

N96095.AR.000863
NWIRP CALVERTON
5090.3a

LETTER REGARDING UNDERGROUND INJECTION CONTROL INVENTORY FOR PLUME
REMEDATION SYSTEM WITH ATTACHMENTS NWIRP CALVERTON NY

5/23/2012
TETRA TECH



NOR-01425

May 23, 2012

Ms. Rosa Brignoni
Chief, Groundwater Compliance Section
Division of Enforcement and Compliance Assistance
290 Broadway, Floor 20
New York City, New York 10007-1866

Reference: CLEAN Contract No. N62470-08-D-1001
Contract Task Order WE08

Subject: Underground Injection Control (UIC) Inventory of Injection Wells (EPA Form 7520-16)
and Additional Information for Class V Injection Wells at the Site 6A – Southern Area
Groundwater Plume Remediation System, NYD003995198
Naval Weapons Industrial Reserve Plant Calverton, New York

Dear Ms. Brignoni:

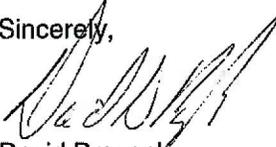
On behalf of the U.S. Navy, please find enclosed the subject submittal to address the Site 6A – Southern Area Groundwater Plume at the Naval Weapons Industrial Reserve Plant (NWIRP) Calverton. The facility is located in Suffolk County, Long Island, New York (Figure 1-1 and Drawing G-0). As discussed with Mr. Frank Brock of your office on May 18, 2012, the Navy is designing a groundwater extraction, treatment, and discharge system to remediate volatile organic compound (VOC)-contaminated groundwater that is migrating southeast and beyond the Navy's property. The objective of the remediation system is to prevent further off-property migration of VOC-contaminated groundwater. Construction is expected to start this summer and be completed in December 2012. The treatment system is anticipated to operate for two to eight years. Construction and operation of the system are authorized under the Navy's Operable Unit No. 3 Record of Decision (final) and the corresponding New York State RCRA Permit Modification (pending).

The system will consist of the extraction of up to 140 gallons per minute of groundwater from the surficial aquifer near the intersection of Grumman Boulevard (aka Swan Pond Road) and River Road (Drawing C-2). Treatment will consist of air stripping, and the treated water will be discharged to dual injection systems located approximately 500 feet east and west of the extraction wells (Drawings C-3, M-1, and M-4). The injection wells will also be located within the surficial aquifer to maintain the local groundwater resource. The groundwater will be treated to comply with United States Environmental Protection Agency and New York State Department of Environmental Conservation primary drinking water standards (MCLs) prior to discharge (Table 2-1). A polyphosphate will be used to reduce the formation of iron and manganese precipitates within the air stripper (MSDS attached), and bag filters will be used to remove particulates that may form prior to discharge. Each injection system consists of two 100-foot horizontal injection wells approximately 4 feet below ground surface in a gravel trench and one vertical injection well installed to a depth of approximately 50 feet below ground surface (Drawing M-3). Groundwater is present at 1 to 6 feet below ground surface and variable based on precipitation. The injection systems will include level switches to prevent upwelling and surface discharge.

The referenced Table, Figure, and Drawings taken from the project Basis of Decision Report are attached. Also attached is the completed Inventory of Injection Wells (EPA Form 7520-16).

NOR-01425
Ms. Brignoni, May 23, 2012
Page 2 of 2

If you have any questions please contact Ms. Lora Fly, NAVFAC Mid-LANT, at (757) 341-2012.

Sincerely,

David Brayack
Project Manager

Enclosures: Inventory of Injection Wells (EPA Form 7520-16)
BODR – Table 2-1, Figure 1-1, Drawings G-0, C-2, C-3, M-1, and M-3
MSDS Sheet for Carus 8100 - Polyphosphate

Distribution:
NAVFAC Mid-Atlantic, Lora Fly
USEPA Region 2, Ellen Stein
NYSDEC (Albany), Henry Wilkie
NYSDEC (Albany), Larry Rosenmann
NYSDOH, Steve Karpinski
H&SE, Al Taormina
Administrative Record
Project File

