

TRI / Environmental, Inc.
 9063 Bee Caves Road
 Austin, TX 78733
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Adams Broadwell & Joseph
 651 Gateway Blvd., Ste 900
 South San Francisco, CA 94080

Filename : Saf4Cmnt
 Method Standard : ASTM F739-96 (Mod.)
 Material Log No. : 98075-09-01
 Test Date : 7/29/98
 Analyst : [Signature]
 Date : [Signature]

PERMEATION TEST REPORT

Material Name : Safety 4H Glove
 Conditioning : None
 Chemical : Oatey Lo-V.O.C. CPVC Cement+
 Source : Orchard Supply Hardware

Test Temperature : 27 deg. C
 Test Duration : 8 Hours
 Concentration : 100 %
 CAS No. : N/A

TEST RESULTS	CELL 1	CELL 2	CELL 3	Average	Std. Dev.
Actual Breakthrough : (time in minutes)	6	12	99	39	42
Normalized Breakthrough : (time in minutes)	9	72	384	155	164
Maximum Rate Detected: (ug/cm2*min)	2.4	0.66	0.17	1.1	0.96
Unit Area Weight (g/cm2)	0.0074	0.0079	0.0074	0.0076	0.0002
Sample thickness (.001")	3	3	3	3	0.0

Modifications of Method : 1" Cells
 Analytical Technique : PID 10.2 Lamp
 Sampling Frequency : Every 3 minutes
 Chemical physical state : Liquid
 Type of chemical contact : Continuous
 Collection medium : Dehumidified Air
 Minimum detection limit : .11 ppm
 Minimum detectable rate : 0.011 ug/cm2*min

+ Notes: Mixture of chemicals was analyzed using Response Factor for THF acquired 8/7/98

This data was derived from testing performed in accordance with a modification of ASTM Standard F739-96. These tests were performed under laboratory conditions. TRI / Environmental, Inc. neither warranties nor guarantees protection provided by the use of this material against the tested chemical. The user should determine the applicability of test conditions when assessing the suitability of material for actual anticipated exposure. Due to the use of a one point calibration curve automated box tests with excessive breakthrough may reflect maximum rates that are artificially low.

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Filename : Saf4prim
 Method Standard : ASTM F739-96 (Mod.)
 Material Log No. : 98075-09-01
 Test Date : 7/29/98
 Analyst: [Signature] Q/C Date: 8/11/98

PERMEATION TEST REPORT

Material Name Safety 4H Glove
 Conditioning : None
 Chemical : Oatey Lo-V.O.C. CPVC Primer+
 Source : Orchard Supply Hardware

Test Temperature : 27 deg. C
 Test Duration : 8 Hours
 Concentration : 100 %
 CAS No. : N/A

TEST RESULTS	CELL 1	CELL 2	CELL 3	Average	Std. Dev.
Actual Breakthrough : <i>(time in minutes)</i>	>480	>480	>480	N/A	N/A
Normalized Breakthrough : <i>(time in minutes)</i>	>480	>480	>480	N/A	N/A
Maximum Rate Detected: <i>(ug/cm2*min)</i>	<.006	<.006	<.006	N/A	N/A
Unit Area Weight (g/cm2)	0.0074	0.0079	0.0074	0.0076	0.0002
Sample thickness (.001")	3	3	3	3	0.0

Modifications of Method : 1" Cells
 Analytical Technique : PID 10.2 Lamp
 Sampling Frequency : Every 3 minutes
 Chemical physical state : Liquid
 Type of chemical contact : Continuous
 Collection medium : Dehumidified Air
 Minimum detection limit : 0.04 ppm
 Minimum detectable rate : 0.004 ug/cm2*min
 + Notes: Mixture of chemicals was analyzed using Response Factor for THF acquired 8/7/98

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COMPOUNDS PRESENT IN FINAL SAMPLE OF
OATEY LO-V.O.C. CPVC CEMENT TEST

August 7, 1998

COMPOUND	Total μg			$\mu\text{g}/\text{cm}^2*\text{min.}$		
	Cell 1	Cell 2	Cell 3	Cell 1	Cell 2	Cell 3
Tetrahydrofuran	47 μg	11 μg	<7.5 μg	0.62 μg	0.14 μg	<0.1 μg
All Other Compounds	<7.5 μg	<7.5 μg	<7.5 μg	<0.1 μg	<0.1 μg	<0.1 μg



COMPARISON OF COMPOUNDS OF
OATEY LO-V.O.C. CPVC CEMENT AND PRIMER
TO PS WELD-ON PVC CEMENT AND PRIMER

August 7, 1998

PS Weld-On PVC 2711 Series 2000 Plastic Pipe Cement		Oatey LO-V.O.C. CPVC Cement	
Chemical Component	Percentage	Chemical Component	Percentage
Acetone	<5%	Acetone	20%
Methyl Ethyl Ketone	30%	Methyl Ethyl Ketone	<5%
Tetrahydrofuran	45%	Tetrahydrofuran	60%
Cyclohexanone	25%	Cyclohexanone	10%
PS Weld-On PVC/CPVC P-70 Plastic Pipe Primer		Oatey LO-V.O.C. Purple Primer	
Acetone	<5%	Acetone	<5%
Methyl Ethyl Ketone	40%	Methyl Ethyl Ketone	75%
Tetrahydrofuran	50%	Tetrahydrofuran	5%
Cyclohexanone	10%	Cyclohexanone	20%

Based on Gas Chromatography sensitivity rate of $<7.5 \mu\text{g}/\text{cm}^2 \cdot \text{min}$. for Tetrahydrofuran and $<0.1 \mu\text{g}/\text{cm}^2 \cdot \text{min}$. for all other compounds. Percentages are based on $\pm 2.5\%$.