

May 7, 2024

Chief, Environmental Permits Division MS Department of Environmental Quality, Office of Pollution Control P.O. Box 2261 Jackson, Mississippi 39225

Re: Groundwater Discharge Permit

Application (MSG12) Circle K # 2723458 1000 Cedar Lake Road Biloxi, Harrison County, Mississippi 39232 State ID No. 9731

Dear Sir or Madam,

Jones Environmental, Inc. (JEI) is pleased to submit the enclosed Discharge Permit for the above referenced site as requested by the Mississippi Department of Environmental Quality (MDEQ). Please contact Mr. Joel Barron at 469-642-7992 with questions regarding the following document.

I have reviewed this document in sufficient depth to accept full responsibility for its contents related to the geologic discussion/data/information contained herein.

Sincerely,

Joel Barron, RPG

Senior Professional Expert Jones Environmental, Inc.



Joel Barron, PG Jones Environmental, Inc. 708 Milam Street, Suite 100 Shreveport, LA 71101 Office: (318) 226-8444

GROUNDWATER DISCHARGE PERMIT

CIRCLE K #2723458 1000 CEDAR LAKE ROAD BILOXI (HARRISON COUNTY) MISSISSIPPI 39232 FACILITY ID # 9599

Section 1.0 – Introduction

Circle K Store #3458 is currently an active Leaking Underground Storage Tank (LUST) site with the Mississippi Department of Environmental Quality (MDEQ). Several soil borings and monitor wells exceed MDEQ cleanup levels for soil and groundwater. Jones Environmental, Inc. is currently drafting a Turnkey Remedial Action Plan (TRAP) which addresses the elevated soil and groundwater concentrations.

The proposed remedial action method is Dynamic Groundwater Recirculation combined with Dual Phase Extraction. This groundwater recirculation system consists of multiple injection/recovery wells, utilized for circulation of treated groundwater, surfactant, and oxidizer (if needed). Dynamic groundwater recirculation will be utilized to flush contaminants located within upper clayey sediments, overlying the groundwater bearing unit composed of poorly graded sand, into the recovery wells for treatment. Recovery wells containing submersible pumps will be used for extraction of treated water and surfactant. These submersible pumps will be utilized to direct recovered groundwater through an onsite treatment system consisting of an oil water separator, air stripper and Granular Activated Carbon (GAC) vessels.

A portion of the treated groundwater, approximately 40 gallons per minute, will be injected into the subsurface; the remaining portion will be discharged to the POTW owned by the City of Biloxi, Mississippi. Prior to any discharge of treated water, a groundwater discharge permit, obtained under Mississippi's Underground Storage Tank Groundwater Remediation General Permit (MSG12). The application for the preceding permit is attached as Appendix A.

Section 2.0 – Outfall Map

Provided with the application is a portion of a quadrangle map named "Biloxi Quadrangle, Mississippi, 7.5-Minute Series" and is attached as Appendix B with a half-mile outfall radius.

Section 3.0 – Contiguous Landowner Notifications

As required by the MDEQ, all contiguous landowners were sent documentation, the attached Contiguous Landowner Notification Form in Appendix C, detailing the site location and a brief description of work to be undertaken. Owner addresses used for notification were based on publicly available government land records. All signed return receipts received are included with the form. In lieu of signatures acknowledging receipt, delivery attempts will be provided via tracking number information.



Joel Barron, PG Jones Environmental, Inc. 708 Milam Street, Suite 100 Shreveport, LA 71101 Office: (318) 226-8444

Section 4.0 – Proposed Water Treatment Chemicals

As stated in the Notice of Intent Form, a 2-3% concentration of Ivey-Sol is the proposed treatment chemical for this remedial system. It is administered as an injection directly into wells to treat hydrocarbon contamination from fuels. It is unlikely that this chemical makes it into the influent, much less the discharged effluent. Direct influent treatment is performed purely mechanically as the water passes through an air scrubber, Oil-Water Separator (OWS), bag filters and activated carbon vessels to remove influent concentrations prior to discharging as effluent. An MSDS for Ivey-Sol 103 is attached as Appendix D.



Joel Barron, PG Jones Environmental, Inc. 708 Milam Street, Suite 100 Shreveport, LA 71101 Office: (318) 226-8444

Appendix A

MSG12 Permit Application

AI: 86445 MSG120284



Rec'd via email: 05/09/2024

UNDERGROUND STORAGE TANK GROUNDWATER REMEDIATION NOTICE OF INTENT (USTNOI)

For Coverage under Mississippi's Underground Storage Tank (UST)
Groundwater Remediation General Permit
General Permit MSG12 0284

(NUMBER TO BE ASSIGNED BY STATE)

INSTRUCTIONS

Applicant must be the owner or operator of the remediation system. To avoid unnecessary delays, please be sure that the USTNOI is signed in accordance with permit ACT9, T-7 of the General Permit. The owner or operator that receives coverage is responsible for permit compliance. File at least 30 days prior to proposed discharge.

Required Submittals with the USTNOI Include:

- A USGS quadrangle map or copy extending at least one-half of a mile beyond the site's property boundary. The site location and outfalls must be outlined or highlighted. Quad maps can be obtained from the Office of Geology at 601-961-5523. If a copy is submitted, provide the name of the quadrangle map that is found in upper right hand corner.
- A letter of approval or denial from an available POTW or Wastewater Collection Authority (see permit ACT4, S-6 and MDEQ Wastewater Regulations, Chapter One, Part I.C.1.a.).
- Certified-return receipts from contiguous landowner notifications (not required if the remediation system was operating under a previous permit or coverage see permit ACT4, S-7).
- A list of water treatment chemicals proposed to be used. Please submit the following information for each specific chemical: name and composition of the additive, discharge concentration, dosage addition rates, frequency of use, EPA registration (if applicable), aquatic species toxicological data and Material Safety Data Sheet (MSDS).

ALL INFORMATION REQUESTS MUST BE ANSWERED (answer "NA" if not applicable)

THE APPLICANT IS	OWNER	OPERATOR (please check one or both)
------------------	-------	-------------------------------------

OWNER INFO	ORMATION
Owner Contact Name: Joel Barron	Position: Project Manager
Owner Company Name: Jones Environmental, Inc.	
Owner Street (P.O. Box): 107 Park West Drive	
Owner City: Scott	State: <u>LA</u> <u>Zip:</u> 70583
Owner Phone Number (include area code): (337) 232-0011	
OPERATOR INFORMATION	ON (if different than owner)
Operator Contact Name:	Position:
Operator Company Name:	
Operator Street (P.O. Box):	
Operator City:	State:Zip:
Operator Phone Number (include area code):	
<u> </u>	
PROJECT INI	FORMATION
Project Name: Circle K Store #2723458	
Mississippi Groundwater Protection Trust Fund ID No. (if ap	
Physical Site Address (if not available indicate the nearest na	med road):
Street: 1000 Cedar Lake Road	City: Biloxi
County: Harrison	Zip: 39532
Latitude: 30 degrees 26 minutes 49 seconds Longi	tude: 88 degrees 56 minutes 03 seconds
Method Used to Determine Lat. & Long. (GPS (Please GPS Facil	lity Entrance) or Map Interpolation): Map Interpolation

WASTEWATER DISCHARGE INFORMATION

Where is the remediated groundwater proposed to be discharged?	State Waters POTW/Collection System
Name of Nearest Receiving Stream: Unnamed tributary of the T	choutacabouffa River.
Name of POTW: Harrison County Utility Authority (East Bild	oxi POW)
POTW contact, title and telephone number:	
John L Wilson, Executive Director, 228-236-6446	
Name of Wastewater Collection Authority (if different from POTV	W): City of Biloxi
Wastewater Collection Authority contact, title and telephone numb	per:
Christy LeBatard, Director of Engineering, 228-435-6269, clebat	ard@biloxi.ms.us
Proposed rate of flow (gallons/day): 30,000	
Describe type of treatment: Influent (treated with 2-3% Ivey-So	ol 103) passes through an OWS, air-stripper,
bag filters and activated carbon vessels to remove all influen	t concentrations prior to discharge to POTW.
CERTIFICAT	TION
I certify under penalty of law that this document and all attachments were with a system designed to assure that qualified personnel properly gather inquiry of the person or persons who manage the system, or those persons information submitted is, to the best of my knowledge and belief, true, ac penalties for submitting false information, including the possibility of fin	ed and evaluated the information submitted. Based on my s directly responsible for gathering the information, the curate and complete. I am aware that there are significant e and imprisonment for knowing violations.
Signature (Must be signed by operator when different than owner)	2/12/24 Data Signal
	Date Signed
Joel Barron Printed Name ¹	Project Manager Title
1 HIRCU IVAIRC	THE

¹This application shall be signed according to the General Permit, ACT9, T-7 as follows:

- For a corporation, by a responsible corporate officer.
- For a partnership, by a general partner.
- For a sole proprietorship, by the proprietor.
- For a municipal, state or other public facility, by principal executive officer, the mayor, or ranking elected official.

USTNOI forms must be submitted to:

Chief, Environmental Permits Division MS Dept of Environmental Quality, Office of Pollution Control P.O. Box 2261 Jackson, Mississippi 39225

Revised: April 6, 2011

POTW AND WASTEWATER COLLECTION AUTHORITY NOTIFICATION AND APPROVAL FORM



INSTRUCTIONS

The Mississippi Department of Environmental Quality (MDEQ) must receive approval from the local POTW and Wastewater Collection Authority (if different entities) in order for the applicant to obtain coverage under Mississippi's Underground Storage Tank Groundwater Remediation General Permit (see permit ACT4, S-6). Once both sections of the form have been completed, it shall be submitted to the address below. Coverage is required prior to discharging remediated groundwater to a POTW or Wastewater Collection Authority. If you have any questions, please contact the Service and Miscellaneous Industries Branch at 601/961-5171.

APPLICANT (please print or type)

Joel Barron	[name of applicant] is applying for coverage under	
Mississippi's Underground Storage Tank Groundwater	Remediation General Permit (copy attached). Remed	iated
groundwater, associated with a leaking underground per	troleum storage tank, is proposed to be discharged from	ı a
site located at 1000 Cedar Lake Road, Biloxi, Harris	son County, Mississippi 39532	
[complete address with county]. Approximately 30,00		
groundwater will be discharged to Harrison County U	Itility Authority [name of local POT	W or
Wastewater Collection Authority]. The treated groundw	vater will be discharged in accordance with the condition	ns,
requirements and limitations of Mississippi's Undergroup	und Storage Tank Groundwater Remediation General	
Permit.		
POTW and WASTEWATER COI	LLECTION AUTHORITY APPROVAL	
I certify that I am a duly authorized representative of the for managing daily operations. I am familiar with the reacknowledge that, by signing this form, I am providing our treatment works. POTW Authorized Signature Printed Name Title Date Signed Daytime Telephone	equirements of the above referenced General Permit an	d
Daytime Telephone	Date Signed Daytime Telephone	

This form shall be submitted to:

Chief, Environmental Permits Division

MS Dept of Environmental Quality, Office of Pollution Control

P.O. Box 2261

Jackson, Mississippi 39225

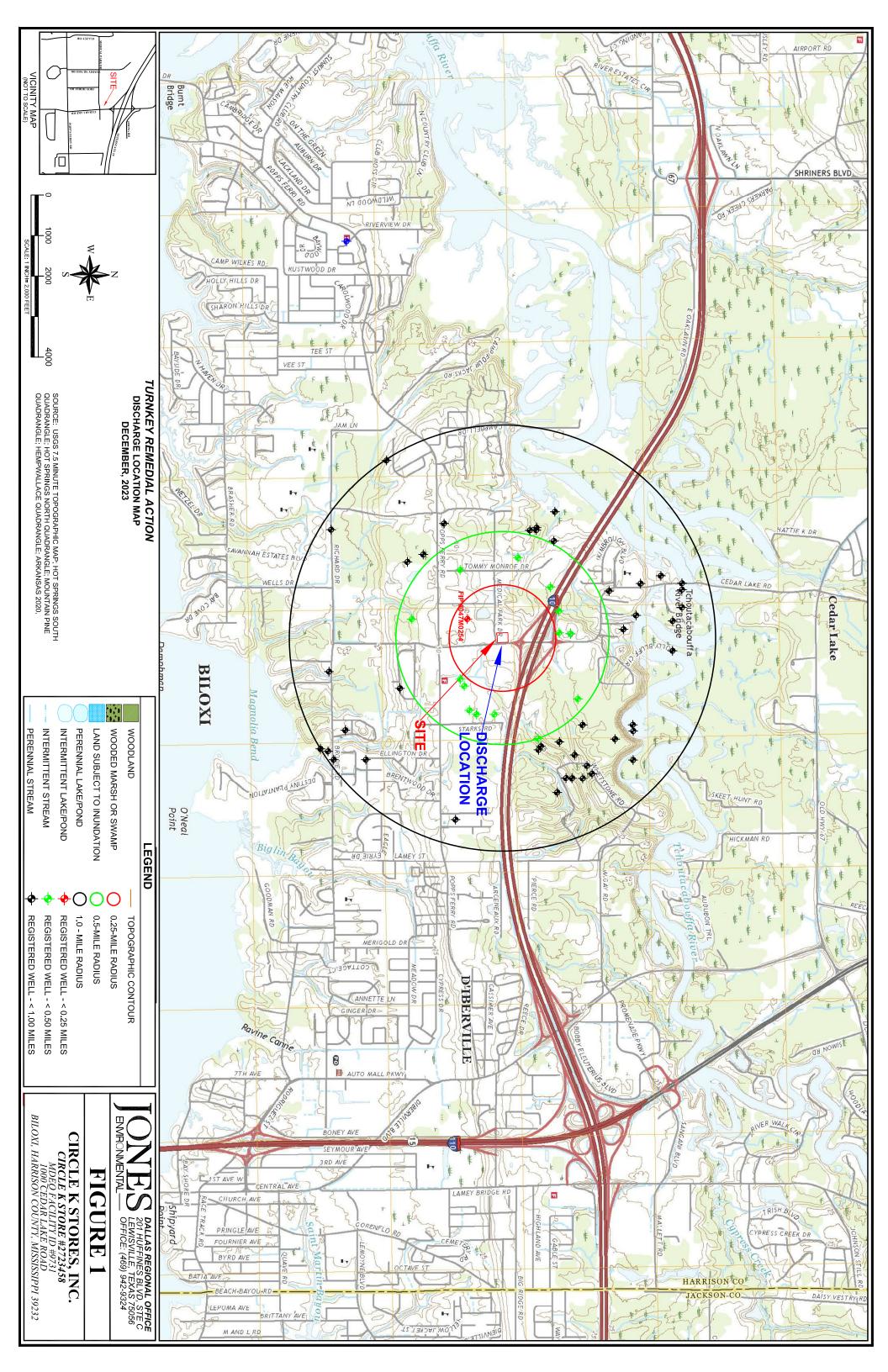
Revised: April 6, 2011



Joel Barron, PG Jones Environmental, Inc. 708 Milam Street, Suite 100 Shreveport, LA 71101 Office: (318) 226-8444

Appendix B

Site Outfall Map





Joel Barron, PG Jones Environmental, Inc. 708 Milam Street, Suite 100 Shreveport, LA 71101 Office: (318) 226-8444

Appendix C

Contiguous Landowner Notification and Receipts

CONTIGUOUS LANDOWNER NOTIFICATION OF CORRECTIVE ACTION AND SUBSEQUENT DISCHARGE OF TREATED GROUNDWATER DUE TO LEAKING

Underground storage tanks located at 1000 Cedar Lake Road, Biloxi, Harrison County, Mississippi 39532



UNDERGROUND STORAGE TANK(S) (see ACT4, S-7 of the USTGP)

Charlestotale tanks located at
[street address with city and county]
have been determined to have released motor fuel. In order to protect the environment and public health, a
cleanup process must be started. The cleanup involves bringing a trailer contained groundwater treatment
system to the site, pumping out the contaminated groundwater, treating it and discharging the treated water
into the city wastewater sewer to be further treated or, in rare cases, to State waters. The recovered fuel is
disposed at an offsite permitted facility. The time a unit is on site averages approximately three years.
Jones Environmental, Inc. [applicant's name]
201 Huffines Blvd, Suite C, Lewisville, Texas 75056 [address]
(469) 942-9324 [phone number] is proposing to begin the cleanup process and discharge treated
groundwater to Harrison County Utility Authority [name of
receiving stream or Publicly Owned Treatment Works or Wastewater Collection Authority]. This
notification is to provide you with an opportunity to comment to the Mississippi Department of
Environmental Quality Permit Board before the Board makes a final decision regarding the matter. No
discharge of treated groundwater will occur unless the Board grants coverage of this activity under the
General Permit for Underground Storage Tank Groundwater Remediation. This notice has been sent to you
by Certified Mail - Return Receipt Requested. If you have no comments regarding this proposed facility, no
response is necessary and the permitting process will continue. If you have any comments, they must be
received by the Mississippi Department of Environmental Quality within 10 days of receipt of this
correspondence. The Department of Environmental Quality is limited in its review of this project to
those environmental issues in which statutory authority has been given. If you have any questions you
may contact the Service and Miscellaneous Branch of MDEQ at (601) 961-5171. Any comments relative to
zoning or economic and social impacts are within the jurisdiction of local zoning and planning authorities
and should be addressed to those authorities. Comments are to be mailed to the following address:

Chief, Environmental Permits Division
MS Department of Environmental Quality, Office of Pollution Control
P. O. Box 2261
Jackson, Mississippi 39225

Revised: April 6, 2011

9589071052700281295116

Copy Add to Informed Delivery

Latest Update

Your item arrived at our COPPELL TX DISTRIBUTION CENTER origin facility on April 7, 2024 at 7:42 am. The item is currently in transit to the destination.

Get More Out of USPS Tracking:

(2) USPS Tracking Plus®

=0

Ŋ

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

PS Form 3800, January 2023 PSN 7530-02-000-9047

U.S. Postal Service™ **CERTIFIED MAIL® RECEIPT** Domestic Mail Only 51 For delivery information, visit our website at www.usps.com® Gulfporto MS 39506 ru Certified Mail Fee \$4.40 87 0057 Extra Services & Fees (check box, add fee as appropriate) 밉 Return Receipt (hardcopy) \$0.00 Return Receipt (electronic) Postmark Certified Mail Restricted Delivery \$0.00 Adult Signature Required \$0.00 52 Adult Signature Restricted Delivery \$ Postage \$0.68 02/23/2024 1770 Total Postage and Fees Sent To

In Transit from Origin Processing

Arrived at USPS Regional Origin Facility

COPPELL TX DISTRIBUTION CENTER April 7, 2024, 7:42 am

In Transit to Next Facility

April 6, 2024

Arrived at USPS Regional Destination Facility

JACKSON MS DISTRIBUTION CENTER April 5, 2024, 1:15 pm

Reminder to pick up your item before March 12, 2024

GULFPORT, MS 39506 March 3, 2024

Available for Pickup

EAST STATION 363 COURTHOUSE RD GULFPORT MS 39507-9998 M-F 0830-1700; SAT 0930-1200 February 27, 2024, 6:03 am

Arrived at Post Office

GULFPORT, MS 39507 February 27, 2024, 6:01 am

Arrived at USPS Regional Destination Facility

GULFPORT MS DISTRIBUTION CENTER February 26, 2024, 8:54 pm

Arrived at USPS Regional Destination Facility

MOBILE AL DISTRIBUTION CENTER ANNEX February 25, 2024, 12:41 pm

Arrived at USPS Regional Origin Facility

COPPELL TX DISTRIBUTION CENTER February 23, 2024, 9:08 pm

USPS in possession of item

LEWISVILLE, TX 75057 February 23, 2024, 3:53 pm

Hide Tracking History

9589071052700281295109

Copy Add to Informed Delivery

Your item was delivered to the front desk, reception area, or mail room at 10:55 am on March 1, 2024 in SLIDELL, LA 70458. Get More Out of USPS Tracking: USPS Tracking Plus®

Delivered
Delivered, Front Desk/Reception/Mail Room
SLIDELL, LA 70458
March 1, 2024, 10:55 am

See All Tracking History

What Do USPS Tracking Statuses Mean?



SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DEL	IVERY
 Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailplece, or on the front if space permits. 1. Article Addressed to: Ray mond Masker III 683 Old Spanish Trail Slidell LA 70458 	A. Signature X B. Received by (Printed Name) D. Is delivery address different from ite If YES, enter delivery address below	
9590 9402 7588 2098 4279 67 2. Article Number (Transfer from service label)	☐ Adult Signature ☐ ☐ Adult Signature Restricted Delivery ☐ ☐ Certified Mail® ☐ Certified Mail Restricted Delivery ☐ ☐ Collect on Delivery ☐	Priority Mall Express® Registered Mail™ Registered Mail Restricted Delivery Signature Confirmation™ Signature Confirmation Restricted Delivery

9589071052700281295123

Copy Add to Informed Delivery

Latest	Jpdate
	was picked up at the post office at 1:54 pm on Mai PASCAGOULA, MS 39567.
Get More	Out of USPS Tracking:

Oelivered
Delivered, Individual Picked Up at Post Office
PASCAGOULA, MS 39567
March 5, 2024, 1:54 pm

See All Tracking History

What Do USPS Tracking Statuses Mean?

L 23	U.S. Postal Service [™] CERTIFIED MAIL [®] REC Domestic Mail Only	EIPT
2951	For delivery information, visit our website	at www.usps.com®.
'n	Pascasoular MS 39568	USE
87	Certified Mail Fee \$4.40 \$ \$3.65	0057
5270 02	Extra Services & Fees (check box, add fee example printed) Return Receipt (hardcopy) \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Postmark Here
	Postage \$0.68	02/23/2024
0770	Total Postage and Fees	who are
9589	Street and Apt. No., or PO Box No.	
	PS Form 3800, January 2023 PSN 7530-02-000-9047	See Reverse for Instructions

COMPLETE THIS SECTION ON	DELIVERY
3. Service Type Adult Signature Adult Signature Restricted Delivery Certified Mail® Certified Mail Restricted Delivery Collect on Delivery Collect on Delivery Insured Mail	□ Priority Mail Express® □ Registered Mail™ □ Registered Mail Restricte Delivery □ Signature Confirmation™ □ Signature Confirmation Restricted Delivery
	B. Received by (Printed Name) D. Is delivery address different from If YES, enter delivery address 3. Service Type Adult Signature Adult Signature Restricted Delivery Certified Mail® Certified Mail Restricted Delivery Collect on Delivery

9589071052700281295079

Copy Add to Informed Delivery

Vour package will arrive later than expected, but is still on its way. It is currently in transit to the next facility. Get More Out of USPS Tracking:



Delivered

Out for Delivery

Preparing for Delivery

Moving Through Network In Transit to Next Facility, Arriving Late February 27, 2024

Arrived at USPS Regional Origin Facility COPPELL TX DISTRIBUTION CENTER February 23, 2024, 9:07 pm

See All Tracking History

9589071052700281295093

Copy Add to Informed Delivery

Latest Update Your item was delivered to an individual at the address at 8:59 am on February 28, 2024 in WAYNESBORO, MS 39367.

Get More Out of USPS Tracking:

🛱 USPS Tracking Plus®

S	Delivered
	Delivered, Left with Individua
	WAYNESBORO, MS 39367
	February 28, 2024, 8-59 am

See All Tracking History

What Do USPS Tracking Statuses Mean?

43	U.S. Postal Service [™] CERTIFIED MAIL [®] REC Domestic Mail Only	EIPT
	The state of the s	ot was come
2950	For delivery information, visit our website Waynesboro - 15 39367	USE
87	Certified Mail Fee \$4,40	0057 9
	S \$3,45 Extra Services & Fees (check box, add fee \$3,000 printer) Return Receipt (hardcopy) Return Receipt (electronic)	Postmark
5270	Certifled Mail Restricted Delivery \$ \$0.00 Adult Signature Required \$ \$0.00 Adult Signature Restricted Delivery \$	Here
0770	Postage \$0.68 \$ Total Postage and Fees	02/23/2024
7	\$	
589	Sent To Street and Apt. No., or PO Box No.	
ū,	City, State, ZIP+46	
	PS Form 3800, January 2023 PSN 7530-02-000-9047	See Reverse for Instructions

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON D	ELIVERY
 Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mallplece, or on the front if space permits. 	A. Signature X. J. W.	Agent
1. Article Addressed to: Clark Properties, LLC	D. Is delivery address different from If YES, enter delivery address b	Item 1? ☐ Yes elow: ☐ No
720 Station St Waresbase, MS 39363		
720 Station St Waynesboro, MS 39363 9590 9402 7588 2098 4279 74	□ Adult Signature □ Adult Signature Restricted Delivery □ Certified Mall® □ Certified Mall Restricted Delivery	☐ Priority Mail Express®☐ Registered Mail™☐ Registered Mail Restricted Delivery☐ Signature Confirmation™☐ Signature Confirmation



Joel Barron, PG Jones Environmental, Inc. 708 Milam Street, Suite 100 Shreveport, LA 71101 Office: (318) 226-8444

Appendix D

Treatment Chemical MSDS



SAFETY DATA SHEET

SDS # 181019-01

Ivey-sol® Surfactant Remediation Technology

Ivey-sol® Formulations: 103, 106 and 108

1. Identification

Product identifier: Ivey-sol® 103, 106, 108

Other means of identification: Not applicable

Recommended use: Remediation surfactant

Restriction on use: Not applicable Manufacturer/Supplier Address: Ivey International Inc.

