

U.S. Department of Labor

Mine Safety and Health Administration
Pittsburgh Safety & Health Technology
P.O. Box 18233
Pittsburgh, PA 15236



Mine Waste and Geotechnical Engineering Division

July 20, 2000

Mr. Andy Stevens
Vice-President of Sales
Enviroseal Corporation
5309 Lake Worth Road
Lake Worth, FL 33463

copy

In accordance with your request, we have reviewed the product literature that you have submitted to the Mine Safety and Health Administration, Pittsburgh Safety and Health Technology Center, Mine Waste and Geotechnical Engineering Division. A number of review comments were offered relative to performance of any field testing that you may perform. We have also disseminated information regarding your products, and your desire to perform field testing, to Coal Mine Safety and Health, and Metal and Nonmetal Mine Safety and Health.

A copy of our review report is enclosed for your reference. If you have any questions, please do not hesitate to contact this office.

Sincerely,

A handwritten signature in cursive script that reads "Kelvin K. Wu".

Kelvin K. Wu, Ph.D., P.E. Chief, Mine Waste
and Geotechnical Engineering Division

Enclosure

Department of Labor

Mine Safety and Health Administration
Pittsburgh Safety & Health Technology Center
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PHYSICAL AND TOXIC AGENTS DIVISION

November 1, 1999

MEMORANDUM FOR GEORGE H. GARDNER

Civil Engineer
Mine Waste and Geotechnical
Engineering Division

FROM: JOHN P. SEILER
Chief, Toxic Agents Branch

SUBJECT: Health and chemical safety aspects of handling and
applying Enviroseal products at mine sites

This memorandum is in reference to your E-mail, dated October 15, 1999, requesting that the Physical and Toxic Agents Division (PTAD) review and evaluate four Enviroseal Corporation products for their potential effects on both human health and the environment.

EVALUATION

Only the information from Enviroseal Corporation's Material Safety Data Sheets (MSDSs) and product literature was used to review and evaluate the health hazards and chemical properties of the following products:

Liquid Base Stabilizer (LBS) - This is an acrylic emulsion soil stabilizer. As a finished product, it reduces the plasticity of clay and lime bearing soils and prevents them from absorbing moisture, and is environmentally safe.

Liquid Dust Control and Surface Sealant (LDC) - This product is used to control surface dust. It is a polymeric material that is diluted with water and provides long-term dust control on roads and in mines. It can be used to form a moisture barrier liner for ponds and roadways. It is environmentally safe.

Polymeric Stabilizer 2001 (2001 Polymeric Asphalt) - This is a complex polymeric emulsion that can be used as an alternative to asphalt. As a finished product, it has the adhesive characteristics of asphalt and lasts longer, is totally safe to the environment, and is unconditionally guaranteed against product failure for up to 10 years.

Asphalt Sealer (LAS 320) - This is a inorganic, polymeric emulsion that is used to seal asphalt surfaces. It can be applied with a brush, roller, or spray, and forms a chemical bond with asphalt. As a finished product, it repels water, acids, and other liquids; is environmentally safe; and has an unconditional 2-year warranty.

CHEMICAL PROPERTIES AND HEALTH HAZARDS

Table 1 contains information on the chemical hazards associated with each of these products. Because these products are normally diluted with water before they are applied, any chemical reaction caused by contact with incompatible chemicals will be

Enviroseal Products	Major Chemical Components	pH	Water Solubility	Water Reactivity	Incompatible Chemicals	Flammability/Combustibility	NFPA Code
LBS	Inorganic cohesive agents, silicon polymer	12	Complete	Mild	Acids, alcohol	None	000
LDC	Acrylic polymer (415); water (590); diluted with water	8	Complete	None	Oxidizers	None	000
LPS 2001	Polymeric, inorganic cohesive agents	7-8	Complete	Mild	Alcohol	None	000
LAS 320	Polymeric, inorganic cohesive agents	5-7	Complete	Mild	None	None	000

Table 2 is a general summation of the health hazard information for all of these products and can be applied to each individual product. After reviewing the MSDSs of the four products, the only exposures likely to occur are inhalation, eye contact, and skin contact. All of the MSDSs have the same general information on the health effects from exposures, first-aid treatment, and exposure-control methods.

TABLE 2. - Health Hazards of Enviroseal Products: Their Recognition, Treatment, and Control				
HEALTH HAZARDS			TREATMENT AND CONTROL	
Routes of Exposure	Target Organs	Health Affects	First-Aid	Personal Protective Equipment and Clothing
Eye contact	Eyes	Slight irritation	Eyes: Rinse with clean water for 15 minutes	Chemical splash goggles
Skin contact	Skin	Mild irritation	Skin: Wash with soap and water	Rubber gloves, rubber apron, protective coveralls
Inhalation	CNS	Headache, nausea	Breathing difficulties: Move to fresh air	Respirator: None required
	Nose, throat, and lungs	Irritation		Ventilation: Fresh air
Carcinogen	NTP, IARC: Not determined			Eye wash: clean water supply
Toxicity	Animal Testing - Rabbit: Slight skin and eye irritation; (Dermal LD50: 5000 mg/kg			Maintenance: Launder, rinse clothing with clean water

CONCLUSION

If handled and applied according to the manufacturer's directions, there is very little risk that any of these products will harm either miners or the environment. Since the purpose of these products is to agglomerate, compact, seal, and stabilize soils, they would be expected to have a positive effect on the environment and human health by reducing dust and soil erosion.

The information and conclusions in this memorandum should not be construed to be an endorsement or approval of the product. If you have any questions about this information, please contact me at (412) 386-6977.

cc: K. K. Wu