

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action

Environmental Indicator (EI) RCRIS code (CA725)

Current Human Exposures Under Control

Facility Name: Rhodia, Inc.
Facility Address: 3440 Fairfield Road, Baltimore, MD 21226
Facility EPA ID #: MDD 003 063 476

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

Rhodia operates a surfactants and specialty chemical production facility at 3440 Fairfield Road in the Curtis Bay area of Baltimore, Maryland. Specifically, Rhodia produces sulfates (anionic surfactants), amides and monomers, which are used in the manufacturing and preparation of personal care products, industrial cleaners, agricultural products, latex, and clear coat finishes. Rhodia operates the following equipment:

- Cleaver Brooks Boilers
- Sulfation System
- Monomer and Amidation System
- 10,000 gallon aboveground storage tank (AST) containing ethanol

The 7-acre site was originally owned and operated by Alcolac which was founded in 1948 and began manufacturing at the site in 1950. The original Alcolac corporate name was American Alcolac Inc., which was changed to Alcolac Chemical Corp., and then later to Alcolac, Inc. Alcolac initially began operations on approximately 5.3 acres leased from U.S. Industrial between 1950 and 1953. U.S. Industrial was sold to National Distillers Products, Inc. and on February 4, 1953, the 5.3-acre tract was purchased from National Distillers Products, Inc.

Two small adjoining tracts of land were later purchased which brought the total acreage to approximately 6.7 acres. This includes a 0.4-acre tract purchased from the B&O Railroad in 1975 and approximately 1.0 acre purchased from FMC Corporation in the late 1970s.

During the 1980s, the RTZ Corporation owned Alcolac, Inc., which in turn owned and operated the facility at that time. In 1990, Rhone-Poulenc, Inc. (Rhone-Poulenc) acquired Alcolac (which remained the site owner) and operated the facility. In 2000, Rhone-Poulenc spun off Rhodia as a separate entity. At that time, Rhodia became the parent company of Alcolac and Rhodia began operating the site. Alcolac remains the owner of the site.

The various companies occupying the site have historically made chemical intermediates for a variety of domestic and international markets. The two major classifications of products Alcolac developed were surface active agents and functional monomers.

A Consent Order was issued in the mid 1990s to address various air issues. Specifically, this Consent Order addressed the unloading, storage, and use of ethylene oxide at the Baltimore Plant. Two scrubbers and Best Available Control Technology (BACT) for transfer systems were installed as part of the compliance. Ethylene oxide handling and use was discontinued at the Baltimore Plant in 1996. The ethylene oxide unloading, storage, handling systems, and scrubbers were dismantled after use of ethylene oxide was curtailed. Reactors used for ethylene oxide during the consent order were converted to other uses.

Laboratory reports demonstrate that five soil samples collected from various areas of the plant during excavations for repairs and small projects have been analyzed for toxic substances prior to disposal. In all cases the results were non-detect for a range of VOCs, SVOCs, herbicides and pesticides.

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 long 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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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)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater		X		Monitoring well data from surrounding properties indicates no groundwater impacts.
Air (indoors) ²		X		No evidence of indoor air issues was found in files reviewed.
Surface Soil (e.g., <2 ft)		X		Laboratory analyses of 5 random samples indicate no soil contamination.
Surface Water		X		No evidence of releases to surface water was found in files reviewed.
Sediment		X		No evidence of releases to surface water was found in files reviewed.
Subsurf. Soil (e.g., >2 ft)		X		No evidence was found in files reviewed indicating documented releases reached soil.
Air (outdoors)		X		Historic air releases were cleaned up and did not impact offsite residential areas. There are exposure pathways for potential releases that pertain to air media due to the types of materials used/manufactured at the site and their ability to reach the atmosphere.

- 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.
- 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):

Groundwater - Rhodia contracted with an environmental consultant to survey Maryland Department of Environment files to characterize environmental conditions of surrounding properties and the potential affect on the Rhodia property. The results of the survey indicate that groundwater contamination is present on many of the sites surrounding Rhodia, but that groundwater monitoring well analyses from downgradient properties report no impact to groundwater from Rhodia.

Indoor Air - No evidence of indoor air issues was found in files reviewed.

Outdoor Air - The site is located in a heavily industrialized area. The nearest residential area is located approximately one mile southwest from the site. Historic air releases were cleaned up and did not impact offsite residential areas. There are exposure pathways for potential releases that pertain to air media due to the types of materials used/manufactured at the site and their ability to reach the atmosphere. Historic releases include the following:

- AOC No. 1 – Rupture Disc Release - This 1988 airborne release of 2-mercaptoethanol was the result of a blown rupture disc on the C303 reactor. Most of the released material (3,000 gallons) was deposited on the central paved

asphalt parking lot and caused damage to several cars. The majority of the parking lot is within plant containment. Nearly all of the released material was contained onsite and on the paved parking lot. The release was reported to MDE. The released 2-mercaptoethanol was captured on the pavement and absorbed using available absorbent. The contaminated absorbent was then shoveled into waste drums and appropriately disposed.

- AOC No. 2 – COPS-I Release - This 1999 release of co-polymerizable surfactant (COPS-I) was the result of a blown rupture disc. This 2,500-gallon airborne release occurred mostly on the exterior of the site, escaping to the roadway to the east of the plant. The airborne release was not contained and was reported to MDE. The COPS-I product, which is 65% water and non-hazardous was carried off site by a prevailing southeast breeze. A report of the COPS-I release was provided by the facility and the sampling and analysis performed by the facility showed no contamination occurred as a result of this release

Surface/Subsurface Soil - Laboratory reports demonstrate that five soil samples collected from various areas of the plant during excavations for repairs and small projects have been analyzed for toxic substances prior to disposal. In all cases the results were non-detect for a range of VOCs, SVOCs, herbicides and pesticides.

Sediment/Surface Water - The closest surface water body to the site is the Stonehouse Cove, located approximately 2,000 feet southwest of the site. Wastewater from both bathrooms and process sources is treated by a settling pond and chemically neutralized before being discharged to the Baltimore City POTW. No documentation was found indicating exceedances of permit requirements. No evidence of releases to surface water was found in files reviewed.

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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)

<u>“Contaminated” Media</u>	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food ³
Groundwater							
Air (indoors)							
Soil (surface, e.g., <2 ft)							
Surface Water							
Sediment							
Soil (subsurface e.g., >2 ft)							
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.

- 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.

Rationale and Reference(s):

³ Indirect 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”**⁴ (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 contaminant 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):

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.

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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.
 - If unknown (for any potentially “unacceptable” exposure) - continue and enter “IN” status code.

Rationale and Reference(s):

