



GETTLER-RYAN Inc.

ENVIRONMENTAL
PROTECTION

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May 18, 2000

Mr. Michael Bakaldin
Alameda County Fire Department
835 East 14th Street
San Leandro, CA 94577

**Subject: Proposed Overexcavation and ORC Application, Former Tosco (76) Station
No. 7004, 15599 Hesperian Boulevard, San Leandro, California**

Mr. Bakaldin:

On behalf of Tosco Marketing Company (Tosco), and pursuant to our phone conversation on May 16, 1999, Gettler-Ryan Inc. (GR) has prepared this letter to inform you of the potential soil overexcavation following the upcoming Underground Storage Tank (UST) removal at the subject site. Tosco is proposing to overexcavate hydrocarbon-impacted soil if it is deemed a feasible and effective remedial effort, based on conditions encountered during the UST removal. Tosco's contractor, Fuller Excavating and Demolition, Inc., has tentatively scheduled the UST removal for Wednesday, May 24, 2000.

In addition to possible overexcavation, Tosco is proposing to treat the base of the UST pit with Oxygen Release Compound® (ORC) to enhance the natural biodegradation of dissolved hydrocarbons in groundwater in the vicinity of the UST pit.

ORC is a form of magnesium peroxide that provides oxygen on a time released basis. Regensis Inc. (Regensis) has formulated a powdered form of ORC that is ideally adapted to the treatment of UST excavations. Based on anticipated site conditions and application guidelines provided by Regensis, GR is proposing to treat the bottom of the UST pit and backfill material with 360 pounds of ORC. A Material Safety Data Sheet and additional information about ORC are enclosed with this letter.

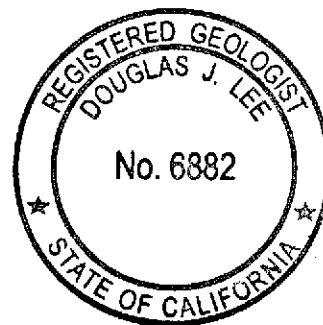
If you have any questions, or require additional information concerning our proposed activities, please do not hesitate to contact me at (925) 551-7555.

Sincerely,
Gettler-Ryan Inc.



Douglas J. Lee

Project Manager, R.G. No. 6882



Enclosures: Material Safety Data Sheet
About Oxygen Release Compound, ORC®

Cc: Mr. Scott O. Seery - Alameda County Environmental Health Services
Mr. David B. De Witt - Tosco Marketing Company

MATERIAL SAFETY DATA SHEET

Last Revised : July 1, 1997

SECTION 1 - MATERIAL IDENTIFICATION
*******SUPPLIER:**

REGENESIS Bioremediation Products
 27130A Paseo Espada, Suite 1407
 San Juan Capistrano, CA 92675
 714-443-3136 phone
 714-443-3140 fax

CHEMICAL DESCRIPTION:

A mixture of Magnesium Peroxide [MgO₂], Magnesium Oxide [MgO],
 and Magnesium Hydroxide [Mg(OH)₂]

CHEMICAL FAMILY:

Inorganic Chemicals

PRODUCT NAME:

Oxygen Release Compound (ORC®)

PRODUCT USE:

Used for environmental remediation of contaminated soil and groundwater

SECTION 2 - CHEMICAL IDENTIFICATION
*******CHEMICAL CHARACTERIZATION**

Magnesium Peroxide [MgO ₂]	CAS Reg. No.	14452-57-4
Magnesium Oxide [MgO]:	CAS Reg. No.	1309-48-4
Magnesium Hydroxide ((Mg(OH) ₂)):	CAS Reg. No.	1309-42-8
FORM	powder	
COLOR:	white	
ODOR:	odorless	
ASSAY:	25 - 35% Magnesium Peroxide (MgO ₂)	

SECTION 3 - PHYSICAL AND TECHNICAL SAFETY DATA

MELTING POINT:	Not Determined
BOILING POINT:	Not Determined
DENSITY:	.6 - .8 g/cc
BULK DENSITY:	---
VAPOR PRESSURE:	Data not available
VISCOSITY:	---
SOLUBILITY:	Reacts with water. Soluble in acid
pH VALUE:	Approx. 10 in saturated solution
FLASH POINT:	Not applicable
SELF-IGNITION TEMPERATURE:	Not applicable
EXPLOSION LIMITS % BY VOLUME:	---
THERMAL DECOMPOSITION:	Spontaneous decomposition possible about 150° C

HAZARDOUS DECOMPOSITION PRODUCTS: Not known
 HAZARDOUS REACTIONS: Hazardous polymerization will not occur
 FURTHER INFORMATION: Non-combustible, but will support combustion

SECTION 4 - REACTIVITY DATA

STABILITY: Product is stable unless heated above 150°C.
 Magnesium Peroxide reacts with water to slowly
 release oxygen. React by product is magnesium
 hydroxide
 CONDITIONS TO AVOID: Heat above 150°C. Open flames
 INCOMPATIBILITY: Strong Acids
 Strong chemical agents
 HAZARDOUS POLYMERIZATION: None known

SECTION 5 - REGULATIONS

PERMISSIBLE EXPOSURE LIMITS IN AIR: Not established. Should be treated as a
 nuisance dust.

