Nolan, Shiver

From: Nolan, Shiver

Sent: Tuesday, January 17, 2017 7:20 AM

To: NMOCD Mike Bratcher (mike.bratcher@state.nm.us); Crystal Weaver

(crystal.weaver@state.nm.us)

Cc: Miro, Alena; Ferguson, Dina (djferguson@eprod.com)

Subject: S Eddy 2RP-3493

Attachments: S Eddy C-141 (10-4-2016).pdf; S Eddy -02-Assessment Summary Report.pdf; S Eddy

C-141 10-8-2016.pdf

Attached is the information on 2 releases and the assessment summary. Should you need additional information, please contact Alena Miro.

Shiver J. Nolan Sr. Compliance Administrator Enterprise Products Operating LLC District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

2RP-3493

Release Notification and Corrective Action

<u> </u>		OPERA	ГOR	Init	ial Report X Final Repo	
Name of Company Enterprise Field Services, LLC		Contact Alena Miro				
PO Box 4324, Houston, TX 77210		Telephone No. 575-628-6802				
Facility Name South Eddy Cryo Plant		Facility Typ	e: Natural Ga	s Processing Pl	ant	
Surface Owner Enterprise Field Services, Mineral C	Owner	NA		Lease	No. NA	
		OF RE				
Unit Letter Section Township Range Feet from the 1 25S 30E 244		South Line South	Feet from the 628	East/West Line East	County Eddy	
Latitude: N32.	160280	Longitu	de: <u><i>W-103.8278</i></u>	<u> </u>		
NAT	TURE	OF REL				
Type of Release Amine liquid and process material			Release: 16.7 bb	ls Volume	Recovered: 10 bbls liquids	
Source of Release Sump overfill			lour of Occurrenc (a) 06:00 MST	1	Hour of Discovery	
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not R	equired	If YES, To	Whom?			
By Whom?		Date and Hour				
Was a Watercourse Reached? ☐ Yes ☒ No If YES, Volume Impacting the Watercourse.						
If a Watercourse was Impacted, Describe Fully.*		•			A SECOND DIAMETER AND A SECOND DESCRIPTION OF THE SECOND DESCRIPTION O	
Describe Cause of Problem and Remedial Action Taken.* Amine system liquids were released due to a sump overflow. The bbls of liquid released.	e sump v	was isolated t	and contaminated	soil was contain	ed on site. Approximately 16.7	
Describe Area Affected and Cleanup Action Taken.* A liquid spill of approximately 16.7 bbls of amine solution was n Enterprise General Release Notification, Response and Remedia	released. ation Pla	All liquids in (March 9,	were confined to 2015).	the facility site. R	emediation actions followed the	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.						
Signature: The Full		OIL CONSERVATION DIVISION				
Printed Name: Jon E. Fields	Printed Name: Jon E. Fields Approved by District Supervisor:					
Title: Director, Field Environmental		Approval Dat	e:	Expiration	Date:	
E-mail Address: jefields@eprod.com		Conditions of Approval: Attached		Attached		
Date: //7//// Phone: 713-381-6684 Attach Additional Sheets If Necessary						

Form C-141

Revised August 8, 2011

District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 <u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

2RP-3492

Release Notification and Corrective Action

					OPERA'	TOR	☐ In	itial Report	\boxtimes	Final Report	
Name of Company Enterprise Field Services, LLC						Contact Alena Miro					
		O Box 4324,		TX 77210		Telephone No. 575-628-6802					
Facility Name South Eddy Cryo Plant Fa						Facility Typ	e: Natural Ga	s Processing I	lant		
Surface Own	Surface Owner Enterprise Field Services, Mineral Owner LLC			1 Owner	NA		Lease	No. NA			
LOCATION							LEASE				
Unit Letter H	Section 1	Township 25.S	Range 30E	Feet from the		South Line	Feet from the 628	East/West Line	County Eddy		
			L	atitude: <u>N 3</u>	2.160280	Longitu	de: <i><u>W -103.827</u>8</i>	811			
	NATURE OF RELEASE										
Type of Relea	ase Amine	e liquid and pr	ocess mate	erial		Volume of liquids	Release: 20 bbl	Volum	Recovered:	15 bbl i	liquids
Source of Rel	ease Sun	np overfill				Date and H	Hour of Occurrence (a) 18:00 MST	1	d Hour of Dis		
Was Immedia	ite Notice (Yes 🗆	No 🔯 Not	Required	If YES, To		1 2070 772	<u> </u>		
By Whom?											
Was a Watero	ourse Read	ched?	Yes 🛛	No		If YES, Volume Impacting the Watercourse.					
If a Watercon	If a Watercourse was Impacted, Describe Fully.*										
II to Watercoa	130 4403 1111	pacied, Descri	oo i uiiy,								
Describe Cau	se of Probl	em and Remed	lial Action	Taken.*							
	i liquids we				The sump	was isolated (and contaminated	l soil was contai	ned on site. A	pproxin	nately 20
Describe Area	Affected:	and Cleanup A	ction Take	en.*							
A liquid spill Enterprise Ge	of approxi eneral Rele	mately 20 bbls ease Notificati	of amine on, Respon	solution was i ise and Reme	released. diation Pla	All liquids w an (March 9,	ere confined to th 2015).	ne facility site. R	emediation ac	tions fo	illowed the
I hereby certif	fy that the i	nformation giv	ven above i	is true and cor	mplete to th	ne best of my	knowledge and u	nderstand that p	irsuant to NM	OCD rt	ules and
regulations all	loperators	are required to	report and	l/or file certai:	n release n	otifications ar	nd perform correc	tive actions for r	eleases which	may en	ndanger
public health	or the envi	ronment. The	acceptance	of a C-141 re	eport by the	NMOCD m	arked as "Final Roon that pose a thro	eport" does not 1	elieve the ope	rator of	liability
or the environ	ment. In a	ddition, NMO	CD accepts	ance of a C-14	41 report de	oes not reliev	e the operator of	eat to ground wa responsibility for	compliance v	ner, nur vith anv	nan neam other
federal, state,											00.
		16	/ ,				OIL CON	SERVATIO	N DIVISIO	N	
Signature:											
				Approved by	District Supervise	or:					
<u> </u>			•			4 1=					
Title:	Direct	or, Field Envi	ronmentai	!		Approval Dat	:e:	Expiratio	n Date:		
E-mail Addres	ss: <u>jefiela</u>	ls@eprod.com			(Conditions of	Approval:		Attached		
Date: 1/17/7/11 Phone: 713-381-6684								·			
Attach Addit	ional Shee	ets II Necessa	iry								



January 11, 2017 Reference No. 11135027

Ms. Alena Miro Sr. Environmental Engineer Enterprise Products Company 3008 East Greene Street Carlsbad, NM 88220-9772 VIA E-Mail: ampolk@eprod.com

Dear Ms. Miro:

Re: Assessment Summary Report South Eddy Cryo Plant Enterprise Products LLC 2RP-3492 and 2RP-3493 Site Location: Sec. 1, T 25-S, R 31-E (Lat 32.163336°, Long -103.840086°) Eddy County, New Mexico

On behalf of Enterprise Products Company (Enterprise), GHD Services, Inc. (GHD, formerly Conestoga Rovers & Associates) is pleased to present this report for the above referenced site. Assessment activities were performed at the South Eddy Cryo Plant Site (hereafter referred to as the "Site"). Field work and data collected for the Site was performed by GHD Staff. The Site is located within Section 1, Township 25 South, Range 31 East, in Eddy County, New Mexico (Figure 1).

The Site is located approximately 27 miles southeast of Carlsbad, New Mexico. Two releases occurred at the Site over a short period of time. The first occurred on October 4, 2016 with a release of approximately 20 barrels (bbls) of amine solution. The amine solution is methyl-diethanolamine (MDEA). This release was assessed and sampled by GHD personnel and the contaminated soil was removed. The second incident occurred on October 8, 2016. During this release, approximately 16.7 bbls of amine solution was released. Both releases occurred from a sump overflow located at the base of a pump directly south of the main compressor piping. A Form C 141 was submitted to the New Mexico Oil Conservation Division (NMOCD) for each release (total of two forms submitted) on October 17, 2016 (See Appendix A).

1. Recommended Remediation Action Limits

There are relatively few groundwater wells in the area of the Site with which to obtain a depth to groundwater. Based on USGS groundwater information there are two wells within a 2-3 mile radius of the Site that have a depth to groundwater between 350 and 400 ft below ground surface (bgs). There is one well that is 4.47 miles from the Site that has the depth to groundwater at 65-70 ft bgs. GHD believes that this is representative of the depth to shallow groundwater in the area of the Site.

GHD

6121 Indian School Road NE Suite 200 Albuquerque New Mexico 87110 USA



There do not appear to be any well head protection areas and no surface water bodies within 200 ft to 1000 ft of the Site. Therefore, the preliminary total ranking score for the Site is 10 (see table below).

Based on this score, the applicable NMOCD Site specific Recommended Remediation Action Limits (RRALs) are 10 milligrams per kilogram (mg/kg) for benzene, 50 mg/kg for total benzene, toluene, ethylbenzene, and xylenes (BTEX), 1000 mg/kg for total petroleum hydrocarbons (TPH), and 250 mg/kg for chlorides.

New Mexico Oil Conservation Division Site Assessment				
Ranking Criteria	Score			
Depth to Ground Water (> 50 ft bgs, <100 ft bgs)	10			
Wellhead Protection Area (> 1000 ft from water source, > 200 ft from domestic source)	0			
Distance to Surface Body Water (200-1000 ft)	0			
Ranking Criteria Total Score	10*			
*The ranking criteria total score of 10 equates to NMOCD established RRALs of 10 mg/kg for benzene, 50 mg/kg for total BTEX, 1,000 mg/kg for TPH¹, and 250 mg/kg for chlorides.				

1. NMOCD Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993

2. Assessment Activities

During October 2016, Enterprise Products contracted GHD to assess the extent of the release. TWC LLC was contracted to excavate impacted soils and assist with the assessment. Initial assessment activities were performed using visual screening and sampling.

On October 13th, 2016 GHD returned to the site to sample the second release and perform site assessment activities. Soil samples were collected for laboratory analysis of benzene, toluene, ethylbenzene and xylene (BTEX) by EPA Method 8021, total petroleum hydrocarbon (TPH) diesel range organics (DRO) and gasoline range organics (GRO) by EPA Method 8015 (Appendix B). The samples were analyzed by Xenco Laboratories (Xenco) in Midland, Texas. The samples were also analyzed for MDEA by Xenco using their proprietary method.

In order to assess the vertical extent of the contamination sample locations were selected at the far extents of the area where the ground cover had been removed (Figure 2). Samples were collected using 4 oz. soil jars at depths of 12 inch (in.) to 18 in. bgs. Soil samples were collected, packed on ice, and shipped to Xenco.

The analytical results of the soil samples collected indicated that both BTEX and TPH concentrations from 12 in. to 18 in. in depth were below the laboratory reporting limits. Based on this, it appears that the vertical extent of petroleum hydrocarbons and BTEX has been assessed. The horizontal extent has been assessed in the northern, southern, and western directions of the release (Figure 2).



The impacted soils were excavated and placed in roll-off containers. The soil was disposed of at the Lea Land Landfill located on Highway 62/180 between Hobbs and Carlsbad, New Mexico (see attached manifests in Appendix C).

3. Conclusions and Recommendations

Concentrations of petroleum hydrocarbons were not detected above the laboratory reporting limit (LRL) in any of the samples collected. The soil sample collected adjacent to the release area was the only sample to indicate the presence of significant concentrations of MDEA.

GHD, on behalf of Enterprise is requesting that no further action be required for the Site. This is based on the following mitigating conditions:

- Petroleum hydrocarbons were not detected in any of the samples collected.
- MDEA was not detected in any significant concentrations with the exception of the sample located adjacent to the release area.
- There is no surface water or wells in the vicinity of the Site.
- The potential to impact groundwater is minimal given the depth (65 to 70 ft bgs).

Should you have any questions, or require additional information regarding this submittal, please feel free to contact Bernie Bockisch at (505) 884 0672 or Bernard.Bockisch@ghd.com.

Sincerely,

GHD

Charles Neligh Project Scientist

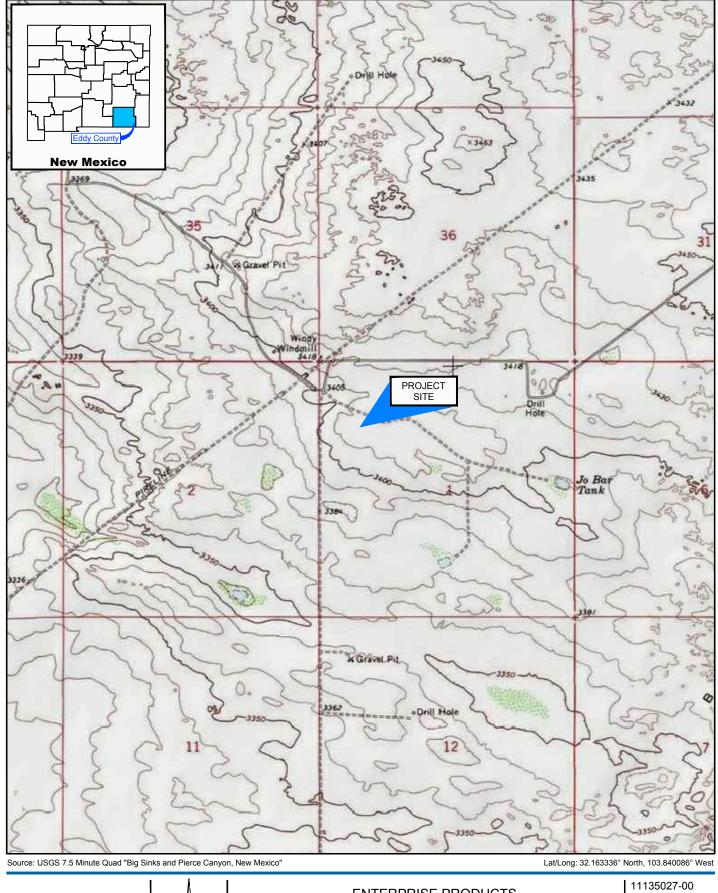
Charles Nhigh

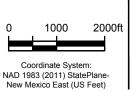
BB/mc/02

Bernard Bockisch Project Manager PPM

3

Figures







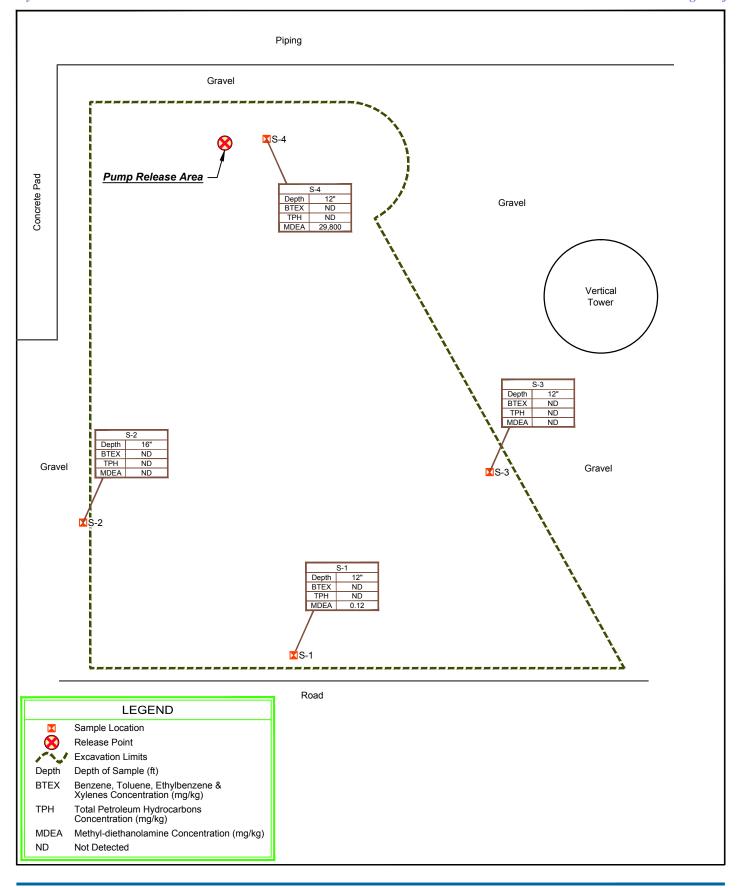


ENTERPRISE PRODUCTS EDDY COUNTY, NEW MEXICO SOUTH EDDY PLANT AMINE RELEASE ASSESSMENT

Nov 30, 2016

SITE LOCATION MAP

FIGURE 1









ENTERPRISE PRODUCTS EDDY COUNTY, NEW MEXICO SOUTH EDDY PLANT AMINE RELEASE ASSESSMENT

11135027-00 Nov 30, 2016

SITE DETAILS

FIGURE 2

Appendices

Appendix A C-141 Release Reports

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action						
	OPERA	TOR		ial Report		
Name of Company Enterprise Field Services LLC	Contact	Alena Mir				
PO Box 4324, Houston, TX 77210		No. <i>575-628-68</i>				
Facility Name South Eddy Cryo Plant	Facility Ty	pe: Natural Ga	s Processing Pl	ant		
Surface Owner Enterprise Field Services Mineral Ow LLC	ner <i>NA</i>		Lease	No. NA		
	ION OF RE					
Unit Letter Section Township Range Feet from the M 1 25S 30E 244	North/South Line South	Feet from the 628	East/West Line East	County Eddy		
Latitude: <u>N 32.160</u>	<u> 280</u> Longitu	de: <u><i>W-103.8278</i></u>	<u>811</u>	-		
NATU	RE OF REL	EASE				
Type of Release Amine liquid and process material	Volume of liquids	Release: 20 bbl	Volume	Recovered: 15 bbl liquids		
Source of Release Sump overfill	10/04/201	Hour of Occurrence 6 @ 18:00 MST	l l	Hour of Discovery 16 @ 18:00 MST		
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Requ	ired If YES, To	Whom?				
By Whom?	Date and I	Date and Hour				
Was a Watercourse Reached? ☐ Yes ☑ No	If YES, Vo	If YES, Volume Impacting the Watercourse.				
If a Watercourse was Impacted, Describe Fully.*						
Describe Cause of Problem and Remedial Action Taken.*						
Amine system liquids were released due to a sump overflow. The sibbls of liquid released.	ump was isolated o	and contaminated	l soil was contain	ed on site. Approximately 20		
Describe Area Affected and Cleanup Action Taken.*						
A liquid spill of approximately 20 bbls of amine solution was releas Enterprise , General Release Notification, Response and Remediati	sed. All liquids w ion Plan (March S	ere confined to th), 2015).	e facility site. Ren	nediation actions will follow the		
The decided of the de			4 4 4	77.000		
I hereby certify that the information given above is true and complete regulations all operators are required to report and/or file certain relea						
public health or the environment. The acceptance of a C-141 report b	by the NMOCD m	arked as "Final Ro	eport" does not rel	ieve the operator of liability		
should their operations have failed to adequately investigate and remover the environment. In addition, NMOCD acceptance of a C-141 rep	ediate contaminati	on that pose a three	eat to ground water	r, surface water, human health		
federal, state, or local laws and/or regulations.	ort does not renev	e the operator of f	esponsibility for c	ompliance with any other		
		OIL CONSERVATION DIVISION				
Signature: N. Keef						
Printed Name: Jon E. Fields	Approved by	District Superviso	or:			
Title: Director, Field Environmental	Approval Dat	e:	Expiration	Date:		
E-mail Address: jefields@eprod.com	Conditions of	Conditions of Approval:		Attached		
Date: 10/17/2014 Phone: 713-381-6684 Attach Additional Sheets If Necessary						
AUBCH AUGHUORRI SHEETS II INECESSRY						

Mendez, Brenda

From: Mendez, Brenda

Sent: Monday, October 17, 2016 2:10 PM

To: 'mike.bratcher@state.nm.us'; heather.patterson@state.nm.us

Cc: Ferguson, Dina; Miro, Alena; Nolan, Shiver **Subject:** South Eddy Cryo Plant C141 (10-8-16)

Attachments: South Eddy Cryo C141 Release Report (10-8) October 2016.pdf

Attached is the C-141 Form for the South Eddy Cryo Plant for October 8, 2016.

If you have questions or need additional information, please contact Alena Miro at 575-628-6802.

Thank you

Brenda J. Mendez – Planning and Reports Analyst
Enterprise Products Operating, LLC
Tel (713) 381-8270 – Fax (713) 880-6660
bjmendez@eprod.com

District I
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State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action												
				OPERA'	TOR		✓ Initia	al Report		Final Repor		
Name of Co		nterprise Fi				Contact	Alena Mire					
T 11', 37		O Box 4324,		, TX 77210			No. 575-628-68					
Facility Na	me Soi	uth Eddy Cr	yo Plant			Facility Typ	e: Natural Ga	s Proces	ssing Pla	nt		
Surface Ow LLC	ner Enter	prise Field S	Services	Mineral (Owner	NA			Lease N	Vo. NA		
				LOCA	ATIO	N OF RE	LEASE					
Unit Letter H	Section 1	Township 25S	Range 30E	Feet from the 244	Nortl	/South Line South	Feet from the 628		est Line ast	County Eddy		
			L	atitude: <u>N 32.1</u>	160280	Longitu	de: <u><i>W -103.8278</i></u>	<u> </u>				
	NATURE OF RELEASE											
Type of Rele	ase Amine	liquid and pr	ocess mat	erial		Volume of liquids	Release: 16.7 bb	ls	Volume R	Recovered:	10 bb	ls liquids
Source of Re	lease Sum	p overfill				Date and H	lour of Occurrenc			Hour of Dis		у
Was Immedi	ate Notice G					If YES, To	6 @ 06:00 MST Whom?		10/08/201	6 @ 06:00	MST	
			Yes	No Not Re	equired							
By Whom? Was a Water	COURSE Dead	hed?				Date and H	lour dume Impacting t	ha Watar	2011420			
Was a Water	course Reac		Yes 🛛	No		II 1ES, VC	nume impacting t	ne water	course.			
If a Watercou	ırse was Imp	oacted, Descri	be Fully.*									
Describe Cau												
Amine systen		re released di	ue to a sun	ip overflow. The	e sump	was isolated o	and contaminated	l soil was	containe	d on site. A	pprox	imately 16.7
Describe Are	a Affected a											
				e solution was re esponse and Ren			were confined to t ch 9, 2015).	the facili	ty site. Re	mediation (iction.	s will follow
I hereby certi	fy that the ir	nformation give	ven above	is true and comp	lete to 1	he best of my	knowledge and ur	nderstand	l that purs	uant to NM	OCD	rules and
regulations al	l operators a	are required to	report and	l/or file certain re	el <mark>e</mark> ase r	otifications ar	nd perform correct	tive actio	ns for rele	ases which	may e	ndanger
public health	or the envir	onment. The	acceptance	of a C-141 repo	rt by th	e NMOCD m	arked as "Final Re on that pose a thre	eport" do	es not reli	eve the ope	rator o	of liability
or the enviror	ment. In ac	ldition, NMO	dequatery CD accept	ance of a C-141	report o	loes not relieve	e the operator of r	esponsib	ility for co	, surrace wa ompliance v	rith an	uman neam v other
federal, state,												
Signature;						OIL CONSERVATION DIVISION						
					Approved by District Supervisor:			·				
Title:		or, Field Envi	ronmenta	!		Approval Date	e:	Fa	epiration I	Date:		
E-mail Addre						Conditions of		1 20			_	
4- /	1/2016		-381-6684							Attached		
		te If Necessa										



Univar USA Inc Material Safety Data Sheet

MSDS No:	UCC95241
Version No:	010 2012-02-09
Order No:	

Univar USA Inc., 17425 NE Union Hill Rd., Redmond WA 98052 (425) 889 3400

Emergency Assistance

For emergency assistance involving chemicals call Chemtrec - (800) 424-9300 UNIVAR USA INC. ISSUE DATE:2011-02-23 Annotation:



Material Safety Data Sheet

The Dow Chemical Company

Product Name: UCARSOL(TM) AP SOLVENT 814 Issue Date: 02/23/2011
Print Date: 23 Jan 2012

The Dow Chemical Company encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. Product and Company Identification

Product Name

UCARSOL™ AP SOLVENT 814

COMPANY IDENTIFICATION

The Dow Chemical Company 2030 Willard H. Dow Center Midland, MI 48674 United States

Customer Information Number: 800-258-2436

SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 989-636-4400 **Local Emergency Contact**: 989-636-4400

2. Hazards Identification

Emergency Overview

Color: Colorless to yellow Physical State: Liquid.
Odor: Ammoniacal
Hazards of product:

DANGER! Causes severe eye burns. Causes burns of the mouth and throat. Prolonged exposure may cause skin burns. May cause allergic skin reaction. May be harmful if swallowed. Aspiration hazard. Can enter lungs and cause damage. Evacuate area. Keep upwind of spill. Stay out of low areas.

OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential Health Effects

Eye Contact: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

®(TM)*Trademark

Product Name: UCARSOL(TM) AP SOLVENT 814 **Issue Date:** 02/23/2011

Skin Contact: Prolonged contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage.

Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts. **Skin Sensitization:** Skin contact may cause an allergic skin reaction. Contains component(s) which have demonstrated the potential for contact allergy in mice. Individuals who have had an allergic skin reaction to similar materials may have an allergic skin reaction to this product. The similar material(s) is/are: Triethylenetetramine (TETA).

Inhalation: At room temperature, exposure to vapor is minimal due to low volatility. If material is heated or aerosol/mist is produced, concentrations may be attained that are sufficient to cause respiratory irritation and other effects. Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening. Ingestion: Low toxicity if swallowed. Swallowing may result in burns of the mouth and throat. Swallowing may result in gastrointestinal irritation or ulceration. May cause nausea and vomiting. May cause abdominal discomfort or diarrhea.

Aspiration hazard: Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

Birth Defects/Developmental Effects: For the minor component(s): Has caused birth defects in laboratory animals only at doses toxic to the mother. Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

Reproductive Effects: For the minor component(s): In animal studies, has been shown to interfere with reproduction. In animal studies, has been shown to interfere with fertility.

3. Composition Information

Component	CAS#	Amount
Substituted amine (1)	Trade secret	> 65.0 %
Substituted amine (2)	Trade secret	> 15.0 %
Water	7732-18-5	7.0 - 9.0 %

4. First-aid measures

Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin Contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.

Eye Contact: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: Do not induce vomiting. Give one cup (8 ounces or 240 ml) of water or milk if available and transport to a medical facility. Do not give anything by mouth unless the person is fully conscious.

Most important symptoms and effects, both acute and delayed

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), no additional symptoms and effects are anticipated.

Indication of immediate medical attention and special treatment needed

Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Chemical eye burns

Product Name: UCARSOL(TM) AP SOLVENT 814 Issue Date: 02/23/2011

may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn, after decontamination. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

5. Fire Fighting Measures

Suitable extinguishing media

Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Extinguishing Media to Avoid: Do not use direct water stream. May spread fire.

Special hazards arising from the substance or mixture

Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide. **Unusual Fire and Explosion Hazards:** Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Evacuate area. Refer to Section 7, Handling, for additional precautionary measures. Keep upwind of spill. Ventilate area of leak or spill. Keep personnel out of low areas. Only trained and properly protected personnel must be involved in clean-up operations. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Small spills: Absorb with materials such as: Non-combustible material. Clay. Vermiculite. Zorb-all®. Do NOT use absorbent materials such as: Ground corn cobs. Moist organic absorbents. Peat moss. Cellulose. Sawdust. Large spills: Contain spilled material if possible. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

7. Handling and Storage

Handling

Product Name: UCARSOL(TM) AP SOLVENT 814 Issue Date: 02/23/2011

General Handling: Do not get in eyes. Do not swallow. Avoid breathing vapor. Avoid contact with skin and clothing. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Other Precautions: Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Storage

Store in accordance with good manufacturing practices. Use only with adequate ventilation. Do not store in: Aluminum. Copper. Copper alloys. Galvanized containers. Zinc. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact.

Storage Period: Bulk 18 Months Metal drums. 36 Months

8. Exposure Controls / Personal Protection

Exposure Limits Component List Type Value

None established

Personal Protection

Eye/Face Protection: Use chemical goggles.

Skin Protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. Avoid gloves made of: Polyvinyl alcohol ("PVA"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Respiratory Protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

Ingestion: Avoid ingestion of even very small amounts; do not consume or store food or tobacco in the work area; wash hands and face before smoking or eating.

Engineering Controls

Ventilation: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

9. Physical and Chemical Properties

Appearance Physical State

Liquid.

Product Name: UCARSOL(TM) AP SOLVENT 814 Issue Date: 02/23/2011

Color Colorless to yellow
Odor Ammoniacal
Odor Threshold No test data available

pH 11 Literature
Melting Point Not applicable

Freezing Point -48 °C (-54 °F) Literature Pour point Boiling Point (760 mmHg) -48 °C (259 °F) Literature .

