

Block I General details	
1	<p>Location of the PCB disposal facility:</p> <p>Name of Facility: <i>Incinerator of AKZO-NOBEL (CKI)</i> City: <i>ROTTERDAM</i> Country: <i>The Netherlands</i> (Provide address information in Block IV)</p>
2	<p>Licence / authorization:</p> <p>Is this facility licensed or authorized to handle PCBs? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If "Yes": (i) Nature of license / authorization: <i>with relation to water- and air pollution</i> (ii) Please submit the licensing history (please attach to this questionnaire)</p> <p>Issuing authority (name): <i>Rijkswaterstaat and DLMP</i> <input checked="" type="checkbox"/> National <input checked="" type="checkbox"/> Local or <input type="checkbox"/> Independent <i>see environmental aspects in the enclosure.</i></p>
3	<p>Please provide information on storage at the facility including:</p> <p>Capacity for the various PCB waste and equipment types:</p> <p>Method: <i>In tanks under N₂-atmosphere (blanketing) and mixed with other chlorinated hydrocarbons</i></p> <p>Holding time: <i>+/- 14 days</i></p>
4	<p>Worker protection (Please summarize protective measures applied during treatment of PCB wastes)</p> <p><i>only during unloading of the waste-container wearing special gloves and protection cloths</i></p> <p>Does the facility have an accident book? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Most frequent cause(s) of incidents involving PCBs: <i>None</i></p>

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

What are your major concerns?

We don't have major concerns.

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

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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:	unit:
		min	max
	<input type="checkbox"/> PCB-containing materials (clothes, cables, etc.)		
	<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:		
<i>Please specify any other limitation on waste accepted:</i>			
A2.2	Presentation of non-metallic equipment/material In what form must the non-metallic PCB equipment/material be presented: <input type="checkbox"/> Drums <input type="checkbox"/> Other packaging: <input type="checkbox"/> Other constraints:		

A2.3

Treatment of non-metallic PCB equipment/material

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

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

Extraction of PCB? Yes No

If 'Yes':

- please specify the applied technology in Part III
- Is the decontaminated non-metallic equipment/material subjected to reuse/recycling? Yes 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 (please specify, if appropriate)	
		Concentration (specify the unit) unit: min max	Quantity (specify the unit) unit:
<input checked="" type="checkbox"/>	100 % PCB oils		80 kg/hr*
<input type="checkbox"/>	Mineral oils contaminated by PCB		
<input type="checkbox"/>	Waste oils contaminated by PCB		
<input checked="" type="checkbox"/>	Other: Chlorinated hydrocarbons with PCB's		
<p>Please specify any other limitation on waste accepted:</p> <p>*) This is based on Balschmitter PCB's nr's 28, 52, 101, 118, 138, 153, 180.</p> <p>The quantity allowed depends on the content of the 7 Balschmitter PCB's, because the Balschmitter PCB's are limited to 80 kg/hr</p>			
B2	<p>Presentation of PCB oil and PCB waste oil</p> <p>In what form must the PCB oil and PCB waste oil be presented:</p> <p><input type="checkbox"/> Drums</p> <p><input type="checkbox"/> Other packaging:</p> <p><input checked="" type="checkbox"/> Other constraints: Containers</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 <i>Block</i></p>		

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

<p>C1</p>	<p>Types decontaminated PCB equipment/material treated:</p> <p><input type="checkbox"/> Transformers</p> <p><input type="checkbox"/> Capacitors</p> <p><input type="checkbox"/> Materials (clothes, cables, etc.)</p> <p><input type="checkbox"/> Residues, sludges</p> <p><input type="checkbox"/> Soils and sediments</p> <p><input type="checkbox"/> Other:</p>	<p>Limitation on waste accepted <i>(please specify, if appropriate)</i></p> <p>Quantity <i>(specify the unit)</i></p> <p>unit:</p>
<p><i>Please specify any other limitation on waste accepted:</i></p>		
<p>C2</p>	<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 No

