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September 2, 2012
ECS Project # 03-216630.00

Ms. Kimberly Tisa, PCB Coordinator – (OSRR07-2)
United States Environmental Protection Agency
5 Post Office Square, Suite 100
Boston, Massachusetts, 02109-3912

Re: Clarification of Modification Items - Risk Based Site Cleanup and Disposal Plan
Thomas Prince School
170 Sterling Road
Princeton, MA 01541

Dear Ms. Tisa:

On behalf of the Town of Princeton, enclosed please find a summary and clarification of the Modification items to the Risk Based Site Cleanup and Disposal Plan of February 2012. The initial modifications to that plan were submitted to EPA in a report dated August 14, 2012. The clarifications presented herein are based on discussions during our meeting on Wednesday, August 29, 2012. The proposed abatement applies to the interior/exterior areas of the 100-Wing classrooms 100, 102, 104, 106, 108 and 110 and to the exterior of the 200-Wing classrooms 201, 203, 205, 207 and 211. The work will be performed per methodologies provided in the contractor work plan. Note that a major difference between the 200-Wing classrooms and the 100-Wing Classrooms is that there is only one window unit per classroom in the 100-Wing rooms as compared to two window units per classroom in the 200-Wing rooms.

To simplify the requested approval for this modification, the width of the proposed double layer epoxy coating associated with this modification will be the same as that previously approved and completed for the 200-Wing classrooms, (even though the extent of PCB impact to the adjacent masonry materials was not as extensive in the 100-Wing rooms as the 200-Wing rooms). I trust that this summary and clarification of proposed modifications is in conformance with that discussed during our meeting.

In summary, the following activities are proposed. Clarifications and additions are provided in an attempt to better define the task and to clear any confusion.

1) **Complete removal** of PCB-containing **interior/exterior window caulking associated with classrooms 100, 102, 104, 108 and 110** (window caulking in Room 106 was previously removed as part of the pilot test). This will also include the **removal of each window frame** unit which makes up the window, i.e. metal window frame and glass. Prior to reinstallation of the window frame unit, all visible caulking will be removed from the areas previously in contact with the window caulking and

the **window frames will be cleaned via HEPA vacuum and wet wipe methods**. **One wipe sample per window frame unit** from areas previously in contact with caulking material will be collected and submitted for extraction by EPA Method 3540C and analysis of PCB's via USEPA Method 8082. There are approximately 20 linear feet of window caulking per window frame unit, thus representing a total of approximately **100 linear feet of window caulking to be removed**.

If an analytical result for the wipe sampling of a window frame exceeds 1 ug/100 cm^2, the window frame will be re-cleaned and re-sampled and not re-installed until an analytical result of < 1 ug/100 cm^2 is achieved. **In addition, one wipe sample will be collected from the window frame in classroom 106** (previously addressed as part of the pilot test) to verify that PCB greater than 1 ug/100 cm^2 is not present on the window frame.

2) **Complete removal of vertical structural joint caulking (and underlying backing material) associated with the exterior pre-cast concrete columns for classrooms 100, 102, 108, 110, 201, 203, 205, 207 & 211** (exterior vertical joint caulking associated with classrooms 104, 106, and 209 has been previously removed). There are approximately 11 linear feet of caulking per concrete column and there are 21 joints in total representing **231 feet of exterior vertical joint caulking to be removed**. Remnants of "bond breaker backing" that may be present beneath the caulking in these joints (and potentially remaining within the joints associated with classrooms 104/106 and 209 for which caulking was previously removed) will also be removed;

3) **Complete removal** of caulking associated with the **exterior air vent intakes for classrooms, 100, 102, 104, 108 and 110** (caulking around the exterior air vent intake for Room 106 and for all of the 200-wing classrooms has been previously removed). There are approximately 11 linear feet of caulking per exterior vent and there are 5 vents in total to be addressed, representing a **total of 55 linear feet of exterior air vent caulking to be removed.** In addition, the openings and readily accessible areas of the vent intakes will be cleaned via HEPA vacuum and wet wipe methods;

4) Isolation by **double layer epoxy coating** of PCB-contaminated **interior adjacent masonry porous materials following interior window caulking removal associated with the 100-wing classrooms (100, 102, 104, 108 and 110).**

   Epoxy coating of the interior masonry materials will include the entire inner face of the concrete block window frame that was in contact with or adjacent to the metal window frame and window caulking, and the concrete block walls located to either side of the window frame and above and below the window as applicable, at a distance of **six inches** from the corner of the inner concrete block facing the window. Though epoxy coating was previously applied to interior surfaces of classroom 106, the epoxy was not applied to the width as specified herein and thus will be re-applied to these current specifications, i.e. six inch width;

5) Isolation by **double layer epoxy coating** of PCB-contaminated adjacent **exterior masonry porous materials following removal of caulking from the exterior**

vertical structural caulked joints at the 100-wing classrooms (rooms 100, 102, 104, and 110). One difference in this proposed epoxy application compared with the epoxy application at the exterior of the 200-Wing classrooms will be that the exterior pebbled concrete surfaces will not be epoxy coated due to the lack of PCB present above 1 ppm.

