

Block I General details	
1	<p>Location of the PCB disposal facility:</p> <p>Name of Facility: Clean Harbors PPM, LLC City: Ashtabula, OH Country: USA <i>(Provide address information in Block IV)</i></p>
2	<p>Licence / authorization:</p> <p>Is this facility licensed or authorized to handle PCBs? x Yes <input type="checkbox"/> No</p> <p>If "Yes": (i) Nature of licence / authorization: TSCA PCB Destruction Approval (ii) Please submit the licensing history <i>(please attach to this questionnaire)</i></p> <p>Issuing authority <i>(name)</i>: USEPA Region 5 X National <input type="checkbox"/> Local or <input type="checkbox"/> Independent</p>
3	<p>Please provide information on storage at the facility including:</p> <p>Capacity for the various PCB waste and equipment types: 237,600 gallons US</p> <p>Method: Inside building inside berm</p> <p>Holding time: 1 year</p>
4	<p>Worker protection <i>(Please summarize protective measures applied during treatment of PCB wastes)</i></p> <p>Level C Protection</p> <p>Does the facility have an accident book? x Yes <input type="checkbox"/> No</p> <p>Most frequent cause(s) of incidents involving PCBs: Industrial injuries cuts on power equipment</p>

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Opinion box – PCB Management issues *(Please describe briefly)*

What are your major concerns?

None

Can you identify research and development needs in PCB management that would be beneficial for your region and waste managers worldwide?

Interested in additional work on decontamination solvents that are non-halogenated and non-chlorinated.

Block II Types of PCB wastes

Part A: Treatment of PCB containing equipment/material

Part A1: Metallic Parts

A1.1	Types of metallic PCB equipment/material treated:	Limitation on waste accepted <i>(please specify, if appropriate)</i>		
		Concentration <i>(specify the unit)</i> unit: ppm		Quantity <i>(specify the unit)</i> unit: lbs
		min	max	
	X Equipment containing 100 % PCB	501	1 million	2,300,000
	X Equipment containing mineral oil contaminated by PCB	50	500	2,300,000
	X Others: Non-PCB electrical equipment	0	49	200,000
<p><i>Please specify any other limitation on waste accepted:</i></p>				
A1.2	<p>Presentation of metallic equipment/material</p> <p>In what form must the metallic PCB equipment/material be presented:</p> <p><input checked="" type="checkbox"/> Drums</p> <p><input checked="" type="checkbox"/> Other packaging: Any allowed by DOT</p> <p><input type="checkbox"/> Other constraints:</p>			

A1.3

Treatment of metallic PCB equipment/material

Immediate destruction of metallic equipment/material containing PCB? Yes x No

If 'Yes', please specify the applied technology in Part III

Extraction of PCB? Yes x No

If 'Yes':

- please specify the applied technology in Part III
- Is the decontaminated metallic equipment/material subjected to reuse/recycling? Yes x No

If 'Yes', please specify in **Block II Part C** (Reuse and recycling)

Part A: Treatment of PCB containing equipment/material

Part A2: Non-metallic Parts

A2.1	Types of non-metallic PCB equipment/material treated:	Limitation on waste accepted <i>(please specify, if appropriate)</i>		
		Concentration <i>(specify the unit)</i>		Quantity <i>(specify the unit)</i>
		unit: ppm		unit: lbs
		min	max	
	x PCB-containing materials (clothes, cables, etc.)	0	1 million	200,000
	<input type="checkbox"/> PCB-contaminated residues, sludges			
	<input type="checkbox"/> PCB-contaminated soils and sediments			
	<input type="checkbox"/> Packaged / drummed waste			
	<input type="checkbox"/> Other:			
<p><i>Please specify any other limitation on waste accepted:</i></p>				
A2.2	<p>Presentation of non-metallic equipment/material</p> <p>In what form must the non-metallic PCB equipment/material be presented:</p> <p>x Drums</p> <p>x Other packaging: any DOT authorized</p> <p><input type="checkbox"/> Other constraints:</p>			

A2.3

Treatment of non-metallic PCB equipment/material

Immediate destruction of non-metallic equipment/material containing PCB? Yes x No

If 'Yes', please specify the applied technology in Part III

Extraction of PCB? Yes x No

If 'Yes':

- please specify the applied technology in Part III
- Is the decontaminated non-metallic equipment/material subjected to reuse/recycling? Yes x No

If 'Yes', please specify in **Block II Part C** (Reuse and Recycling)