INVENTORY OF INJECTION WELLS UNITED STATES ENVIRONMENTAL PROTECTION AGENCY OFFICE OF GROUND WATER AND DRINKING WATER <small>(This information is collected under the authority of the Safe Drinking Water Act)</small>				1. DATE PREPARED <i>(Year, Month, Day)</i> 12-05-23		2. FACILITY ID NUMBER NYD003995198																	
PAPERWORK REDUCTION ACT NOTICE The public reporting burden for this collection of information is estimated at about 0.5 hour per response including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, Director, Collection Strategies Division (2822), U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW, Washington, DC 20460, and to the Office of Management and Budget, Paperwork Reduction Project, Washington, DC20503.				3. TRANSACTION TYPE <i>(Please mark one of the following)</i> <input type="checkbox"/> Deletion <input checked="" type="checkbox"/> First Time Entry <input type="checkbox"/> Entry Change <input type="checkbox"/> Replacement																			
4. FACILITY NAME AND LOCATION																							
A. NAME <i>(last, first, and middle initial)</i> Naval Weapons Industrial Reserve Plant, Calverton		C. LATITUDE <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>DEG</th> <th>MIN</th> <th colspan="2">SEC</th> </tr> <tr> <td style="text-align: center;">40</td> <td style="text-align: center;">53</td> <td style="text-align: center;">33</td> <td style="text-align: center;">10</td> </tr> </table>			DEG	MIN	SEC		40	53	33	10	E. TOWNSHIP/RANGE <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>TOWNSHIP</th> <th>RANGE</th> <th>SECT</th> <th>1/4 SECT</th> </tr> <tr> <td style="text-align: center;">NA</td> <td style="text-align: center;">NA</td> <td style="text-align: center;">NA</td> <td style="text-align: center;">NA</td> </tr> </table>			TOWNSHIP	RANGE	SECT	1/4 SECT	NA	NA	NA	NA
DEG	MIN	SEC																					
40	53	33	10																				
TOWNSHIP	RANGE	SECT	1/4 SECT																				
NA	NA	NA	NA																				
B. STREET ADDRESS/ROUTE NUMBER 4062 Grumman Blvd		D. LONGITUDE <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>DEG</th> <th>MIN</th> <th colspan="2">SEC</th> </tr> <tr> <td style="text-align: center;">72</td> <td style="text-align: center;">47</td> <td style="text-align: center;">15</td> <td style="text-align: center;">2</td> </tr> </table>			DEG	MIN	SEC		72	47	15	2											
DEG	MIN	SEC																					
72	47	15	2																				
F. CITY/TOWN Calverton		G. STATE New York	H. ZIP CODE 11933		I. NUMERIC COUNTY CODE 103	J. INDIAN LAND <i>(mark "x")</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																	
5. LEGAL CONTACT:																							
A. TYPE <i>(mark "x")</i> <input type="checkbox"/> Owner <input checked="" type="checkbox"/> Operator		B. NAME <i>(last, first, and middle initial)</i> Fly, Lora B			C. PHONE <i>(area code and number)</i> (757) 341-2012																		
D. ORGANIZATION Naval Facilities Engin. Com. - Mid Lant		E. STREET/P.O. BOX 9742 Maryland Avenue			I. OWNERSHIP <i>(mark "x")</i> <input type="checkbox"/> PRIVATE <input type="checkbox"/> PUBLIC <input type="checkbox"/> SPECIFY OTHER <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEDERAL																		
F. CITY/TOWN Norfolk		G. STATE VA	H. ZIP CODE 23511																				
6. WELL INFORMATION:																							
A. CLASS AND TYPE	B. NUMBER OF WELLS		C. TOTAL NUMBER OF WELLS	D. WELL OPERATION STATUS					COMMENTS <i>(Optional):</i> Discharge of groundwater treated via air stripping for the removal of VOCs and subject to CERCLA and New York State Department of Environmental Conservation RCRA permit. Treated groundwater will be discharged into the surficial aquifer via four 100-foot long horizontal wells and two 45-foot deep vertical wells.														
	COMM	NON-COMM		UC	AC	TA	PA	AN															
V	B	6	6	6																			
			0																				
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				KEY: DEG = Degree MIN = Minute SEC = Second SECT = Section 1/4 SECT = Quarter Section COMM = Commercial NON-COMM = Non-Commercial AC = Active UC = Under Construction TA = Temporarily Abandoned PA = Permanently Abandoned and Approved by State AN = Permanently Abandoned and not Approved by State																			

SECTION 1. DATE PREPARED: Enter date in order of year, month, and day.

SECTION 2. FACILITY ID NUMBER: In the first two spaces, insert the appropriate U.S. Postal Service State Code. In the third space, insert one of the following one letter alphabetic identifiers:

- D - DUNS Number.
- G - GSA Number, or
- S - State Facility Number.

In the remaining spaces, insert the appropriate nine digit DUNS, GSA, or State Facility Number. For example, A Federal facility (GSA - 123456789) located in Virginia would be entered as : VAG123456789.

SECTION 3. TRANSACTION TYPE: Place an "x" in the applicable box. See below for further instructions.

- Deletion.** Fill in the Facility ID Number.
- First Time Entry.** Fill in all the appropriate information.
- Entry Change.** Fill in the Facility ID Number and the information that has changed.
- Replacement.**

SECTION 4. FACILITY NAME AND LOCATION:

- A. Name.** Fill in the facility's official or legal name.
- B. Street Address.** Self Explanatory.
- C. Latitude.** Enter the facility's latitude (all latitudes assume North except for American Samoa).
- D. Longitude.** Enter the facility's longitude (all longitudes assume West except Guam).
- E. Township/Range.** Fill in the complete township and range. The first 3 spaces are numerical and the fourth is a letter (N,S,E,W) specifying a compass direction. A township is North or South of the baseline, and a range is East or West of the principal meridian (e.g., 132N, 343W).
- F. City/Town.** Self Explanatory.
- G. State.** Insert the U.S. Postal Service State abbreviation.
- H. Zip Code.** Insert the five digit zip code plus any extension.

SECTION 4. FACILITY NAME & LOCATION (CONT'D.):

- I. Numeric County Code.** Insert the numeric county code from the Federal Information Processing Standards Publication (FIPS Pub 6-1) June 15, 1970, U.S. Department of Commerce, National Bureau of Standards. For Alaska, use the Census Division Code developed by the U.S. Census Bureau.
- J. Indian Land.** Mark an "x" in the appropriate box (Yes or No) to indicate if the facility is located on Indian land.