Epoxy coating of the exterior masonry materials associated with the exterior vertical structural joint caulking will include the **entire surfaces of the exterior precast concrete columns and the entire surfaces of concrete present between the windows**, with two coats of the epoxy coating. The adjacent **exterior brick**, which abuts each of the outermost precast concrete columns, is proposed to be coated with two layers of epoxy (to a distance of **six inches** from the removed caulking). Though epoxy coating was previously applied to the exterior surfaces associated with classroom 106/108, the epoxy was not applied to the widths as specified herein and thus will be re-applied to this area under the current specifications, i.e. entire surfaces of the exterior concrete columns and the adjacent brick to a six inch width. Following epoxy coating, new "bond breaker backing" and caulking will be installed within the joints per the manufactures' specifications;

6) Isolation by **double layer epoxy coating** of PCB-contaminated **adjacent masonry porous materials following removal of caulking from the exterior vertical structural caulked joints at the 200-wing classrooms** (rooms 201, 203, 205, 207 and 211). Epoxy coating was previously applied over the vertical structural caulked joints and adjacent masonry porous surfaces (exterior precast concrete columns and/or brick wall face abutting each of the outermost precast concrete columns) associated with these areas.

   As part of this modification, the caulking present within these joints (and the underlying backing material) is proposed to be completely removed. This will involve cutting through the previously applied epoxy in the immediate area of the structural vertical caulked joints and removing the underlying caulking and any backing material that may be present. Thus the porous surfaces previously in contact with caulking, and those other areas adjacent to the caulked joint that were previously coated with epoxy that may be compromised during the removal of the vertical structural joint caulking, will also be coated with 2 layers of epoxy. Following epoxy coating, new "bond breaker backing" and caulking will be installed within the joints per the manufactures' specifications;

7) Isolation by **double layer epoxy coating** of PCB-contaminated adjacent **exterior masonry porous brick materials following removal of caulking from the exterior air vent intakes for classrooms, 100, 102, 104, 108 and 110.** Caulking around the exterior air vent intake for Room 104 and for all of the 200-Wing classrooms has been previously removed.

   Epoxy coating of the **exterior masonry brick materials** associated with the **exterior air vent intakes** will include the application of two layers of epoxy coating over the brick surfaces within **eight inches** of the caulked joint. Though epoxy coating was previously applied to the exterior brick surfaces associated with classroom 106, the

epoxy was not applied to the width as specified herein and thus will be re-applied to this area under the current specifications, i.e. eight inch width. New "bond breaker backing" and caulking will be installed within the joints per the manufactures' specifications;

8) Inspection of the **capacitors** on the motors associated with the fans for the unit ventilators in classrooms 100, 102, 104, 106, 108, & 110 will be performed to determine if they contain PCB. If found to contain PCB or if it cannot be determined, the capacitors will be changed out with new, non-PCB containing capacitors. The interior surfaces of the unit ventilators were previously cleaned via HEPA vacuum and wet wipe methods. However, upon inspection of and/or removal of the capacitors, the interior surfaces of the unit ventilators will be re-cleaned (HEPA vacuum and wet wipe) as required to remove visible dust/dirt/grime that may have accumulated since the last cleaning.

Thank you for your prompt attention to this matter. If any of the items that we previously discussed have been mistakenly omitted from the responses provided above, or the explanations and clarifications are unclear or are otherwise insufficient for you to render an approval for the proposed work, please notify me immediately to discuss.

Sincerely,

ENVIRONMENTAL COMPLIANCE SERVICES, INC.

Charles Klingler
Worcester Branch Manager

cc: Town of Princeton, John Lebeaux, Town Administrator
Wachusett Regional School District, Thomas Pandiscio, Superintendent

Town of Princeton
Thomas Prince School
170 Sterling Road
Princeton, Massachusetts