Unit 7, 19122-27 Avenue, Surrey, BC Canada V3Z 5T1

Emergency telephone number: Tel: +1 (604) 538-1168 (Not available 24 hours)

Toll Free: +1 800 246-2744

2. Hazard Identification

WHMIS 2015/OSHA Hazcom 2012/GHS Classification:

Serious Eye Damage/Irritation Category 2

• Skin Corrosion/Irritation Category 3

Label elements:

Signal word: Warning Pictograms: Hazard statements:

H316 – May causes mild skin irritation.

H319 - may causes eye irritation.

Precautionary Statements:

P264 - Wash contacted areas thoroughly after handling.

P280 - Wear eye protection.

P305/P351/P338 - If In Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do so. Continue rinsing.

P332/P313 - If skin irritation occurs: Get medical advice/attention.

P337/P313 - If eye irritation persists: Get medical advice/attention

3. Composition / Information on Ingredients

Chemical Name	CAS No.	Concentration (v/v)	Other Identifiers Not applicable	
Biodegradable Non-ionic Surfactant 1	Proprietary	1-10%		
Biodegradable Non-ionic Surfactant 2	Proprietary	1-10%	Not applicable	
Biodegradable Non-ionic Surfactant 3	Proprietary	1-10%	Not applicable	
Biodegradable Non-ionic Surfactant 4	Proprietary	1-10%	Not applicable	
Biodegradable Non-ionic Surfactant 5	Proprietary	1-10%	Not applicable	
Biodegradable Non-ionic Surfactant 6	Proprietary	1-10%	Not applicable	





Preservative	4080-31-3	<90%	Food Grade (Optional)
Scent	8016	<1%	Optional
Water	7732-18-5	<90%	Not applicable

Regulatory Note:

Chemical names, CAS numbers and actual concentrations have been withheld as part of a confidential business information claim with HMIRA Registry #11724 filed on 2017-07-17

4. First-aid Measures

Inhalation: No adverse effects anticipated by this route when handled according to section 7 of

document. However, if necessary, move person to fresh air.

Skin contact: Generally will not irritate skin. Wash contact areas with soap and water. If irritation

persist, seek medical attention.

Eye contact: May cause eye irritation. Flush eyes with plenty of water for at least 15 minutes, remove

contact lenses if present and easy to do so. If irritation persists, seek medical attention.

Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse

mouth with water. If necessary, seek medical attention.

Most Important Symptoms and Effects, Acute and Delayed

Acute Symptoms:

Eye Contact: May be irritating to the eyes. Occasional contact through splashing is not expected to affect

the eyes. If irritation occurs, effect will be transient.

Chronic Symptoms: Not Applicable

Immediate Medical Attention and Special Treatment: Not Applicable

5. Fire-Fighting Measures

Suitable extinguishing media: Not flammable. Use extinguishing media for surrounding fire.

Unsuitable extinguishing media: Not applicable

Specific hazards arising from the hazardous product: Not available

Special protective equipment for fire-fighters: Not available

6. Accidental release measures

Personal Precautions, Protective Equipment:

Observe good industrial hygiene practices. Use personal protective equipment as recommended in Section 8. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Emergency Procedures: Eliminate and/or contain source with inert material (sand, earth, absorbent pads, etc.). Wear basic eye and skin protection. Floor may be slightly slippery; so use care to avoid falling. Avoid discharge to natural waters, and/or dilute with water. Transfer liquids to suitable containers for recovery, re-use or disposal. Contact livey for technical assistance if required.

7. Handling and Storage

Precautions for Safe Handling:

Practice good housekeeping. Avoid breathing excessive vapours. Ensure adequate ventilation. Avoid contact with skin and eyes. Wear protective gloves. Wash thoroughly after handling. Conditions for Safe Storage: Keep closed or sealed when not in use. Do not allow to freeze, keep >0°C.



8. Exposure Controls / Personal Protection

Control parameters: Not available

Appropriate Engineering Controls: General mechanical room ventilation is expected to be satisfactory.

Individual Protections Measures: Eye/face protection: Mono goggles or similar.

Skin protection: Latex gloves, or similar, would be sufficient. Normal work clothes.