Flash Point - Closed Cup 102 °C (216 °F) ASTM D93 132 °C (270 °F) Cleveland Open Cup ASTM D92

Evaporation Rate (Butyl 0.5 Literature

Acetate = 1)

Flammability (solid, gas)
Flammable Limits In Air
Not applicable to liquids
Lower: No test data available
Upper: No test data available

Vapor Pressure

4.6 mmHg @ 20 °C Literature

Vapor Density (air = 1) 2.8 Literature

Specific Gravity (H2O = 1) 1.045 20 °C/20 °C Literature Solubility in water (by 10.0 % @ 20 °C Literature

weight)

Partition coefficient, n- No data available for this product. See Section 12 for individual

octanol/water (log Pow) component data.

Autoignition Temperature 304 - 307 °C (579 - 585 °F) *Literature*

DecompositionNo test data available **Temperature**

Kinematic Viscosity No test data available

Molecular Weight 106 g/mol

10. Stability and Reactivity

Reactivity

No dangerous reaction known under conditions of normal use.

Chemical stability

Stable under recommended storage conditions. See Storage, Section 7.

Possibility of hazardous reactions

Polymerization will not occur.

Conditions to Avoid: Exposure to elevated temperatures can cause product to decompose.

Incompatible Materials: Avoid contact with: Acrylates. Alcohols. Aldehydes. Ketones. Nitrites. Strong acids. Strong oxidizers. Avoid contact with metals such as: Aluminum. Copper. Copper alloys. Galvanized metals. Zinc. Avoid unintended contact with: Halogenated hydrocarbons. Avoid contact with absorbent materials such as: Ground corn cobs. Moist organic absorbents. Peat moss. Sawdust.

Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials.

11. Toxicological Information

Acute Toxicity

Ingestion

Single dose oral LD50 has not been determined.

Derma

The dermal LD50 has not been determined.

Inhalation

As product: The LC50 has not been determined.

Eye damage/eye irritation

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May cause severe irritation with corneal injury which may result in permanent impairment of vision. even blindness. Chemical burns may occur.

Skin corrosion/irritation

Prolonged contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage.

Sensitization

Skin

Skin contact may cause an alleroic skin reaction. Contains component(s) which have demonstrated the potential for contact allergy in mice. Individuals who have had an allergic skin reaction to similar materials may have an allergic skin reaction to this product. The similar material(s) is/are: Triethylenetetramine (TETA).

Repeated Dose Toxicity

For the component(s) tested: Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Chronic Toxicity and Carcinogenicity

For the minor component(s): Did not cause cancer in laboratory animals.

Developmental Toxicity

For the minor component(s): Has caused birth defects in laboratory animals only at doses toxic to the mother. Has been toxic to the fetus in laboratory animals at doses toxic to the mother. For the major component(s): Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Reproductive Toxicity

For the minor component(s): In animal studies, has been shown to interfere with reproduction. In animal studies, has been shown to interfere with fertility.

Genetic Toxicology

For all components. In vitro genetic toxicity studies were negative. For all components. Animal genetic toxicity studies were negative.

Ecological Information 12.

Toxicity

Data for Component: Substituted amine (1)

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity

LC50, golden orfe (Leuciscus idus), static, 96 h: 1,466 mg/l

LC50, fathead minnow (Pimephales promelas), static, 96 h: 1,200 mg/l

Aquatic Invertebrate Acute Toxicity

EC50, water flea Daphnia magna, static, 48 h, immobilization: 2,330 mg/l

Aquatic Plant Toxicity

EC50, green alga Desmodesmus subspicatus, static, Growth rate inhibition, 72 h: > 100 mg/l

Data for Component: Substituted amine (2)

Material is slightly toxic to fish on an acute basis (LC50 between 10 and 100 mg/L).

Fish Acute & Prolonged Toxicity

LC50, guppy (Poecilia reticulata), static renewal, 96 h: > 1,800 mg/l

Aquatic Invertebrate Acute Toxicity

EC50, water flea Daphnia magna, static, 48 h, immobilization: 21 mg/l

Aquatic Plant Toxicity

EC50, green alga Pseudokirchneriella subcapitata (formerly known as Selenastrum capricornutum). Growth inhibition (cell density reduction), 72 h: 130 mg/l

NOEC, Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata), static,

Growth rate inhibition, 72 h: > 1,000 mg/l

Toxicity to Micro-organisms

IC50; bacteria, 16 h: > 5,000 mg/l

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Persistence and Degradability

Data for Component: Substituted amine (1)

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method	10 Day Window		
96 %	18 d	OECD 301A Test	pass		
Indirect Photodegradation with OH Radicals					
Rate Constant	Atmosphe	ric Half-life	Method		
9.70E-11 cm3/s	1.33	24 h	Estimated.		
Biological oxygen demand (BOD):					
BOD 5	BOD 10	BOD 20	BOD 28		
40 %			42 %		
	1 0 00				

Theoretical Oxygen Demand: 2.29 mg/mg

Data for Component: Substituted amine (2)

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method	10 Day Window
> 90 %	28 d	OECD 302B Test	Not applicable
65.3 %	28 d	OECD 301F Test	pass

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
1.69E-10 cm3/s	2.8 h	Estimated.

Bioaccumulative potential

Data for Component: Substituted amine (1)

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient, n-octanol/water (log Pow): -1.08 Measured

Data for Component: Substituted amine (2)

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient, n-octanol/water (log Pow): -1.24 Measured

Bioconcentration Factor (BCF): < 3.9; fish; Measured

Mobility in soil

Data for Component: Substituted amine (1)

Mobility in soil: Potential for mobility in soil is high (Koc between 50 and 150).

Partition coefficient, soil organic carbon/water (Koc): 53 Estimated.

Henry's Law Constant (H): 9E-06 Pa m³/mol; 25 °C Estimated.

Data for Component: Substituted amine (2)

Mobility in soil: Potential for mobility in soil is low (Koc between 500 and 2000).

Partition coefficient, soil organic carbon/water (Koc): 507 Measured

Henry's Law Constant (H): 2.2E-02 Pa*m3/mole. Estimated.

13. Disposal Considerations

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE

MSDS NO:UCC95241 VERSION:010 2012-02-09

Product Name: UCARSOL(TM) AP SOLVENT 814 Issue Date: 02/23/2011

PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

14. Transport Information

DOT Non-Bulk

NOT REGULATED

DOT Bulk

NOT REGULATED

IMDG

NOT REGULATED

ICAO/IATA

NOT REGULATED

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. Regulatory Information

OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Immediate (Acute) Health Hazard	Yes
Delayed (Chronic) Health Hazard	No
Fire Hazard	No
Reactive Hazard	No
Sudden Release of Pressure Hazard	No

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:

The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

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Component	CAS#	Amount
Substituted amine (2)	Trade secret	> 15.0 %

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

Product Name: UCARSOL(TM) AP SOLVENT 814 Issue Date: 02/23/2011

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

US. Toxic Substances Control Act

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

CEPA - Domestic Substances List (DSL)

All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

16. Other Information

Product Literature

Additional information on this product may be obtained by calling your sales or customer service contact. Ask for a product brochure. Additional information on this and other products may be obtained by visiting our web page.

Hazard Rating System

NFPA Health Fire Reactivity
3 1 0

Recommended Uses and Restrictions

Carbon dioxide removal. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

Revision

Identification Number: 1511 / 1001 / Issue Date 02/23/2011 / Version: 5.0 Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

N/A	Not available
W/W	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level
HAZ_DES	Hazard Designation
Action Level	A value set by OSHA that is lower than the PEL which will trigger the need for
	activities such as exposure monitoring and medical surveillance if exceeded.

The Dow Chemical Company urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

Univar USA Inc Material Safety Data Sheet

For Additional Information contact MSDS Coordinator during business hours, Pacific time: (425) 889-3400

Notice

Univar USA Inc. ("Univar") expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this MSDS as a product specification. For product specification information refer to a product specification sheet and/or a certificate of analysis. These can be obtained from your local Univar sales office.

All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, Univar makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Univar's control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product, or from the publication or use of, or reliance upon, information contained herein.

This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process



Material Safety Data Sheet

The Dow Chemical Company

Product Name: UCARSOL(TM) AP SOLVENT 814 Issue Date: 02/23/2011
Print Date: 23 Jan 2012

The Dow Chemical Company encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. Product and Company Identification

Product Name

UCARSOL™ AP SOLVENT 814

COMPANY IDENTIFICATION

The Dow Chemical Company 2030 Willard H. Dow Center Midland, MI 48674 United States

Customer Information Number: 800-258-2436

SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 989-636-4400 **Local Emergency Contact**: 989-636-4400

2. Hazards Identification

Emergency Overview

Color: Colorless to yellow Physical State: Liquid.
Odor: Ammoniacal
Hazards of product:

DANGER! Causes severe eye burns. Causes burns of the mouth and throat. Prolonged exposure may cause skin burns. May cause allergic skin reaction. May be harmful if swallowed. Aspiration hazard. Can enter lungs and cause damage. Evacuate area. Keep upwind of spill. Stay out of low areas.

OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential Health Effects

Eye Contact: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

®(TM)*Trademark

Product Name: UCARSOL(TM) AP SOLVENT 814 Issue Date: 02/23/2011

Skin Contact: Prolonged contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage.

Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts. **Skin Sensitization:** Skin contact may cause an allergic skin reaction. Contains component(s) which have demonstrated the potential for contact allergy in mice. Individuals who have had an allergic skin reaction to similar materials may have an allergic skin reaction to this product. The similar material(s) is/are: Triethylenetetramine (TETA).

Inhalation: At room temperature, exposure to vapor is minimal due to low volatility. If material is heated or aerosol/mist is produced, concentrations may be attained that are sufficient to cause respiratory irritation and other effects. Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening. Ingestion: Low toxicity if swallowed. Swallowing may result in burns of the mouth and throat. Swallowing may result in gastrointestinal irritation or ulceration. May cause nausea and vomiting. May cause abdominal discomfort or diarrhea.

