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: **Dalloz Safety Incorporated**
Facility Address: **205 Washington Street, Reading, PA 19603**
Facility EPA ID #: **PAD002334027**

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?

X If yes - check here and continue with #2 below.

☐ If no - re-evaluate existing data, or

☐ if data are not available, skip to #8 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 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)?

	Yes	No	?	Rationale / Key Contaminants
Groundwater	X			Releases were addressed and remediated under Act 2.
Air (indoors)[2]				No record of contamination
Surface Soil (e.g., <2 ft)		X		Releases were addressed and remediated under Act 2.
Surface Water				No record of contamination
Sediment				No record of contamination
Subsurf. Soil (e.g., >2 ft)	X			Releases were addressed and remediated under Act 2.
Air (outdoors)				No record of contamination

☐ 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):

The Dalloz property was located in the City of Reading, Berks County, Pennsylvania. The facility was comprised of an approximately 2-acre improved lot located in a commercial/light industrial area of the City of Reading. As many as 13 buildings comprised the majority of the facility, with the remainder of the site consisting primarily of paved parking areas and an abandoned railroad spur in the northern portion of the property. Past operations at the facility included the development, manufacturing, testing, storage, and distribution of occupational safety-related products. Currently the site is home to the Goggle Works Center for the Arts, which has renovated the facility and hosts a variety of community art and culture related events.

Previous facility activities resulted in soil and groundwater contamination of the property. The contamination originated from a former tank used to store petroleum products and a trench area where waste solvents were reportedly disposed.

On July 20, 2004, the facility submitted to the Pennsylvania Department of Environmental Protection (PADEP) a Combined Remedial Investigation Report and Final Report (CRIR&FR) for the property. On November 18, 2004, the facility received relief from liability from PADEP under Pennsylvania's Act 2 program.

Soil:
Nine soil borings were advanced in the vicinity of the former AST. All of the analyzed constituents in the soil samples in this area were found at concentrations below their respective Pennsylvania Statewide Health Medium-Specific Concentrations (MSCs) under both residential and non-residential exposure conditions.

The other area investigated was referred to as the historical solvent discharge area. During the environmental investigation, an oral report was received that waste disposal may have been conducted by a prior owner of the property in a trench located near the property's northern boundary, in the vicinity of the hazardous product storage area that existed at that time. Six soil borings were advanced in this area to evaluate the nature and extent of the

potential contamination. The constituents detected in the soil samples included chlorinated solvents, primarily PCE, TCE, and cis 1,2-DCE at concentrations in excess of the Statewide Health MSCs. Based on this discovery, approximately 67 tons of impacted soils were excavated and transported off-site for treatment and disposal. Confirmation sampling found concentrations of these solvents were below their respective Statewide Health MSCs for direct contact exposures under residential exposure conditions. However, some of the solvents were detected at concentrations that slightly exceeded their respective soil-to-groundwater MSCs.

Groundwater:
MW-1, MW-2, MW-3, MW-9 and POC-1 were sampled to evaluate potential downgradient migration of constituents from the former AST. The results from downgradient groundwater wells indicated that petroleum hydrocarbon impacts were limited to the immediate vicinity of the former AST.

Analytical results from groundwater monitoring wells MW-1, MW-2, MW-3, MW-6 and POC-1 were used to evaluate the potential downgradient migration of constituents from the historical solvent discharge area. Constituents detected in excess of the Statewide Health MSCs for groundwater in used aquifers included 1,1-DCA, 1,1-DCE, cis 1,2-DCE, PCE, TCE, and vinyl chloride. The soil source area was removed in 2002 and the constituent concentrations in groundwater were stable or declining in subsequent sampling rounds.

No active water supply wells are located within the area of elevated site-related constituents in groundwater, and potable water within the area is supplied entirely from the Reading Water authority. Local regulations prohibit the use of groundwater as a drinking water source. The facility received relief from liability from PADEP under Pennsylvania's Act 2 program for non-residential use; no further monitoring or remediation is required.

Air (indoors):
During the RI soil-gas was sampled immediately adjacent to the former waste disposal pit and the former degreasing operations building (an area of historic solvent discharge). With the exception of TCE in one soil-gas sample, all constituents detected in the soil-gas samples were at concentrations below their respective guideline concentrations for potential residential indoor air exposure. The results of a vapor migration model predicted that the indoor air concentrations of TCE would be within acceptable limits. Risks were also estimated for VOCs detected in groundwater using EPA's J&E model. These risks were below applicable risk-based criteria; therefore vapor intrusion is not a potential concern assuming a nonresidential exposure scenario.

References: Combined Remedial Investigation Report and Final Report, submitted July 20, 2004
Letter to Dalloz Safety Inc. from PADEP Environmental Cleanup Program: Approval of Combined Remedial Investigation Report and Final Report, signed by Anthony Rathfon, dated November 18, 2004

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 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	yes	no	no	no
Air (indoors)							
Soil (surface, e.g., <2 ft)	no	no	no	no	no	no	no
Surface Water							
Sediment							
Soil (subsurface e.g., >2 ft)	no	no	no	no	no	no	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.

☐ 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 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):

Soil:
Approximately 67 tons of impacted soils were excavated and transported off-site for treatment and disposal. Confirmation sampling found concentrations of these solvents were below their respective Statewide Health MSCs for direct contact exposures under residential exposure conditions. The facility surface is paved or covered with buildings. The facility received relief from liability from PADEP under Pennsylvania's Act 2 program for non-residential use. No further monitoring or remediation is required.

Groundwater:
MW-1, MW-2, MW-3, MW-6, MW-9 and POC-1 were sampled to evaluate potential downgradient migration of constituents from the former AST and the former solvent area. The results from downgradient groundwater wells indicated that AST-related hydrocarbon impacts were limited to the immediate vicinity of the former AST. At the solvent area, constituents detected in excess of the Statewide Health MSCs for groundwater in used aquifers included: 1,1-DCA, 1,1-DCE, cis 1,2-DCE, PCE, TCE, and vinyl chloride. The constituent concentrations in groundwater are stable or declining and the extent of the plume was defined.

[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)?

X 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):

The facility surface is paved or covered with buildings, and no constituents were detected at concentrations above the Statewide Health MSCs for residential and non-residential direct contact exposure conditions. The facility received relief from liability from PADEP under Pennsylvania's Act 2 program for non-residential use. No further monitoring or remediation is required.

Groundwater:
The constituent concentrations in groundwater are stable or declining and local regulations prohibit the use of groundwater as a drinking water source.

[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):

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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 (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 **Dalloz Safety Incorporated** facility, EPA ID # **PAD002334027**, located at **205 Washington Street, Reading, PA 19603** 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 04/27/2011
(print) Linda Matyskiela
(title) Project Manager

Supervisor (signature) _____ Date 04/27/2011
(print) Paul Gotthold, Associate Director
(title) Office of PA Remediation
(EPA Region or State) EPA Region III

Locations where References may be found:

US EPA Region III
Land and Chemicals Management Division
1650 Arch Street
Philadelphia, PA 19103

PADEP
Southcentral Regional Office
909 Elmerton Ave
Harrisburg, PA 17110

Contact telephone and e-mail numbers
(name) Linda Matyskiela
(phone #) 215-814-3420
(e-mail) matyskiela.linda@epa.gov