Table 2
Building Materials Analytical Results Summary - PCBs

EPA Methods 3540C 8082
Caulk and Masonry

Sample ID	Sample Date	Distance from Source (inches)	Depth below Surface (inches)	Concentration (mg/Kg) (Aroclor 1254)	Sample Description
Building Materials Samples					
PCB-0125	9/23/2011			**98.3**	Room 110; Exterior window caulk; 1 layer of caulk (white)
PCB-0126	9/23/2011			**22,800**	Room 201: Exterior caulk; 1 layer (tan): middle building seam between window units
Vent Caulk PCB-09	2/14/2012			**2.64**	Room 207, Exterior caulk around air intake vent for unit ventilator (light gray)
PCB-0128	9/23/2011			**29,800**	Room 211: Exterior brick to Concrete seam caulk; 1 layer (tan)
PCB-0123	9/23/2011			**70.8**	Room 104: Interior window caulk; 2 layers (white/gray)
PCB-107	2/29/2012			**127**	Room 104: Interior window caulk; surface layer (white)
PCB-112	2/29/2012			**200**	Room 104: Interior window caulk; sub layer (gray)
PCB-0124	9/23/2011			**91.6**	Room 108: Interior window caulk; 2 layers (white/gray)
PCB-108	2/29/2012			**267**	Room 108: Interior window caulk; surface layer (white)
PCB-113	2/29/2012			**106**	Room 108: Interior window caulk; sub layer (gray)
Room 100					
PCB-109	2/29/2012	4	0-1	0.056	Room 100: Exterior Brick (adjacent to concrete pillar)
PCB-26	9/23/2011	0.5	0.5-1	0.986	Room 100; Exterior Concrete Pillar
PCB-27	9/23/2011	3	0-0.5	0.281	Room 100; Exterior Concrete Pillar
PCB-28	9/23/2011	3	0-0.5	<0.0653	Room 100; Exterior Concrete Pillar

Notes; Conc. in milligrams per kilogram (mg/Kg).
TP=Thomas Prince, FF=First Floor, EWC=Exterior Window Caulk, IWC= Interior Window Caulk, CC=Concrete, BC=Brick
* samples by Woodard and Curran
** Requires further delineation

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Room 102					
PCB-29	9/23/2011	1	0-0.5	0.16	Room 102; Exterior Pebbled Concrete Horizonatl Sill Section under Window
PCB-30	9/23/2011	1	0.5-1	<0.0673	Room 102; Exterior Pebbled Concrete Horizontal Sill Section under Window
PCB-31	9/23/2011	2	0-0.5	<0.0657	Room 102; Exterior Pebbled Concrete Vertical Section under Window
PCB-32	9/23/2011	2	0.5-1	<0.0658	Room 102; Exterior Pebbled Concrete Vertical Section under Window
Room 104					
PCB-111	2/29/2012	4	0-1	0.232	Room 104; Interior Block wall, adjacent to source, perpendicular to window
Room 108					
PCB-11	9/23/2011	3	0-0.5	0.658	Room 108; Exterior Brick (adj. to concrete pillar)
PCB-12	9/23/2011	3	0.5-1	0.775	Room 108; Exterior Brick (adj. to concrete pillar)
PCB-15	9/23/2011	2.5	0-0.5	0.45	Room 108; Exterior Concrete Pillar
PCB-16	9/23/2011	2.5	0.5-1	0.096	Room 108; Exterior Concrete Pillar
PCB-17	9/23/2011	1	0-0.5	0.09	Room 108; Exterior Pebbled Concrete Horizontal Sill Section under Window
PCB-DUP4	9/23/2011	1	0-0.5	0.134	Room 108; Exterior Pebbled Concrete Horizontal Sill Section under Window, Duplicate of PCB-17
PCB-18	9/23/2011	1	0.5-1	0.086	Room 108; Exterior Pebbled Concrete Horizontal Sill Section under Window
PCB-19	9/23/2011	1"down from ledge	0-0.5	<0.0645	Room 108; Exterior Pebbled Concrete Vertical Section under Window
PCB-20	9/23/2011	26" up from ground	0.5-1	<0.0644	Room 108; Exterior Pebbled Concrete Vertical Section under Window
PCB-06	9/23/2011	0.5	0.5-1	0.558	Room 108; Interior Block wall, adjacent to source, perpendicular to window
PCB-07	9/23/2011	2	0-0.5	0.356	Room 108; Interior Block wall, adjacent to source, perpendicular to window
PCB-08	9/23/2011	2	0.5-1	0.246	Room 108; Interior Block wall, adjacent to source, perpendicular to window

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EPA Methods 3540C 8082
Caulk and Masonry

Sample ID	Sample Date	Distance from Source (inches)	Depth below Surface (inches)	Concentration (mg/Kg) (Aroclor 1254)	Sample Description
Room 205					
21412-PCB-08	2/14/2012	8	0-1	0.038	Room 205: Exterior brick, 8" from side of vent towards window
21412-PCB-01	2/14/2012	6	0-1	0.701	Room 205: Interior CMU Block, 6" from corner on block surface parallel to window
Room 207					
PCB-101	2/29/2012	8	0-1	<0.19	Room 207: Exterior brick, 8" from side of vent opposite window
PCB-103	2/29/2012	8	0-1	<0.2	Room 207: Exterior brick, 8" from top of vent

Material removed

Notes; Conc. in milligrams per kilogram (mg/Kg).
TP=Thomas Prince, FF=First Floor, EWC=Exterior Window Caulk, IWC= Interior Window Caulk, CC=Concrete, BC=Brick
* samples by Woodard and Curran
** Requires further delineation

Work Plan for Caulking Removal and Remediation
Rooms: 100 Wing classrooms (interior/exterior), 200 Wing classrooms (exterior)
Thomas Prince School
Princeton, Massachusetts

1) Introduction

Triumvirate Environmental Inc. (TEI) shall perform the remediation of the specified PCB and Asbestos containing materials in accordance with this "Work Plan for Caulking Removal and Remediation – Rooms: 100 Wing classrooms and 200 Wing classrooms" as prepared by TEI for Thomas Prince School in Princeton, MA in accordance with all applicable local, state, and federal regulations governing PCB's.

