

**STATE OF CALIFORNIA
Department of Toxic Substances Control**

**Health and Safety Code Section 57019 Chemical Information Call-in Information
for Nanometals, Nanometal Oxides, and Quantum Dots
December 2010**

This enclosure is provided for your convenience. You may provide the requested information in writing, and attaching any supplementary materials or explanatory information, in letter or report form.

SECTION A: CHEMICAL(S) (check each one which applies for your company)

<input type="checkbox"/> Nano Silver	<input type="checkbox"/> Nano Titanium Dioxide	<input type="checkbox"/> Nano Cerium Oxide
<input type="checkbox"/> Nano Zero Valent Iron	<input type="checkbox"/> Nano Zinc Oxide	<input checked="" type="checkbox"/> Quantum Dot(s)

SECTION B: BUSINESS IDENTIFICATION INFORMATION (check one and complete items 1- 10)

<input type="checkbox"/> Sole Owner	<input checked="" type="checkbox"/> Corporation	<input type="checkbox"/> Limited Liability Company (LLC)	<input type="checkbox"/> Limited Liability Partnership (LLP)	<input type="checkbox"/> Unincorporated Business Trust
<input type="checkbox"/> Spouses' Co-ownership	<input type="checkbox"/> Registered Domestic Partnership	<input type="checkbox"/> General Partnership	<input type="checkbox"/> Limited Partnership	<input type="checkbox"/> Other: (describe)

1. Name of Sole Owner, Corporation, Partnership, Institution, Other.

Invisage Technologies, Inc.

2. Business Trade Name ("Doing Business As," if any)

3. Business Address (physical location of your business: street number and name, city, state, country, zip or postal code)

990 Hamilton Ave., Menlo Park, CA 94025

4. Mailing Address (street name and number, P.O. box, city, state, country, zip or postal code, if different from 3)

5. Business Website Address(es):

WWW, INVISAGE INC. COM

6. Name of Owner, Responsible Corporate Officer, Partner, Other.

Jess Lee

7. Contact Information for Person in 6 above.

Name: *Yoshimasa Okamura* Title: *Director*
Business Telephone: *408-916-5581* Email: *yoshi.okamura@invisage.com*

8. Number of Employees (California employees).

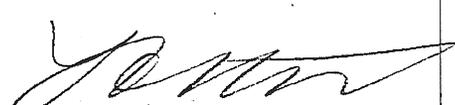
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9. NAICS Code(s) for this business: Primary: Other: Other:

10. Nano Chemical Business Type: (check applicable) Manufacturer Importer Researcher

SECTION C: CERTIFICATION (FOR THIS COMPLETE SUBMITTAL)

I am duly authorized to prepare and submit this information, as a formal response to the request pursuant to Health and Safety Code section 57019(d)(1), and certify the information and statements made herein, and in the attachments, are correct to the best of my knowledge and belief.

Name: (type or print)	Signature:	Date:
<i>Yoshimasa Okamura</i>		<i>12/19/21</i>

SECTION D: NANOMATERIAL CHEMICAL AND PHYSICAL PROPERTIES (Attach additional pages as needed)

PRODUCT / PRODUCTION INFORMATION

NANO CHEMICAL NAME: (Use a separate page for each unique chemical.)	Lead Sulfide
COMMERCIAL NAME(S):	Lead Sulfide
ANNUAL PRODUCTION VOLUME:	Less than 1kg Less than 1kg
PRODUCTION METHOD(S):	Air-free solution phase Schlenk line synthesis
IDENTIFICATION OF THE SUPPLIER(S):	Sigma-Aldrich

PARAMETER	VALUE / RANGE ^{2/} (include units)	NAME OF ANALYTICAL METHOD(S) ^{2/}
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PHYSICAL PROPERTIES

SHAPE (MORPHOLOGY)	Spherical	TEM
DENSITY	Unknown	
SURFACE AREA	Unknown	
PARTICLE SIZE DISTRIBUTION	Air	1.5 - 3 nm
	Liquid	1.5 - 3 nm
	Solid / Powder	1.5 - 3 nm
OTHER (Specify)		TEM, UV-vis spectroscopy

CHEMICAL PROPERTIES

CHEMICAL COMPOSITION	Pbs	EDX, xPS, XRF
SURFACE MODIFICATION (COATING, FUNCTIONALIZATION)	Oleic acid, Hexanethiol	
PURITY	Unknown	
SURFACE CHARGE	-	
DISPERSION ^{2/}	Air	Agglomerated
	Liquid	Dispersible in organics
	Solid	Agglomerated
IDENTIFYING AND DETERMINING CONCENTRATION OF NANO CHEMICAL, ITS METABOLITES, AND DEGRADATION PRODUCTS IN SPECIFIED MATRICES ^{2/} Water, Air, Soil, Sediment, Sludge, Chemical Waste, Fish, Blood, Adipose Tissue, Urine, Other (specify)	To be developed	
SOLUBILITY	Water Solubility	Not soluble
	Solubility in Organic Solvent	Soluble
N-OCTANOL-WATER PARTITION COEFFICIENT	Unknown	
STABILITY AND REACTIVITY	Flammability	Low (1)
	Explosiveness	None (0)
	Oxidizing Properties	None
	Oxidation Reduction Potential	Unknown
	Storage Stability and Reactivity (Container Material)	Amber glass (stable)
	Stability to Thermal, Sunlight, and Metal(s)	High

Donald Owen - Information on Quantum Dots

From: Yoshi Okamura <Yoshi.Okamura@invisage.com>
To: "hsaebfar@dtsc.ca.gov" <hsaebfar@dtsc.ca.gov>, "downen@dtsc.ca.gov" <downen@dtsc.ca.gov>
Date: 12/20/2011 7:07 PM
Subject: Information on Quantum Dots
CC: Yoshi Okamura <Yoshi.Okamura@invisage.com>
Attachments: Invisage QD_1220.pdf

Dear Mr.Hamid Saebfar and Mr.Donald Owen,

My name is Yoshi Okamura working for InVisage Technologies.
CTO of my company, Jess Lee, received your request.
I filed out the form and attach it to this e-mail.

We are very sorry for our late response.
If you have a question, please let me know.
Best regards,
Yoshi Okamura

Yoshimasa Okamura
Director, Film Engineering
InVisage Technologies, Inc.
Ph: 408-916-5581
Cell: 408-781-2020
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Menlo Park, CA 94025
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