Respiratory Protection: None expected to be needed. However, if an engineered / industrial application

where vapours and/or misting may occur, wear MSHA/NIOSH approved half mask

air purifying respirator

9. Physical and Chemical Properties

Appearance: Liquid, cloudy

Odour: Mild

Odour threshold: Not available

pH: 7 (+/- 0.5) (1% solution)

Melting Point: ~0°C Freezing point: ~0°C

Boiling Point: Not available Flash Point: Not applicable

Evaporation Rate: <0.01

Flammability: Not applicable

Lower flammable/ explosive limit: Not applicable Upper flammable/Explosive Limit: Not applicable

Vapour Pressure: <0.01 mm Hg

Vapour Density: >1

Relative Density: 0.99-1.04

Solubility: 100% (Completely miscible in water)
Partition Coefficient: Not available (n-octanol / water)

Auto-Ignition Temperature: Not applicable Decomposition Temperature: Not available Viscosity: Not available

10. Stability and Reactivity

Reactivity: Not reactive. Chemical Stability: Stable.

Possibility of Hazardous Reactions: Not applicable

Conditions to Avoid: Prolonged excessive heat may cause product decomposition. Freezing

should also be avoided as it may cause product decomposition. In some

cases freezing may cause irreversible changes.

Incompatible Materials: Normally un-reactive; however avoid strong bases at high temperatures,

strong acids, strong oxidizing agents, and materials with reactive hydroxyl compounds. These compounds would damage the mixture and reduce its

effectiveness during application.

Hazardous Decomposition products: Not applicable

11. Toxicological Information

Likely Routes of Exposure
Inhalation:
Skin contact:
No
Eye contact:
Yes



Ingestion: No

Acute Toxicity:

 $LD50 - Oral (Rat): = > 43.000 mg/kg (rat) mg/kg \\ LD50 - Dermal (Rabbit): > 58.000 mg/kg (rabbit) mg/kg$

Inhalation: Not available Skin corrosion/irritation: Mild irritation Serious eye damage/irritation: Eye irritation

Respiratory or skin sensitization:No Germ cell mutagenicity: No

Carcinogenicity: None known or expected

Reproductive toxicity: No

12. Ecological Information

Toxicity: Low potential to affect aquatic organisms when used in accordance with Ivey

International Inc. In-situ and Ex-situ Remediation Application Guidelines.

Acute toxicity	Time	Species	Method	Evaluation	Remarks
LC/50 = 0.07695%	96h	Rainbow	OECD 203	Not	Not
		trout		applicable	applicable
LC/50 = 0.11%	48h	Daphnia	OECD 202	Not	Not
		magna		applicable	applicable
EC/50 = Not applicable	72h	Algae	OECD 201	Not	Not
				applicable	applicable

Persistence and degradability: >90% biodegradable in < 28 days.*

Bio-accumulative potential: Not available

Mobility in soil: Completely miscible with water.

Other adverse effects: Not available

Based on actual testing or on data for similar material(s). Degradation Biodegradation reached in Modified OECD Screening Test (OECD Test No.301 E) after 28 days: 90 %. Biodegradation reached in CO2 Evolution Test (Modified Sturm Test, (OECD Test No. 301 B) after 28 days: 70 %.

13. Disposal Considerations

Product/Packaging:

For aqueous mixture solutions; aerobic biological wastewater treatment systems are effective in treating said mixtures. Ivey-sol does not have any known negative affect on coagulant or flocculent water treatment processes.

14. Transport Information

UN Number: Not applicable
Proper Shipping Name: Not applicable
Technical Name: Not applicable
Transport Hazard Class: Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable



15. Regulatory Information

UN GHS Classification: Classified in accordance with GHS 5th revised edition.

WHMIS Classification: Classified in accordance with HPR August 29, 2016 revised edition.

CPR Compliance: This product has been classified in accordance with the hazard criteria of the CPR,

and the SDS contains all the information required by the CPR.

CEPA Compliance: All ingredients of this product are listed on the DSL.

16. Other Information

Creation Date: July 5, 2017

Revision Date: Updated October 2, 2017, October 18, 2018

Disclaimer: This Safety Data Sheet (SDS) was prepared by iHazmat Regulatory Ltd.,

(www.iHazmat.com) using information provided by Ivey International Inc. The information in this SDS is offered for your consideration and guidance when working with this product. As per usual practice, accuracy of the information included is based on what was provided by the manufacturer and sole liability for

the accuracy of these documents falls to Ivey International Inc.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of Ivey International Inc.

SDS Created By: iHazmat Regulatory Ltd.

www.iHazmat.com