SECTION 6 - PROTECTIVE MEASURES, STORAGE, AND HANDLING

TECHNICAL PROTECTIVE MEASURES
 STORAGE: Keep container tightly closed.
 Keep away from combustible material
 HANDLING: Use only in well-ventilated areas
 PERSONAL PROTECTIVE EQUIPMENT
 RESPIRATORY PROTECTION: Recommended (HEPA Filters)
 HAND PROTECTION: Wear suitable gloves
 EYE PROTECTION: Use chemical safety goggles
 OTHER: ---
 INDUSTRIAL HYGIENE: Avoid contact with skin and eyes
 PROTECTION AGAINST FIRE AND EXPLOSION: ---
 DISPOSAL: Dispose via sanitary landfill per state/local
 authority
 FURTHER INFORMATION: Not flammable, but may intensify fire

SECTION 7 - MEASURES IN CASE OF ACCIDENTS AND FIRE

AFTER SPILLAGE/LEAKAGE/GAS LEAKAGE: Collect in suitable containers. Wash
 remainder with copious quantities of water.
 EXTINGUISHING MEDIA
 SUITABLE: Carbon dioxide, dry chemicals, foam
 NOT TO BE USED: ---
 FURTHER INFORMATION: Self contained breathing apparatus or
 approved gas mask should be worn due to

small particle size. Use extinguishing media appropriate for surrounding fire. After contact with skin, wash immediately with plenty of water and soap. In case of contact with eyes, rinse immediately with plenty of water and seek medical attention.

FIRST AID:

FURTHER INFORMATION:

SECTION 8 - INFORMATION ON TOXICOLOGY

TOXICITY DATA: Data not available

SECTION 9 - INFORMATION ON ECOLOGY

WATER POLLUTION HAZARD RATING (WGK): 0

SECTION 10 - FURTHER INFORMATION

After the reaction of magnesium peroxide to form oxygen the resulting material, magnesium hydroxide is mildly basic. The amounts of magnesium oxide (magnesia) and magnesium hydroxide in the initial product have an effect similar to lime, but with lower a alkalinity.

The information contained in this document is the best available to the supplier at the time of writing, but is provided without warranty of any kind. Some possible hazards have been determined by analogy to similar classes of material. The items in this document are subject to change and clarification as more information becomes available.

ABOUT OXYGEN RELEASE COMPOUND, ORC®

Oxygen Release Compound (ORC) is a patented formulation of magnesium peroxide, MgO_2 , which slowly releases oxygen when moist. The hydrated product is magnesium hydroxide, $Mg(OH)_2$. The oxygen release rate is dependent upon the level of the contaminant flux. Generally, the product will continue to release oxygen for about 6 months.

We have found, and the literature supports, that oxygen is the limiting factor in aerobic bioremediation. The microorganisms, nutrients and moisture are typically present, but most sites are oxygen deficient with bioremediation proceeding anaerobically. The addition of oxygen significantly increases the rate of remediation, by one or two orders of magnitude. Throughout this software, a conservative 3:1 ratio of oxygen usage to carbon contamination has been used.

ORC will not harm an aquifer. It is virtually insoluble. Biofouling is inhibited by an elevated, but localized pH. Iron fouling is avoided, particularly when compared to air sparging, by the long, gentle release of dissolved oxygen which is dispersed widely. The hydrated product is a solid form of ordinary Milk of Magnesia.

ORC is useful as a slow release source of oxygen in the remediation of any compound that is aerobically degradable. It has been used in the successful remediation of dissolved phase compounds such as BTEX, MTBE, PAH's and certain chlorinated compounds such as vinyl chloride and PCP. ORC is most frequently used to address dissolved phase contamination plus sorbed material in the saturated, capillary fringe, and smear zones. It should not be used when more than a sheen of free product is evident.

ORC can be applied to meet several objectives. The product may be used in the bottom of a tank excavation to eliminate one of the toughest and most persistent sources of contamination at, or near, the soil/groundwater interface. ORC can create a highly oxygenated zone near the original source of the contamination, reducing the contaminant mass, and thereby collapsing the plume so that compliance may be achieved at a point closer to the source. ORC can also, be applied as an "oxygen barrier" which prevents contaminant migration off site. This ORC Application Software will assist in the proper design and application of ORC to meet any of these objectives.

More specific information about ORC may be found in the Appendix of this disk and in Technical Bulletins available from the company. Also, the Regenesiis web site has expanded technical and product performance information. The web site may be accessed at <http://www.regenesiis.com>, and is best viewed through MS Explorer v 3.0, Netscape v. 3.0, or AOL v. 3.0