H1 Assessment of Emissions to Atmosphere from Hard Anodising Surface Treatments Ltd, Kidderminster

(2026 Update)

Prepared for:

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1 INTRODUCTION

EnviroSolution Ltd was commissioned to undertake an update to the H1 assessment of emissions to the atmosphere from Hard Anodising Surface Treatment Ltd undertaken in 2025 (1).

This H1 assessment is an update of the 2025 assessment using January 2026 emissions data for the following six pollutants:

- Nitrogen dioxide (NO_2);
- $PM_{10;}$ and
- Chromium (Cr)
- Sulphur dioxide (SO_2)
- Nickel (Ni)
- VOC (as benzene, C_6H_6)

Emissions to the atmosphere from eight stacks are included in the assessment.

This report provides the required H1 assessment for emissions to the atmosphere from Hard Anodising Surface Treatment Ltd's installation at Stourport Road, Kidderminster.

The outcome of this H1 assessment is that detailed modelling is required for PM_{10} and chromium (Cr VI).

About the Author

This H1 assessment and report was prepared by David Harvey, MBA BSc FIAQM, who has 30 years of experience in air quality.

(1) H1 Assessment of Emissions to Atmosphere from Hard Anodising Surface Treatments Ltd, Kidderminster.

2 DATA REQUIRED FOR H1 ASSESSMENT

2.1 INTRODUCTION

This section presents the data required for the H1 assessment of emissions to the atmosphere from nine stacks.

The assessment conservatively assumes:

- 100% of the particulate matter is PM_{10}
- 100% of the chromium (Cr) is hexavalent chromium, Cr (VI)
- 100% of the VOC is benzene (C_6H_6)

2.2 ASSESSMENT CRITERIA

Table 2.1 shows the Environment Assessment Levels (EAL) used in this H1 assessment.

Table 2.1 Environmental Assessment Levels (EAL)

Substance	Averaging time	Environmental Assessment Level (EAL, $\mu g\ m^{-3}$)
Nitrogen Dioxide (NO_2)	Annual Mean	40
	99.8th Percentile of hourly means	200
VOC (Benzene)	Annual Mean	5
	Maximum 24-Hour Average	30
Chromium, Cr (VI)	Annual Mean	0.00025 (0.25 ng m^{-3})
Sulphur dioxide (SO_2)	99.9th Percentile of 15-minute Mean	266
	99.7th Percentile of Hourly Means	350
	99.2th Percentile of 24-hourly means	125
Nickel (Ni)	Annual Mean	0.020 (20 ng m^{-3})
	Maximum Hourly Mean	0.7
Particulate matter (PM_{10})	Annual Mean	40
	90.4th percentile of daily means	50

2.3 SIGNIFICANCE CRITERIA

The Environment Agency's (EA) H1 risk assessment guidance includes a Two-stage test for the significance of impacts [(1)].

The impacts are defined in terms of:

- Process Contribution (PC)
- Predicted Environmental Concentration (PEC)

The PC is the contribution from the installation. The PEC is the PC added to the prevailing background concentration.

Stage 1:

The Environmental Agency (EA) guidance states that the process contribution (PC) can be considered insignificant if both of the following are achieved:

- The long-term PC is <1% of the long-term Environmental Assessment Level (EAL); and
- The short-term PC is < 10% of the short-term Environmental Assessment Level (EAL)

The Environmental Agency (EA) guidance states:

If you meet both of these criteria you don't need to do any further assessment of the substance. If you don't meet them you need to carry out a second stage of screening to determine the impact of the PEC.

Stage 2:

The Environmental Agency (EA) guidance states that detailed modelling of emissions is needed for emissions that do not meet both of the following requirements:

- The long-term PEC is less than 70% of the long-term EAL; and
- The short-term PC is less than 20% of the short-term EAL minus twice the long-term background concentration.

2.4 ESTIMATED BACKGROUND CONCENTRATIONS

Estimates of background concentrations are presented for those substances that cannot be screened as insignificant using Stage 1 of the Environment Agency (EA) two-stage test for insignificance.

The Department for Environment, Food and Rural Affairs (Defra) has provided estimates of the background concentrations for several pollutants for many years on a 1 km grid resolution for the whole of the UK.

Table 2.2 shows the annual average background pollutant concentration of PM_{10} in this H1 assessment.

(1) www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit.

Table 2.2 Estimated Annual Average Background Pollutant Concentrations

Pollutant	Background Concentration	Unit	Data Source
Particulate matter (PM_{10})	10.7	$\mu g\ m^{-3}$	Defra (2026 for 381500,273500)

There is no routine monitoring of Chromium (VI).