SECTION 5. LEGAL CONTACT:

- A. Type.** Mark an "x" in the appropriate box to indicate the type of legal contact (Owner or Operator). For wells operated by lease, the operator is the legal contact.
- B. Name.** Self Explanatory.
- C. Phone.** Self Explanatory.
- D. Organization.** If the legal contact is an individual, give the name of the business organization to expedite mail distribution.
- E. Street/P.O. Box.** Self Explanatory.
- F. City/Town.** Self Explanatory.
- G. State.** Insert the U.S. Postal Service State abbreviation.
- H. Zip Code.** Insert the five digit zip code plus any extension.
- I. Ownership.** Place an "x" in the appropriate box to indicate ownership status.

SECTION 6. WELL INFORMATION:

- A. Class and Type.** Fill in the Class and Type of injection wells located at the listed facility. Use the most pertinent code (specified below) to accurately describe each type of injection well. For example, 2R for a Class II Enhanced Recovery Well, or 3M for a Class III Solution Mining Well, etc.
- B. Number of Commercial and Non-Commercial Wells.** Enter the total number of commercial and non-commercial wells for each Class/Type, as applicable.
- C. Total Number of Wells.** Enter the total number of injection wells for each specified Class/Type.
- D. Well Operation Status.** Enter the number of wells for each Class Type under each operation status (see key on other side).

CLASS I Industrial, Municipal, and Radioactive Waste Disposal Wells used to inject waste below the lowermost Underground Source of Drinking Water (USDW).

- TYPE II** Non-Hazardous Industrial Disposal Well.
- IM** Non-Hazardous Municipal Disposal Well.
- IH** Hazardous Waste Disposal Well injecting below the lowermost USDW.
- IR** Radioactive Waste Disposal Well.
- IX** Other Class I Wells.

CLASS II Oil and Gas Production and Storage Related Injection Wells.

- TYPE 2A** Annular Disposal Well.
- 2B** Produced Fluid Disposal Well.
- 2H** Hydrocarbon Storage Well.
- 2R** Enhanced Recovery Well.
- 2X** Other Class II Wells.

CLASS III Special Process Injection Wells.

- TYPE 3G** *In Situ* Gasification Well
- 3M** Solution Mining Well.

CLASS III (CONT'D.)

- TYPE 3S** Sulfur Mining Well by Frasch Process.
- 3T** Geothermal Well.
- 3U** Uranium Mining Well.
- 3X** Other Class III Wells.

CLASS IV Wells that inject hazardous waste into/above USDWs.

- TYPE 4H** Hazardous Facility Injection Well.
- 4R** Remediation Well at RCRA or CERCLA site.

CLASS V Any Underground Injection Well not included in Classes I through IV.

- TYPE 5A** Industrial Well.
- 5B** Beneficial Use Well.
- 5C** Fluid Return Well.
- 5D** Sewage Treatment Effluent Well.
- 5E** Cesspools (non-domestic).
- 5F** Septic Systems.
- 5G** Experimental Technology Well.
- 5H** Drainage Well.
- 5I** Mine Backfill Well.
- 5J** Waste Discharge Well.

PAPERWORK REDUCTION ACT The public reporting and record keeping burden for this collection of information is estimated to average 0.5 hours per response. Burden means the total time, effort, or financial resource expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal Agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to the collection of information; search data sources; complete and review the collection of information; and, transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Ave., NW., Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed forms to this address.

**TABLE 2-1
DESIGN BASIS
FENCE LINE GROUNDWATER EXTRACTION, TREATMENT, AND DISCHARGE SYSTEM
NWIRP CALVERTON, NEW YORK**

Design Parameter	Daily Maximum or Range	Annual Mean	Treatment Goal
Design Flow rate, gpm	100 to 140	100	---
Temperature, C	8 to 15	11	---
pH, S.U.	5.5 to 6.5	6.5	5.5 to 9.0
Constituents (µg/L)			
Iron	200 to 2,400	1,200	---
Manganese	200 to 3,000	1,500	---
1,1,1-Trichloroethane	260	11	5
1,1-Dichloroethane	1,100	51	5
1,1-Dichloroethene	65	3	5
Chloroethane	320	13	5
Benzene	4.4	0.2	5
1,4-Dichlorobenzene	16	1	5
1,3-Dichlorobenzene	4	0.2	5
1,2-Dichlorobenzene	6.4	0.3	5
Isopropylbenzene	11	0.4	5
1,2,4-Trichlorobenzene	14	1	5
Total VOC	1,801	80	---
Organic Loading	(pounds/day)	(pounds/year)	
DCA Mass Flux Rate	1.3	22	---
Total VOC Mass Flux Rate	2.2	35	---

--- No value or goal.

µg/L – micrograms per liter.

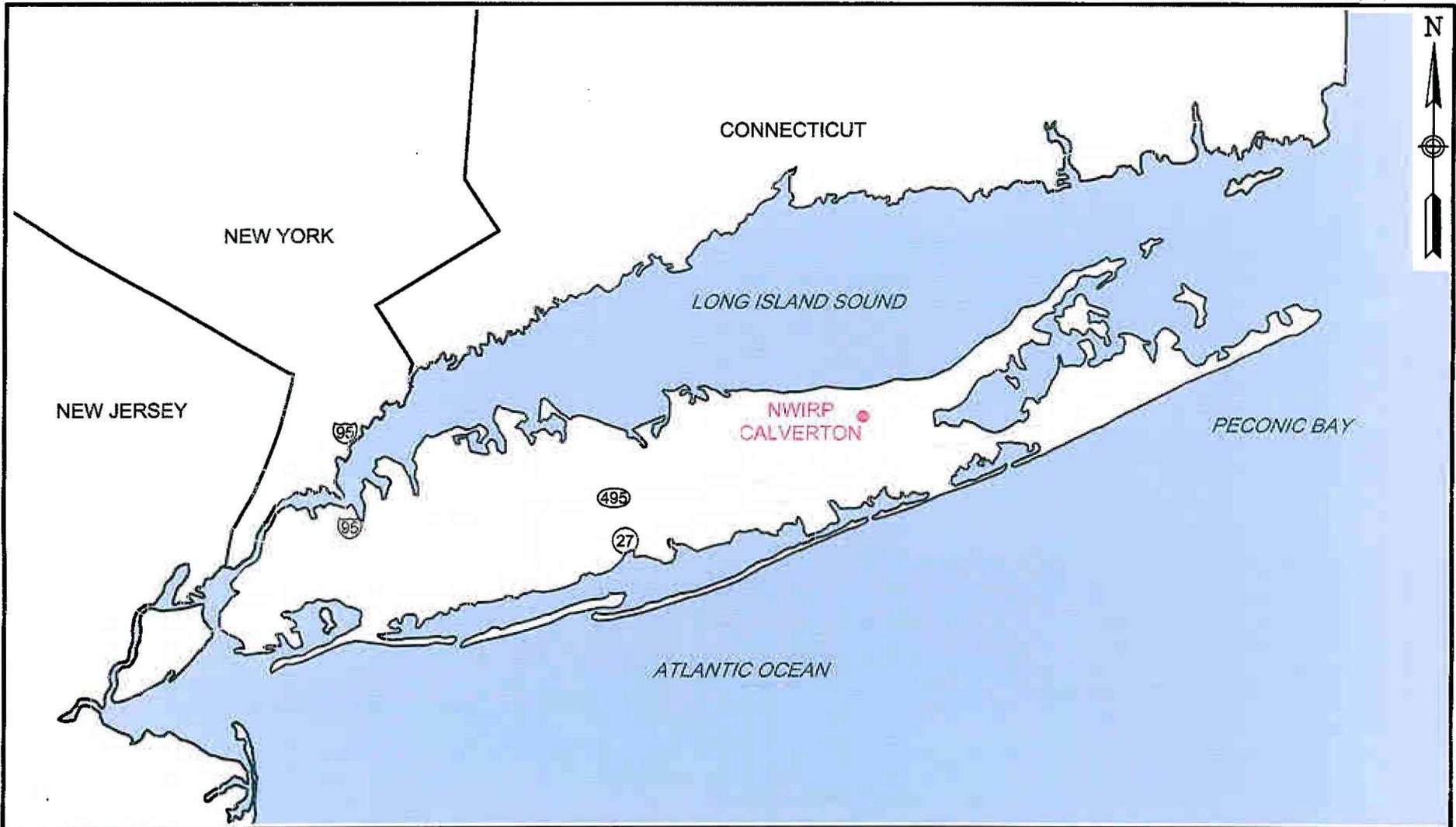
VOC – volatile organic compound.

DCA – 1,1-dichloroethane.

gpm – gallons per minute.

S.U. – Standard Unit.

C – Celsius.



GENERAL LOCATION MAP
NWIRP CALVERTON
CALVERTON, NEW YORK

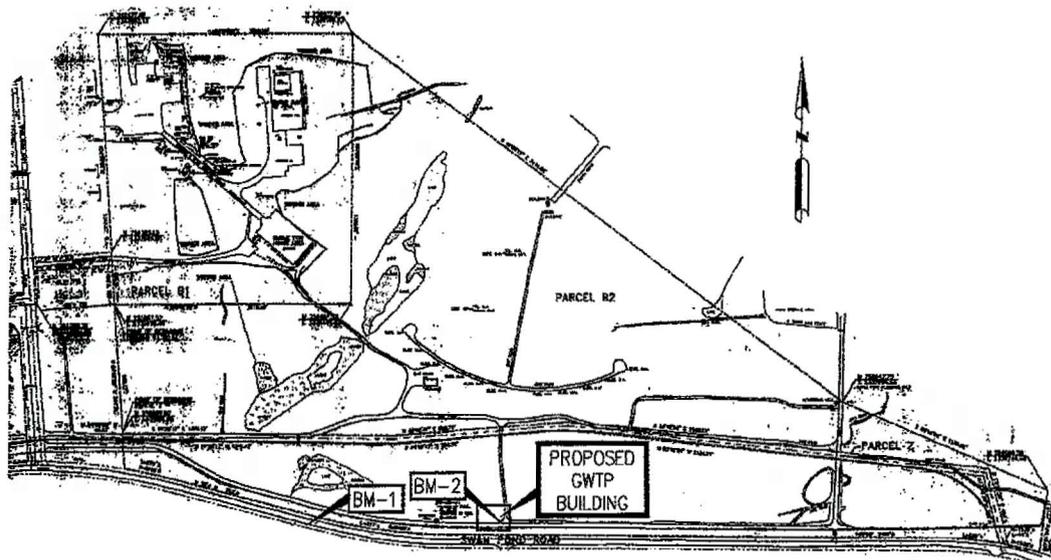
SCALE
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REV	DATE
0	03/10/11

