REAL

REISZNER ENVIRONMENTAL & ANALYTICAL LABS, INC.

November 1, 1990

Mike Thompson
BF Goodrich
P.O. Box 578
Plaquemine, LA 70765-0578

Dear Mike,

Here is the answer to your inquiry about the MiniMonitor. You specifically asked about availability of refurbished MiniMonitors and about the composition of the plastic bags.

Present deliveries are from 4-6 weeks but should improve to 1-2 weeks by January 1990. The plastic bag is made from polyethylene and should be used for only short term storage of the MiniMonitor. To minimize contamination of the bags and therefore the monitor, the bag may be stored in a desiccator (not the one used for the vial kits) with "protection charcoal."

Copies of the current price list and the operating procedure are enclosed for you to distribute at the upcoming meeting. The price list includes the cost of analysis of samples submitted to REAL.

Yours truly,

Kenneth D. Reiszner
Ph.D., President

cc. Other BF Goodrich plants via MT.

2642001

BFG50859

REAL

REISZNER ENVIRONMENTAL & ANALYTICAL LABS, INC.

November 1, 1990

Dear Customer,

This letter is to inform you of several changes that have occurred at REAL, Inc. Although the Baton Rouge address and phone No. will be active for some time the use of them may slow order processing.

We have had massive delays in processing orders for new or refurbished monitors and must apologize for them. Deliveries should be improving shortly.

The density of the charcoal has changed again and the new recommended charge will be printed on all bottles shipped after September 5, 1990. If you use the premeasured vial, you needn't make any changes in your procedure. The adsorption-desorption properties are identical to previous batches. The new charcoal has a narrower mesh range of 20-35 mesh, fewer small particles, and will appear to have a somewhat larger size than the 20-40 mesh.

To keep you up to date we have included with this letter:

1. Price list
2. Procedure
3. Material Safety Data Sheet

You may place orders and return MiniMonitors via U.S Mail to:

REAL, Inc.
P.O. Box 1067
Lecompte, LA 71346

You may return MiniMonitors via UPS, Federal Express, etc. using the physical address:

REAL, Inc.
43 Wiley Rd.
Lecompte, LA 71346

You may place orders or make inquiries at the telephone No.:

(318) 776-5410

Yours truly,
Kenneth D. Reiszner, Ph.D., President

26424002

BFG50860

REAL

REISZNER ENVIRONMENTAL & ANALYTICAL LABS, INC.

MINIMONITOR PRICE LIST

0-20	MiniMonitor for measuring vinyl chloride	$136.00
0-20-U	MiniMonitor uncalibrated.	$98.00
0-20-1	Recalibration and replacement of MiniMonitor (Each monitor is recalibrated, inspected and dismantled. Each MiniMonitor is replaced with a rebuilt MiniMonitor manufactured from dismantled parts and a certificate of calibration is supplied. Rebuilding includes replacement of the membrane and front plate.)	$95.00
0-21	Activated charcoal for MiniMonitor (100g)	$23.00/100g
0-22	Pre-measured charcoal sample vials, 10 vials/pk. complete with open top caps and septa for desorption and analysis and a label.(Minimonitor is filled with charcoal and the charcoal is returned to the vial for desorption)	$23.00/pk.
0-23	Analysis of MiniMonitor charcoal sample for vinyl chloride. Prices are based on a minimum of 4 samples per week. The setup charge includes the price for analysis of a blank which is to be submitted by client with the samples. Quantity discount schedule below does not apply. Ask for quotation on quantities above 10 samples/week. Samples recieved by Friday of one week will normally be analysed and reported on by Wednesday of the following week.	$19.00/sample $25.00/ setup charge

QUANTITY	DISCOUNT
5-9	10%
10-19	15%
20-50	20%
50-	ASK FOR QUOTE

PRICES.2.90

26424003

BFG50861

REAL

RENSZNER ENVIRONMENTAL & ANALYTICAL LABS, INC.

MINIMONITOR

RECOMMENDED OPERATING PROCEDURE FOR MEASURING VINYL CHLORIDE IN AIR Also Freon 12**

1. Pour 1.35 g of activated charcoal (Cat. No. 0-21 or 0-22) into the MiniMonitor and attach the monitor to an individual as close to the breathing zone as is practical.

2. After exposure, normally 1 to 8 hr, pour the charcoal into a 7 mL glass vial.* Seal the vial with a teflon faced silicone septum(Cat. No. 0-26) and refrigerate the sample at -20 oC if it is to be stored for more than 8 hrs.