The closest heavy metal monitoring station is Walsall Pleck Park.

For 2024, the annual average concentration of chromium (Cr) measured at Walsall Pleck Park was 3.1 ng m^{-3}.

Text Box 2.1 provides background on the likely percentage of chromium (VI) in total chromium (Cr).

Text Box 2.1 Percentage of Chromium VI in Total Chromium (Cr (III) and Compounds)

> Estimates of the comparative concentrations in air of Cr(III) and Cr(VI) are uncertain, in part because the ratio is variable and dependent on the source of chromium. In the UK it is likely that less than 20% of emissions are of Cr(VI), those with the higher proportions from chromium-using industries (Passant, 2006). The proportion of Cr(VI) in ambient air may be lower than that measured in emissions. Data from Canada, quoted by Rowbotham ***et al.*** (2000), suggest that Cr(VI) constitutes between 3 and 8% of total airborne chromium in that country. Keiber ***et al.*** (2002) found that about half of the chromium in rainwater in the USA was in water soluble form and of this there were approximately equal concentrations of Cr(VI) and Cr(III). As most of the insoluble chromium is likely to be present as Cr(III), this implies that the Cr(III)/Cr(VI) ratio in air was about 3:1.

Source: Consultation on guidelines for metal and metalloids in ambient air for the protection of human health.

The Environment Agency (EA) suggests that chromium (VI) should be assumed to be 20% of the total background chromium (Cr) for screening purposes (1).

Assuming that chromium (VI) is 20% of the total chromium in ambient air, this would suggest an ambient chromium (VI) concentration of 0.62 ng m^{-3} compared to the Air Quality Assessment Level (AQAL) of 0.25 ng m^{-3}.

2.5 EMISSIONS DATA

Table 2.3 shows the parameters that describe the physical properties of emissions from each of the eight stacks, as required by the H1 assessment.

(1) Environment Agency (EA, September 2012) Guidance for applicants on the Impacts Assessment for Group 3 Metals Version 3.

Table 2.3 Emissions and Physical Properties

Stack	A1	A2	A6	A7	A9	A10	A12	A13
No Flues	1	1	1	1	1	1	1	1
Stack Height (m)	6	9	5	8	9	8	7	8
Height above Roof (m)	0	3	0	0	3	2	0	2
Flue Diameter (m)	0.15	0.32	0.3	0.32	0.85	0.3	0.32	0.2
Exit Velocity (m s^{-1})	6.7	6.2	1.7	4.6	3.9	17.1	7.5	19.0
Flow rate (m^3 s^{-1})	0.12	0.50	0.12	0.37	2.22	1.21	0.60	0.60
Flow Rate (m^3 hr^{-1})	428	1,788	430	1,332	7,997	4,344	2,161	2,152
Operation (%) [(a)]	24%	24%	24%	24%	24%	24%	24%	24%
Emission Concentration (mg m^{-3}) [(b)]								
Particulate Matter (PM_{10})	0.99	0.94	0.82	1.00	1.80	11.20	9.70	0.60
Oxides of Nitrogen (NO_x)	3.8	-	-	-	-	-	-	-
Chromium (Cr)	-	0.029	-	-	-	-	0.030	0.0041
Sulphur Dioxide (SO_2)	0.049	0.043	0.11	0.24	0.073	0.14	0.12	0.17
Nickel (Ni)	0.0042	-	-	-	-	0.0015	-	-
VOC (Benzene, C_6H_6)	2.9	-	-	-	-	-	-	-
Emission Rate (mg s^{-1})								
Particulate Matter (PM_{10})	0.118	0.467	0.098	0.370	3.999	13.515	5.823	0.359
Oxides of Nitrogen (NO_x)	0.452	-	-	-	-	-	-	-
Chromium (Cr)	-	0.014	-	-	-	-	0.018	0.002
Sulphur Dioxide (SO_2)	0.0058	0.021	0.013	0.089	0.162	0.169	0.072	0.102
Nickel (Ni)	0.00050	-	-	-	-	0.0018	-	-
VOC (Benzene, C_6H_6)	0.34	-	-	-	-	-	-	-

(a) 8 hours per day, five days per week.
(b) The H1 method conservatively assumes no correction to normalised flow rates/concentration.

3 H1 ASSESSMENT

3.1 INTRODUCTION

This section presents the results of the H1 assessment for Hard Anodising Surface Treatment Ltd.

3.2 H1 ASSESSMENT

3.2.1 PARTICULATE MATTER (PM_{10})

Table 3.1 shows the results of the H1 assessment for Hard Anodising Surface Treatment Ltd for particulate matter (PM_{10}). The assessment conservatively assumes that all the particulate matter is PM_{10}.

