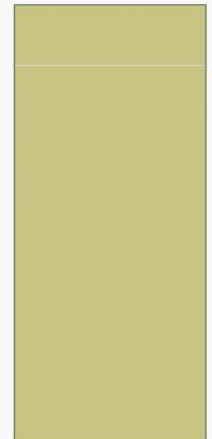


PHAROS: SHOW US WHAT YOU'RE MADE OF!

MELISSA COFFIN
PHAROS DATA SYSTEMS PROJECT LEADER
NOVEMBER 9, 2011





WHAT IS PHAROS?

A **Tool** to find the best chemicals and materials to meet your needs.

A **Lens** to separate green from greenwash.

A **Space** where users can talk about what they want in green products.

A **Demonstration** of a market for truly green products.

An **Opportunity** for manufacturers to communicate with customers about what's in (and what's left out) of their products.

"Pharos is a tool that's going to change
our industry."
- Peter Syrett, Perkins + Will



PERKINS
+ WILL

HKS



Explore Pharos
15-day free trial

Or [Participate as a Manufacturer](#)



HDR

"Pharos provides a tool for making
good decisions about the building
materials we buy every day."
- George Salah, Director of Real Estate and Workplace
Services, Google

WHAT'S IN PHAROS?

- Chemicals and Material Library
- Building Products Library
- Certification Library

Applications for Alternatives Assessment

- Product (re)formulation through ingredient comparison
- Product comparison to inform purchasing decisions

CHEMICAL AND MATERIAL LIBRARY (CML)

- 10,668 chemicals and materials
- More than 30 chemical hazard and restriction lists
- Authoritative lists of endangered species

CML uses these lists to describe the human and environmental impacts of chemicals/materials, including feedstocks, catalysts, and residuals.

FORMALDEHYDE

CAS RN: 50-00-0

Direct Chemical and Compound Hazard Quickscreen

[Detailed Hazard Listings](#)

Very High Hazard of...

CANCER

IARC - Cancer Monographs: Group 1: Agent is carcinogenic to humans {and 5 others}

SKIN IRRITATION

EC - Risk Phrases: R34: Causes burns.

High Hazard of...

RESPIRATORY

AOEC - Asthmagens: AG: known asthmagen - generally accepted

MAMMALIAN

EC - Risk Phrases: R23: Toxic by inhalation. {and 2 others}

Medium Hazard of...

SKIN SENSITIZE

EC - Risk Phrases: R43: May cause sensitization by skin contact.

Potential concern...

RESTRICTED LIST

US EPA - Hazardous Air Pollutants: Hazardous Air Pollutant subject to the Clean Air Act {and 2 others}

This chemical is NOT present on the hazard lists scanned for the following health and ecotoxicity endpoints...

PBT	DEVELOPMENTAL	REPRODUCTIVE	ENDOCRINE	GENE MUTATION
NEUROTOXICITY	EYE IRRITATION	ORGAN TOXICANT	ACUTE AQUATIC	CHRON AQUATIC
TERRESTRIAL	FLAMMABLE	REACTIVE	GLOBAL WARMING	OZONE DEPLETION

FORMALDEHYDE

CAS RN: 50-00-0

Lifecycle Hazard Quickscreen

[Full Lifecycle Map](#)

Research Status: Preliminary literature review drafted

The Pharos team has undertaken a preliminary literature review of some of the processes involved in the manufacture of this substance and identified the following chemicals. This list of chemicals is not exhaustive of all chemicals that may be involved in the production or life cycle of this substance.

May contain residual manufacturing chemicals that have a hazard of...

CANCER

[SILVER \[7440-22-4\] - Frequent Catalyst](#)

Comes from additional manufacturing chemicals that have a hazard of...

