

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION
Interim Final: 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRAInfo code (CA725)

Current Human Exposures Under Control

Facility Name: ___ Akzo Nobel Polymer Chemicals, LLC _____
Facility Address: ___ 2135 Lockport-Olcott Road, Burt, NY 14028 _____
Facility EPA ID#: ___ NYD043815158 _____

1. Has all available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g. from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)) been considered in this EI determination?
 If yes - check here and continue with #2 below.
 ___ If no - re-evaluate existing data, or
 ___ If data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g. reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e. contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e. site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GRPA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land - and groundwater-use conditions ONLY, and do not consider potential future land - or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e. potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration/Applicability of EI Determinations

EI Determinations status codes should remain in RCRAInfo national database ONLY as long as they remain true (i.e. RCRAInfo status codes must be changed when the regulatory authorities become aware of contrary information).

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Background

The 350 acre Akzo Nobel property is located at 2153 Lockport-Olcott Road in the Hamlet of Burt, Niagara County, New York. Akzo Nobel produced organic peroxides including benzoyl peroxide, methyl ethyl ketone peroxide, acetyl acetone peroxide, and 2,4-dichlorobenzoyl at the Burt, New York facility.

The production portion of the facility encompassed approximately 30 acres, and approximately 80 acres of the property are fenced. Areas associated with Akzo Nobel operations included: buildings, hazardous waste container storage pads, inactive landfills, an inactive burning cage, a closed clay storage pad, venturi scrubbers, a fume scrubber, drum storage areas, a closed waste sulfuric acid storage tank, closed underground storage tank (UST) locations, a fire pond, and numerous structures associated with the wastewater treatment facility and process sewer.

Akzo Nobel ceased organic peroxide manufacturing operations in 2003 and the Burt facility remains in operation as a warehouse and distribution center.

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2. Are groundwater, soil, surface water, sediment, or air media known or reasonably suspected to be “contaminated” above appropriately protective risk-based “levels” (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance or criteria) from releases subject to RCRA Corrective Action (from SWMUs, Rus or AOCs)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale/Key Contaminants</u>
Groundwater	<u>X</u>	_____	_____	<u>See Attachment 1</u> _____
Air (indoors) ²	_____	<u>X</u>	_____	<u>Pathway evaluated fully in RFI and CMS</u>
Surface Soil (e.g.<2 ft)	<u>X</u>	_____	_____	<u>See Attachment 1</u> _____
Sediment	_____	<u>X</u>	_____	<u>See Attachment 1</u> _____
Surface Water	_____	<u>X</u>	_____	<u>See Attachment 1</u> _____
Subsurface Soil (e.g.>2 ft)	<u>X</u>	_____	_____	<u>See Attachment 1</u> _____
Air (outdoors)	_____	<u>X</u>	_____	<u>No breathing zone organic vapors</u>

_____ If no (for all media) - skip to #6 and enter “YE” status code after providing or citing appropriate “levels”, and referencing sufficient supporting documentation demonstrating that these “levels” are not exceeded.

X If yes (for any media) - continue after identifying key contaminants in each “contaminated” medium citing appropriate “levels” (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

_____ If unknown (for any media) - skip to #6 and enter “IN” status code.

Rationale and Reference(s):

Surface (0 - 2 ft BGS) soil contamination consisted of a variety of volatile and semi-volatile organics, including aromatics, aliphatics, ketones, and phthalates. Only one surface soil sample exceeded standards, criteria and guidance (SCGs), with the exceedance of a generic threshold value for semi-volatile compounds. Subsurface (>2 ft. BGS) soil contamination consisted of aromatics, aliphatics (fuel-related and solvents), ketones, and phthalates in excess of SCGs at each of the 9 SWMUs/AOCs subject to corrective measures. Phthalate contamination in soil is well defined to limited locations and has not been a source of groundwater contamination. Contaminated landfilled materials are limited to a discrete area of 5 former unlined pits, and include ketones, which are the likely source of ketones in groundwater. Groundwater quality data were generated via installation, development, and sampling of overburden and bedrock monitoring wells at the Akzo Nobel facility in Burt, New York over a 4 year period. Data generated to date support the conclusion that overburden groundwater quality has been locally impacted by releases of certain volatile organic compounds at the Akzo Nobel, Burt, NY facility. The extent of impact is limited to within the facility property.

Footnotes:

¹ “Contamination” and “contaminated” describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids that are subject to RCRA) in concentrations in excess of appropriately protective risk-based “levels” (for the media, that identify risks within the acceptable risk range).

² Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

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3. Are there complete pathways between “contamination” and human receptors such as that exposures can be reasonably expected under the current (land and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

<u>Contaminated Media</u>	Potential Human Receptors (Under Current Conditions)						
	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Foods
Groundwater	<u>_No_</u>	<u>_No_</u>	<u>_No_</u>	<u>_Yes_</u>	_____	_____	No <u>___</u>
Soil (surface, e.g. >2 ft.)	<u>_No_</u>	Yes <u>_</u>	<u>_No_</u>	<u>_Yes_</u>	Yes	No <u>_</u>	No <u>___</u>
Soil (subsurface e.g. >2 ft.)	_____	_____	_____	<u>_Yes_</u>	_____	_____	_____

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors’ spaces for Media which are not “contaminated”) as identified in #2 above.
2. Enter “yes” or “no” for potential “completeness” under each “Contaminated” Media – Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential “Contaminated” Media - Human Receptor combinations (Pathways) do not have check spaces (“_____”). While these combinations may not be probable in most situations, they may be possible in some settings and should be added as necessary:

- _____ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6 and enter “YE” status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g. use optional Pathway Evaluation Work Sheet to analyze major pathways).
- _X_ If yes (pathways are completed for any “Contaminated” Media - Human Receptor combination) - continue after providing supporting explanation.
- _____ If unknown (for any “Contaminated” Media - Human Receptor combination) - skip to #6 and enter “IN” status code

Rationale and Reference(s):

The potential for exposure of soil and groundwater contaminants to construction workers from subsurface soil and groundwater contamination exists. While only one surface soil sample exceeded SCGs, exposure to this soil location represents the sole exposure potential for workers and trespassers.. REF: TRC, Phase II RFI Report, December 2000; TRC, CMS Final Report, May, 2003

³Indirect Pathway/Receptor (e.g. vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

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4. Can the exposures from any of the complete pathways identified in #3 be reasonably expected to be “significant” (i.e. potentially “unacceptable” because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable “levels” (used to identify the “contamination”); or 2) the combination of exposure magnitude (perhaps even though low) and concentrations (which may be substantially above the

acceptable "levels") could result in greater than acceptable risks)?

- If no (exposures can not be reasonably expected to be significant (i.e. potentially "unacceptable" for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant".
- If yes (exposures could be reasonably expected to be "significant" (i.e. potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are not expected to be "significant".
- If unknown (for any complete pathway) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):

Only one surface soil sample of 22 collected at the facility contained any compound in excess of TAGM 4046 threshold action levels. Sample SB 301 contained Acetophenone in excess of the TAGM 4046 generic semi-volatile 50,000 ug/kg threshold action level at SWMU 31. This sample was taken within the area defined by the former Building 16 foundation. Surface soil samples collected during the RFI from immediately outside the Building 16 foundation found acetophenone at an order of magnitude less concentration than that found from soil samples collected during the RFA from inside the foundation. Therefore, any calculated exposure point value would support the conclusion of no significant risk from surface soil contamination to workers or trespassers.

Subsurface soil and groundwater are contaminated (see Attachment 1). Worker exposures to subsurface soil and groundwater are limited to construction workers, and are of low frequency and duration. The facility is currently used for warehousing and no active subsurface construction is underway or planned for the foreseeable future. Therefore, risks derive from contact with groundwater and subsurface soil are insignificant. Proactive measures to ensure worker protection for all excavation projects will be required by the facility operator.

REF: TRC, Phase II REFI Report, December 2000; TRC, CMS Final Report May 2003.

⁴If there is any question on whether the identified exposures are "significant" (i.e. potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

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5. Can the "significant" exposures (identified in #4) be shown to be within acceptable limits?

- If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g. a site-specific Human Health Risk Assessment).
- If no (there are current exposures that can be reasonably expected to be "unacceptable") - continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.

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6. Check the appropriate RCRIS status codes for the Current Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility).

YE - Yes. "Current Human Exposures Under Control EI" has been verified. Based on a review of the information contained in this EI Determination. "Current Human Exposures" are expected to be "Under Control" at the Akzo Nobel Polymer Chemicals, LLC facility, EP ID # NYD043815158, located at 2153 Lockport-Olcott Road, Burt, NY under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

NO - "Current Human Exposures" are NOT "Under Control".

IN - More information is needed to make a determination.

Completed by: (signature) _____ Date _____
(print) _____
(title) _____

Supervisor Original signed by: _____ Date: July 23, 2004
Adolph Everett _____
Chief, RCRA Programs Branch _____
USEPA Region 2 _____

Locations where References may be found:

Region 9
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2999

Contact telephone and e-mail numbers:

(Name) Mr. Stanley Radon
(Phone #) 716/851-7220
(E-mail) sfradon@gw.dec.state.ny.us

FINAL NOTE: **THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G. SITE-SPECIFIC) ASSESSMENTS OF RISK.**