Table 3.1 H1 Assessment of Hard Anodising Surface Treatment Ltd: Particulate Matter (PM_{10})

Description	A1	A2	A6	A7	A9	A10	A12	A13
Flue height (m)	6	9	5	8	9	8	7	8
Height above building (m)	0	3	0	0	3	2	0	2
Effective height (m) [(a)]	0	0	0	0	0	0	0	0
Dispersion factor Long-term (μg m^{-3} per g s^{-1})	148	148	148	148	148	148	148	148
Dispersion factor Short-term (μg m^{-3} per g s^{-1})	3,900	3,900	3,900	3,900	3,900	3,900	3,900	3,900
Efflux velocity (m s^{-1})	6.7	6.2	1.7	4.6	3.9	17.1	7.5	19.0
Flow rate (Am^3 hr^{-1})	428	1,788	430	1,332	7,997	4,344	2,161	2,152
Percentage operation (%)	24%	24%	24%	24%	24%	24%	24%	24%
Emission concentration long-term (mg m^{-3}) [(b)]	0.99	0.94	0.82	1.00	1.80	11.20	9.70	0.60
Emission concentration short-term (mg m^{-3}) [(b)]	0.99	0.94	0.82	1.00	1.80	11.20	9.70	0.60
Release rate Long-term (mg s^{-1})	0.12	0.47	0.098	0.37	4.00	13.51	5.82	0.36
Release rate Short-term (mg s^{-1})	0.12	0.47	0.098	0.37	4.00	13.51	5.82	0.36
Process contribution (PC) Long-term (μg m^{-3})	0.87							
Process contribution (PC) Short-term (μg m^{-3}) [(c)]	56.9							
EAL Long-term (μg m^{-3})	40							
EAL Short-term (μg m^{-3})	50							
PC as Percentage of EAL Long-term (%)	2.2%							
PC as Percentage of EAL Short-term (%)	114%							
Stage 1: Screening Test								
Long-term PC > 1% of EAL	**Fail**							
Short-term PC > 10% of EAL	**Fail**							
Long-term background (μg m^{-3})	10.7							
PEC Long-term (μg m^{-3})	11.6							
PEC as Percentage of EAL Long-term (%)	28.9%							
PC Short term as %age of (EAL-2xbackground)	199%							
Stage 2: Screening Test								
Long-term PEC > 70% of EAL	**Pass**							
Short-term PC > 20% of headroom	**Fail**							

(a) The effective release height is 0 m as the release height is less than 3 m above the building.
(b) The H1 method conservatively assumes emissions concentration at actual conditions.
(c) A factor of 0.59 is applied to convert from hourly to 24-hour mean.

The H1 assessment for emissions to the atmosphere of particulate matter (PM_{10}) presented in **Table 3.1** shows that the short-term impacts cannot be screened out as insignificant.

The outcome of the H1 assessment is that detailed dispersion modelling is required for particulate matter (PM_{10}).

3.2.2 NITROGEN DIOXIDE (NO_2)

Table 3.2 shows the results of the H1 assessment for Hard Anodising Surface Treatment Ltd for nitrogen dioxide (NO_2).

Table 3.2 H1 Assessment of Hard Anodising Surface Treatment Ltd: Nitrogen Dioxide (NO_2)

Description	A1
Flue height (m)	6
Height above building (m)	0
Effective height (m) [(a)]	0
Dispersion factor Long-term ($\mu g\ m^{-3}$ per $g\ s^{-1}$)	148
Dispersion factor Short-term ($\mu g\ m^{-3}$ per $g\ s^{-1}$)	3,900
Efflux velocity ($m\ s^{-1}$)	6.7
Flow rate ($Am^3\ hr^{-1}$)	428
Percentage operation (%)	24%
Emission concentration long-term ($mg\ m^{-3}$) [(b)]	3.8
Emission concentration short-term ($mg\ m^{-3}$) [(b)]	3.8
Release rate Long-term ($mg\ s^{-1}$)	0.45
Release rate Short-term ($mg\ s^{-1}$)	0.45
Process contribution (PC) Long-term ($\mu g\ m^{-3}$)	0.0160
Process contribution (PC) Short-term ($\mu g\ m^{-3}$)	0.88
EAL Long-term ($\mu g\ m^{-3}$)	40
EAL Short-term ($\mu g\ m^{-3}$)	200
PC as Percentage of EAL Long-term (%)	0.04%
PC as Percentage of EAL Short-term (%)	0.4%
Stage 1: Screening Test	
Long-term PC > 1% of EAL	**Pass**
Short-term PC > 10% of EAL	**Pass**

(a) The effective release height is 0 m as the release height is less than 3 m above the building.
(b) The H1 method conservatively assumes emissions concentration at actual conditions.

The H1 assessment for emissions to the atmosphere of nitrogen dioxide (NO_2) presented in **Table 3.2** shows that the impacts can be screened out as insignificant.

3.2.3 CHROMIUM (Cr)

Table 3.3 shows the results of the H1 assessment for Hard Anodising Surface Treatment Ltd for chromium (Cr). This assessment conservatively assumes that 100% of the chromium (Cr) is hexavalent chromium, Cr (VI). It should be noted that there are no short-term assessment criteria for Cr (VI).

Table 3.3 H1 Assessment of Hard Anodising Surface Treatment Ltd: Hexavalent Chromium, Cr (VI).

Description	A2	A12	A13
Flue height (m)	9	7	8
Height above building (m) (m)	3	0	2
Effective height (m) [(a)]	0	0	0
Dispersion factor Long-term (μg m^{-3} per g s^{-1})	148	148	148
Efflux velocity (m s^{-1})	6.2	7.5	19.0
Flow rate (Am^3 hr^{-1})	1,788	2,161	2,152
Percentage operation (%)	24%	24%	24%
Emission concentration long-term (mg m^{-3}) [(b)]	0.029	0.030	0.0041
Release rate: long-term (mg s^{-1})	0.014	0.018	0.0025
Process contribution (PC) Long-term (μg m^{-3})		0.0012	
EAL Long-term (μg m^{-3})		0.00025	
PC as Percentage of EAL Long-term (%)		491%	
Stage 1: Screening Test			
Long-term PC > 1% of EAL		**Fail**	
Long-term background (μg m^{-3})		0.00062	
PEC Long-term (μg m^{-3})		0.0018	
PEC as Percentage of EAL Long-term (%)		739%	
Stage 2: Screening Test			
Long-term PEC > 70% of EAL		**Fail**	

(a) The effective release height is 0 m as the release height is less than 3 m above the building.
(b) The H1 method conservatively assumes emissions concentration at actual conditions.

The H1 assessment for emissions to the atmosphere of hexavalent chromium, Cr (VI). presented in **Table 33** shows that the long-term impacts cannot be screened out as insignificant.

The outcome of the H1 assessment is that detailed dispersion modelling is required for hexavalent chromium, Cr (VI).

3.2.4 SULPHUR DIOXIDE (SO_2)

Table 3.4 shows the results of the H1 assessment for Hard Anodising Surface Treatment Ltd for sulphur dioxide (SO_2). There are no long-term Environmental Assessment Levels (EAL) for sulphur dioxide (SO_2).

Table 3.4 H1 Assessment of Hard Anodising Surface Treatment Ltd: Sulphur Dioxide (SO_2)

Description	A1	A2	A6	A7	A9	A10	A12	A13
Flue height (m)	6	9	5	8	9	8	7	8
Height above building (m)	0	3	0	0	3	2	0	2
Effective height (m) [(a)]	0	0	0	0	0	0	0	0
Dispersion factor Long-term ($\mu g\ m^{-3}$ per $g\ s^{-1}$)	148	148	148	148	148	148	148	148
Dispersion factor Short-term ($\mu g\ m^{-3}$ per $g\ s^{-1}$)	3,900	3,900	3,900	3,900	3,900	3,900	3,900	3,900
Efflux velocity ($m\ s^{-1}$)	6.7	6.2	1.7	4.6	3.9	17.1	7.5	19.0
Flow rate ($Am^3\ hr^{-1}$)	428	1,788	430	1,332	7,997	4,344	2,161	2,152
Percentage operation (%)	24%	24%	24%	24%	24%	24%	24%	24%
Emission concentration short-term ($mg\ m^{-3}$) [(b)]	0.05	0.04	0.11	0.24	0.07	0.14	0.12	0.17
Release rate Short-term ($mg\ s^{-1}$)	0.0058	0.021	0.013	0.089	0.16	0.17	0.072	0.10
Process contribution Short-term 15 Min ($\mu g\ m^{-3}$)	3.3							
Process contribution Short-term 1 hr ($\mu g\ m^{-3}$)	2.5							
Process contribution Short-term 24 hr ($\mu g\ m^{-3}$)	1.5							
EAL Short-term 15 min ($\mu g\ m^{-3}$)	266							
EAL Short-term 1 hr ($\mu g\ m^{-3}$)	350							
EAL Short-term 24 hr ($\mu g\ m^{-3}$)	125							
PC as %age of EAL Short-term 15 min (%)	1.2%							
PC as %age of EAL Short-term 1 hr (%)	0.7%							
PC as %age of EAL Short-term 24 hr (%)	1.2%							
Stage 1: Screening Test								
Short-term 15 min PC > 10% of EAL	**Pass**							
Short-term 1 hr PC > 10% of EAL	**Pass**							
Short-term 24 hr PC > 10% of EAL	**Pass**							