FIGURE NUMBER
FIGURE 1-1

CALVERTON FENCELINE GROUNDWATER TREATMENT FACILITY GRUMMAN BOULEVARD SUFFOLK COUNTY, NEW YORK



GENERAL VICINITY MAP - 1"=5000'
SOURCE: USGS - WADING RIVER, NY - 7.5 MINUTE QUADRANGLE - 1967

- SITE DATA**
1. PREPARED FOR: UNITED STATES NAVY
 2. OWNER: UNITED STATES OF AMERICA
 3. PROPERTY ADDRESS: 3466 RIVER ROAD
CALVERTON, N.Y. 11633
TOWN OF RIVERHEAD, SUFFOLK COUNTY, NEW YORK
 4. TAX PARCEL NUMBER: 0600-138.00-01.00-007-008 (PARCELS B1, B2, AND Z)
 5. SOURCE OF TITLE: TAX PARCEL MAP BOOK 1284S, PAGES 576
 6. PARCEL AREA: 164,912 SQUARE FEET (PER PARCEL RECORD)
 7. ZONING: PLANNED RECREATIONAL PARK DISTRICT (PRP)
 8. TOPOGRAPHY: TOPOGRAPHY IS BASED ON A FIELD SURVEY PERFORMED BY TETRA TECH ON AUGUST 9-10, 2011, 2012, & 14.
 9. BATHY: HORIZ & VERT: NY STATE PLANE LONG ISLAND, NAD83/NAD83, FEET
 10. BENCHMARK:

DESC.	NORTH	EAST	ELEV.
BM-1 (I.P. 0 P.P. 00)	271360.871	131033.183	43.59
BM-2 (I.P. 0 P.P. 00) 201	271400.291	132603.084	

 DATUMS ARE REFERENCED TO BENCH MARK LOCATED ON SOLID AVE NEAR P.P. 68).
 11. SURVEYING: BENCHMARK MARKS, INCLUDING THE SHAW POND ROAD BENCHMARK (P.P. 68), ARE BASED ON THE T.M.C. CALCULATION AREA PLAN (REFERENCED BELOW). THE BENCHMARK SHOWN WAS SET TO THE FIELD SURVEY BY CONTROL COORDINATES BASED ON THE PLAN (TRANSFERRED FROM HORIZ) TO BENCH, ADDITIONALLY, UNRECORDED (OFFICIAL) BENCHMARK MARKS WERE TRACED FROM THE WATER MAIN INSTALLATION PLAN (ALSO REFERENCED BELOW). HOWEVER, THE BENCHMARK MARKS SHOWN ON THIS PLAN, INCLUDING ITS PRECISE LOCATION, HAS NOT BEEN CONFIRMED AT THE TIME. NO PROPERTY BOUNDARIES WERE FOUND DURING THE FIELD SURVEY.
 12. UTILITIES: UTILITIES ARE SHOWN ACCORDING TO FIELD SURVEYED FUTURE SURFACE ELEVANCE AND BEST AVAILABLE PLANS. ALL UTILITIES ARE APPROXIMATE AND MUST BE VERIFIED PRIOR TO COMMENCING EXCAVATION OPERATIONS.
 13. NATURAL RESOURCES: THIS SITE IS LOCATED IN THE CONSERVATION CLASS ZONE II. FRESHWATER WETLANDS ARE LOCATED ON THIS PARCEL.
 14. REFERENCES: "P.L.D. CALCULATION AREA PLAN - PARCELS B1, B2, & Z" UNITED STATES OF AMERICA, DEPARTMENT OF THE NAVY, NAVAL WEAPONS INDUSTRIAL RESERVE PLANT, CALVERTON, SUFFOLK COUNTY, NEW YORK, PREPARED BY A. E. WATMAN ASSOCIATES, P.C., DATED AUGUST 27, 1996 AND LAST REVISED MAY 1998.
"INSTALLATION OF WATER MAINS & APPURTENANCES, SECTION NO. 06, PROVIC RIVER SPORTSMAN'S CLUB," 0600-14-53, RIVERHEAD WATER DISTRICT, TOWN OF RIVERHEAD, SUFFOLK COUNTY, NEW YORK, PREPARED BY ACW ENGINEERS, DATED MARCH 1994.



