



## KLEENGUARD\* A80 Chemical Permeation & Jet Liquid Coveralls & Accessories

### Product Information

Zipper Front, Elastic Wrist, Ankles & Hood		Vending	Size	Qty
Code	Machine Ready			
45643	No	L	12	
45644	No	XL	12	
45645	No	2XL	12	
45646	No	3XL	12	
45647	No	4XL	12	
30946 <sup>Y</sup>	No	5XL	10	
30947 <sup>Y</sup>	No	6XL	10	



### Fabric Properties

Physical Properties	Test Method	Results
Tensile Strength (MD)	ASTM D5034	64.4 lbs
Tensile Strength (CD)	ASTM D5034	52.8 lbs
Trapezoidal tear (MD)	INDA IST 100.2	20.8 lbs
Trapezoidal tear (CD)	INDA IST 100.2	14.0 lbs
Elongation (MD)		N/A
Elongation (CD)		N/A
Lint - # of particles		N/A
Flammability	CPSC 1610	Class 1
Static Decay		N/A

Zipper Front, Elastic Wrist, Hood & Boots		Vending	Size	Qty
Code	Machine Ready			
45663	No	L	12	
45664	No	XL	12	
45665	No	2XL	12	
45666	No	3XL	12	
45667	No	4XL	12	
30948 <sup>Y</sup>	No	5XL	10	
30949 <sup>Y</sup>	No	6XL	10	



Barrier Properties	Results
Hydrohead	AATCC 127-1998 703 cm
Particle Hold Out	N/A
Blood Penetration	ASTM F1670 Pass
Bloodborne Pathogens	ASTM F1671 <sup>†</sup> Pass
Mullen Burst	ISO 13938-2 1999 46.2 psi

Comfort Properties	Results
Air Permeability	N/A
Moisture Vapor Transport Rate	N/A

<sup>†</sup> Standard Test Method for Resistance of Materials Used in Protective Clothing to Penetration by Bloodborne Pathogens Using Phi-X174 Bacteriophage Penetration as a Test System.

### A80 Accessories

Sleeve Protector		Vending	Size	Qty
Code	Machine Ready			
45749	No	21"	100	



- Taped seams
- Elastic top & wrist
- 21" length ergonomically designed to fit to arm
- White

Additional Attributes
Saranex® 23-P film laminate
Fabric not made with silicone
Not made with BHT preservative
Non-latex polyisoprene elastic
REFLEX® Design – see catalog for sizing chart
Seamless front
Taped 3" storm flap
Seams taped with Saranex® 23-P film
Respirator Fit Hood

Apron		Vending	Size	Qty
Code	Machine Ready			
45748	No	29" x 44"	50	



- White
- One size fits all

Please see other side for Chemical Resistant Test Information

\*Made-to-Order Codes

Liquid & Gas Chemicals Resistance Test			
Chemicals	Liquid Penetration	Vapor Permeation	
	ASTM F903	ASTM F739	
	Test Duration 60 min Saturation Exposure	Normalized Breakthrough(min)	Rate (µg/cm <sup>2</sup> /min)
Acetaldehyde▲ (99.5+%)	Pass	16	1.71
Acetic Acid (99%)	Pass	>480	Not Detected
Acetone (99.5%)	Pass	21	1.37
Acetonitrile▲ (99.0%)	Pass	69	0.224
Acetyl Chloride (98%)	Pass	8	34.63
Acrolein▲ (90%)	Not Tested	16	3.58
Acrylamide in water (50%)	Pass	>480	Not Detected
Acrylic Acid (99%)	Pass	>480	Not Detected
Acrylonitrile▲ (99+%)	Pass	>480	Not Detected
Ammonia Gas (99.9%)	Not Tested	>480	Not Detected
Ammonium Hydroxide (28%)	Pass	385	0.07
Aniline (99.5%)	Pass	396	0.12
Antimony Pentachloride (99%)	Pass	Immediate	255.38
Benzaldehyde (99+%)	Pass	61	68.1
Benzene▲ (99%)	Pass	7	20.8
Benzyl Alcohol▲ (99+%)	Pass	>480	Not Detected
Benzyl Chloride (99%)	Pass	96	81.2
Benzyl Chloroformate (95%)	Pass	>480	Not Detected
Bromine (99.5+%)	Failed	4	641
1,3 Butadiene Gas (99.5%)	Not Tested	>480	Not Detected
Butanol (99.8%)	Pass	>480	Not Detected
Butyraldehyde (99%)	Pass	25	118
Butyl Cellusolve® (99%)	Pass	>480	Not Detected
Carbon Disulfide▲ (99.9%)	Pass	Not Tested	Not Tested
Carbon Tetrachloride▲ (99.5+%)	Pass	>480	Not Detected
Chlorine Gas (99.5%)	Not Tested	>480	Not Detected
Chromic Acid (100%)	Pass	>480	Not Detected
Cresol (100%)	Pass	>480	Not Detected
Dichloromethane▲ (99.9%)	Pass	Immediate	HIGH
Diesel Fuel (100%)	Pass	>480	Not Detected
Diethylamine▲ (99.5%)	Pass	11	38.1
n,n-Dimethylacetamide (99+%)	Pass	118	2.06
n,n-Dimethylformamide (99.8%)	Pass	87	0.227
1,1-Dimethylhydrazine▲ (99%)	Pass	36	1.48
Epichlorohydrin▲ (99%)	Pass	73	0.35
Ethanolamine (99+%)	Pass	>480	Not Detected
Ethyl Acetate▲ (99.8%)	Pass	12	7.18
Ethyl Benzene (99%)	Pass	92	11.64
Ethyl Cellusolve® (99%)	Pass	>480	Not Detected
Ethyl Cellusolve® Acetate (99%)	Pass	475	0.06
Ethylene Diamine▲ (99+%)	Pass	>480	Not Detected
Ethylene Diglycol Monoethyl Ether (99%)	Pass	>480	Not Detected
Ethylene Glycol (100%)	Pass	>480	Not Detected
Ethylene Oxide Gas (99.5%)	Not Tested	14	1.78
Formaldehyde▲ (37%)	Pass	>480	Not Detected
Formic Acid (96%)	Pass	>480	Not Detected
2-Furaldehyde (99%)	Pass	197	4.23
Gasohol (45% toluene, 45% iso-octane, 10% ethanol)	Pass	163	2.65
Gasoline (Regular & Unleaded) (100%)	Pass	>480	Not Detected
Hexamethylene diisocyanate (aka HDI) (98%)	Not Tested	>480	0.049