(a) The effective release height is 0 m as the release height is less than 3 m above the building.
(b) The H1 method conservatively assumes emissions concentration at actual conditions.
(c) A factor of 0.59 is applied to convert from hourly to 24-hour mean and 1.34 to 15 min means

The H1 assessment for emissions to the atmosphere of sulphur dioxide (SO_2) presented in **Table 3.4** shows that the impacts can be screened out as insignificant.

3.2.5 NICKEL (NI)

Table 3.5 shows the results of the H1 assessment for Hard Anodising Surface Treatment Ltd for nickel (Ni)

Table 3.5 H1 Assessment of Hard Anodising Surface Treatment Ltd: Nickel (Ni)

Description	A1	A10
Flue height (m)	6	8
Height above building (m)	0	2
Effective height (m) [(a)]	0.00	0
Dispersion factor Long-term (μg m^{-3} per g s^{-1})	148	148
Dispersion factor Short-term (μg m^{-3} per g s^{-1})	3,900	3,900
Efflux velocity (m s^{-1})	6.7	17.1
Flow rate (Am^3 hr^{-1})	428	4,344
Percentage operation (%)	24%	24%
Emission concentration long-term (mg m^{-3}) [(b)]	0.0042	0.0015
Emission concentration short-term (mg m^{-3}) [(b)]	0.0042	0.0015
Release rate Long-term (mg s^{-1})	0.00050	0.0018
Release rate Short-term (mg s^{-1})	0.00050	0.0018
Process contribution (PC) Long-term (μg m^{-3})	0.000081	
Process contribution (PC) Short-term (μg m^{-3})	0.0090	
EAL Long-term (μg m^{-3})	0.02	
EAL Short-term (μg m^{-3})	0.7	
PC as Percentage of EAL Long-term (%)	0.4%	
PC as Percentage of EAL Short-term (%)	1.3%	
Stage 1: Screening Test		
Long-term PC > 1% of EAL	**Pass**	
Short-term PC > 10% of EAL	**Pass**	

(a) The effective release height is 0 m as the release height is less than 3 m above the building.
(b) The H1 method conservatively assumes emissions concentration at actual conditions.

The H1 assessment for emissions to the atmosphere of nickel (Ni) presented in **Table 3.5** shows that the impacts can be screened out as insignificant.

3.2.6 VOC (AS BENZENE, C_6H_6)

Table 3.6 shows the results of the H1 assessment for Hard Anodising Surface Treatment Ltd for VOC, assuming 100% benzene (C_6H_6).

Table 3.6 H1 Assessment of Hard Anodising Surface Treatment Ltd: VOC (Benzene, C_6H_6)

Description	A1
Flue height (m)	6
Height above building (m)	0
Effective height (m) [(a)]	0
Dispersion factor Long-term (μg m^{-3} per g s^{-1})	148
Dispersion factor Short-term (μg m^{-3} per g s^{-1})	3,900
Efflux velocity (m s^{-1})	6.7
Flow rate (Am^3 hr^{-1})	428
Percentage operation (%)	24%
Emission concentration long-term (mg m^{-3}) [(b)]	2.9
Emission concentration short-term (mg m^{-3}) [(b)]	2.9
Release rate Long-term (mg s^{-1})	0.34
Release rate Short-term (mg s^{-1})	0.34
Process contribution (PC) Long-term (μg m^{-3})	0.012
Process contribution (PC) Short-term (μg m^{-3})	0.79
EAL Long-term (μg m^{-3})	5
EAL Short-term (μg m^{-3})	30
PC as Percentage of EAL Long-term (%)	0.2%
PC as Percentage of EAL Short-term (%)	2.6%
Stage 1: Screening Test	
Long-term PC > 1% of EAL	**Pass**
Short-term PC > 10% of EAL	**Pass**

(a) The effective release height is 0 m as the release height is less than 3 m above the building.
(b) The H1 method conservatively assumes emissions concentration at actual conditions.

The H1 assessment for emissions to the atmosphere of VOC, assuming 100% benzene (C_6H_6) presented in **Table 3.6** shows that the impacts can be screened out as insignificant.