DRAWING LIST

- GENERAL**
- C-0 COVER SHEET
 - C-1 GENERAL NOTES & LEGEND
- CIVIL**
- C-1-1 SITE LAYOUT PLAN
 - C-2 SITE UTILITY PLAN
 - C-3 SITE UTILITY OVERALL PLAN
 - C-4 SITE GRADING PLAN
 - C-5 DRAINAGE & SEDIMENT CONTROL PLAN
 - C-6 GAS CONTROL DETAILS
 - C-7 SITE DETAILS
- ARCHITECTURAL**
- A-0 CONCEPT PLAN
 - A-1 FLOOR PLAN
 - A-2 ROOF PLAN AND BUILDING ELEVATIONS
 - A-3 BUILDING SECTIONS
 - A-4 SCHEDULES AND DETAILS
- STRUCTURAL**
- S-1 FOUNDATION PLAN
 - S-2 FOUNDATION DETAILS
 - S-3 STRUCTURAL DETAILS
 - S-4 GENERAL NOTES, AMENDMENTS
- PROCESS & MECHANICAL**
- M-1 BUILDING EQUIPMENT LAYOUT
 - M-2 MECHANICAL SECTION
 - M-3 MECHANICAL DETAILS
 - PD PROCESS FLOW DIAGRAM
 - PD-1 P&ID-1
 - PD-2 P&ID-2
 - PD-3 P&ID-3
- ELECTRICAL**
- E-1 ELECTRICAL SINGLE LINE DIAGRAM
 - E-2 IEC-10 ELECTRICAL SINGLE LINE DIAGRAM
 - E-3 MOTOR ELEMENTARY & RISER DIAGRAMS
 - E-4 ELECTRICAL LIGHTING PLAN
 - E-5 ELECTRICAL LIGHTING SCHEDULE & DETAILS
 - E-6 ELECTRICAL GROUNDING PLAN
 - E-7 ELECTRICAL - GROUNDING NOTES AND DETAILS
 - E-8 POP-1 ELEMENTARY DIAGRAM-SHEET 1
 - E-9 POP-1 ELEMENTARY DIAGRAM-SHEET 2

* NOT INCLUDED IN THIS 100% SUBMISSION

UNAUTHORIZED ALTERATION OR ADDITION TO THIS PLAN IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. ANY PLAN ALTERATIONS BY ANOTHER ENGINEER MUST BE MARKED AS SUCH, INCLUDING THE SIGNATURE AND SEAL OF THE ALTERING ENGINEER.