2) Summary of Scope of work

A. Caulking Removal

i. ***100-wing & 200-wing classrooms.*** An internal critical barrier will be built inside the classrooms on the opening. Partial containment will be built outside to protect adjacent surfaces and extreme care will be used to prevent dust generation and release to the environment. The removal of windows and caulking will be executed from the outside of the building. External air intakes will be sealed with polyethylene during operation.

B. Encapsulation

i. After removing the caulking, workers will clean the surfaces that were in contact with the caulking, encapsulate the surfaces that were in contact with the caulking plus additional offset distance (as specified in the modification plan) in both directions to ensure full coverage of any potential remaining impacted material.

C. Temporary Window Opening Cover

i. As may be required, the generated opening will be close using plywood and wood framing. Insulation will be utilized to seal the gap between the temporary cap and the frame.

3) Work Area Preparation

A. General

i. ***100-wing & 200-wing classrooms.*** In order to prevent debris from escaping the work zone, and to protect existing facilities and the environment, ground cover will be placed along the perimeter of where work will take place. A critical barrier consisting in 6 mil polyethylene sheeting will be placed inside the building to seal the opening. The barrier will be sealed against the inside wall utilizing duct tape to ensure that no dust or impacted material is able to enter the interior of the school. The barrier will be protected to prevent puncture with tools during window removal and will be inspected during the work to ensure its integrity is maintained. In addition, a partial containment will be built outside the building to ensure no release of dust or impacted material outside the working area.

ii. External air intake vents will be sealed with polyethylene in areas that work is performed.

iii. All workers will be equipped with the appropriate PPE.

iv. A critical barrier will be placed on the interior of the univent air intake prior to caulking removal.

v. Disposal of collected debris will be performed in accordance with the provisions of this plan. All PCB containing waste will be sealed prior to transport to the PCB waste container. Chutes or other transport methods that may generate fugitive dust may not be used during the remedial work.

4) Containment Control

- ***100-wing & 200-wing classrooms.*** A critical barrier will be built inside the building. Partial containment will be built outside. The use of mechanical means will be restricted to operations intended to accomplish the extraction of the window and will not be conduct on PCB's containing materials. The removal of caulking will be conducted using hand tools. A detail for the proposed partial containment is provided in Appendix 5.

5) Standard Operating Procedures

A. Window Removal

The window and all window caulking, caulking associated with the metal shroud of the exterior intake air vent and the exterior caulking located

between the brick and concrete window casing/jamb will be thoroughly removed following an approved procedures and methodologies.

a. Cutting/ Grinding Operations for Window Removal

- **i.** There were found welded and/or bolted connections between the window frame and the opening. These connections are not impacted with PCB's containing materials. Cutting/grinding operations will be performed in mentioned connections in order to extract the window frame.
- **ii.** Workers may have to be saw cutting around window frame with a concrete tool with no interaction with the contaminated caulking.
- **iii.** Workers will pull out the window with appropriate tools.
- **iv.** The removed windows from the 100-wing rooms will be cleaned of all visible caulk and cleaned from any caulking using procedures established on 40 CFR 761 subpart S (Double Wash/Rinse Method). Each window will be wipe sampled by the consultant and not re-installed until advised to do so based on acceptable sampling results.
- **v.** Work surfaces will be misted to minimize dust during cutting operations using hand sprayers if necessary.

b. Caulking Removal Operations:

- **i.** All the caulking will be removed to the maximum extent practicable, with hand held caulking cutters, while minimizing dust or other airborne particulates generated from the caulking or adjacent building materials. This will not include mechanical grinding/saw cutting.
- **ii.** Work surfaces will be misted to minimize dust removal operations using hand sprayers.
- **iii.** All removed caulking and debris will be placed in a 5 gallon container or goose-necked plastic bags sealed with duct tape during the cutting operation and managed as PCB waste ≥ 50 ppm. Once filled, or at the end of each work shift, 5 gallon containers or/and bags will be carried to the roll-off container set up on site.
- **iv.** Upon the completion of the removal activities, the opening will be visually inspected for the presence of any residual caulking. If residual caulking is observed, it will be removed

from the adjacent material with a glass scraper to the maximum extent possible.

v. Workers will wear appropriate Tyvek garments, (suits with hoods, booties, etc.), nitrile gloves, and negative pressure, air-purifying, full-face respiratory protection equipped with HEPA filters during all phases of the removal process. All openings in protective garments will be taped closed using duct-tape or equivalent.

vi. Upon completion of the removal activities, employees shall HEPA-vacuum and wet wipe the surfaces within the work area enclosure and clean to the point of no visible dust or debris.