Appendix A:

Screenshots from the Environment Agency H1 Tool

File Name: H1 Tool v9.2 – WQDisabled Hard Anodising V2.xlsm

Air release points and emissions inventory

1 of 24 | Main | Objectives | Environment Assessment Home | Output Tables | Reference Information

Select a test to view: First | < | > | Last | Water

View Air Tests

1. Add release point details in the top table

2. In the lower table, select release point in the 1st column and fill in substance details

Users inputs are shaded in light blue and dropdown menu in yellow.

Environmental Assessment

Add release point | Delete selected row | Clear the information of selected row

Release point code	Location or grid reference	Activity/Activities	Effective height (metres)	Dispersion factor (Long term)	Dispersion factor (short term)	Dispersion factor (monthly)	Efflux velocity (m/s)	Total flow (m3/h)
A1			0	148	3900	529	6.727734878	428
A2			0	148	3900	529	6.175543365	1788
A6			0	148	3900	529	1.689793223	430
A7			0	148	3900	529	4.600572574	1332
A9			0	148	3900	529	3.914685367	7997
A10			0	148	3900	529	17.0708413	4344
A12			0	148	3900	529	7.463841841	2161
A13			0	148	3900	529	19.02785764	2152

Add Substance | Delete Selected Row

Release Point	Substance	Measurement method	Operating mode(%)	Long term conc (mg/m3)	Release rate g/s (long term)	Measurement basis (Long term)	Short term conc (mg/m3)	Release rate g/s (short term)	Measurement basis (short term)	Annual rate (t/yr)	Long term PC (ug/m3)	Short term PC (ug/m3)	Total Flow (m3/h)
A1	Particulates (PM10)		24%	0.99	0.00		0.99	0.00		0.00	0.00	0.27	428.00
A2	Particulates (PM10)		24%	0.94	0.00		0.94	0.00		0.00	0.02	1.07	1788.00
A6	Particulates (PM10)		24%	0.82	0.00		0.82	0.00		0.00	0.00	0.23	430.00
A7	Particulates (PM10)		24%	1	0.00		1	0.00		0.00	0.01	0.85	1332.00
A9	Particulates (PM10)		24%	1.8	0.00		1.8	0.00		0.03	0.14	9.20	7997.00
A10	Particulates (PM10)		24%	11.2	0.01		11.2	0.01		0.10	0.48	31.10	4344.00
A12	Particulates (PM10)		24%	9.7	0.01		9.7	0.01		0.04	0.21	13.40	2161.00
A13	Particulates (PM10)		24%	0.6	0.00		0.6	0.00		0.00	0.01	0.83	2152.00
A1	Nitrogen dioxide		24%	3.8	0.00		3.8	0.00		0.00	0.02	0.88	428.00
A2	Chromium (VI) compounds (as Cr)		24%	0.029	0.00		0.029	0.00		0.00	0.00	0.06	1788.00
A12	Chromium (VI) compounds (as Cr)		24%	0.03	0.00		0.03	0.00		0.00	0.00	0.07	2161.00
A13	Chromium (VI) compounds (as Cr)		24%	0.0041	0.00		0.0041	0.00		0.00	0.00	0.01	2152.00
A1	Sulphur dioxide (15 min mean)		24%	0.049	0.00		0.049	0.00		0.00	0.00	0.03	428.00
A2	Sulphur dioxide (15 min mean)		24%	0.043	0.00		0.043	0.00		0.00	0.00	0.11	1788.00
A6	Sulphur dioxide (15 min mean)		24%	0.11	0.00		0.11	0.00		0.00	0.00	0.07	430.00
A7	Sulphur dioxide (15 min mean)		24%	0.24	0.00		0.24	0.00		0.00	0.00	0.46	1332.00
A9	Sulphur dioxide (15 min mean)		24%	0.073	0.00		0.073	0.00		0.00	0.01	0.85	7997.00
A10	Sulphur dioxide (15 min mean)		24%	0.14	0.00		0.14	0.00		0.00	0.01	0.88	4344.00
A12	Sulphur dioxide (15 min mean)		24%	0.12	0.00		0.12	0.00		0.00	0.00	0.38	2161.00
A13	Sulphur dioxide (15 min mean)		24%	0.17	0.00		0.17	0.00		0.00	0.00	0.53	2152.00
A1	Sulphur dioxide (24 hr mean)		24%	0.049	0.00		0.049	0.00		0.00	0.00	0.01	428.00
A2	Sulphur dioxide (24 hr mean)		24%	0.043	0.00		0.043	0.00		0.00	0.00	0.05	1788.00
A6	Sulphur dioxide (24 hr mean)		24%	0.11	0.00		0.11	0.00		0.00	0.00	0.03	430.00
A7	Sulphur dioxide (24 hr mean)		24%	0.24	0.00		0.24	0.00		0.00	0.00	0.20	1332.00
A9	Sulphur dioxide (24 hr mean)		24%	0.073	0.00		0.073	0.00		0.00	0.01	0.37	7997.00
A10	Sulphur dioxide (24 hr mean)		24%	0.14	0.00		0.14	0.00		0.00	0.01	0.39	4344.00
A12	Sulphur dioxide (24 hr mean)		24%	0.12	0.00		0.12	0.00		0.00	0.00	0.17	2161.00
A13	Sulphur dioxide (24 hr mean)		24%	0.17	0.00		0.17	0.00		0.00	0.00	0.23	2152.00
A1	Nickel and compounds (as Ni) except nickel carbonyl		24%	0.0042	0.00		0.0042	0.00		0.00	0.00	0.00	428.00
A10	Nickel and compounds (as Ni) except nickel carbonyl		24%	0.0015	0.00		0.0015	0.00		0.00	0.00	0.01	4344.00
A1	Benzene		24%	2.9	0.00		2.9	0.00		0.00	0.01	0.79	428.00

