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Section 1.

**ECOLOGICAL INFORMATION**

Animal toxicity studies on blended Enviroseal Roof-guard 101™ have been carried out. We believe the fish toxicity studies done on our blend demonstrate it is as non-toxic as the individual emulsions which go into our blend. TABLE # 1 gives the results of our fish toxicity tests.

In summary, these data show that the LC50 of Enviroseal Products as above, on goldfish is somewhere above 12,500 ppm. This is extremely low toxicity, especially in view of the legal requirement that chemicals must be labeled "toxic to fish" only if their LC50 is less than 100.0 mg/l. These results are on file with the US EPA.

<b>TABLE I FISH TOXICITY STUDIES</b>			
<b>EMULSION NUMBER</b>	<b>TYPE OF FISH</b>	<b>HOURS</b>	<b>LC-50 PPM</b>
W	Rainbow Trout	24	10,000
S	Rainbow Trout	96	8,950
W	Bluegill Sunfish	24	10,000
S	Bluegill Sunfish	96	5,640
W	Goldfish	24	4,200
S	Goldfish	24	7,500
B	Goldfish	24	10,000
D	Goldfish	24	13,400
C	Goldfish	24	13,400
Enviroseal Products as above	Goldfish	24	12,500 - 25,000
Enviroseal Products as above	Goldfish	48	12,500 - 25,000
Enviroseal Products as above	Goldfish	72	12,500 - 20,000
C	Goldfish	24	24,000
S	Goldfish	24	24,000

<b>TABLE 2 ANIMAL TOXICITY STUDIES</b>				
<b>EMULSION Enviroseal Products as above</b>				
Acute Oral- Rat LD50, mg/kg	>5,000	>5,000	>50,000	>5,000
Acute Dermal- Rabbit LD50, mg/kg	>5,000	>5,000	>5,000	>2,000 .
0-8 Scale, 8 = Most Severe	3,2	3.2	2.6	1.0
Eye Irritant- Rabbit	Sl-Mod.	S1	Sl-Mod.	----
Acute Inhalation (Aerosol)- Rat LC50, mg/liter-1 hour	>38	>9.56	>7.9	> 25 (4 hr.)
Repeated Insult Patch Test- Humans Irritant	Negative	Negative	Negative	Negative
Fatiguing Agent	Negative	Negative	Negative	Negative
Sensitizer	Negative	Negative	Negative	Negative

**over**

## **Continued: June 2003 addition on Invertebrates:**

### **Enviroseal M10+50 / 2001, Enviroseal LDC, Enviroseal Duraseal, Enviroseal Roof-Guard 101 and Enviroseal LAS-320**

The aquatic 7-day LC50 for daphnids\* was greater than 800 mg/L.

The aquatic 7-day LC50 for trout was greater than 1000 mg/L.

pH value 9.41

BOD value 4940 mg/l.

COD value 952,000 mg/L

\* invertebrate species

The LC50 values are approximately 10-fold higher than the EPA's lowest toxicity criteria, thus results obtained for Enviroseal M10+50 are approximately 10-fold less toxic than materials which minimally meet the 100 mg/L, "practically non-toxic", criteria established by the EPA. The data are consistent with those for compositionally similar acrylic emulsions. The data do not suggest there is a concern for adverse environmental impact from proper use or even inadvertent misuse of Enviroseal M10+50.

## **NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM**

The National Pollution Discharge Elimination System (NPDES) is a provision under the EPA's 1990 Clean Water Act which addresses storm-water run-off from construction sites. The focus of the NPDES is to reduce water pollution caused by erosion and sediment run-off from disturbed land activities. The NPDES functions as a nationwide regulatory program to insure the use of responsible erosion and sediment control practices throughout construction projects which disturb five or more acres of land. The NPDES is administered nationwide by the EPA through each individual states local and statewide Soil & Water Conservation or environmental management agencies. States that do not have separate programs are regulated directly by regional EPA offices. These states are: AZ, AK, FL, ID, LA, MA, ME, NH, NM, OK and TX.

The NPDES requires comprehensive erosion and sediment control plans as well as a letter of intent to be submitted and approved by state and local review boards before the start of any construction activities and ensures the use of Best Management Practices, the most practical and effective control measures for reducing erosion and sediment run-off from construction sites.

### **NPDES Submittal Procedure:**

- Develop Storm Water Pollution Prevention Plan (SWPPP) for the construction Site
- Submit SWPPP and Notice of Intent to Pertinent agencies
- Implement and Maintain Designated Best Management Practices

## **CONSTRUCTION SITES**

Sediment (silt) is now recognized as the biggest single pollutant of inland and coastal waters, and the most threatening factor affecting both plant and animal life in our lakes, streams, ponds, storm beds, estuaries, and other wet land areas vital to a healthy ecosystem. Most damaging is the silt generated from uncontrolled earthworks, or bare-ground, most especially construction sites.

Construction sites produce large sudden concentrated sediment loadings compared to other land uses. The reason is that they are graded smooth compared to tilled land and once eroded, the sediment is quickly washed through drainage systems and off-site. The erosion rates are often highest in the summer months when the soil dries out and rain storms are more intense, while crop land has cover during these months.

Sediment control is only 50% effective compared to erosion control which is considered to be 90% - 98% effective. Erosion control eliminates erosion and sediment run-off therefore minimizing the conditions which necessitate "sediment control" because most sediment is contained on-site.

Sheet and rill erosion (the uniform washing away of soil by rain impact) is responsible for most of the soil erosion that occurs on construction sites. Land that is bare or denuded is extremely vulnerable to rain erosion. Erosion control (covering the soil) is the first line of defense in keeping soil on construction sites. The primary effort for controlling erosion and sediment pollution should be to minimize raindrop impact on bare soil. Vegetative stabilization is the most effective type of erosion control practice. The next BEST erosion control practice is a temporary "covering the soil" with Enviroseal LDC™ a superior bonding agent which works to prevent sheet and rill erosion. Enviroseal LDC™ provides the easiest, most economical and effective way to control the damaging effects of erosion and sediment pollution in even the most vulnerable earthworks and bareground environments while protecting the environmental ecosystem.

**Note: These tests exceed all requirements by any International Environmental Governing Body**