Aspiration hazard: Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

Birth Defects/Developmental Effects: For the minor component(s): Has caused birth defects in laboratory animals only at doses toxic to the mother. Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

Reproductive Effects: For the minor component(s): In animal studies, has been shown to interfere with reproduction. In animal studies, has been shown to interfere with fertility.

3. Composition Information

Component	CAS#	Amount
Substituted amine (1)	Trade secret	> 65.0 %
Substituted amine (2)	Trade secret	> 15.0 %
Water	7732-18-5	7.0 - 9.0 %

4. First-aid measures

Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin Contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.

Eye Contact: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: Do not induce vomiting. Give one cup (8 ounces or 240 ml) of water or milk if available and transport to a medical facility. Do not give anything by mouth unless the person is fully conscious.

Most important symptoms and effects, both acute and delayed

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), no additional symptoms and effects are anticipated.

Indication of immediate medical attention and special treatment needed

Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Chemical eye burns

Product Name: UCARSOL(TM) AP SOLVENT 814 **Issue Date:** 02/23/2011

may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn, after decontamination. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

5. Fire Fighting Measures

Suitable extinguishing media

Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Extinguishing Media to Avoid: Do not use direct water stream. May spread fire.

Special hazards arising from the substance or mixture

Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide. **Unusual Fire and Explosion Hazards:** Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Evacuate area. Refer to Section 7, Handling, for additional precautionary measures. Keep upwind of spill. Ventilate area of leak or spill. Keep personnel out of low areas. Only trained and properly protected personnel must be involved in clean-up operations. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Small spills: Absorb with materials such as: Non-combustible material. Clay. Vermiculite. Zorb-all®. Do NOT use absorbent materials such as: Ground corn cobs. Moist organic absorbents. Peat moss. Cellulose. Sawdust. Large spills: Contain spilled material if possible. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

7. Handling and Storage

Handling

Product Name: UCARSOL(TM) AP SOLVENT 814 Issue Date: 02/23/2011

General Handling: Do not get in eyes. Do not swallow. Avoid breathing vapor. Avoid contact with skin and clothing. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Other Precautions: Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Storage

Store in accordance with good manufacturing practices. Use only with adequate ventilation. Do not store in: Aluminum. Copper. Copper alloys. Galvanized containers. Zinc. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact.

Storage Period: Bulk 18 Months Metal drums. 36 Months

8. Exposure Controls / Personal Protection

Exposure Limits Component List Type Value

None established

Personal Protection

Eye/Face Protection: Use chemical goggles.

Skin Protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. Avoid gloves made of: Polyvinyl alcohol ("PVA"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Respiratory Protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

Ingestion: Avoid ingestion of even very small amounts; do not consume or store food or tobacco in the work area; wash hands and face before smoking or eating.

Engineering Controls

Ventilation: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

9. Physical and Chemical Properties

Appearance Physical State

Liquid.

ISSUE DATE:2011-02-23

Annotation:

Product Name: UCARSOL(TM) AP SOLVENT 814 Issue Date: 02/23/2011

Color Colorless to yellow Ammoniacal

Odor Threshold No test data available

pH 11 *Literature* **Melting Point** Not applicable

Freezing Point

Boiling Point (760 mmHg)
Flash Point - Closed Cup

-48 °C (-54 °F) Literature Pour point
126 °C (259 °F) Literature .
102 °C (216 °F) ASTM D93

Flash Point - Open Cup 132 °C (270 °F) Cleveland Open Cup ASTM D92

Evaporation Rate (Butyl 0.5 *Literature*

Acetate = 1)
Flammability (solid, gas)
Flammable Limits In Air

Not applicable to liquids
Lower: No test data available
Upper: No test data available

Vapor Pressure

Upper: No test data available
4.6 mmHg @ 20 °C Literature

Vapor Density (air = 1) 2.8 Literature

Specific Gravity (H2O = 1) 1.045 20 $^{\circ}$ C/20 $^{\circ}$ C Literature Solubility in water (by 100 $^{\circ}$ @ 20 $^{\circ}$ C Literature

weight)

Partition coefficient, n- No data available for this product. See Section 12 for individual

octanol/water (log Pow) component data.

Autoignition Temperature 304 - 307 °C (579 - 585 °F) *Literature*

Decomposition No test data available

Temperature

Kinematic Viscosity No test data available

Molecular Weight 106 g/mol

10. Stability and Reactivity

Reactivity

No dangerous reaction known under conditions of normal use.

Chemical stability

Stable under recommended storage conditions. See Storage, Section 7.

Possibility of hazardous reactions

Polymerization will not occur.

Conditions to Avoid: Exposure to elevated temperatures can cause product to decompose.

Incompatible Materials: Avoid contact with: Acrylates. Alcohols. Aldehydes. Ketones. Nitrites. Strong acids. Strong oxidizers. Avoid contact with metals such as: Aluminum. Copper. Copper alloys. Galvanized metals. Zinc. Avoid unintended contact with: Halogenated hydrocarbons. Avoid contact with absorbent materials such as: Ground corn cobs. Moist organic absorbents. Peat moss. Sawdust.

Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials.

11. Toxicological Information

Acute Toxicity

Ingestion

Single dose oral LD50 has not been determined.

Derma

The dermal LD50 has not been determined.

Inhalation

As product: The LC50 has not been determined.

Eye damage/eye irritation

Product Name: UCARSOL(TM) AP SOLVENT 814 Issue Date: 02/23/2011

May cause severe irritation with corneal injury which may result in permanent impairment of vision. even blindness. Chemical burns may occur.

Skin corrosion/irritation

Prolonged contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage.

Sensitization

Skin

Skin contact may cause an alleroic skin reaction. Contains component(s) which have demonstrated the potential for contact allergy in mice. Individuals who have had an allergic skin reaction to similar materials may have an allergic skin reaction to this product. The similar material(s) is/are: Triethylenetetramine (TETA).

Repeated Dose Toxicity

For the component(s) tested: Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Chronic Toxicity and Carcinogenicity

For the minor component(s): Did not cause cancer in laboratory animals.

Developmental Toxicity

For the minor component(s): Has caused birth defects in laboratory animals only at doses toxic to the mother. Has been toxic to the fetus in laboratory animals at doses toxic to the mother. For the major component(s): Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Reproductive Toxicity

For the minor component(s): In animal studies, has been shown to interfere with reproduction. In animal studies, has been shown to interfere with fertility.

Genetic Toxicology

For all components. In vitro genetic toxicity studies were negative. For all components. Animal genetic toxicity studies were negative.

Ecological Information 12.

Toxicity

Data for Component: Substituted amine (1)

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity

LC50, golden orfe (Leuciscus idus), static, 96 h: 1,466 mg/l

LC50, fathead minnow (Pimephales promelas), static, 96 h: 1,200 mg/l

Aquatic Invertebrate Acute Toxicity

EC50, water flea Daphnia magna, static, 48 h, immobilization: 2,330 mg/l

Aquatic Plant Toxicity

EC50, green alga Desmodesmus subspicatus, static, Growth rate inhibition, 72 h: > 100 mg/l

Data for Component: Substituted amine (2)

Material is slightly toxic to fish on an acute basis (LC50 between 10 and 100 mg/L).

Fish Acute & Prolonged Toxicity

LC50, guppy (Poecilia reticulata), static renewal, 96 h: > 1,800 mg/l

Aquatic Invertebrate Acute Toxicity

EC50, water flea Daphnia magna, static, 48 h, immobilization: 21 mg/l

Aquatic Plant Toxicity

EC50, green alga Pseudokirchneriella subcapitata (formerly known as Selenastrum capricornutum). Growth inhibition (cell density reduction), 72 h: 130 mg/l

NOEC, Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata), static,

Growth rate inhibition, 72 h: > 1,000 mg/l

Toxicity to Micro-organisms

IC50; bacteria, 16 h: > 5,000 mg/l

Product Name: UCARSOL(TM) AP SOLVENT 814 Issue Date: 02/23/2011

Persistence and Degradability

Data for Component: Substituted amine (1)

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

OECD Biodegradation Tests:

96 % 18 d OECD 301A Test pass	Biodegradation	Exposure Time	Method	10 Day Window
Rate Constant Atmospheric Half-life Method 9.70E-11 cm3/s 1.324 h Estimated. Biological oxygen demand (BOD): BOD 5 BOD 10 BOD 20 BOD 28	96 %	18 d	18 d OECD 301A Test pass	
9.70E-11 cm3/s 1.324 h Estimated. Biological oxygen demand (BOD): BOD 5 BOD 10 BOD 20 BOD 28	Indirect Photodegradation with OH Radicals			
Biological oxygen demand (BOD): BOD 5 BOD 10 BOD 20 BOD 28	Rate Constant	Atmosphe	ric Half-life	Method
BOD 5 BOD 10 BOD 20 BOD 28	9.70E-11 cm3/s	1.3	24 h	Estimated.
	Biological oxygen de	mand (BOD):		
40 %	BOD 5	BOD 10	BOD 20	BOD 28
	40 %			42 %

Theoretical Oxygen Demand: 2.29 mg/mg

Data for Component: Substituted amine (2)

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method	10 Day Window
> 90 %	28 d	OECD 302B Test	Not applicable
65.3 %	28 d	OECD 301F Test	pass

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
1.69E-10 cm3/s	2.8 h	Estimated.

Bioaccumulative potential

Data for Component: Substituted amine (1)

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient, n-octanol/water (log Pow): -1.08 Measured

Data for Component: Substituted amine (2)

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient, n-octanol/water (log Pow): -1.24 Measured

Bioconcentration Factor (BCF): < 3.9; fish; Measured

Mobility in soil

Data for Component: Substituted amine (1)

Mobility in soil: Potential for mobility in soil is high (Koc between 50 and 150).

