM <sub>2.5</sub>
1.A.3.b.vii	-	-	-	-	-	-	-/-	-	-/-	-	-	-	L/-	L/-	L/-

# Methodology

#### Activity data

Abrasive emissions from tyre and brake wear are estimated based on vehicle-type specific mileage data. For detailed mileage data, please see superordinate chapter on abrasive emissions from road vehicles.

#### **Emission factors**

Table 1: Emission factors applied

		PCs	LDVs	HDVs	Buses	Mopeds	Motorcycles	
BC		NA	NA	NA	NA	NA	NA	
PM <sub>2.5</sub>	[ma/l/m]	4,05	4,05	20,5	20,5	1,62	1,62	
$\mathbf{PM}_{10}$	[mg/km]	7,50	7,50	38,0	34,2	3,00	3,00	
TSP		15,0	15,0	76,0	76,0	6,00	6,00	
Pb		0,00006	0,00006	0,00031	0,00006	0,00002	0,00002	
Hg		NA	NA	NA	NA	NA	NA	
Cd		0,000003	0,000003	0,000016	0,000003	0,000001	0,000001	
As		0,00004	0,00004	0,00020	0,00004	0,00002	0,00002	
Cr	[µg/km]	0,00108	0,00108	0,00547	0,00108	0,00043	0,00043	
Cu		0,00004	0,00004	0,00019	0,00004	0,00001	0,00001	
Ni		0,00057	0,00057	0,00289	0,00057	0,00023	0,00023	
Se		NA	NA	NA	NA	NA	NA	
Zn		0,00129	0,00129	0,00654	0,00129	0,00052	0,00052	

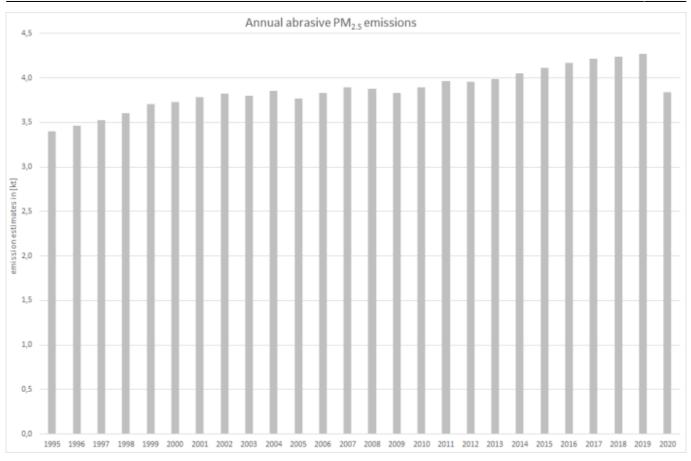
# **Discussion of emission trends**

Table 2: Outcome of Key Category Analysis

for:	TSP	$\mathbf{PM}_{10}$	PM <sub>2.5</sub>
by:	Level	Level	Level

Emissions from road abrasion are directly linked to driven mileage. Thus, the overall trend of emissions from road abrasion is similar to the trend for total driven mileage.

All reported emissons from tyre and brake wear are connected directly to the mileage driven by the road vehicles covered.



# Recalculations

Activity data (mileage) have been revised due to the regular revision of the TREMOD model. (see superordinate chapter ).

However, the biggest changes occur in the tier1 **emission factors** that have been revised during a research study. The variety of old and revised emission factors cannot be compared here in a comprehendible way.



For more information on recalculated emission estimates for Base Year and 2018, please see the pollutant-specific recalculation tables following chapter 8.1 - Recalculations.

### **Planned improvements**

Besides a routine revision of the underlying model, no specific improvements are planned.