Succinct summary of representative risk management measures (RMMs) and operational conditions (OCs)

Legal name of applicant(s): Indestructible Paint Ltd

Submitted by: Indestructible Paint Ltd

Substance: *Pentazinc chromate octahydroxide,*
EC No: 256-418-0, CAS No: 49663-84-5

Use title: *Use of Pentazinc chromate octahydroxide in stoved epoxy primer for corrosion protection of aircraft engine components in aerospace and aeroderivative applications*

Use number: Use 2

July 2017

Use of Pentazinc chromate octahydroxide in stoved epoxy primer for corrosion protection of aircraft engine components in aerospace and aeroderivative applications

ECS and WCS	Task (ERC/spERC or PROC)	Annual amount per site (tonnes/year)	Technical RMMs†, including: *Containment, *Ventilation (general, LEV…) *customized technical installation, etc	Organisational RMMs†, including: *Duration and Frequency of exposure *OSH management system *Supervision *Monitoring arrangements *Training, etc	PPE† (characteristics)	Other conditions	Effectiveness of waste water and waste air treatment (for ERC)	Release factors: water, air and soil (for ERC)	Detailed info. in CSR (page)
ECS 2	ERC 5: Use of Pentazinc chromate octahydroxide in stoved epoxy primer for corrosion protection of aircraft engine components in aerospace and aeroderivative applications	<= 0.005 tonnes/year [as Cr(VI)]	Collection of all solid and liquid waste, , disposal as hazardous waste by an external waste management company (licenced contractor). Exhaust air is passed through filters or wet scrubbers according to best available technique before being released to atmosphere§				Negligible release to waste water Air emission abatement: at least 99% efficiency§	Water: Negligible Air: 0.5% Soil: 0 (no release to soil)	44
WCS 1	PROC 1: Delivery and storage of raw material		General ventilation: Basic (1-3 ACH per hour) Containment: Closed system (minimal contact during routine operations)	Duration of activity: < 1 hour Occupational Health and Safety Management System: Advanced		Concentration of Cr(VI) in mixture: < 0.01 – 0.1% Place of use: Indoor			47
WCS 2	PROC 5: Decanting and filling of guns, cups or small containers		General ventilation: Good natural ventilation	Duration of activity: < 1 hour Occupational Health and Safety Management System: Advanced	PPE	Concentration of Cr(VI) in mixture: < 0.01 – 0.1% Place of use: Indoor			48

WCS 3 Sub-activity Spray application	PROC 7: Surface treatment by spraying in spray cabin / spray booth		General ventilation: Down-flow spray room	Duration of activity: < 135 min Occupational Health and Safety Management System: Advanced	PPE RPE: Yes (with APF 400)	Concentration of Cr(VI) in mixture: < 0.01 – 0.1% Place of use: (Down-flow) spray room			49
WCS 3 Sub-activity Tools cleaning	PROC 7: Surface treatment by spraying in spray cabin / spray booth		General ventilation: Down-flow spray room	Duration of activity: < 15 min Occupational Health and Safety Management System: Advanced	PPE RPE: Yes (with APF 400)	Concentration of Cr(VI) in mixture: < 0.01 – 0.1% Place of use: (Down-flow) spray room			50
WCS 4	PROC 10: Surface treatment by brushing/rolling (small to medium sized parts)		General ventilation: Good natural ventilation Fixed capturing hood (90.00 % reduction)	Duration of activity: < 30 min Occupational Health and Safety Management System: Advanced	PPE	Concentration of Cr(VI) in mixture: < 0.01 – 0.1% Place of use: Indoor			51
WCS 5	PROC 10: Surface treatment by brushing (very small parts/touch-up)		General ventilation: Good natural ventilation	Duration of activity: < 30 min Occupational Health and Safety Management System: Advanced	PPE	Concentration of Cr(VI) in mixture: < 0.01 – 0.1% Place of use: Indoor/Outdoor			53
WCS 6	PROC 8b: Cleaning of equipment – tools cleaning (closed system)		General ventilation: Good natural ventilation Fixed capturing hood (90.00 % reduction)	Duration of activity: < 1 hour Occupational Health and Safety Management System: Advanced	PPE	Concentration of Cr(VI) in mixture: < 0.01 – 0.1% Place of use: Indoor			54
WCS 7	PROC 8b: Cleaning – paint cabin and ancillary areas		General ventilation: Good natural ventilation	Duration of activity: < 1 hour Occupational Health and Safety Management System: Advanced	PPE	Concentration of Cr(VI) in mixture: < 0.01 – 0.1% Place of use: Indoor			55
WCS 8	PROC 8a: Infrequent maintenance activities		General ventilation: Good natural ventilation	Duration of activity: < 4 hours Frequency of activity: < 2 times / year	PPE RPE: Yes (with APF 30)	Concentration of Cr(VI) in mixture: < 0.5-1%			57

				Occupational Health and Safety Management System: Advanced		Place of use: Indoor			
WCS 9	PROC 21,24: Machining operations on small to medium sized parts containing Cr(VI) on an extracted bench/extraction booth including cleaning		General ventilation: Good natural ventilation Fixed capturing hood / Vacuum cleaner (HEPA filter with at least 99.00 % reduction)	Duration of activity: < 2 hours Occupational Health and Safety Management System: Advanced	PPE RPE: Yes (with APF 10)	Solid weight fraction: < 0.1% Place of use: Indoor			58
WCS 10	PROC 21,24: Machining operations on small to medium sized surfaces containing Cr(VI) on an extracted bench/extraction booth including cleaning		General ventilation: Good natural ventilation Fixed capturing hood / Vacuum cleaner (HEPA filter with at least 99.00 % reduction)	Duration of activity: < 2 hours Occupational Health and Safety Management System: Advanced	PPE RPE: Yes (with APF 400)	Solid weight fraction: < 0.1 – 0.5% Place of use: Indoor			60
WCS 11	PROC 8b: Waste management		General ventilation: Good natural ventilation Low level containment (90.00 % reduction)	Duration of activity: < 30 min Occupational Health and Safety Management System: Advanced	PPE RPE: Yes (with APF 30)	Solid weight fraction: < 1-5% Place of use: Indoor			62
WCS 12	PROC 8a: End of life								64

† The RMM and OC specified represent good industry practice for this task. DUs may adapt or improve RMM and OC selection in order to most appropriately and efficiently control worker exposure and maintain compliance with national regulations.
§ Except in cases involving very low content of Cr(VI) and occasional release [e.g. infrequent formulation using small quantities of Cr(VI)] where exposure potential is demonstrated to be negligible
* Adequate protective clothing, chemical-resistant gloves, goggles in case of potential exposure to chromium trioxide.
** RPE is specified in cases where exposure to chromium trioxide in solid form may occur

Abbreviations: WCS=Worker contributing scenario, ECS=Environmental Contributing Scenario, ERC=Environmental Release Category (or spERC if available), PROC= Process category, LEV=Local Exhaust Ventilation, PPE=Personal Protective Equipment, ACH=Air Changes per Hour, RPE=Respiratory Protective Equipment, APF=Assigned Protection Factor, DU=Downstream User