Part B: Treatment of PCB oils and PCB waste oils

B1	Types of PCB oils and PCB waste oils treated:	Limitation on waste accepted <i>(please specify, if appropriate)</i>		
		Concentration <i>(specify the unit)</i>		Quantity <i>(specify the unit)</i>
		unit:		unit:
		min	max	
	<input type="checkbox"/> 100 % PCB oils			
	<input type="checkbox"/> Mineral oils contaminated by PCB			
	<input type="checkbox"/> Waste oils contaminated by PCB			
	<input type="checkbox"/> Other:			
<p><i>Please specify any other limitation on waste accepted:</i></p>				
B2	<p>Presentation of PCB oils and PCB waste oils</p> <p>In what form must the PCB oils and PCB waste oils be presented:</p> <p><input type="checkbox"/> Drums</p> <p><input type="checkbox"/> Other packaging:</p> <p><input type="checkbox"/> Other constraints:</p>			
B3	<p>Treatment of PCB oils and PCB waste oils</p> <p>Please specify the applied technology for the destruction of PCB oils and PCB waste oils in Part III</p>			

Part C: Reuse & Recycling of decontaminated PCB equipment/material

C1	Types decontaminated PCB equipment/material treated:	Limitation on waste accepted <i>(please specify, if appropriate)</i>
		Quantity <i>(specify the unit)</i>
		unit: lbs
	X Transformers	2,300,000
	X Capacitors	32,500
	X Materials (clothes, cables, etc.)	180,000
	<input type="checkbox"/> Residues, sludges	
	<input type="checkbox"/> Soils and sediments	
<input type="checkbox"/> Other:		
<i>Please specify any other limitation on waste accepted:</i>		
C2	<p>Presentation of decontaminated PCB equipment/material</p> <p>In what form must the decontaminated PCB equipment/material be presented:</p> <p><input type="checkbox"/> Drums</p> <p><input type="checkbox"/> Other packaging:</p> <p><input type="checkbox"/> Other constraints:</p>	

C3

Treatment of decontaminated PCB equipment/material

Reuse and Recycling of decontaminated PCB equipment/material? Yes x No

If 'Yes', please specify the applied technology in Part III

Is the decontaminated PCB equipment/material disposed of? Yes No x

If 'Yes', please specify:

Transport to the disposal site? Yes No

If 'Yes':

International transport

National transport

Location of disposal site:

Please provide a short description of disposal site:

All decontaminated metals sold into metals market to smelters

Block III Detailed information on applied technologies

1	The following description refers to Block II, Part:	Type of PCB waste or decontaminated equipment/material:
	<input checked="" type="checkbox"/> A1 (Treatment of metallic PCB equipment/material)	PCB electrical equipment, and other metals
	<input type="checkbox"/> A2 (Treatment of non-metallic PCB equipment/material)	
	<input type="checkbox"/> B (Treatment of PCB oil and PCB waste oil)	
	<input checked="" type="checkbox"/> C (Reuse and recycling of decontaminated PCB equipment/material)	All metals decontaminated are sold to smelters, for smelting and reuse
2	<p>Applied technologies (Please specify the technology used for disposal):</p> <p><input type="checkbox"/> Pyrolysis / gasifiers</p> <p><input type="checkbox"/> Gas Phase Chemical Reduction (GPCR)</p> <p><input type="checkbox"/> Base Catalysed Decomposition (BCD)</p> <p><input type="checkbox"/> Sodium Reduction</p> <p><input type="checkbox"/> Super-Critical Water Oxidation (SCWO)</p> <p><input type="checkbox"/> Plasma Arc</p> <p><input type="checkbox"/> Molten Salt Oxidation</p> <p><input type="checkbox"/> Solvated Electron Technology</p> <p><input type="checkbox"/> Retrofilling</p> <p><input checked="" type="checkbox"/> Other: Solvent Decontamination</p> <p>Type of technology (1-sentence description): Solvent decontamination of PCB Metals</p> <p>Description of the technology please provide additional information as appropriate (<i>summarize here and, if necessary, attach documentation</i>) Use of Chlorinated Solvent to remove PCBs. Solvent is recycled on site, only waste stream is distillation bottoms of PCB and solvent.</p> <p>Commissioned? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Year:</p> <p>Can the technology be used in a mobile facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	
3	<p>State of development</p> <p>Does the technology exist as an industrial unit? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If "No", please indicate when it will become operational:</p> <p>If "Yes", please indicate how many units exist: 3</p> <p>In what countries: USA</p>	

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Pretreatment:Does the technology require any pretreatment procedures? Yes No

If "Yes", please specify required pretreatment procedures:

 Thermal Desorption Dilution Low Temperature Rinsing Electro-osmosis Draining/Solvent washing Dismantling/Shredding Other:

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ByproductsWhat byproducts does the technology produce? *(please specify below)*