vii. At the end of each work day, any debris collected within the ground cover sheeting will be gathered and placed in a 5 gallon container, covered with a sealable lid or goose-necked plastic bags sealed with duct tape, and managed as PCB waste ≥ 50 ppm. The 5 gallon containers or goose necked plastic bags sealed with duct tape will then be carried to the roll off set up on site.

viii. Disposable PPE removed for breaks or at the end of the workday and used polyethylene sheeting will be placed in a goose-necked plastic bag sealed with duct tape and then will be carried to the roll off set up on site.

ix. Any additional materials used in the aforementioned procedures will be collected and properly disposed of at the end of each day.

c. Cleaning of Openings

i. All surfaces in former contact with caulking will be scraped with a glass scraper or equivalent to remove caulking residue. No mechanical scraping or abrasives will be allowed to remove caulk. Following the scraping, the surfaces in the opening will be wet wiped with Capsur® (See Appendix 2). Decontaminated surfaces will be visually inspected and verified following the EPA Approved plan requirements.

ii. Where an epoxy coating will be applied over a previously epoxied surface, light sanding of the existing epoxy surface will be required so that the new epoxy will bind to the surface of the currently existing epoxy. During this light sanding, HEPA vacuum methods will be employed. Following sanding, the sanded areas will be wet wiped.

iii. Any materials used in the aforementioned procedures will be collected and properly disposed of at the end of each day.

d. Encapsulation Methods

- **i.** Concrete surfaces in the opening and additional surfaces specified in the Cleanup and Disposal plan will be encapsulated with Sikagard 62 (See Appendix 1) epoxy, or equivalent. The product will be stored, mixed, and applied according to the product specifications.
- **ii.** After residual caulking has been removed to the maximum extent possible and the opening has been inspected, the concrete in direct contact with the former caulking and additional surfaces specified in the Cleanup and Disposal Plan will be encapsulated with the first coat of Sikagard 62 (See Appendix 1). The material will be applied with a thin brush to reach irregular surfaces. The coated joint will be inspected to ensure adequate coverage (i.e., the coating has been uniformly applied, and no concrete is visible beneath the epoxy).
- **iii.** Following the cure time recommended by the product specifications, a second coat of Sikagard 62 epoxy will be applied over the first coat. The coated joint will be inspected to ensure adequate coverage.
- **iv.** In order to maintain the integrity of the epoxy coating around the opening, no additional surface preparation may be performed before applying caulking (i.e., abrading the epoxy surface is not permitted).

e. Tools and equipment decontamination

- **i.** All the tools employed during the work journey will be HEPA vacuumed and wiped down using an organic solvent such as Diesel Fuel.
- **ii.** Equipment and/or tools that cannot be decontaminated will be disposed according with regulations.
- **iii.** Non-porous tools and/or equipment will be decontaminated using the Double Wash/Rinse Method described on 40 CFR 761 subpart S. All the debris produced will be placed in a double polyethylene bag and disposed as PCB's containing materials.

B. Temporary Window Cover

a. As may be required, workers will place tied framing into the opening in order to avoid concrete drilling operations. A piece of plywood will be screwed to the temporary framing. The gap between the temporary cap and the opening will be filled using insulation foam.

6) PCB Waste Management and Disposal

a. Approved PCB waste containers will be set up onsite in secure waste management areas during the entire duration of the project. The PCB waste containers shall be clearly marked in accordance with 40 CFR 761.40, as such to avoid confusion with ordinary waste containers. A detail of the location for mentioned container is provided in Appendix 4

b. Waste containers will be removed from the waste management areas and transported by a licensed Hazardous Waste Disposal Contractor to Chemical Waste Management's Chemical Service Facility located in Model City, New York, or the EQ-Wayne Disposal Facility located in Belleville, Michigan. These facilities are approved to accept this type of PCB contaminated waste for disposal in accordance with 40 CFR 761.40, 761.62 and other applicable sections.

c. Appropriate copies of all waste manifests, waste shipment records and certificates of disposal will be collected and managed by Thomas Prince School, as part of the final report to the EPA. Triumvirate will help to prepare and coordinate these documents as necessary throughout the project.

7) Contractor Qualification

The removal contractor, Triumvirate Environmental, Inc. possesses over twenty years of experience in the environmental industry. They have routinely performed similarly hazardous work operations where occupational exposures to lead, asbestos, PCB's and silica were possible, and have developed comprehensive exposure plans for operating under similar conditions.

8) Training and Certification

Foreman and workers assigned to this project have completed the OSHA 40 hour, Hazardous Waste Operations/Emergency Response (HAZWOPER) training course and eight-hour annual refresher as required. Occupational exposure to PCB's and the unique hazards associated with this operation will be an ongoing topic of daily toolbox talks and jobsite safety meetings throughout the course of this project.

9) Health and Safety Plan

Triumvirate Environmental, Inc. will construct a site-specific Health and Safety Plan for this project and it will be kept on-site and reviewed daily throughout the duration of the project.