DEVELOPMENTAL

[METHANOL \[67-56-1\] - Integral Feedstock](#)

REPRODUCTIVE

[METHANOL \[67-56-1\] - Integral Feedstock](#)

NEUROTOXICITY

[METHANOL \[67-56-1\] - Integral Feedstock](#)

MAMMALIAN

[METHANOL \[67-56-1\] - Integral Feedstock](#)

ORGAN TOXICANT

[METHANOL \[67-56-1\] - Integral Feedstock](#)

RESTRICTED LIST

[METHANOL \[67-56-1\] - Integral Feedstock](#)



BUILDING PRODUCTS LIBRARY (BPL)

Current Categories

- Carpets
- Paints
- Thermal Insulation
- Resilient Flooring
- Wallboard
- Ceilings
- High Performance Coatings
- Decorative Laminates
- Adhesives
- MDF Particle Board

New in 2012

- Roofing Membranes
- Corner Guards & Wall Protection
- Countertops
- Wood Flooring
- Finishes
- Doors

BPL SCORING FRAMEWORK

System wide:

- VOC - Volatile Organic Compounds
- UseTox - User Toxics
- ToxCon - Toxic Content
- MfrTox - Manufacturer Toxics
- RnMtrl - Renewable Materials
- RnEnrg - Renewable Energy

Additional attributes specific to a category possible:

- Aquatic Toxicity
- Reflectance

Search Results for Standard Paints

Sample BPL Category

CSI Masterformat 2004 Designation: 09 91 00

[Reset Search](#)

There are 66 products that meet your search criteria.

Sort by: [VOC](#) | [USETOX](#) | [MFRTOX](#) | [RnMTRL](#) | [RnENRG](#) | [DISCLOSURE](#) | [PRODUCT TITLE](#) | [MANUFACTURER](#)

ENSO™ Low Odor / Zero VOC Interior Primer (ENSO00)

VOC	USETOX	MFRTOX	RnMTRL	RnENRG
9	6	1	1	1
Dunn-Edwards Corporation				No disclosure

ENSO™ Low Odor / Zero VOC Interior Flat Paint (ENSO10)

VOC	USETOX	MFRTOX	RnMTRL	RnENRG
9	6	1	1	1
Dunn-Edwards Corporation				No disclosure

ENSO™ Low Odor / Zero VOC Interior Eggshell Paint (ENSO30)

VOC	USETOX	MFRTOX	RnMTRL	RnENRG
9	6	1	1	1
Dunn-Edwards Corporation				No disclosure

ENSO™ Low Odor / Zero VOC Interior Semi-Gloss Paint (ENSO50)

VOC	USETOX	MFRTOX	RnMTRL	RnENRG
9	6	1	1	1
Dunn-Edwards Corporation				No disclosure

Enviro Coat Zero VOC 100% Acrylic Interior Semi-Gloss Enamel - Light Base

VOC	USETOX	MFRTOX	RnMTRL	RnENRG
7	4	1	1	1
Kelly Moore Paint Company				Partially disclosed

Sample BPL Search Return

Search Results for Interior Paints

CSI Masterformat 2004 Designation: 09 91 23

[Reset Search](#)

[Save this search](#)

There are 1 products that meet your search criteria.

Sort by: [VOC](#) | [USETOX](#) | [MFRTOX](#) | [RnMTRL](#) | [RnENRG](#) | [DISCLOSURE](#) | [PRODUCT TITLE](#) | [MANUFACTURER](#)

Mirro Glide 124 Semi-Gloss

<u>VOC</u>	<u>USETOX</u>	<u>MFRTOX</u>	<u>RnMTRL</u>	<u>RnENRG</u>
5	2	4	1	1
Frazee Industries (part of the Comex Group)			Disclosed with Common Ingredient List	

Filter by Minimum Disclosure Level

No disclosure

Partially disclosed

Disclosed with Common Ingredient List

Fully disclosed

Filter by Restricted Substance List

No EPA Chemicals of Concern

No Living Building Challenge Red List

No LEED Pilot Credit 11 Chemicals

Filter by Attributes

No Bisphenol A

No Added Formaldehyde

No Phthalates

No Halogenated Flame Retardants

No Perfluorocarbons

No Antimicrobials

No Nanotech Materials

Sample BPL Product Record

Mirro Glide 124 Semi-Gloss

Frazer Industries (part of the Comex Group)

Impact Category Scores

5	VOC :: Volatile Organic Compounds	Meets basic VOC emissions test.
2	UseTox :: User Toxics	May meet at least basic VOC emissions test - but contains chemicals of concern that could become available.
4	MfrTox :: Manufacturer Toxics	Red flagged chemical/s in listed material contents or used integrally or Black flagged chemical/s used occasionally/rarely.
1	RnMtrl :: Renewable Materials	Low percentage of value renewable materials.
1	RnEng :: Renewable Energy	No renewable energy used.