Air impacts - Pollutants | 6 of 24 | Main | Objectives | Environment Assessment Home | Output Tables | Reference Information

Select test to view: First | < | > | Last | Air | Water

1. Please click on the 'import' button to import the pollutants and relevant information from the "air release points" tab.

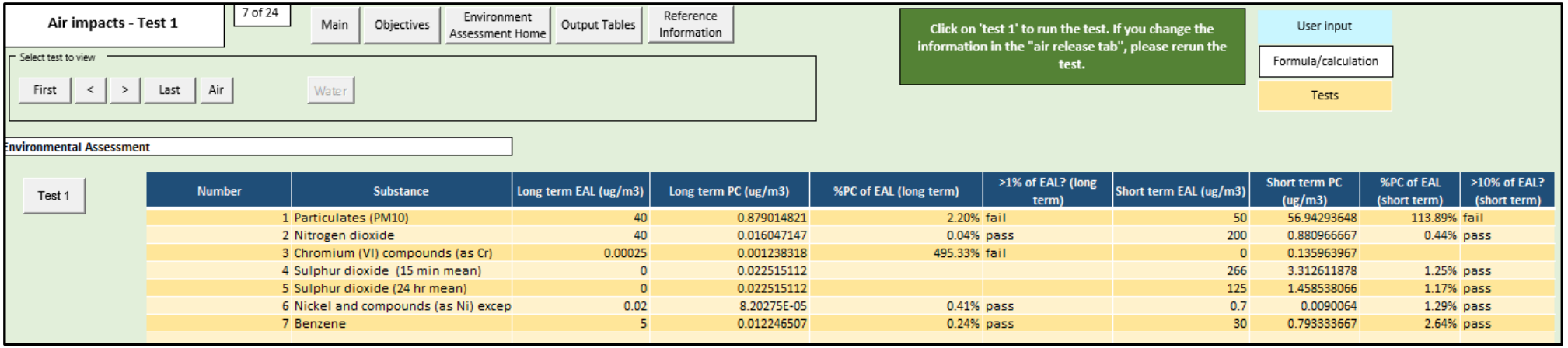
2. Please add a modelled PC value if relevant.

0

Environmental Assessment

Import

Number	Substance	Long term EAL (ug/m3)	Long term PC (ug/m3)	Long term modelled PC	Short term EAL (ug/m3)	Short term PC (ug/m3)
1	Particulates (PM10)	40	0.879014821		50	56.94293648
2	Nitrogen dioxide	40	0.016047147		200	0.880966667
3	Chromium (VI) compounds (as Cr)	0.00025	0.00		0	0.14
4	Sulphur dioxide (15 min mean)	0	0.02		266	3.31
5	Sulphur dioxide (24 hr mean)	0	0.02		125	1.46
6	Nickel and compounds (as Ni) except nickel ca	0.02	0.00		0.7	0.01
7	Benzene	5	0.01		30	0.79



Air impacts - Test 1

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Main | Objectives | Environment Assessment Home | Output Tables | Reference Information

Select test to view

First | < | > | Last | Air | Water

Click on 'test 1' to run the test. If you change the information in the "air release tab", please rerun the test.

