DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action

Environmental Indicator (EI) RCRIS code (CA725)

Facility Name: Rohm and Haas Texas, Inc.

Facility Address: 1900 Tidal Road, Deer Park, Texas 77536

Facility EPA ID#: TX065096273

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, GPRA). 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 RCRIS national database ONLY as only as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

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PROGRAM

2. Are groundwater, soil, surface water, sediments, or air media known or reasonably suspected to be **"contaminated"**[1] 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)?

	Yes	No	?	Rationale / Key Contaminants
Groundwater	√			Acetone, Sulfate, Ammonia, Primene 81R Prod.
Air (indoors)[2]		√		No buildings over affected soil or groundwater
Surface Soil (e.g., <2 ft)		√		Spills to surface soils remediated to RRS No. 2
Surface Water		√		Outfalls to surface water are monitored.
Sediment			?	None suspected. Sediments not sampled.
Subsurface Soil (e.g., >2 ft)	√			Primene 81R Product
Air (outdoors)		√		No identified impact from soil and groundwater

_____ 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.

Yes 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):

Area	Contaminant	Maximum Concentrations	Groundwater Protection Standard (2)	Reference
Groundwater		mg/L	mg/L	
Acetone Spill Area	Acetone	≈40,000	3.65 (MSC)	CP-50102, 1/2/02 and Annual Site Activity Reports
Landfill 003	Ammonia	≈60,000	15 (ACL)	
	Sulfate	≈130,000	28,902 (ACL)	
Semi-Works Loading Rack	Primene 81R Product	16.9	0.61 (MSC)	Final Report, Semi-Works Process Area Risk Assessment, 4/12/02
W/AS Former Process Area	Acetone	244	10 (MSC)	Final Report, Results of RCRA Facility Investigation Former W/AS Process Area, 6/5/02

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.

Current Human Exposures Under Control
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Area	Contaminant	Maximum Concentrations	Risk-Based Level	Reference
Soil		mg/kg	mg/kg	
Semi-Works Loading Rack	Primene 81R Product	19,400	61 (MSC)	Final Report, Semi-Works Process Area Risk Assessment, 4/12/02

Note: MSC = Media Specific Concentration based on Standard No. 2 of Texas Risk Reduction Rules
ACL = Alternate Concentration Limit
BG = Background Concentration

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.

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

Summary Exposure Pathway Evaluation Table

Potential Human Receptors (Under Current Conditions)

"Contaminated" Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food[3]
Groundwater	No	No	No	No (1)			No
~~Air (indoors)~~	—	—	—				
~~Soil (surface, e.g., <2 ft)~~	—	—	—	—	—	—	—
~~Surface Water~~	—	—			—	—	—
~~Sediment~~	—	—			—	—	—
Soil (subsurface e.g., > 2 ft)				No (2)			No
~~Air (outdoors)~~	—	—	—	—	—		

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.

__YE__ 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).

_____ If yes (pathways are complete 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.

[4] If 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.

Rationale and Reference(s):

1. Groundwater: Affected groundwater occurs in shallow, low yielding saturated zones that are not used for drinking water supply. Groundwater occurrence at the facility is described in: RCRA Part B Application, Attachment L, Geology Report, March, 1990.

   Although there is no current construction activity in areas where the shallow groundwater has been affected (Landfill No. 003, Acetone Loading Area, Semi-Works Process Area, and W/AS Former Process Area), the potential exists for exposure to contaminated shallow groundwater during future construction activity. As standard procedure, Rohm and Haas performs a Health and Safety Audit prior to construction activity at the facility. Potential threats, including potential exposure to contaminated shallow groundwater are assessed, and proper Personal Protective Equipment and other appropriate safety procedures are identified and employed.

2. Soil: No chemicals of concern concentrations in the 0-2 foot interval exceed the GWP-Ind MSC values in the surface soil at the Semi-Works Loading Rack Area for soil direct contact.

   Although there is no current construction activity in areas where the shallow groundwater has been affected (Landfill No. 003, Acetone Loading Area, Semi-Works Process Area, and W/AS Former Process Area), the potential exists for exposure to contaminated soil during future construction activity in these areas. As standard practice, Rohm and Haas performs a Health and Safety Audit prior to construction activity at the facility. Potential threats, including potential exposure to contaminated soil are assessed, and proper Personal Protective Equipment and other appropriate safety procedures are identified and employed.

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

___n/a___ 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).

___n/a___ 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.

___n/a___ If unknown (for any potentially "unacceptable" exposure) – continue and enter "IN" status code.

Rationale and Reference(s):

6. Check the appropriate RCRIS status codes for the Current Human 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__ YE – Yes, "Current Human Exposures Under Control" 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 /Rohm and HaasTexas, Inc. Deer Park facility, EPA ID # TXD065096273, located at 1900 Tidal Road, Deer Park Texas, 77536 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 Pamela H. Embody Date 8/30/02

Pamela H. Embody

GW/Remediation Specialist

Supervisor Robert W. Brinly Date 8/30/02

Robert W. Brinly

Plant Manager

State Texas

Locations where References may be found:

- Texas Natural Resources Conservation Commission, Austin Texas
- Rohm and Haas Texas, Inc., Compliance and Environmental, Health, and Safety Files, Deer Park, Texas Facility

Contact telephone number and e-mail address:

(name) Pam Embody
(phone #) 281-228-8153
(e-mail) PEmbody@rohmhaas.com

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.

6. Check the appropriate RCRIS status codes for the Current Human 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):

X YE - Yes, "Current Human Exposures Under Control" 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 Rohm + Haas Texas, Inc. Deer Park facility, EPA ID # TXD 065096273, located at 1900 Tidal Rd. Deer Park TX 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) A. Kititke Johnson Date 9/27/02
(print) A. Kititke Johnson
(title) Project Manager

Supervisor (signature) Jason Wang Date 9/27/02
(print) JASON WANG
(title) Supervisor
(EPA Region or State) TCEQ

file review w/ EPA R6 - YE 10/1/02

Locations where References may be found:

Attach a copy of this facility's database printout. Highlight the reports which support the "YE" determination.

TCEQ Files (N)

Contact telephone and e-mail numbers

(name) Kititke Johnson (N)
(phone #) 512 239 0613
(e-mail)

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Entered into RI 10/29/02

ATTACHMENTS AVAILABLE UPON REQUEST