Material Content

Material	Max% - Min%	Toxic Content	Manufacturing Toxics	Renewable
Common ingredients: Acrylic High Performance Coating Made by Generic High Performance Coating Manufacturer	95.0 - 95.0	MAMMALIAN		
PROPYLENE GLYCOL CAS RN: 57-55-6	3.0 - 3.0	RESPIRATORY	CANCER	
1,3-PENTANEDIOL, 2,2,4-TRIMETHYL-, MONOISOBUTYRATE CAS RN: 25265-77-4	2.0 - 2.0			
METHYLCHLOROISOTHIAZOLINONE (CIT, CMIT) CAS RN: 26172-55-4	0.1 - 0.0			

Product Certifications

- [MPI Green Performance Standard for Paints & Coatings \(Extreme Green \(X-Green\)\) - Master Painters Institute \(MPI\)](#)

▶ [Manufacturer Description](#)

▶ [Pharos Team Notes](#)

▶ [CSI MasterFormat 2004 Designations](#)

Pros

- Content: Disclosed with Common Ingredient List
- No LBC Red List chemicals listed
- No EPA Chemicals of Concern listed
- No LEED Pilot Credit 11 chemicals listed
- No Bisphenol A (BPA) listed
- No Formaldehyde listed
- No Phthalates listed
- No Halogenated Flame Retardants (HFRs) listed
- No Perfluorocarbons (PFCs) listed
- No Nanomaterials listed

Cons

- Contains Antimicrobials

Unknown

No unknown attributes listed.

Tags

There are no tags for this product yet.

▶ [Add a New Tag](#)

Product Lists

This product has not yet been added to any of your lists.

▶ [Add This Product to a List](#)

CERTIFICATIONS LIBRARY

Pharos considers 3rd party certifications from 48 certifying bodies in calculating product scores

- Searchable
- Browse alphabetical listings
- Browse by certification type (biobased content, etc.)

Display for each certification provides a description and outlines how the certification factors into scoring.

Certifications - Filter Results

Showing results for certifications that:

- are tagged with the certification type "Formaldehyde content"

Sort results by: [VOC score](#) | [RnMtrl weight](#)

CA 93120 compliant for formaldehyde - Phase 1

VOC score: 2

California Air Resources Board (CARB)

California state standard (Title 17, section 93120) limiting allowable formaldehyde emissions for sale of composite wood products in California. Self certifying but state monitored and enforced for products sold in California. Very low bar standard that cleans up the worst players in the industry.

[Read More >>](#)

CA 93120 compliant for formaldehyde - Phase 2

VOC score: 3

California Air Resources Board (CARB)

California state standard (Title 17, section 93120) limiting allowable formaldehyde emissions for sale of composite wood products in California. Self certifying but state monitored and enforced for products sold in California.

[Read More >>](#)

CA 93120 No-Added Formaldehyde (NAF)

VOC score: 6

California Air Resources Board (CARB)

California state standard (Title 17, section 93120.3(c)) for labeling of composite wood products for performance beyond formaldehyde regulation minimums. NAF based resins are formulated with no added formaldehyde as part of the resin cross linking structure, and include resins made from soy, polyvinyl acetate, or methylene diisocyanate. State certified.

[Read More >>](#)

Recent Market Shift:

Building owners and specifiers are becoming more demanding in the information they want

MATERIAL RULES

(WITH A NOD TO MICHAEL POLLAN)

If they won't tell you
what's in it, you probably
don't want what's in it

If it starts as hazardous
waste, you probably
don't want it in your
house

If it is cheap it probably
has hidden costs

Question materials that
make health claims

Pay more, use less

Question the generation

*(2011 Living Future Conference, Vancouver, BC)

Recent Market Shift:

Transparency, disclosure, and open communication with customers

LEED PILOT CREDIT 11

“CHEMICAL AVOIDANCE IN BUILDING MATERIALS”

Select Interior Products Without HFRs:

- Hexabromocyclododecane (HBCD)
- Penta, octa, and deca bromodiphenyl ethers (PBDEs)
- Tetrabromobisphenol-A (TBBPA)
- Tris(2-chloroisopropyl) phosphate (TCPP)
- Tris(2-chloroethyl)phosphate (TCEP)
- Dechlorane Plus