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

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

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:

Block III Detailed information on applied technologies

1	<p>The following description refers to Block II, Part:</p> <p><input type="checkbox"/> A1 (Treatment of metallic PCB equipment/material)</p> <p><input type="checkbox"/> A2 (Treatment of non-metallic PCB equipment/material)</p> <p><input type="checkbox"/> B (Treatment of PCB oil and PCB waste oil)</p> <p><input type="checkbox"/> C (Reuse and recycling of decontaminated PCB equipment/material)</p>	<p>Type of PCB waste or decontaminated equipment/material:</p>
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 type="checkbox"/> Other:</p> <p>Type of technology (1-sentence description):</p> <p>Description of the technology please provide additional information as appropriate (summarize here and, if necessary, attach documentation)</p> <p>Commissioned? <input type="checkbox"/> Yes <input type="checkbox"/> No Year:</p> <p>Can the technology be used in a mobile facility? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	
3	<p>State of development</p> <p>Does the technology exist as an industrial unit? <input 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:</p> <p>In what countries:</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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Byproducts

What byproducts does the technology produce? (please specify below)

Byproduct	Kind	Amount	
Liquids:	30% HCl solution	1475	L per tonnes of waste treated
Solids:	—	None	kg per tonnes of waste treated
Air:	Fluegas	± 5500	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:

What volumes of such byproducts are generated by handling a unit volume of PCB wastes:

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)

Selling the 30% HCl-solution; is used for other chemical processing.

6	<p>Efficiency (please specify, if appropriate)</p> <p>Destruction efficiencies (DEs): <i>99.999</i> %</p>
7	<p>Monitoring & Control of releases</p> <p>What technologies are used to monitor releases:</p> <p>Air: <i>TOC / Dust / PCB's / Dioxines / HCl / NOx</i></p> <p>Effluents: <i>EOCL / PCB's / Dioxines.</i></p> <p>Solids: _____</p> <p>Are all releases monitored for POPs*/PTS** before release? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If POPs*/PTS** are discovered, can the releases be returned to the process for further treatment? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Are any of the releases classified as hazardous wastes? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If "Yes" please specify:</p> <p>What technologies are used/ required to monitor and treat any such releases prior to release:</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 <input type="checkbox"/> No</p> <p>If "Yes", please attach to this questionnaire. .</p> <p style="text-align: right;">* POPs: Persistent Organic Pollutants ** PTS: Persistent Toxic Substances</p>
	<p>How are releases disposed of? (please describe briefly)</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 and **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)		
b)		
c)		
d)		
e)		
f)		
g)		

[‡] Specify the unit for a) to g):

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

Capacity of existing facilities: *40,000 TON* units[‡] per year

Can the technology be adapted to higher or lower capacities? Yes No *Lower only; not higher*

If "Yes":

- (i) What is the capacity of the smallest commercially viable facility: units[‡] per year
- (ii) What is the capacity of the largest commercially viable facility: units[‡] per year

Does the adaptation will cause additional costs? Yes No

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

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

[‡] Please specify the unit:

Block IV

Facility: Address and Service Information

1

Facility Name: *INCLINATOR OF AKZO-NOBEL (CKI)*Address: *WELPLAATWEG 12*City/Town: *ROTTERDAM*P.O. Box: *7020 - 3000 HA*

District/State:

Country: *THE NETHERLANDS*Telephone: *+ 31 (0) 10 4389250*Fax: *+ 31 (0) 10 4389295*Email: *Floris.Spijk@AkzoNobel.com*

Web site:

Person completing form

Name: *F. F. Spijk.*Position: *Process Engineer*

Parent Company (if different):

Address:

City/Town:

P.O. Box:

District/State:

Country:

Telephone:

Fax:

Email:

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Other Services offered by the company

- Laboratory analysis / testing
- PCB waste packaging for shipment
- PCB classification / labeling
- Clean-up of PCB contaminated sites
- PCB wastes transport
- Other PCB-related services:

3

Further information

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: