



November 8, 2016

Ms. Susan Bull
Maryland Department of the Environment
Oil Control Program
1800 Washington Boulevard
Baltimore, Maryland 21230-1719

Re: **UST REMOVAL WORK PLAN**
Bel Air Xtra Fuels
2476 Churchville Road Bel Air, MD
MDE Case No. 2013-0007-HA and 2011-0112-HA

Dear Ms. Susan Bull:

Groundwater and Environmental Services, Inc. (GES), on behalf of Drake Petroleum Company, Inc. (Drake), is submitting the attached work plan, as requested in the Maryland Department of the Environment (MDE) Consent Order. The purpose of the proposed work is to further remediate the site and comply with the Consent Order. Upon approval, work will be completed immediately starting in November 2016 with five days advance notice to the MDE.

Drake agrees to move forward with the following work plan at this time with subsequent directives or requirements to be re-visited with the MDE:

- On site meeting with the MDE on November 14, 2016;
- Deactivation of the soil vapor extraction (SVE)/ vapor enhanced groundwater extraction system (VEGE) is scheduled to occur on November 14, 2016;
- Abandonment of six (6) monitoring wells (MW-7, MW/RW-10, MW-11, MW/RW-12, RW-17 and RW-20) on November 21, 2016;
- Underground storage tanks (UST), associated piping and dispensers removal project will commence on November 28, 2016 with tanks expected to come out of the ground on November 30, 2016;
- Following UST removal and excavation, monitoring well MW-7 will be re-installed;
- Quarterly groundwater sampling of the monitoring well network in December 2016 following the UST removal; and
- Quarterly potable well sampling of eleven (11) properties including the onsite drinking water supply well.

SVE/VEGE Deactivation

As the SVE/VEGE system location is adjacent to the UST area, it must be re-located prior to UST removal. System deactivation will be conducted beginning November 14, 2016 and will consist of shutting off the electric and suspending electric service, pulling the pneumatic pumps and hoses, draining the system equipment of fluids, collection of the final NPDES sample and submitting a NPDES discharge report for the discharge of the final fluids from the system. The NPDES permit will be left open during this temporary system decommission.

Monitoring Well Abandonment

In preparation for the UST removal, six (6) wells will be abandoned so that they are not destroyed during the UST removal process and potential over excavation. On November 21, 2016, Allied Well Drilling (Allied), a Maryland licensed well driller, will properly abandon six (6) groundwater monitoring wells: MW-7, MW/RW-10, MW-11, MW/RW-12, RW-17 and RW-20. Monitoring well MW-7 was not included in the Consent Order for abandonment, but abandonment is necessary to avoid damage to the well during UST removal and excavation activities. Monitoring well MW-7 will be re-installed following UST excavation and removal activities as detailed below. Abandonment will be accomplished in accordance with Code of Maryland Regulations (COMAR) 26.04.04.34-36. A map with the referenced well locations



is attached as **Figure 1**. The Groundwater Monitoring Well Abandonment – Sealing Report Forms will be forwarded upon completion for your records.

UST Removal

UST removal activities will begin on November 28, 2016 and the USTs along with associated product piping and dispensers are expected to come out of the ground on November 30, 2016. Soil sampling will be conducted in accordance with MDE requirements and soil samples will be submitted to Accutest Laboratories of Dayton, NJ (Accutest) for analysis of Full-Suite volatile organic compounds (VOCs) including fuel oxygenates and naphthalene via Environmental Protection Agency (EPA) Method 8260, total petroleum hydrocarbons – diesel range organics (TPH-DRO) and total petroleum hydrocarbons – gasoline range organics (TPH-GRO) via EPA Method 8015B; and collected and field preserved in accordance with EPA Method 5035 (encore samplers). If groundwater is prohibitive of the UST excavation, the excavation will be de-watered and water will either be transported off-site and disposed of at an approved facility or run through the system if allowable by the NPDES permit. Over-excavation will be driven by soil impacts and physical restraints to the excavation as determined by the MDE. Any soil that cannot be used as backfill will be transported to Clean Earth of Maryland for proper disposal.

As directed in the Consent Order, nine (9) soil samples will be collected from within the UST excavation (5 bottom samples and one from each side-wall), one sample from two (2) feet below each dispenser and one sample for every 15 feet of product piping at depths and locations directed by the MDE. Following completion of the UST excavation and backfill activities, a UST Removal Report will be submitted to the MDE including all analytical data collected and detailing activities completed.

UST Area Treatment

Following excavation activities, as part of backfilling, it is proposed to enhance aerobic biodegradation of remaining impacts through direct placement of an Oxygen Release Compound Advanced (ORC Advanced®) Pellets into the excavation. ORC Advanced® is an engineered, oxygen release compound designed specifically for enhanced, in situ aerobic bioremediation of petroleum hydrocarbons in groundwater and saturated soils. Upon contact with groundwater, this calcium oxy-hydroxide based material becomes hydrated producing a controlled-release of molecular oxygen (17% by weight) for periods of up to 12 months on a single application. ORC Advanced® Pellets (3-10 millimeter in size) are a dust-minimizing, dry application pelletized form of ORC Advanced that are designed for the treatment of dissolved-phase petroleum hydrocarbons through direct application into excavations. ORC Advanced Pellets significantly minimize airborne dust associated with the handling and application of dry powders while eliminating the need for mixing equipment and spray-water. (Regenesis)

The ORC Advanced Pellets will be amended into the excavation at the water table. The pellets will be spread using an excavator bucket or manually into the excavation and then mixed into the native and backfill material using an excavator bucket. The amendment will be applied to the bottom 2 to 3 feet of the excavation at and below the groundwater table (approximately 11 to 14 feet below ground surface depending on where groundwater is encountered). Approximately 2.5 to 3 pounds of ORC Advanced Pellets will be applied per cubic yard of backfill material in that zone. It is anticipated that approximately 600 pounds of ORC Advanced Pellets will be applied to the excavation. The ORC Advanced Pellets Technical Specification sheet and the Safety Data Sheet (SDS) for the product are included as attachments for reference and additional information.

Monitoring Well Installation

Following the completion of UST removal and excavation activities, monitoring well MW-7 will be re-installed by Allied Well Drilling with oversight from GES as a four (4) inch well to an approximate depth of 25 feet below ground surface within the direct vicinity of the current location and identified as monitoring well MW-7A. Monitoring well MW-7A will consist of a 20 foot – 0.020 micro machine slotted schedule 40 polyvinylchloride (PVC) well screen and five (5) foot schedule 40 PVC riser. A #2 sand pack will be added to the well annulus approximately two (2) feet above the well screen followed by two (2) feet of hydrated bentonite. After the addition of hydrated bentonite the remaining annulus will be filled with



grout to approximately half a foot below ground surface and completed as a flush mount monitoring well within a manhole and 2 foot by 2 foot concrete pad. During installation activities, soils will be logged and screened continuously using a calibrated photoionization detector (PID). One soil sample will be collected from the monitoring well location from the zone with the highest PID reading or if no PID readings are detected from just above the groundwater interface. Please note that no soil sample will be collected in the event that MW-7A is placed in an area of over-excavation in clean backfill. The soil sample will be submitted to Accutest for analysis of Full-Suite VOCs including fuel oxygenates and naphthalene via EPA Method 8260; TPH-DRO and TPH-GRO via EPA Method 8015B. After the installation of monitoring well MW-7A the well will be developed of approximately five (5) volumes or until the water is turbidity free. Waste water produced during development activities will be containerized in 55-gallon drums and transported for disposal to an approved facility. Soil sampling analytical data and a summary of monitoring well re-installation activities will be submitted within the UST Removal Report.

Monitoring Well Sampling

Following the re-installation of monitoring well MW-7A, the monitoring well network will be sampled quarterly thereafter for full suite VOCs including fuel oxygenates and naphthalene via EPA Method 8260 and TPH-GRO and TPH-DRO via EPA Method 8015B. All groundwater samples will be obtained utilizing a disposable bailer and the monitoring wells will be purged of three volumes prior to groundwater sampling. All groundwater samples will be placed on ice in a cooler and transported under a Chain of Custody to Accutest Labs in NJ. Analytical data collected during the groundwater sampling event will be submitted within the quarterly report per the MDE's required schedule.