Byproduct	Kind	Amount
Liquids:	Distillation bottoms	5 L per tonnes of waste treated
Solids:		kg per tonnes of waste treated
Air:		m ³ per tonnes of waste treated

Does the technology allow all byproducts to be monitored for POPs*/PTS** before release? Yes NoIf POPs*/PTS** are discovered, can the byproducts be returned to the process for further treatment? Yes NoAre any of the byproducts classified as other sorts of hazardous wastes? Yes No

If "Yes" please specify: distillation bottoms containing solvent-F coded in US

What volumes of such byproducts are generated by handling a unit volume of PCB wastes: 5 L/tonne

Can third party monitoring data be provided? Yes No*If "Yes", please attach to this questionnaire.*

* POPs: Persistent Organic Pollutants

** PTS: Persistent Toxic Substances

How are byproducts disposed of? *(please describe briefly)*

Incineration at TSCA Incinerator

6	<p>Efficiency <i>(please specify, if appropriate)</i></p> <p>Destruction efficiencies (DEs): %</p>
7	<p>Monitoring & Control of releases</p> <p>What technologies are used to monitor releases: Air: FID Effluents: none Solids: containerized and sampled</p> <p>Are all releases monitored for POPs/PTS before release? x Yes <input type="checkbox"/> No</p> <p>If POPs*/PTS** are discovered, can the releases be returned to the process for further treatment? x Yes <input type="checkbox"/> No</p> <p>Are any of the releases classified as hazardous wastes? x Yes <input type="checkbox"/> No</p> <p>If "Yes" please specify: bottoms above and HAP solvent to air release after carbon system</p> <p>What technologies are used/ required to monitor and treat any such releases prior to release: carbon system and CEMS</p> <p>What volumes of such releases are generated by handling a unit volume of PCB wastes:</p> <p>Is third party monitoring data available? <input type="checkbox"/> Yes x No</p> <p><i>If "Yes", please attach to this questionnaire.</i></p> <p style="text-align: right;">* POPs: Persistent Organic Pollutants ** PTS: Persistent Toxic Substances</p>
	<p>How are releases disposed of? <i>(please describe briefly)</i></p> <p>Solids are sent to TSCA incinerator. Solvent gas passes through carbon filters prior to discharge</p>

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Disposal costs

What are the *approximate* costs for applying the technology per unit[‡], **including** costs for all technical pretreatment steps, **excluding** all costs **not** related to the technical application of the technology (transport costs, costs for disposal of decontaminated transformers/capacitors/materials, etc.)?

Please specify type of treated/disposed PCB equipment/material/oil below:

	Costs per unit [‡]	Currency
a) PCB metals decontamination	\$1	US Dollar
b)		
c)		
d)		
e)		
f)		
g)		

[‡] Specify the unit for a) to g): pounds

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Treatment capacities and scaling (*tonnes per year for main waste & equipment types*)

Capacity of existing facilities: 3,000,000 pounds per year

Can the technology be adapted to higher or lower capacities? Yes x No

If "Yes":

- (i) What is the capacity of the smallest commercially viable facility: 500,000 pounds per year
- (ii) What is the capacity of the largest commercially viable facility: 6, million pounds per year

Does the adaptation will cause additional costs? x Yes No

If "Yes" specify the increase in costs for the adaptation (%) of the initial costs:

- (i) For smaller plants: 15 %
- For larger plants: 0%

[‡] Please specify the unit:

Block IV**Facility: Address and Service Information****1**

Facility Name: Clean Harbors PPM, LLC

Address: 1302 W 38th St

City/Town: Ashtabula

P.O. Box:

District/State: OH

Country: USA

Telephone: 440-992-8665

Fax: 440 992 2749

Email: gozzard.kevin@cleanharbors.com

Web site: www.cleanharbors.com

Person completing form

Name: Walt Chambers

Position: Sr. Compliance Mgr

Parent Company (*if different*)

Address: 1501 Washington Street

City/Town: Braintree

P.O. Box:

District/State: MA

Country: USA

Telephone: 781-849-1800

Fax: 781-849-1632

Email: customerservice@cleanharbors.com

<p>2</p>	<p>Other Services offered by the company</p> <ul style="list-style-type: none">x Laboratory analysis / testingx PCB waste packaging for shipmentx PCB classification / labelingx Clean-up of PCB contaminated sitesx PCB wastes transportx Other PCB-related services: oil detoxification, TSCA landfill, TSCA Incineration
<p>3</p>	<p>Further information</p> <p>Identify any company information (brochures, notes etc...) provided separately and if you wish provide additional comments on your services in not more than 50 words:</p> <p>See complete information at www.cleanharbors.com</p>