Partition coefficient, soil organic carbon/water (Koc): 53 Estimated.

Henry's Law Constant (H): 9E-06 Pa m³/mol; 25 °C Estimated.

Data for Component: Substituted amine (2)

Mobility in soil: Potential for mobility in soil is low (Koc between 500 and 2000).

Partition coefficient, soil organic carbon/water (Koc): 507 Measured

Henry's Law Constant (H): 2.2E-02 Pa*m3/mole. Estimated.

13. Disposal Considerations

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE

Product Name: UCARSOL(TM) AP SOLVENT 814 Issue Date: 02/23/2011

PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

14. Transport Information

DOT Non-Bulk

NOT REGULATED

DOT Bulk

NOT REGULATED

IMDG

NOT REGULATED

ICAO/IATA

NOT REGULATED

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. Regulatory Information

OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Immediate (Acute) Health Hazard	Yes
Delayed (Chronic) Health Hazard	No
Fire Hazard	No
Reactive Hazard	No
Sudden Release of Pressure Hazard	No

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:

The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Component	CAS#	Amount
Substituted amine (2)	Trade secret	> 15.0 %

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

Product Name: UCARSOL(TM) AP SOLVENT 814

Issue Date: 02/23/2011

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

US. Toxic Substances Control Act

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

CEPA - Domestic Substances List (DSL)

All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

16. Other Information

Product Literature

Additional information on this product may be obtained by calling your sales or customer service contact. Ask for a product brochure. Additional information on this and other products may be obtained by visiting our web page.

Hazard Rating System

NFPA Health Fire Reactivity

Recommended Uses and Restrictions

Carbon dioxide removal. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

Revision

Identification Number: 1511 / 1001 / Issue Date 02/23/2011 / Version: 5.0 Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

N/A	Not available
W/W	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level
HAZ_DES	Hazard Designation
Action Level	A value set by OSHA that is lower than the PEL which will trigger the need for
	activities such as exposure monitoring and medical surveillance if exceeded.

The Dow Chemical Company urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

Univar USA Inc Material Safety Data Sheet

For Additional Information contact MSDS Coordinator during business hours, Pacific time: (425) 889-3400

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This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process

Appendix B Laboratory Analytical Report

Analytical Report 538742

for

GHD-Albuquerque, NM

Project Manager: Bernie Bockisch
Enterprise South Eddy
11135037
17-OCT-16

Collected By: Client





1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)

Xenco-San Antonio: Texas (T104704534)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



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Sample Receipt Conformance Report	15





17-OCT-16

Project Manager: Bernie Bockisch

GHD-Albuquerque, NM

6121 Indian School Rd. NE Suite 200

Albuquerque, NM 87110

Reference: XENCO Report No(s): 538742

Enterprise South Eddy

Project Address:

Bernie Bockisch:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 538742. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 538742 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks

Knis Hoah

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

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Sample Cross Reference 538742



GHD-Albuquerque, NM, Albuquerque, NM

Enterprise South Eddy

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
S-11135037-101316-CN-SI	S	10-13-16 09:31	12 In	538742-001
S-11135037-101316-CN-S2	S	10-13-16 09:36	16 In	538742-002
S-11135037-101316-CN-S3	S	10-13-16 09:40	12 In	538742-003
S-11135037-101316-CN-S4	S	10-13-16 09:52	12 In	538742-004



CASE NARRATIVE



Client Name: GHD-Albuquerque, NM Project Name: Enterprise South Eddy

 Project ID:
 11135037
 Report Date:
 17-OCT-16

 Work Order Number(s):
 538742
 Date Received:
 10/14/2016

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3002116 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.





GHD-Albuquerque, NM, Albuquerque, NM

Enterprise South Eddy

Sample Id: S-11135037-101316-CN-SI

Matrix: Soil

Date Received:10.14.16 12.01

Lab Sample Id: 538742-001

Date Collected: 10.13.16 09.31

Sample Depth: 12 In

Analytical Method: TPH by SW 8015B

Prep Method: TX1005P

Tech:

Analyst:

ARM ARM

Date Prep: 10.14.16 16.00

% Moisture: Basis:

Wet Weight

Seq Number: 3002122

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	ND	15.0		mg/kg	10.14.16 21.57	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	ND	15.0		mg/kg	10.14.16 21.57	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	15.0		mg/kg	10.14.16 21.57	U	1
Total TPH	PHC635	ND	15.0		mg/kg	10.14.16 21.57	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	109	%	70-135	10.14.16 21.57		
o-Terphenyl		84-15-1	118	%	70-135	10.14.16 21.57		

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech:
Analyst:

PJB PJB

Date Prep: 10.14.16 18.00

% Moisture: Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00150		mg/kg	10.14.16 19.56	U	1
Toluene	108-88-3	ND	0.00200		mg/kg	10.14.16 19.56	U	1
Ethylbenzene	100-41-4	ND	0.00200		mg/kg	10.14.16 19.56	U	1
m,p-Xylenes	179601-23-1	ND	0.00200		mg/kg	10.14.16 19.56	U	1
o-Xylene	95-47-6	ND	0.00299		mg/kg	10.14.16 19.56	U	1
Total Xylenes	1330-20-7	ND	0.00200		mg/kg	10.14.16 19.56	U	1
Total BTEX		ND	0.00150		mg/kg	10.14.16 19.56	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	103	%	80-120	10.14.16 19.56		
1,4-Difluorobenzene		540-36-3	103	%	80-120	10.14.16 19.56		





GHD-Albuquerque, NM, Albuquerque, NM

Enterprise South Eddy

Sample Id: S-11135037-101316-CN-S2 Matrix: Soil Date Received:10.14.16 12.01

Lab Sample Id: 538742-002

Date Collected: 10.13.16 09.36

Sample Depth: 16 In

Analytical Method: TPH by SW 8015B

Prep Method: TX1005P % Moisture:

Tech:

Analyst:

ARM ARM

10.14.16 16.00 Date Prep:

Basis:

Wet Weight

Seq Number: 3002122

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	ND	15.0		mg/kg	10.14.16 22.22	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	ND	15.0		mg/kg	10.14.16 22.22	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	15.0		mg/kg	10.14.16 22.22	U	1
Total TPH	PHC635	ND	15.0		mg/kg	10.14.16 22.22	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	112	%	70-135	10.14.16 22.22		
o-Terphenyl		84-15-1	120	%	70-135	10.14.16 22.22		

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: Analyst: PJB

% Moisture:

PJB

Date Prep: 10.14.16 18.00 Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00150		mg/kg	10.14.16 20.12	U	1
Toluene	108-88-3	ND	0.00200		mg/kg	10.14.16 20.12	U	1
Ethylbenzene	100-41-4	ND	0.00200		mg/kg	10.14.16 20.12	U	1
m,p-Xylenes	179601-23-1	ND	0.00200		mg/kg	10.14.16 20.12	U	1
o-Xylene	95-47-6	ND	0.00299		mg/kg	10.14.16 20.12	U	1
Total Xylenes	1330-20-7	ND	0.00200		mg/kg	10.14.16 20.12	U	1
Total BTEX		ND	0.00150		mg/kg	10.14.16 20.12	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	95	%	80-120	10.14.16 20.12		
1,4-Difluorobenzene		540-36-3	96	%	80-120	10.14.16 20.12		





GHD-Albuquerque, NM, Albuquerque, NM

Enterprise South Eddy

Sample Id: S-11135037-101316-CN-S3

Matrix: Soil

Date Received:10.14.16 12.01

Lab Sample Id: 538742-003

Date Collected: 10.13.16 09.40

Sample Depth: 12 In

Analytical Method: TPH by SW 8015B

Prep Method: TX1005P

Tech: ARM

10.14.16 18.00

% Moisture:

Analyst: ARM

Date Prep: 10.14.16 16.00

Basis:

Wet Weight

Seq Number: 3002122

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	ND	15.0		mg/kg	10.14.16 22.46	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	ND	15.0		mg/kg	10.14.16 22.46	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	15.0		mg/kg	10.14.16 22.46	U	1
Total TPH	PHC635	ND	15.0		mg/kg	10.14.16 22.46	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	113	%	70-135	10.14.16 22.46		
o-Terphenyl		84-15-1	123	%	70-135	10.14.16 22.46		

Analytical Method: BTEX by EPA 8021B

PJB

PJB

Prep Method: SW5030B

Tech:

Analyst:

Date Prep:

% Moisture: Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00149		mg/kg	10.14.16 20.28	U	1
Toluene	108-88-3	ND	0.00199		mg/kg	10.14.16 20.28	U	1
Ethylbenzene	100-41-4	ND	0.00199		mg/kg	10.14.16 20.28	U	1
m,p-Xylenes	179601-23-1	ND	0.00199		mg/kg	10.14.16 20.28	U	1
o-Xylene	95-47-6	ND	0.00298		mg/kg	10.14.16 20.28	U	1
Total Xylenes	1330-20-7	ND	0.00199		mg/kg	10.14.16 20.28	U	1
Total BTEX		ND	0.00149		mg/kg	10.14.16 20.28	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	92	%	80-120	10.14.16 20.28		
1,4-Difluorobenzene		540-36-3	96	%	80-120	10.14.16 20.28		





GHD-Albuquerque, NM, Albuquerque, NM

Enterprise South Eddy

10.14.16 16.00

Sample Id: S-11135037-101316-CN-S4

Matrix: Soil

Date Received:10.14.16 12.01

Lab Sample Id: 538742-004

Date Collected: 10.13.16 09.52

Sample Depth: 12 In

Analytical Method: TPH by SW 8015B

Prep Method: TX1005P

Tech: ARM

Analyst:

ARM Date Prep:

% Moisture:

Basis:

Wet Weight

Seq Number: 3002122

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	ND	15.0		mg/kg	10.14.16 23.14	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	ND	15.0		mg/kg	10.14.16 23.14	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	15.0		mg/kg	10.14.16 23.14	U	1
Total TPH	PHC635	ND	15.0		mg/kg	10.14.16 23.14	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	110	%	70-135	10.14.16 23.14		
o-Terphenyl		84-15-1	117	%	70-135	10.14.16 23.14		

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech:

Analyst:

PJB PJB

Date Prep: 10.14.16 18.00

% Moisture: Basis:

Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	ND	0.00150		mg/kg	10.14.16 20.44	U	1
Toluene	108-88-3	ND	0.00200		mg/kg	10.14.16 20.44	U	1
Ethylbenzene	100-41-4	ND	0.00200		mg/kg	10.14.16 20.44	U	1
m,p-Xylenes	179601-23-1	ND	0.00200		mg/kg	10.14.16 20.44	U	1
o-Xylene	95-47-6	ND	0.00300		mg/kg	10.14.16 20.44	U	1
Total Xylenes	1330-20-7	ND	0.00200		mg/kg	10.14.16 20.44	U	1
Total BTEX		ND	0.00150		mg/kg	10.14.16 20.44	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	100	%	80-120	10.14.16 20.44		
1,4-Difluorobenzene		540-36-3	99	%	80-120	10.14.16 20.44		



Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- ** Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit

MDL Method Detection Limit	SDL Sample Detection Limit	LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

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(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	
	(281) 240-4200 (214) 902 0300 (210) 509-3334 (432) 563-1800



Seq Number:

1-Chlorooctane

o-Terphenyl

QC Summary 538742



10.14.16 19:53

10.14.16 19:53

Flag

Flag

GHD-Albuquerque, NM

Enterprise South Eddy

123

129

Analytical Method: TPH by SW 8015B

3002122 Matrix: Solid

LCS Sample Id: 715008-1-BKS 715008-1-BLK MB Sample Id:

113

120

MB

MB

TX1005P Prep Method:

Date Prep: 10.14.16 LCSD Sample Id: 715008-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C10 Gasoline Range Hydrocarbons C10-C28 Diesel Range Hydrocarbons	<15.0 <15.0	1000 1000	999 1070	100 107	968 1050	97 105	70-135 70-135	3 2	35 35	mg/kg mg/kg	10.14.16 19:53 10.14.16 19:53	
Surrogate	MB %Rec	MB Flag		CS Rec	LCS Flag	LCSI %Rea		_	imits	Units	Analysis Date	

Analytical Method: TPH by SW 8015B

Seq Number: 3002122 Parent Sample Id:

538536-001

Matrix: Soil

129

129

MS Sample Id: 538536-001 S

TX1005P Prep Method:

%

70-135

70-135

Date Prep: 10.14.16

MSD Sample Id: 538536-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	
C6-C10 Gasoline Range Hydrocarbons	16.6	998	961	95	969	96	70-135	1	35	mg/kg	10.14.16 21:09	
C10-C28 Diesel Range Hydrocarbons	30.0	998	1000	97	979	95	70-135	2	35	mg/kg	10.14.16 21:09	
Surrogate			M:	~	MS Flag	MSD			mits	Units	Analysis Date	

Date %Rec Flag Flag %Rec 10.14.16 21:09 1-Chlorooctane 127 128 70-135 % 10.14.16 21:09 o-Terphenyl 124 124 70-135 %

Analytical Method: BTEX by EPA 8021B

Seq Number: 3002116

MB Sample Id: 715021-1-BLK Matrix: Solid

LCS Sample Id: 715021-1-BKS

Prep Method:

Limits

SW5030B

Analysis

Date Prep: 10.14.16

Units

LCSD Sample Id: 715021-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date
Benzene	< 0.00150	0.100	0.0896	90	0.0897	90	70-130	0	35	mg/kg	10.14.16 18:05
Toluene	< 0.00200	0.100	0.0922	92	0.0925	93	70-130	0	35	mg/kg	10.14.16 18:05
Ethylbenzene	< 0.00200	0.100	0.0960	96	0.0977	98	71-129	2	35	mg/kg	10.14.16 18:05
m,p-Xylenes	< 0.00200	0.200	0.197	99	0.200	100	70-135	2	35	mg/kg	10.14.16 18:05
o-Xylene	< 0.00300	0.100	0.0964	96	0.0983	98	71-133	2	35	mg/kg	10.14.16 18:05

LCS

Surrogate	MB MB %Rec Flag	%Rec Flag	%Rec Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97	99	100	80-120	%	10.14.16 18:05
4-Bromofluorobenzene	97	102	105	80-120	%	10.14.16 18:05

LCS

LCSD

LCSD



Seq Number:

QC Summary 538742



GHD-Albuquerque, NM

Enterprise South Eddy

Analytical Method: BTEX by EPA 8021B

3002116 Matrix: Soil Prep Method: SW5030B

Date Prep: 10.14.16

Parent Sample Id:	538742-001	MS Sample Id: 538742-001 S MSD Sample Id: 538742-001 SD										
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00149	0.0994	0.0822	83	0.0807	81	70-130	2	35	mg/kg	10.14.16 18:36	
Toluene	< 0.00199	0.0994	0.0852	86	0.0830	84	70-130	3	35	mg/kg	10.14.16 18:36	
Ethylbenzene	< 0.00199	0.0994	0.0885	89	0.0857	86	71-129	3	35	mg/kg	10.14.16 18:36	
m,p-Xylenes	< 0.00199	0.199	0.182	91	0.175	88	70-135	4	35	mg/kg	10.14.16 18:36	
o-Xylene	< 0.00298	0.0994	0.0911	92	0.0867	87	71-133	5	35	mg/kg	10.14.16 18:36	
Surrogate				IS Rec	MS Flag	MSD %Red			mits	Units	Analysis Date	
1,4-Difluorobenzene			1	01		101		80	-120	%	10.14.16 18:36	
4-Bromofluorobenzene			1	06		103		80	-120	%	10.14.16 18:36	

Received by OCD: 12/5/2024 9:34:31 AM

Company-City				. سدى	Phor						La	b Or	nly:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					á.					ļ	56	<u>22</u> 39	<u> </u>	72	1:	$\overline{\mathcal{I}}$		
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ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

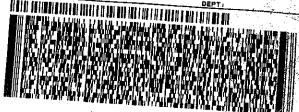
ORIGIN ID:HOBA (875) 392-7850 MAIL SERVICES ETC, LLC 4008 N GRIMES

HOBBS, NM 88240 UNITED STATES US SHIP DATE: 130CT16 ACTWGT: 23.0 LB MAN CAD: 0909328/CAFE2918 DIMS: 18x16x11 IN

BILL RECIPIENT

TO XENCO LABORATORIES XENCO LABORATORIES 1211 W FLORIDA AVE

MIDLAND TX 79701



FedEx

TRK# 6606 3912 7291

FRI - 14 OCT 3:00P STANDARD OVERNIGHT

41 MAFA

79701 TX-US LBB





XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: GHD-Albuquerque, NM

Date/ Time Received: 10/14/2016 12:01:00 PM

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Work Order #: 538742

Temperature Measuring device used: R8

	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?		6.6
#2 *Shipping container in good condition	?	N/A
#3 *Samples received on ice?		Yes
#4 *Custody Seal present on shipping co	ontainer/ cooler?	N/A
#5 *Custody Seals intact on shipping cor	ntainer/ cooler?	N/A
#6 Custody Seals intact on sample bottle	es?	N/A
#7 *Custody Seals Signed and dated?		N/A
#8 *Chain of Custody present?		Yes
#9 Sample instructions complete on Cha	nin of Custody?	Yes
#10 Any missing/extra samples?		No
#11 Chain of Custody signed when reline	quished/ received?	Yes
#12 Chain of Custody agrees with sample	le label(s)?	Yes
#13 Container label(s) legible and intact	?	Yes
#14 Sample matrix/ properties agree with	h Chain of Custody?	Yes
#15 Samples in proper container/ bottle?	?	Yes
#16 Samples properly preserved?		Yes
#17 Sample container(s) intact?		Yes
#18 Sufficient sample amount for indicat	ed test(s)?	Yes
#19 All samples received within hold time	e?	Yes
#20 Subcontract of sample(s)?		Yes
#21 VOC samples have zero headspace	e (less than 1/4 inch bubble)?	N/A
#22 <2 for all samples preserved with His samples for the analysis of HEM or HEM-		N/A
analysts. #23 >10 for all samples preserved with N	NaAsO2+NaOH, ZnAc+NaOH?	N/A
* Must be completed for after-hours de	alivery of samples prior to placing in	the refrigerator
must be completed for alter hours de	invery or dampies prior to placing in	Tillo Tolligorator
Analyst:	PH Device/Lot#:	
	4	
Checklist completed by:	Jessica Kramer Jessica Kramer	Date: 10/14/2016
Checklist reviewed by:	Kelsey Brooks	Date: 10/14/2016