User input

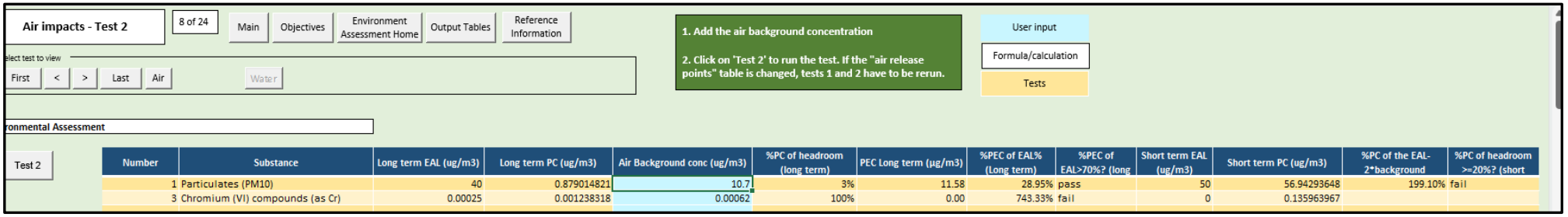
Formula/calculation

Tests

Environmental Assessment

Test 1

Number	Substance	Long term EAL (ug/m3)	Long term PC (ug/m3)	%PC of EAL (long term)	>1% of EAL? (long term)	Short term EAL (ug/m3)	Short term PC (ug/m3)	%PC of EAL (short term)	>10% of EAL? (short term)
1	Particulates (PM10)	40	0.879014821	2.20%	fail	50	56.94293648	113.89%	fail
2	Nitrogen dioxide	40	0.016047147	0.04%	pass	200	0.880966667	0.44%	pass
3	Chromium (VI) compounds (as Cr)	0.00025	0.001238318	495.33%	fail	0	0.135963967		
4	Sulphur dioxide (15 min mean)	0	0.022515112			266	3.312611878	1.25%	pass
5	Sulphur dioxide (24 hr mean)	0	0.022515112			125	1.458538066	1.17%	pass
6	Nickel and compounds (as Ni) excep	0.02	8.20275E-05	0.41%	pass	0.7	0.0090064	1.29%	pass
7	Benzene	5	0.012246507	0.24%	pass	30	0.793333667	2.64%	pass



Air impacts - Test 2

8 of 24

Main | Objectives | Environment Assessment Home | Output Tables | Reference Information

Select test to view

First | < | > | Last | Air | Water

1. Add the air background concentration

2. Click on 'Test 2' to run the test. If the "air release points" table is changed, tests 1 and 2 have to be rerun.

User input

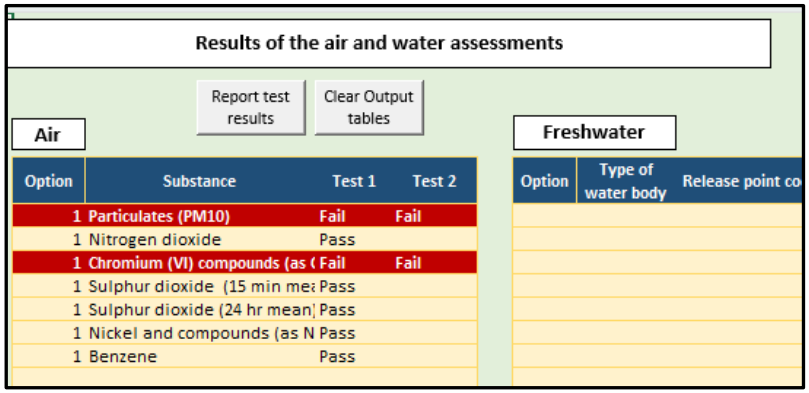
Formula/calculation

Tests

Environmental Assessment

Test 2

Number	Substance	Long term EAL (ug/m3)	Long term PC (ug/m3)	Air Background conc (ug/m3)	%PC of headroom (long term)	PEC Long term (µg/m3)	%PEC of EAL% (Long term)	%PEC of EAL>70%? (long	Short term EAL (ug/m3)	Short term PC (ug/m3)	%PC of the EAL-2*background	%PC of headroom >=20%? (short
1	Particulates (PM10)	40	0.879014821	10.7	3%	11.58	28.95%	pass	50	56.94293648	199.10%	fail
3	Chromium (VI) compounds (as Cr)	0.00025	0.001238318	0.00062	100%	0.00	743.33%	fail	0	0.135963967		



Results of the air and water assessments

Report test results | Clear Output tables

Air

Option	Substance	Test 1	Test 2
1	Particulates (PM10)	Fail	Fail
1	Nitrogen dioxide	Pass	
1	Chromium (VI) compounds (as (	Fail	Fail
1	Sulphur dioxide (15 min mea	Pass	
1	Sulphur dioxide (24 hr mean	Pass	
1	Nickel and compounds (as N	Pass	
1	Benzene	Pass	

Freshwater

Option	Type of water body	Release point co