Potable Well Sampling

As directed within the Consent Order, GES on behalf of Drake, will handle the quarterly coordination and collection of groundwater samples from the potable drinking water wells located at: 2303, 2317, 2319, 2401C and 2401A Churchville Road; and 1, 3, 5, 7, 9 and 10 Meadow Spring Drive (11 Potable Wells). The potable drinking water well samples will be submitted to Accutest for laboratory analysis of full suite VOCs including fuel oxygenates and naphthalene via EPA Method 524.2. The laboratory results will be submitted to MDE within the quarterly reports and submitted to the property owners as well as the Harford County Health Department.

Additionally, GES on behalf of Drake will sample and maintain the Granular Activated Carbon (GAC) filtration point of entry treatment (POET) system at 1 Meadow Spring Drive on a quarterly basis. Separate samples collected from the POET system at 1 Meadow Spring Drive will be collected from the influent (prior to filtration), mid-fluent and effluent (post filtration). These samples will be submitted to Accutest and analyzed for full suite VOCs including fuel oxygenates and naphthalene via EPA Method 524.2. Carbon change outs of this POET system will be conducted once per year at minimum or as needed.

GES and Drake look forward to your written response to this work plan. Please contact the undersigned at (800)220-3606 extension 3703, if you have any questions or require additional information.

Sincerely,
Groundwater & Environmental Services, Inc.

A handwritten signature in blue ink, appearing to read 'Andrea Taylorson-Collins', is written over a light blue horizontal line.

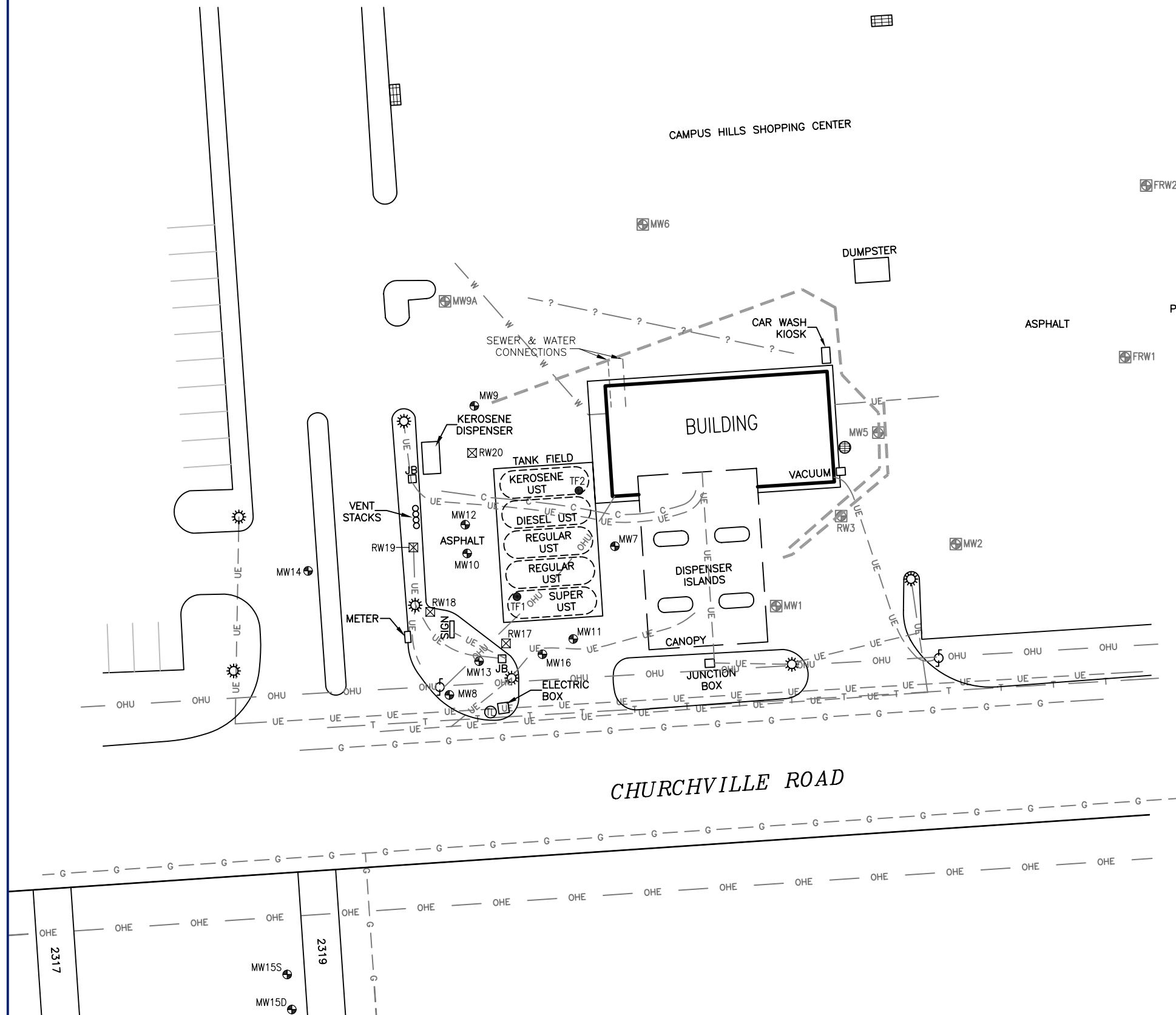
Andrea Taylorson-Collins
Environmental Scientist/ Sr. Project Manager

Attachments

cc: Eric Harvey, Global Partners
File, GES – MD

LEGEND

- STORM SEWER
- CATCH BASIN
- UTILITY POLE
- LIGHT POLE
- TRAFFIC LIGHT
- MONITORING WELL
- ABANDONED MONITORING WELL
- RECOVERY WELL
- TANK FIELD WELL
- c — UNDERGROUND COMMUNICATIONS LINE
- SS — UNDERGROUND SANITARY SEWER LINE
- T — UNDERGROUND TELEPHONE LINE
- UE — UNDERGROUND ELECTRIC LINE
- W — UNDERGROUND WATER LINE
- G — UNDERGROUND GAS LINE
- OHU — OVERHEAD UTILITY LINE
- ? — UNKNOWN UTILITY LINE
- - - - - FORMER SYSTEM TRENCH



DRAFTED BY: B.C.S. (N.J.)	SITE MAP		
CHECKED BY:	BEL AIR XTRA FUELS 2476 CHURCHVILLE ROAD BEL AIR, MARYLAND		
REVIEWED BY:	Groundwater & Environmental Services, Inc. 2142 PRIEST BRIDGE COURT, SUITE 1, CROFTON, MD 21114		
NORTH 	SCALE IN FEET	DATE	FIGURE
	 0 APPROXIMATE 40	4-2-12	

1. Identification

Product identifier Oxygen Release Compound Advanced (ORC Advanced®)
Other means of identification None.
Recommended use Soil and Groundwater Remediation.
Recommended restrictions None known.
Manufacturer/Importer/Supplier/Distributor information
Company Name Regenesis
Address 1011 Calle Sombra
 San Clemente, CA 92673

Telephone 949-366-8000
E-mail CustomerService@regenesis.com
Emergency phone number CHEMTREC® at 1-800-424-9300 (International)

2. Hazard(s) identification

Physical hazards Oxidizing solids Category 2
Health hazards Skin corrosion/irritation Category 2
 Serious eye damage/eye irritation Category 1
OSHA defined hazards Not classified.

Label elements



Signal word Danger
Hazard statement May intensify fire; oxidizer. Causes skin irritation. Causes serious eye damage.

Precautionary statement

Prevention Keep away from heat. Keep/Store away from clothing/combustible materials. Take any precaution to avoid mixing with combustibles. Wash thoroughly after handling. Wear protective gloves/eye protection/face protection.