Appendix 1
Technical specifications for Sikagard® 62

Construction

Product Data Sheet
Edition 05/02/2009
Identification no:
01 06 06 01 001 0 000001
Sikagard®-62

Sikagard®-62

2-Part Epoxy Protective coating

Product Description	Sikagard®-62 is a 2-pack solvent-free high build coating material based on epoxy resin.
Uses	■ As an abrasion-resistant universal coating material designed for normal to moderately aggressive chemical environments. Sikagard®-62 is suitable for use on concrete, stone, cementitious mortars and renderings (including polymer-modified), epoxy cements (EpoCem), epoxy mortars, iron and steel. ■ For linings to storage tanks and silos, bund areas. As anti-corrosion coating in food-processing plants, sewage works, farms and agricultural enterprises, chemical and pharmaceutical plants, beverage industries and bottling plants. ■ Also used as part of glass fibre-reinforcement self-supporting linings with crack-bridging properties on bund areas and storage tanks.
Characteristics / Advantages	■ Solvent-free ■ Good chemical and mechanical resistance ■ Easy to mix and work ■ High-build ■ Impervious to liquids

Product Data

Form

Appearance / Colours	Resin - Part A:	Coloured, liquid
	Hardener - Part B:	Transparent, liquid
	Pebble grey (RAL 7032). Additional colour shades on request.	
	Under sun radiation it may come to discolouration and colour deviation; this has no influence to the function of the coating.	
Packaging	Part A:	3.75 kg containers
	Part B:	1.25 kg, containers
	Part A+B:	5.0 kg ready to mix units

Storage

Storage Conditions/ Shelf-Life	12 months from date of production if stored properly in undamaged sealed containers in dry conditions at temperatures between +5°C and +30°C.

Technical Data

Chemical Base	Epoxy resin

1

Sikagard®-62 1/4

Density	Part A: ~ 1.45 kg/litre Part B: ~ 1.02 kg/litre Mixed resin: ~ 1.37 kg/litre All density values at +23°C
Solid Content	~ 100% (by volume), ~ 100% (by weight)

Mechanical / Physical Properties

Bond Strength	> 1.5 N/mm² (failure in concrete)	ISO 4624

Resistance

Chemical Resistance	See separate chemical resistance list

Thermal Resistance

Exposure*	Dry heat
Permanent	+50°C
Short-term max. 7 d	+80°C
Short-term max. 12 h	+100°C

Short-term humid heat* up to +80°C where exposure is only occasional (steam cleaning etc.).

*No simultaneous chemical load.

System Information

System Structure

Roller coating:
Primer: 1 x Sikagard®-62
Coating: 2 - 3 x Sikagard®-62

Glass fabric reinforced system:
Primer: 1 x Sikagard®-62
Coating: 1 x Sikagard®-62 imbedding of glass fabric
2 - 3 x Sikagard®-62

Application Details

Consumption / Dosage

Coating System	Product	Consumption
Roller coating		
Priming	Sikagard®-62	0.3 - 0.5 kg/m²
Roller coating	Sikagard®-62	0.4 - 1.0 kg/m² per coat, depending on substrate condition and coating thickness required
Glass fabric reinforced system		
Priming	Sikagard®-62	0.3 - 0.5 kg/m²
1st coat	Sikagard®-62	0.8 - 1.0 kg/m²
Imbedding	Glass fabric	Approx. 0.3 kg/m²
2nd coat	Sikagard®-62	0.5 - 0.8 kg/m²
3rd coat	Sikagard®-62	0.3 - 0.5 kg/m²

For a theoretical dry film thickness of 100 microns (0.1 mm) approx. 0.14 kg/m². These figures are theoretical and do not include for any additional material required due to surface porosity, surface profile, variations in level or wastage etc.

Substrate Quality

The concrete substrate must be sound and of sufficient compressive strength (minimum 25 N/mm²) with a minimum pull off strength of 1.5 N/mm².

The substrate must be clean, dry and free of all contaminants such as dirt, oil, grease, coatings and surface treatments, etc.

If in doubt apply a test area first.

Appendix 2
Technical Specification for CAPSUR®

Integrated Chemistries, Inc.

Cleaning up bad stuff is our business...

COMPANY PROFILE CORPORATE CLIENTS PRODUCT GALLERY CONTACT US

Safe and Effective Solutions

CAPSUR® - PCB Extraction System

CAPSUR is an aqueous based solvent system developed specifically for the clean up of Polychlorinated Biphenyl (PCB) spills on solid surfaces.

CAPSUR has the capability of being applied as a foam blanket which allows application to overhead, vertical and horizontal surfaces.

CAPSUR is formulated to remove PCBs from concrete, asphalt, wood, and metal surfaces, and has demonstrated success on new and old spills.

