

**CONTAINED BURN SYSTEM AND POLLUTION ABATEMENT SYSTEM (PAS) OPTIONS:
PROJECTED REMOVAL EFFICIENCY AND EMISSIONS**

Emissions	Basic PAS ³		Advanced PAS ⁴		Maximum Removal Efficiency PAS ⁵	
	Percentage Reduction Compared to OB (%)	Projected Avg. Stack Concentrations (ppm)	Percentage Reduction Compared to OB (%)	Projected Avg. Stack Concentrations (ppm)	Percentage Reduction Compared to OB (%)	Projected Avg. Stack Concentrations (ppm)
CO ^{1,2}	>90	<100 ppm	>99.99	<2	>99.99	<2
Lead ¹	NA	zero	NA	zero	NA	zero
NO ₂ ¹	Same as OB ⁸	Same as OB ⁸	>50	50% of OB ⁸	>95	<<200 ppm ⁷
Ozone ¹	NA	zero	NA	zero	NA	zero
PM 10 ¹	>99.99	NA	>99.99	NA	>99.9999	NA
PM 2.5 ¹	>99.99	NA	>99.99	NA	>99.9999	NA
SO ₂ ¹	NA	zero	NA	zero	NA	zero
Dioxins and Furans ²	NA	zero	NA	zero	NA	zero
Mercury ²	NA	zero	NA	zero	NA	zero
Cadmium ²	NA	zero	NA	zero	NA	zero
Heavy Metals ²	NA	zero	NA	zero	NA	zero
Total Hydrocarbons (THC) ²	>90	<10 ppm	>99.9999	<1 ppm	>99.9999	<1 ppm
HCl and Cl Gas ²	NA	NA	NA	NA	NA	NA
Principal Organic Hazardous Constituent (POHC)²						
2,4 Dinitrotoluene	>99.99	< 1 ppm	>99.9999	<< 1 ppm	>99.9999	<< 1 ppm
2,6 Dinitrotoluene	>99.99	< 1 ppm	>99.9999	<< 1 ppm	>99.9999	<< 1 ppm
Dibutyl Phthalate	>99.99	< 1 ppm	>99.9999	<<1 ppm	>99.9999	<<1 ppm
Diphenylamine	>99.99	< 1 ppm	>99.9999	<<1 ppm	>99.9999	<<1 ppm

NOTES:

OB: Open Burning

1. EPA Criteria Pollutants

2. 40 CFR Part 63 Subpart EEE

3. Basic PAS: includes Contained Burn Thermal Treatment Chamber, Cyclone, Gas Cooler, Baghouse, Stack

4. Advanced PAS: includes Basic PAS plus Afterburner and SNCR NO_x reduction

5. Maximum Removal Efficiency PAS: includes Advanced PAS plus HEPA Filter and SCR NO_x reduction

6. See Removal Efficiency by PM micron size for listed equipment:

Cyclone: 5-10 micron: 99.9%; 2.5 micron: <99%; submicron (0.3-0.5 micron): <90%

Baghouse: 5-10 micron: >99.99%; 2.5 micron: >99.99%; submicron (0.3-0.5 micron): 99.9%

HEPA: 5-10 micron: >99.9999%; 2.5 micron: >99.9999%; submicron (0.3-0.5 micron): >99.97%

7. Catalyst vendor guarantee value, actual Belgium emissions on M6 propellant were < 10 ppm

8. NO_x emissions from Open Burning (OB) or any closed thermal treatment system without PAS NO_x reduction are projected to exceed 100 tpy