CAUTION: IF SHEET IS LESS THAN 34"x22" USE GRAPHIC SCALE

COVER SHEET

CALVERTON FENCELINE GROUNDWATER TREATMENT PLANT

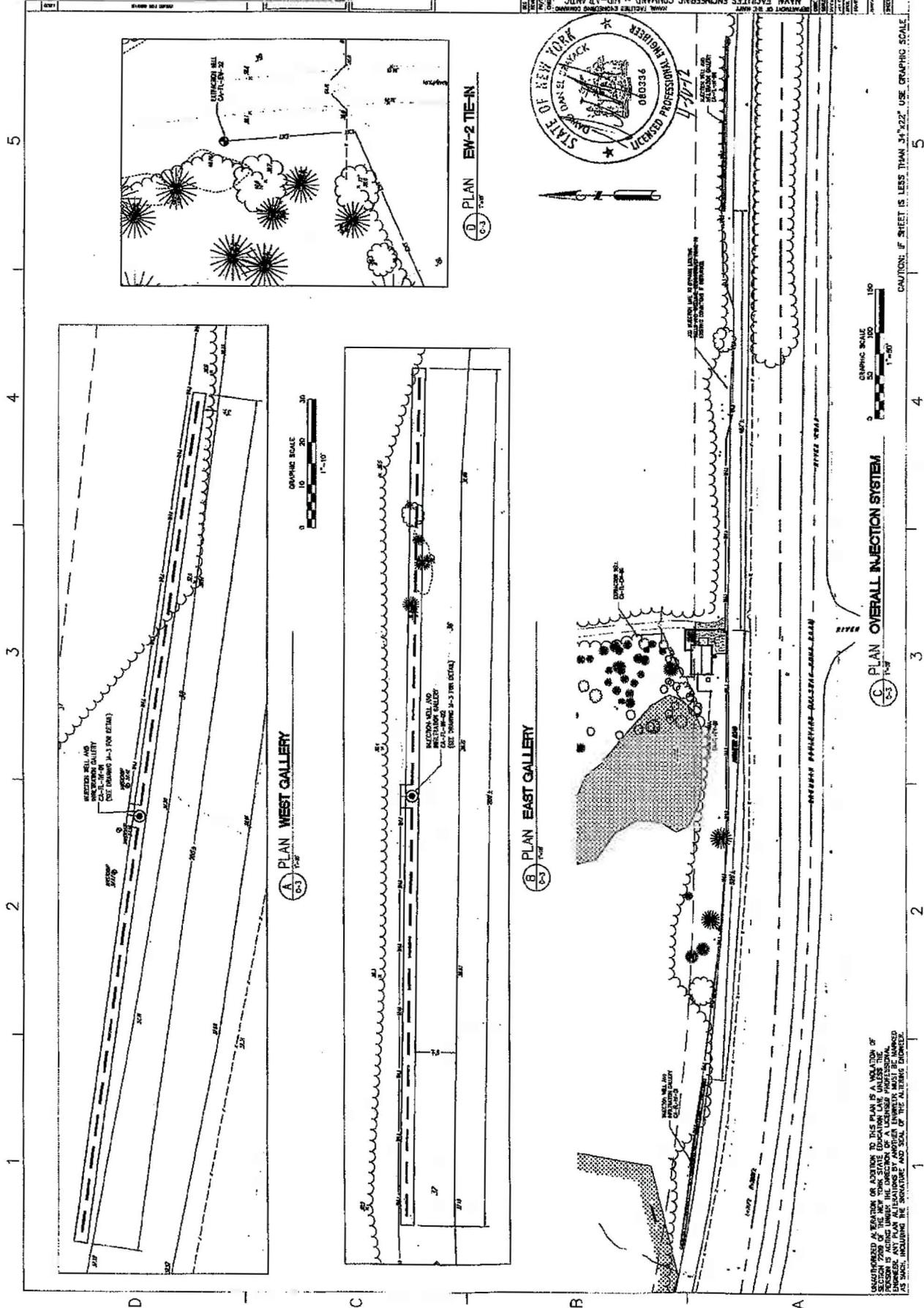
NAVFAC

TE

STATE OF NEW YORK
DAVID DANIEL BRANCIC
LICENSED PROFESSIONAL ENGINEER
056336
4-30-12

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC
GRUMMAN RD CALVERTON NY SUFFOLK COUNTY, NEW YORK

DATE: 04/30/12
SCALE: AS SHOWN
SHEET NO: 231
JOB NO: 112002750
PROJECT: 0600-14-53





CARUS™ 8100 WATER TREATMENT CHEMICAL
EC- SAFETY DATA SHEET according to EC directive 2001/58/EC
MATERIAL SAFETY DATA SHEET

Page 1 of 6

MSDS # CP-356

Revision Date: October 2007

Supersedes: June 2006

Section 1 Chemical Product and Company Identification

Product Name: CARUS™ 8100 Water Treatment Chemical	Information: (815) 223-1500 (815) 224-6816 (FAX)
Trade Name: CARUS™ 8100 Water Treatment Chemical	www.caruschem.com (Web) salesmkt@caruschem.com (Email)
Synonyms: Blended Phosphate solution	
Manufacturer's Name: Carus Phosphates, Inc.	Emergency Telephone: (800) 435 -6856 (USA) (815) 223-1500 (Other countries) CHEMTREC® (800) 424-9300 (USA) (703) 527-3887 (Other countries)
Manufacturer's Address: Carus Phosphates, Inc. 115 Fifth Street Peru, IL 61354, USA	

Section 2 Ingredients Information

Material	PEL	TLV	CAS.NO.	EC. NO.	%
Triphosphoric acid, pentasodium salt	No Data	No Data	7758-29-4	231-838-7	1-15
Non-hazardous ingredients	No Data	No Data	N/A	N/A	85-99

This product contains no toxic chemicals subject to the reporting requirements of Section 313 - Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

All the components in this product are generally considered to be safe and none could be classified as hazardous according to the WHMIS system. None are listed on the Canadian Ingredient Disclosure List.

Carcinogenicity: Not listed by NTP

Hazard Symbols: None

Risk Phrases: 22 Harmful if swallowed. 38 Irritating to skin

Safety Phrases: 2 Keep out of reach of children 61 Avoid releases to the environment.

Section 3 Hazards Identification

Hazardous Materials Identification System (HMIS) Ratings:

Health: 1 - Slight

Flammability: 0 - None

Reactivity: 0 - None

Personnel Protective Equipment: goggles, face shield, apron, respirator and proper gloves.

Inhalation:

May cause irritation to the respiratory tract. Symptoms may include coughing and shortness of breath.

Ingestion:

Phosphates are slowly and incompletely absorbed when ingested, and seldom result in systemic effects. Such effects, however, have occurred. Symptoms may include vomiting, lethargy, diarrhea, blood chemistry effects, heart disturbances and central nervous system effects. The toxicity of phosphates is due to their ability to sequester calcium.

Skin Contact:

May cause irritation. May cause inflammation and pain on prolonged contact, especially with moist skin.

Eye Contact:

May cause irritation, redness and pain.

Chronic Exposure:

May sequester calcium and cause calcium phosphate deposits in the kidneys.

Aggravation of Pre-existing Conditions:

No information found.



CARUS™ 3100 WATER TREATMENT CHEMICAL
EC- SAFETY DATA SHEET according to EC directive 2001/58/EC
MATERIAL SAFETY DATA SHEET

Page 2 of 6

Section 4 First Aid Measures

Eyes:

Immediately flush eyes with large amounts of water for at least 15 minutes holding lids apart to ensure flushing of the entire surface.

Skin:

Immediately wash contaminated areas with water. Remove contaminated clothing and footwear. Wash clothing and decontaminate footwear before reuse.

Inhalation:

Remove person from contaminated area to fresh air.

Ingestion:

Never give anything by mouth to an unconscious or convulsing person. If person is conscious, give large quantities of water or milk. Seek medical attention immediately.

Section 5 Fire Fighting Measures

NFPA* Hazard Ratings:

Health: 1 = Materials which under fire conditions would give off irritating combustion products (less than 1 hour exposure). Materials which on the skin could cause irritation.
Flammability: 0 = Materials that will not burn.
Reactivity: 0 = Materials which in themselves are normally stable, even under fire exposure conditions, and which are not reactive with water.

Special Hazard: None

*National Fire Protection Association 704

First Responders:

Wear protective gloves, boots, goggles, and respirator. In case of fire, wear positive pressure breathing apparatus. Approach incident with caution.