ANALYSIS

1. Cool the sample to -20 oC (in a freezer) and add 5 mL of cold (dry ice) carbon disulfide slowly so that no charcoal or solvent spatter from the vial. Standards are prepared in the same way except the carbon disulfide is added to an empty vial (use no charcoal to prepare standards).

Note: The desorption apparatus (Cat. No. 0-24) in figure 1 is particularly convenient for desorption because it allows the carbon disulfide to be measured at room temperature.

2. Recap the vial immediately after adding the carbon disulfide and allow to stand 30 minutes.

3. Shake the vial at 10 and 20 minutes after solvent addition.

4. Inject 5 uL into a gas chromatograph equipped with a flame ionization detector. The column used should be chosen to separate possible interfering species that occur in the environment being sampled; however, a 6 ft 1/8 in. Chromosorb 102 (Johns Manville) or a 20 ft. 1/8 in. FFAP column are commonly used. An internal standard that is not removed from solution by the charcoal is recommended.

5. Calculate the concentration from the equation:

$$c = \frac{kw}{t}$$

BFG50862

where
k = constant
c = concentration of vinyl chloride, ppm
t = time of exposure, hr
w = volume of vinyl chloride, uL @ 25 oC

26424004

REAL

REIGZNER ENVIRONMENTAL & ANALYTICAL LABS, INC.

STANDARDS

The standards for calibration of the gas chromatograph are prepared in the same way that the samples are except that the carbon disulfide is added to an empty vial (use no charcoal to prepare standards). Pure vinyl chloride vapor (40 uL) is injected into the headspace above the 5 mL of carbon disulfide. Shake well after the addition of vinyl chloride. A teflon lined silicone septum (Cat. No. 0-26) is recommended for sealing the vials.

REAGENTS

Only activated charcoal Cat. No. 0-21 (or 0-22 in vials) or equivalent should be used. Carbon disulfide (reagent or spectroscopic grade) should be as pure as possible to speed analysis time.

CALIBRATION OF THE MONITOR

The monitor should be calibrated before use if not purchased calibrated. Expose the device to a known concentration (10 ppm) of vinyl chloride for a given period of time (2 hr). This can be done conveniently by placing the monitor in an aluminum or glass chamber (Cat. No. 0-25) with the calibration gas moving through the chamber at about 1 L per minute per monitor being exposed . Permeation tubes are probably the most accurate source of vinyl chloride standards, while compressed gas standards are more convenient. The calibration constant can be calculated from the equation:

$$k = \frac{ct}{w}$$

* To facilitate rapid addition and removal of charcoal a vibrator (engraver) should be touched to the badge clip.

** The same sampling and desorption procedures can be used for Freon-12.

MM.Op.Proc.6.90

26424005

BFG50863

Material Safety Data Sheet
May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

IDENTITY (As Used on Label and List): ACTIVATED CARBON TYPE SK

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name	REAL, Inc.	Emergency Telephone Number	318-776-5410
Address (Number, Street, City, State, and ZIP Code)	49 Wyley Rd. Lecompte, LA 71346 (P.O. Box 1067, Lecompte, LA 71346)	Telephone Number for Information	318-776-5410
		Date Prepared	10/20/90
		Signature of Preparer (optional)	

Section II — Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
NON HAZARDOUS PER OFFICE OF HAZARDOUS MATERIALS MANAGEMENT				

Section III — Physical/Chemical Characteristics

Boiling Point	N/A	Specific Gravity (H_2O = 1) nominal	0.42
Vapor Pressure (mm Hg.)	N/A	Melting Point	N/A
Vapor Density (AIR = 1)	N/A	Evaporation Rate (Butyl Acetate = 1)	N/A

Solubility in Water: NOT SOLUBLE

Appearance and Odor: BLACK IRREGULAR GRANULES WITHOUT ODOR

BFG50864

Section IV — Fire and Explosion Hazard Data

Flash Point (Method Used): N/A	Flammable Limits: Ignition Temp. 340°C	LEL: N/A	UEL: N/A

Extinguishing Media: WATER - INERT GASES SUCH AS N_2 or CO_2, dry chemical agents

Special Fire Fighting Procedures: SINCE WET ACTIVATED CARBONS ADSORB OXYGEN, DO NOT ENTER CLOSED VESSELS WITHOUT USING A SELF CONTAINED BREATHING APPARATUS

Unusual Fire and Explosion Hazards: N/A