CAPSUR has demonstrated extraction efficiencies greater than 95 percent. This efficiency rate translates into less work, less time, and less product usage than other PCB cleaning products. **CAPSUR** easily vacuums up from surfaces. Surfaces are lightly rinsed with water, which is also vacuumed off. Easier removal results in lower labor cost. PCB cleanups with **CAPSUR** use dramatically less product than other PCB remediation products, resulting in less hazardous material to dispose of after cleanup.

PRODUCT COVERAGE:

Application coverage will vary with surface porosity and operator proficiency. The following are average coverage rates:

- Porous Concrete = 125 sq. ft. per gallon
- Asphalt = 150 sq. ft. per gallon
- Metals = 200 sq. ft. per gallon

CAPSUR Benefits

- High Extraction Rate
- Lower Labor Costs
- Successful on Old and New spills
- Widely Applicable

Painted surfaces should be patch tested prior to application as paint softening or discoloration may occur.

CAPSUR is available in 5 and 55 gallon containers.

Emergency information regarding ingestion, skin contact, eye contact or inhalation is included in the Material Safety Data Sheet (MSDS). If any of these emergencies occur, the Poison Control Emergency Response number is (800) 228-5635.

Appendix 3
Technical specifications for All Purpose Cleaner Simple Green

Material Safety Data Sheet: Simple Green® All-Purpose Cleaner and Simple Green® Scrubbing Pad
Version No. 13005-12B Date of Issue: February 2012 *ANSI-Z400.1-2003 Format*

Section 1: PRODUCT & COMPANY IDENTIFICATION

Product Name: Simple Green® All-Purpose Cleaner
Additional Names: Simple Green® Concentrated Cleaner Degreaser Deodorizer
Simple Green® Scrubbing Pad (Fluid in pad only)

Manufacturer's Part Number: **Please refer to page 4*

Company: Sunshine Makers, Inc.
15922 Pacific Coast Highway
Huntington Beach, CA 92649 USA
Telephone: 800-228-0709 • 562-795-6000 Fax: 562-592-3830
Emergency Phone: Chem-Tel 24-Hour Emergency Service: 800-255-3924

Section 2: HAZARDS IDENTIFICATION

Emergency Overview: **CAUTION. Irritant. This is a Green colored liquid with a sassafras added odor. Scrubbing pad is a green fibrous rectangle infused with Simple Green Cleaner.**

NFPA/HMIS Rating:
Health = 1 = slight
Fire, Reactivity, and Special = 0 = minimal

Potential Health Effects
Eye Contact: Mildly irritating.
Skin Contact: No adverse effects expected under typical use conditions. Prolonged exposure may cause dryness. Chemically sensitive individuals may experience mild irritation.
Ingestion: May cause stomach or intestinal irritation if swallowed.
Inhalation: No adverse effects expected under typical use conditions. Adequate ventilation should be present for prolonged usage in small enclosed areas.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS Number	Percent Range
Water	7732-18-5	≥ 78%
2-butoxyethanol	111-76-2	≤ 5%
Ethoxylated Alcohol	68439-46-3	≤ 5%
Tetrapotassium Pyrophosphate	7320-34-5	≤ 5%
Sodium Citrate	68-04-2	≤ 5%
Fragrance	Proprietary Mixture	≤ 1%
Colorant	Proprietary Mixture	≤ 1%

Section 4: FIRST AID MEASURES

If Inhaled: If adverse effect occurs, move to fresh air.
If on skin: If adverse effect occurs, rinse skin with water.
If in eyes: Flush with plenty of water. After 5 minutes of flushing, remove contact lenses, if present. Continue flushing for at least 10 more minutes. If irritation persists seek medical attention.
If ingested: Drink plenty of water to dilute.

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Section 5: FIRE FIGHTING MEASURES

This formula is stable, non-flammable, and will not burn. No special procedures necessary

Flammability: Non-flammable
Flash Point: Non-flammable

Suitable Extinguishing Media: Use Dry chemical, CO_2, water spray or "alcohol" foam.
Extinguishing Media to Avoid High volume jet water.
Special Exposure Hazards: In event of fire created carbon oxides, oxides of phosphorus may be formed.
Special Protective Equipment: Wear positive pressure self-contained breathing apparatus; Wear full protective clothing.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: See section 8 – personal protection.

Environmental Precautions: Do not allow into open waterways and ground water systems.

Method for Clean Up: Dilute with water and rinse into sanitary sewer system or soak up with inert absorbent material.

Section 7: HANDLING AND STORAGE

Handling: Keep container tightly closed. Ensure adequate ventilation. Keep out of reach of children.