Response If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.

Storage Store away from incompatible materials.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Calcium hydroxide oxide	682334-66-3	≥85
Calcium hydroxide	1305-62-0	≤15
Dipotassium Phosphate	7758-11-4	<5

Composition comments	All concentrations are in percent by weight unless otherwise indicated.
4. First-aid measures	
Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Never give anything by mouth to a victim who is unconscious or is having convulsions. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dusts may irritate the respiratory tract, skin and eyes. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. Contact with combustible material may cause fire. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.
5. Fire-fighting measures	
Suitable extinguishing media	Water spray, fog (flooding amounts). Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Greatly increases the burning rate of combustible materials. Containers may explode when heated. During fire, gases hazardous to health may be formed. Combustion products may include: metal oxides.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers.
Specific methods	Cool containers exposed to flames with water until well after the fire is out.
General fire hazards	May intensify fire; oxidizer. Contact with combustible material may cause fire.
6. Accidental release measures	
Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep away from clothing and other combustible materials. Wear appropriate protective equipment and clothing during clean-up. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Collect dust using a vacuum cleaner equipped with HEPA filter. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Ventilate the contaminated area. Stop the flow of material, if this is without risk. Absorb in vermiculite, dry sand or earth and place into containers. Large Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Shovel the material into waste container. Minimize dust generation and accumulation. Avoid the generation of dusts during clean-up. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. Place all material into loosely covered plastic containers for later disposal. For waste disposal, see section 13 of the SDS. Wear appropriate protective equipment and clothing during clean-up.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Keep away from heat. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Avoid contact with water and moisture. Do not get this material in contact with eyes. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Keep away from heat. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Do not store near combustible materials. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Calcium hydroxide (CAS 1305-62-0)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.

US. ACGIH Threshold Limit Values

Components	Type	Value
Calcium hydroxide (CAS 1305-62-0)	TWA	5 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Calcium hydroxide (CAS 1305-62-0)	TWA	5 mg/m ³

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Use dust-tight, unvented chemical safety goggles when there is potential for eye contact.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves. Frequent change is advisable. Recommended gloves include rubber, neoprene, nitrile or viton.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Recommended use: Wear respirator with dust filter.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Solid.
Form	Powder.
Color	White to pale yellow.

Odor	Odorless.
Odor threshold	Not available.
pH	12.5 (3% suspension/water)
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Oxidizer.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Slightly soluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	527 °F (275 °C)
Viscosity	Not available.
Other information	
Bulk density	0.5 - 0.9 g/ml
Explosive limit	Non-explosive.

10. Stability and reactivity

Reactivity	Greatly increases the burning rate of combustible materials.
Chemical stability	Decomposes on heating. Product may be unstable at temperatures above: 275°C/527°F.
Possibility of hazardous reactions	Reacts slowly with water.
Conditions to avoid	Heat. Moisture. Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.
Incompatible materials	Acids. Bases. Salts of heavy metals. Reducing agents. Combustible material.
Hazardous decomposition products	Oxygen. Hydrogen peroxide (H ₂ O ₂). Steam. Heat.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Dust may irritate respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye damage.
Ingestion	Ingestion may cause irritation and malaise.

Symptoms related to the physical, chemical and toxicological characteristics Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dusts may irritate the respiratory tract, skin and eyes. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Calcium hydroxide (CAS 1305-62-0)		
Acute		
<i>Oral</i>		
LD50	Rat	7340 mg/kg
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Not listed.		
NTP Report on Carcinogens		
Not listed.		
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
Not listed.		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Due to the physical form of the product it is not expected to be an aspiration hazard.	
Chronic effects	Prolonged inhalation may be harmful.	

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
Calcium hydroxide (CAS 1305-62-0)		
Aquatic		
Fish	LC50 Zambezi barbel (<i>Clarias gariepinus</i>)	33.8844 mg/l, 96 hours
Persistence and degradability	Decomposes in the presence of water. The product contains inorganic compounds which are not biodegradable.	
Bioaccumulative potential	The product does not contain any substances expected to be bioaccumulating.	
Mobility in soil	This substance has very low solubility in water and low mobility in the environment.	
Other adverse effects	None known.	