Flash Point None

Flammable or Explosive Limits Lower: Nonflammable Upper: Nonflammable

Extinguishing Media Use large quantities of water. Dike to contain.

Section 6 Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled:

Contain spill by collecting the liquid in a pit or holding behind a dam (sand or soil). Absorb with inert media and dispose of properly. Disposal of all materials shall be in full and strict compliance with all federal, state, and local regulations pertaining to phosphates. Flush area with large amounts of water.

Personnel Precautions:

Personnel should wear protective clothing suitable for the task.

Section 7 Handling and Storage

Work/Hygiene Practices:

Wash hands thoroughly with soap and water after handling phosphate solution, and before eating or smoking. Wear proper protective equipment. Remove clothing, if it becomes contaminated.

Ventilation Requirements:

Provide sufficient mechanical and/or local exhaust.

Conditions For Safe Storage:



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Protect containers from physical damage. Store in a cool, dry area in closed containers.

Section 8 Exposure Controls and Personal Protection

Respiratory Protection:

In cases where overexposure to mist may occur, use an approved NIOSH-MSHA mist respirator (N-95 or better). Engineering or administrative controls should be implemented to control mist.

Eye:

Face shield, goggles, or safety glasses with side shields should be worn. Provide eyewash in working area.

Gloves:

Rubber or plastic gloves should be worn.

Other Protective Equipment:

Normal work clothing covering arms and legs, and rubber, or plastic apron should be worn. Caution: If clothing becomes contaminated, wash off immediately.

Section 9 Physical and Chemical Properties

Appearance And Odor:	Colorless solution, odorless
Boiling Point, 760 mm Hg:	>101 °C
Freezing Point:	< 0 °C
Vapor Pressure (mm Hg):	N/A
Solubility In Water % By Solution:	Miscible in all proportions
Percentage Volatile By Volume:	55% (as water)
Evaporation Rate:	Same as water
Specific Gravity:	1.37 ± 0.03
pH:	4.5 ± 0.5

Section 10 Stability and Reactivity

Stability:	Under normal conditions, the material is stable.
Conditions To Avoid:	Do not expose to extreme temperatures.
Incompatible Materials	Soluble calcium salt solutions and hydrofluoric or hydrofluosilicic acid could cause precipitations.
Hazardous Decomposition:	When involved in a fire, the material may form toxic fumes of phosphorous oxides.
Condition Contributing To Hazardous Polymerization:	Material is not known to polymerize.

Section 11 Toxicological Information

Acute Overexposure:

Irritating to body tissue with which it comes into contact.

Chronic Overexposure:

No known cases of chronic poisoning due to phosphate solutions have been reported. May sequester calcium and cause calcium phosphate deposits in the kidneys.

Carcinogenicity:

None of the components have been classified as a carcinogen by OSHA, NTP, and IARC.

Medical Conditions Generally Aggravated by Exposure:

Phosphate solution will cause further irritation of tissue, open wounds, burns or mucous membranes.



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Section 12 Ecological Information

None

Section 13 Disposal Considerations

Waste Disposal:

Disposal of all materials shall be in full and strict compliance with all federal, state, and local regulations pertaining to phosphates. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 Transport Information

Not regulated by US DOT, Canada TDG, UN, IMDG, IATA regulations

Section 15 Regulatory Information

US Federal Regulations

TSCA:

All components in this product are listed on the TSCA inventory.

Health & Safety Reporting List:

None of the chemicals in this product are on the Health & Safety Reporting List.

Chemical Test Rules:

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b:

None of the chemicals in this product are listed under TSCA Section 12b.

TSCA Significant New Use Rule:

None of the chemicals in this product have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs:

None of the chemicals in this product have an RQ.

SARA Section 302 Extremely Hazardous Substances:

None of the chemicals in this product have a TPQ.

SARA Codes:

Acute

Section 313:

None of chemicals in this product are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 or Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

State:

None of the chemicals in this product are present on state lists from CA, PA, WI, MA, or NJ.



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California Prop 65:

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives:

Hazard Symbols: None
 Risk Phrases: 22 Harmful if swallowed. 38 Irritating to skin
 Safety Phrases: 2 Keep out of reach of children 61 Avoid releases to the environment.
 WGK (Water Danger/Protection): None

Canada - DSL/NDSL:

All components are listed on Canada's DSL List

Canada - WHMIS:

None of the components in this product could be classified as hazardous in accordance with the hazard criteria of the Controlled Products Regulations.

Canadian Ingredient Disclosure List:

None of the components in this product are listed on the Canadian Ingredient Disclosure List.

Section 16 Other Information

NIOSH:	National Institute for Occupational Safety and Health
MSHA:	Mine Safety and Health Administration
OSHA:	Occupational Safety and Health Administration
NTP:	National Toxicology Program
IARC:	International Agency for Research on Cancer
PEL:	Permissible Exposure Limit
DSL/NDSL:	The Domestic Substances and the Non-Domestic Substances List (Canada)
TLV-TWA:	Threshold Limit Value-Time Weighted Average
CAS:	Chemical Abstract Service
EINECS:	Inventory of Existing Chemical Substances (European) (EC. No.)

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Chithambarathanu Pillai

October 2007

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