Storage: Keep in cool dry area.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values:

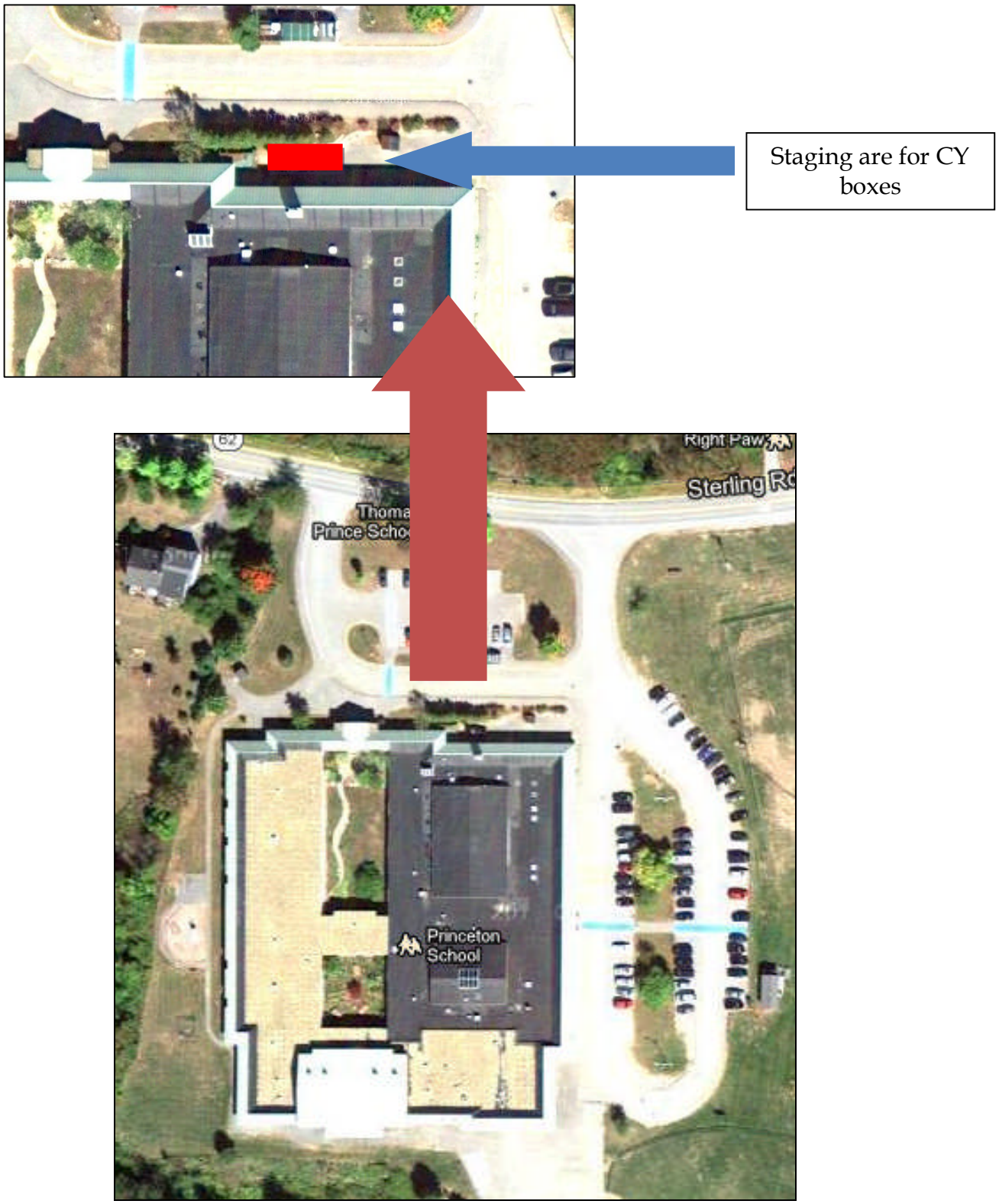
	OSHA PEL	ACGIH TLV
2-butoxyethanol	TWA 50 ppm (240 mg/m^3)	20 ppm (97 mg/m^3)
Tetrapotassium Pyrophosphate		5 mg/m^3

Exposure Controls:
Eye Contact: Use protective glasses if splashing or spray-back is likely.
Respiratory: Use in well ventilated areas.
Skin Contact: Prolonged exposure or dermal sensitive individuals should use protective gloves.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Green Liquid	**Vapor Pressure:**	18 mmHg @20°C; 23.5 mmHg @26°C	
Odor:	Added Sassafras odor	**Density:**	8.5 lb/gal;	
Specific Gravity:	1.010 ± 0.010	**Water Solubility:**	100%	
pH:	9.5 ± 0.5	**VOC composite Partial Pressure:**	TBD	
Boiling Point:	~210°F (98 °C)	**VOC:**	CARB Method 310	3.8%
Freezing Point:	~ 32°F (0 °C)		SCAQMD Method 313	2.8%
Nutrient Content:	Phosphorous: 0.28% Chloride: ~110 ppm	Sulfur: ~180 ppm Fluorine: ~90 ppm		

Appendix 4
PCB's storage location



Appendix 5
Partial containment

Notes:

- Partial containment will be built using wood frames, PVC tubes, 6 mil polyethylene sheeting, and duct tape.
- The Partial containment will be attached to the building with the best of our means to provide a sealed barrier.