LEED PILOT CREDIT 11

“CHEMICAL AVOIDANCE IN BUILDING MATERIALS”

Select Interior Products Without Phthalates:

- Butyl Benzyl Phthalate (BBP)
- Di(2-Ethylhexyl)Phthalate (DEHP)
- Di-N-Octyl Phthalate (DNOP)
- Di-N-Pentyl Phthalate (DNPP)
- Dibutyl Phthalate (DBP)
- Diisobutyl Phthalate (DIBP)
- Diisodecyl Phthalate (DIDP)
- Diisononyl Phthalate (DINP)
- Di-N-Hexylphthalate (DNHP)

LEED PILOT CREDIT 11

“CHEMICAL AVOIDANCE IN BUILDING MATERIALS”

“Teams must evaluate potential human health tradeoffs resulting from replacing materials and products.”

- List of interior finishes used in a project
- Select 6 for analysis
- Select 6 equivalent products containing targeted chemicals & meet industry norm
- Comparison of health impacts (VOCs, toxic content, 3rd party certification, etc)

LEED PILOT CREDIT 54

“AVOIDANCE OF CHEMICALS OF CONCERN IN BUILDING PRODUCTS”

- Acknowledgment of LCA weakness in addressing health impacts
- Advances USGBC’s interest in alternatives assessment and product redesign across the sector

Certify that 20% of building products used have publicly disclosed ingredients & are free of CA Prop 65 chemicals.