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1479
UN proper shipping name	Oxidizing solid, n.o.s. (Calcium hydroxide oxide)
Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Label(s)	5.1
Packing group	II
Environmental hazards	
Marine pollutant	No
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	62, IB8, IP2, IP4, T3, TP33
Packaging exceptions	152
Packaging non bulk	212
Packaging bulk	240

IATA

UN number	UN1479
UN proper shipping name	Oxidizing solid, n.o.s. (Calcium hydroxide oxide)
Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Packing group	II
Environmental hazards	No
ERG Code	5L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1479
UN proper shipping name	OXIDIZING SOLID, N.O.S. (Calcium hydroxide oxide)
Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No
EmS	F-A, S-Q
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - Yes

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Calcium hydroxide (CAS 1305-62-0)

US. New Jersey Worker and Community Right-to-Know Act

Calcium hydroxide (CAS 1305-62-0)

Calcium hydroxide oxide (CAS 682334-66-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Calcium hydroxide (CAS 1305-62-0)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 02-April-2015

Revision date 30-July-2015

Version # 02

Further information HMIS® is a registered trade and service mark of the American Coatings Association (ACA).

HMIS® ratings
Health: 3
Flammability: 0
Physical hazard: 2

NFPA ratings



Disclaimer

Regenesis cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

ORC Advanced® Pellets Technical Specification

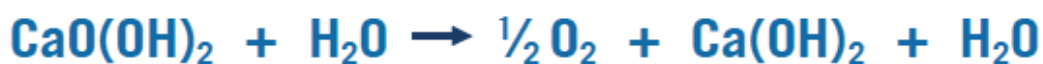
ORC Advanced Pellets are a dust-minimizing, dry application, pelletized form of the widely-used ORC Advanced controlled-release oxygen compound.

They are designed specifically for the treatment of dissolved-phase petroleum hydrocarbons through direct application into excavations, petroleum storage tank pits, trenches and backfill.

Oxygen is released from ORC Advanced for a period of 9 to 12 months *in situ*.



Example of ORC Advanced Pellets



ORC Advanced is a formulation of calcium oxyhydroxide which, upon hydration, releases oxygen and forms simple calcium hydroxide and water.

For a list of treatable contaminants with the use of ORC Advanced, view the [Range of Treatable Contaminants Guide](#).

Chemical Composition

- Calcium Oxyhydroxide
- Calcium Hydroxide
- Monopotassium Phosphate
- Ammonium Phosphate Dibasic

Properties

- Pellet size: 3-10 mm
- Contains micro-nutrients such as nitrogen, phosphorous, and potassium (N,P,K) which can be beneficial to aerobic biodegradation processes

ORC Advanced® Pellets Technical Specification

Storage and Handling Guidelines

Storage

Store in a cool, dry place out of direct sunlight

Store in original tightly closed container

Store in a well-ventilated place

Do not store near combustible materials

Store away from incompatible materials

Provide appropriate exhaust ventilation in places where dust is formed

Handling

Minimize dust generation and accumulation

Keep away from heat

Routine housekeeping should be instituted to ensure that dust does not accumulate on surfaces

Observe good industrial hygiene practices

Take precaution to avoid mixing with combustibles

Keep away from clothing and other combustible materials

Avoid contact with water and moisture

Avoid contact with eyes, skin, and clothing

Avoid prolonged exposure

Wear appropriate personal protective equipment

Applications

- *In situ* or *ex situ* out of the bag
- Direct application into open excavations, petroleum storage tank pits and trenches
- Direct application to contaminated backfill or contaminated soils
- *Ex situ* biopile applications (requires a source of hydration)

Health and Safety

Wash thoroughly after handling. Wear protective gloves, eye protection, and face protection.

Please review the Material Safety Data Sheet for additional storage, usage, and handling requirements here: [ORC Advanced SDS](#).