Appendix C Waste Manifests

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

				A CIT 1, OK 75100 -1		, , , , , ,				
NON	N-HAZARDOUS WASTE MANIF	EST	NO	111304	1. PA	GE_OI	=	2. TRAII	LER NO.	83
	3. COMPANY NAME	4. ADD	RESS	THE PERSON NAMED IN COLUMN TWO	Halden	5.	PICK	-UP DATE		P. VICENTE DE
G	Enterprise Field Services LLC,	P.O.	Box 1508			in no		muf.	7 U 7 1825	assitti (i
	PHONE NO.	CITY		STATE		ZIP 6.	TNRC	CC I.D. NO		a were
E	(575) 885-7236	Carls	bad	NM	88	220				
	7. NAME OR DESCRIPTION OF WASTE SHIPPE	ED:	inpution to	in emission bloomings to un	The second second	TAINERS	100	TOTAL	10. UNIT	11. TEXAS
	a			and the second	No.	Туре	QU	ANTITY	Wt/Vol.	WASTE ID#
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	b.	19427			The state of	tarest et		Street of the		
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	12. COMMENTS OR SPECIAL INSTRUCTIONS:			ALTERNATION VISION D	National Property of the Parket		13.	WASTE P	ROFILE NO	0.
	SOUTH EDDY CYRO PLANT									(1) year (1)
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				ENCY OR SPIL	L, CON	NTACT				101111
T	NAME Kin Slaughter	PHON	E NO 187-4048					24-HOUR	EMERGEN	NCY NO.
				Share of the same						
0	15. GENERATOR'S CERTIFICATION: shipping name and are classified, packed, marked, an	I Hereby d labeled	declare that	the contents of this co	nsignmen	t are fully	and a	ghway acc	described at	pove by proper
	international and national government regulations, in									
D	PRINTED/TYPED NAME	Paul Co		SIGNATURE	1					DATE
R				11/11/11		ik old? Sold			In	Inter
Т	16. TRANSPORTER (1)			12/19/1	TI	ANSPO	DTI	ED (2)	101	4/16
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A	NAME: TWT LLC			NAME:						SI KATI
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IA			30 N	Miles East of Ca	risbad	, INM				C. N. State
S C	PERMIT NO. WM-01-035 - New Mex	ico		20. COMMENTS						
P I O L	W WI-UI-U33 - New Mex	100								
SI	21.DISPOSAL FACILITY'S CERTIFIC		: I Hereby o	ertify that the above de	escribed v	vastes wei	e deliv	vered to thi	is facility, th	nat the
AT	facility is authorized and permitted to receive such w	astes.		er tjouwingstein to	10-24 \)	DE AN				
LY	AUTHORIZED SIGNATURE		(B) (V) (b)	CELL NO.	1000	DAT	Е		TIM	ſE
				A DESCRIPTION OF		14.80				

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

				A CIT 1, OK 75100 -		(100) 20	0 1201			
NON	N-HAZARDOUS WASTE MANIF	EST	NO	111303	1. PA	GE(OF	2. TRAII	LER NO.	83
	3. COMPANY NAME	4. ADDF	RESS	THE STREET, STREET, SA	A STEAM		5. PICK	-UP DATE		E Market
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E	(575) 995-7236	Carlst	bad	- NM	le con	DON DUE	20 0	TOTAL	10 10 17	11 777740
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	Lea Land, LLC		Mile	Marker 64, U.S	S. Hwy	y 62/1	80,		575-887	7-4048
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O L S I	21.DISPOSAL FACILITY'S CERTIFIC.	ATION:	I Hereby co	ertify that the above de	escribed v	vastes w	ere deli	vered to thi	s facility th	nat the
	facility is authorized and permitted to receive such w			and the desired the	1			7.20.10 111	, (1	
LV	AUTHORIZED SIGNATURE	The state of	The Park	CELL NO.	List man	DA	ГЕ		TIM	IE .
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MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

			OWA CIT I, OK 75100		,				
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MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

LEA LAND, LLC

	1300 WEST MAIN ST	REET • C	KLAHON	1A CITY, OK 73106 •	PHONE (405) 236-4	4257	MAN SAN	Court I
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O L S I A T	21.DISPOSAL FACILITY'S CERTIFIC facility is authorized and permitted to receive such w		: I Hereby	certify that the above of	described	wastes we	re delivered to the	nis facility, t	hat the
L Y	AUTHORIZED SIGNATURE	VISCHERIT	The Land	CELL NO.	rivary	DAT	Е	TIM	ИЕ

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

No. Type QUANTITY W/Vol. WASTE ID. No. Type QUANTITY W/Vol. WASTE ID. B. D.								-	
E N A 12. COMMENTS OR SPECIAL, INSTRUCTIONS: 13. WASTE PROFILE NO. 14. IN CASE OF EMERGENCY OR SPILL, CONTACT NAME: Suppose and eclassified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and mational government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC R PRINTEDITYPED NAME T IS. TRANSPORTER (1) NAME: TEXAS LD. NO. TEXAS L	NOI	N-HAZARDOUS WASTE MANIF	TEST NO	115784	1. PA	GEOF_	2. TRAII	LER NO.	23
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EMERGENCY PHONE: 18. TRANSPORTER (1): Acknowledgment of receipt of material PRINTED/TYPED NAME SIGNATURE DATE ADDRESS: Lea Land, LLC Mile Marker 64, U.S. Hwy 62/180, 575-887-4048 30 Miles East of Carlsbad, NM PERMIT NO. PERMIT NO. WM-01-035 - New Mexico EMERGENCY PHONE: 19. TRANSPORTER (2): Acknowledgment of receipt of material PRINTED/TYPED NAME DATE PHONE: 20. COMMENTS				TEXAS I.D. NO.					ar 11337
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PRINTED/TYPED NAME SIGNATURE DATE DATE ADDRESS: Lea Land, LLC Mile Marker 64, U.S. Hwy 62/180, 30 Miles East of Carlsbad, NM PERMIT NO. PERMIT NO. WM-01-035 - New Mexico PRINTED/TYPED NAME SIGNATURE DATE DATE PHONE: 575-887-4048 20. COMMENTS	R		of receipt of materi		Officer and the second	2): Ackno	wledgment of r	eceipt of m	aterial
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ADDRESS: Lea Land, LLC Mile Marker 64, U.S. Hwy 62/180, 30 Miles East of Carlsbad, NM PERMIT NO. PERMIT NO. WM-01-035 - New Mexico DATE ADDRESS: 20. COMMENTS		172.0	1-1-1						
Lea Land, LLC Mile Marker 64, U.S. Hwy 62/180, 575-887-4048 30 Miles East of Carlsbad, NM PERMIT NO. WM-01-035 - New Mexico WM-01-035 - New Mexico		SIGNATURE		SIGNATURE			(H) (H) (H) (H) (H) (H) (H) (H) (H) (H)	ATE	
D F I A S C P I WM-01-035 - New Mexico 20. COMMENTS		Lea Land LLC		ile Marker 64 II	S Hwy	, 62/180		575-88	7-4048
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	S C		atigosis anabat s	20. COMMENTS					is effect.
0 L	P I O L								
S I 21. DISPOSAL FACILITY'S CERTIFICATION: I Hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.	S I A T			y certify that the above de	escribed w	vastes were	delivered to th	is facility, t	hat the
L Y AUTHORIZED SIGNATURE CELL NO. DATE TIME	LY	AUTHORIZED SIGNATURE	Alexander Br	CELL NO.	15 5 17	DATE		TIN	1E

1

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

LEA LAND, LLC

	1300 WEST MAIN ST	TREET • 0	OKLAHOM	A CITY, OK 73106 •	PHONE (405) 236-4	257		e (Karti			
NO	N-HAZARDOUS WASTE MANIF	115783	1. PA	GEOF_	_ 2. TRAII	LER NO.	83					
G	3. COMPANY NAME Contemprise Frield Services LLC 4. ADDRESS 1508 5. PICK-UP DATE											
d	PHONE NO. CITY STATE ZIP 6. TNRCC I.D. NO.											
E	(070) 003-7230	8. CONTAINERS 9. TOTAL 10. UNIT 11. TEXAS										
	7. NAME OR DESCRIPTION OF WASTE SHIPPED:					Type	9. TOTAL QUANTITY	10. UNIT Wt/Vol.	11. TEXAS WASTE ID #			
N	a.						25					
E	b.						Beryaget					
L	C.		The second									
R	d.						LE VISITA	D 12804	ever I			
	12. COMMENTS OR SPECIAL INSTRUCTIONS:					13. WASTE PROFILE NO.						
A	700002											
T.	14. IN CASE OF EMERGENCY OR SPILL, CONTACT NAME PHONE NO 24-HOUR EMERGENCY NO.											
Т	Min Slaughter agraf adage of 570-581-3048 and 570-581-304											
o	15.GENERATOR'S CERTIFICATION: I Hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC											
R	PRINTED/TYPED NAME	SIGNATURE DATE										
	-bck Chamberlada	Dave Clandiedan										
T R	16. TRANSPORTER (1)			17. TRANSPORTER (2)								
A N	NAME:			NAME:								
S	TEXAS I.D. NO. IN CASE OF EMERGENCY CONTACT:	TEXAS I.D. NO. IN CASE OF EMERGENCY CONTACT:										
0	EMERGENCY PHONE:	EMERGENCY PHONE:										
R T	18. TRANSPORTER (1): Acknowledgment of	19. TRANSPORTER (2): Acknowledgment of receipt of material										
E R	PRINTED/TYPED NAME			PRINTED/TYPED NAME								
S	SIGNATURE	SIGNATURE DATE										
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D F				e Marker 64, U.S. Hwy 62/180, 575-887-4048 Miles East of Carlsbad, NM								
I A S C	PERMIT NO.		United the Control	20. COMMENTS	irisoad	, 14141	January II		2,9/1171			
P I O L S I A T	WM-01-035 - New Mexico											
	21. DISPOSAL FACILITY'S CERTIFICATION: I Hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.											
LY	AUTHORIZED SIGNATURE			CELL NO. DATE			10/6/2016	6/2018 TIME				
		4		Ki Balania an								

Sante Fe Main Office Phone: (505) 476-3441

General Information Phone: (505) 629-6116

Online Phone Directory https://www.emnrd.nm.gov/ocd/contact-us

State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 S. St Francis Dr. Santa Fe, NM 87505

CONDITIONS

Action 408913

CONDITIONS

Operator:	OGRID:			
Enterprise Field Services, LLC	241602			
PO Box 4324	Action Number:			
Houston, TX 77210	408913			
	Action Type:			
	[IM-SD] Incident File Support Doc (ENV) (IM-BNF)			

CONDITIONS

(Created By	Condition	Condition Date
	amaxwell	Historical document upload. Incorrect RP number listed on C141.	12/5/2024