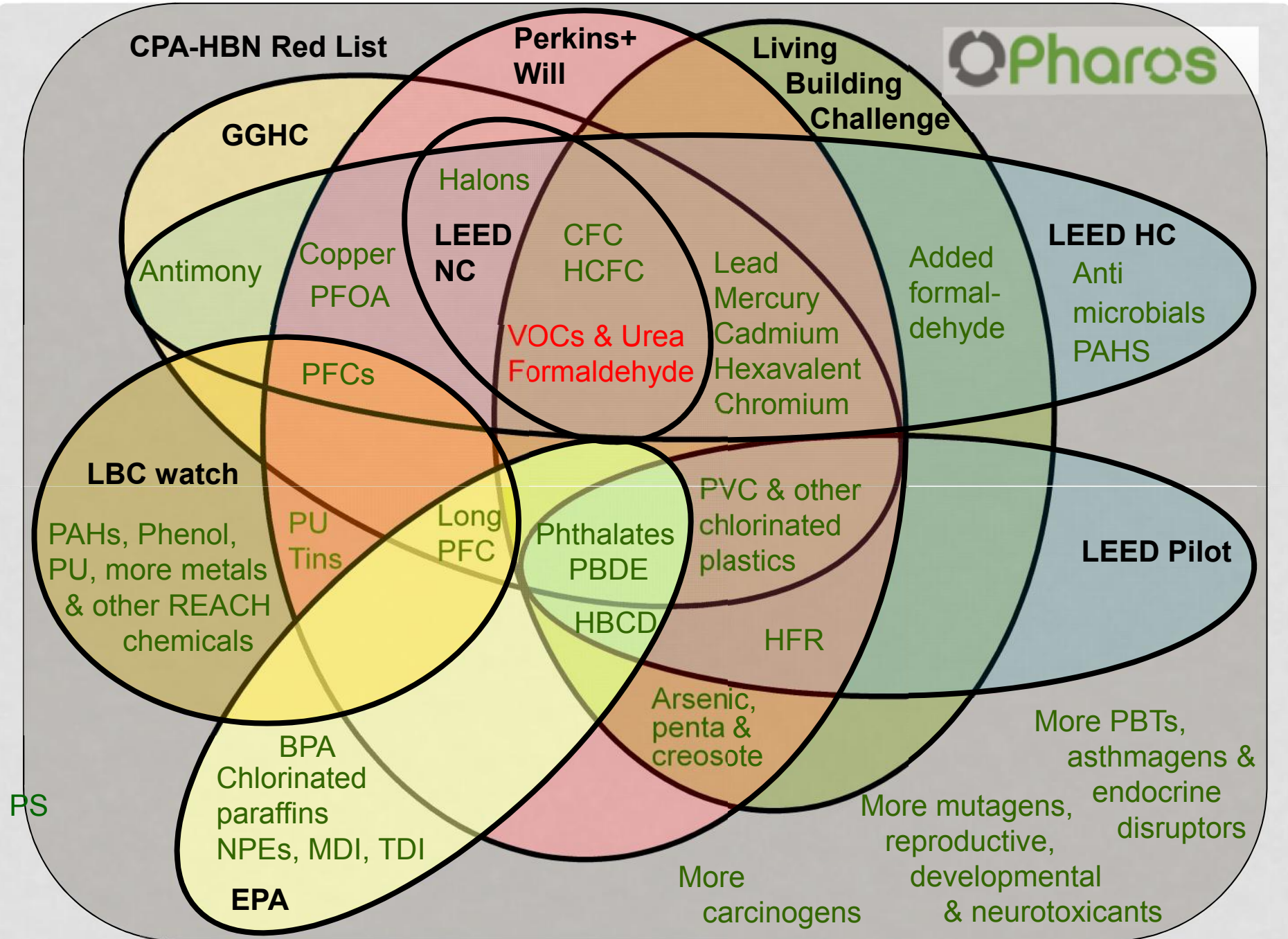
NEW APPROACHES: A HEALTH PRODUCT DECLARATION

1) Product Description

Name & IDs	Tuff Stuff X42, product SKU SB4353	MasterFormat	09 96 00 (MF10)
Manufacturer	Ajax Manufacturing	Declaration date	June 9, 2011
Description	High performance coating designed for painting bath stall walls and other wet surfaces.		

2) Product Contents Disclosure

Disclosure level	94	percent of intentionally added contents fully disclosed (100 percent is ideal).					
Name	CAS RN	%	Health Hazard Warnings		RC	Nano	
1	Phenyl Glycidyl Ether	122-60-1	55%	Cancer and Male reproductive toxicity (CA Prop 65) R37 Irritating to respiratory system and R53 May cause long-term adverse effects in the aquatic environment (EC Risk)		N	N
2	Alkyl (C12, C14) Glycidyl Ether	68609-97-2	21%	Irritating to skin and May cause sensitization by skin contact. (EC Risk) Full Green Screen assessed at Benchmark 2 by ChemService on 6/6/2011. Report is at www.ChemService.com/GS54345		N	N
3	Bis(2-(dimethylamino)ethyl) ether	3033-62-3	8%	No warnings found		N	N
4	Polyethylene	9002-88-4	7%	No warnings found		PC	N
5	Trade secret	Not disclosed	3%	Category 1 Evidence of endocrine disruption activity (EC Endocrine) Very toxic to aquatic organisms and possible risk of impaired fertility (EC Risk)		N	N
6	Acme Zap-It Antimicrobial	Content not disclosed	3%	Not available		N	N
7	Silver	7440-22-4	2%	No warnings found		N	Y
8	Distillate Fuel Oils, Light	13463-41-7	1%	No warnings found		N	N
All known residuals disclosed to		Lowest requirements (ideal)	X	100 ppm	1000 ppm	As required on MSDS	Not disclosed
9	Formaldehyde	50-00-0	<1000 ppm	Group 1: Agent is carcinogenic to humans (IARC) and other cancer warnings (see notes) Generally accepted asthmagen (AOEC) R23: Toxic by inhalation and R24: Toxic in contact with skin and R25: Toxic if swallowed and R34: Causes burns and R43: May cause sensitization by skin contact (EC Risk)		N	N
The manufacturer affirms that all known material contents were screened for chemicals of concern and health warning listings using:				Pharos Chemical and Material Library from the Healthy Building Network		Screening date	June 6, 2011
Hazard warnings associated with each ingredient must be listed for all chemicals listed on any of the Health Product Declaration (HPD) Priority lists found at www.healthproductdeclaration.org/prioritylists .							
RC = Recycled Content; PC=Post Consumer; PI= Post industrial; Nano = comprised of nanoscale particles or nanotechnology.							



& More beyond...

Recent Market Shift:

Manufacturers continuing to design toxic ingredients out of products and processes

TOP-10 GREEN PRODUCTS FOR 2012 PICKED BY BUILDINGGREEN

- InterfaceFLOR carpet tiles: no PFCs
- Upofloor resilient flooring: no PVC, phthalates, halogens and heavy metals
- EonCoat ceramic coating: no VOC, flame retardants

**(Environmental Building News, October 6, 2011)*

For more information:
www.pharosproject.net

Questions?