Liquid & Gas Chemicals Resistance Test			
Chemicals	Liquid Penetration	Vapor Permeation	
	ASTM F903	ASTM F739	
	Test Duration 60 min Saturation Exposure	Normalized Breakthrough(min)	Rate (µg/cm <sup>2</sup> /min)
n-Hexane▲ (99.0%)	Pass	>480	Not Detected
Hydrazine▲ (99%)	Pass	462	0.09
Hydrochloric Acid (37%)	Pass	>480	0.03
Hydrofluoric Acid (60%)	Pass	Not Tested	Not Tested
Hydrogen Chloride Gas (99.0%)	Not Tested	>480	Not Detected
Hydrogen Fluoride (48%)	Not Tested	>480	Not Detected
Hydrogen Peroxide (35%)	Pass	>480	Not Detected
Isopropyl Alcohol (99.5%)	Pass	>480	Not Detected
JP-8 Jet Fuel▲ (100%)	Pass	>480	Not Detected
Mercury (99.99%)	Pass	>480	Not Detected
Methanol▲ (99.8%)	Pass	>480	Not Detected
Methyl Cellusolve® (99+%)	Pass	98	1.41
Methyl Cellusolve® Acetate (98%)	Pass	117	1.42
Methyl Chloride Gas (99.5%)	Not Tested	>480	Not Detected
Methyl Ethyl Ketone (aka MEK) (100%)	Pass	14	HIGH
Methyl Salicylate (99+%)	Pass	>480	Not Detected
Methylene Bisphenyl Isocyanate (aka MDI)▲ (100%)	Pass	>480	Not Detected
Mineral Spirits (100%)	Pass	>480	Not Detected
Naphthalene in IPA (15%)	Pass	>480	Not Detected
Nitric Acid (70%)	Pass	>480	0.065
Nitrobenzene (99.0%)	Pass	75	2.02
o-Nitrochlorobenzene (99%)	Pass	>480	Not Detected
o-Nitrotoluene (99.5%)	Pass	395	0.72
Oxalic Acid in water (10.5%)	Pass	>480	Not Detected
Phenol (90%)	Pass	>480	Not Detected
Phosphoric Acid (85%)	Pass	>480	Not Detected
Phosphoric Trichloride (99%)	Pass	Immediate	169.33
Potassium Acetate (10%)	Pass	>480	Not Detected
Potassium Chromate (10%)	Pass	>480	Not Detected
Potassium Hydroxide (50%)	Pass	>480	Not Detected
Sodium Cyanide (10%)	Pass	>480	Not Detected
Sodium Fluoride (10%)	Pass	>480	Not Detected
Sodium Hydroxide (50%)	Pass	>480	Not Detected
Sodium Hypochlorite (aka Bleach) (5.25%)	Pass	>480	Not Detected
Styrene▲ (99%)	Pass	14	17.4
Sulfuric Acid (95-98%)	Pass	>480	Not Detected
Sulfuric Acid Fuming Gas▲ (Oleum 30%)	Not Tested	>480	Not Detected
1,1,2,2-Tetrachloroethane▲ (99%)	Pass	176	2.37
Tetrachloroethylene▲ (99.9%)	Pass	11	1.42
Tetraethyllead (99.99+%)	Not Tested	>480	Not Detected
Tetrahydrofuran (99.9%)	Pass	Not Tested	Not Tested
Toluene▲ (99.8%)	Pass	4	369
Toluene-2,4-diisocyanate (100%)	Pass	>480	Not Detected
o-Toluidine (99+%)	Pass	310	0.98
1,2,4-Trichlorobenzene (99%)	Pass	437	1.45
2,2,2-Trichloroethanol (99%)	Pass	>480	Not Detected
Triethylamine▲ (99%)	Pass	>480	0.02
2,2,2-Trifluoroethanol (99%)	Pass	>480	Not Detected
Vinyl Chloride (99.5%)	Not Tested	>480	Not Detected
m-Xylene (99+%)	Pass	95	51.3

▲ Fabric passes penetration testing; however, the chemical is a known or suspected carcinogen or skin absorbed toxin  
Not Detected Permeation Rate: Permeation was not detected during the entire length of the test (480 minutes)

HIGH Permeation Rate: A permeation rate > 400

IMMEDIATE Break Through: Permeation observed at or before the time of first measurement

>480 Break Through: No breakthrough for the entire length of the test (480 min)

### Workmanship Requirements:

Coveralls shall be made in accordance with reasonable industry practice with respect to holes, tears, wrinkles, cleanliness, and foreign materials or dirt.

For additional information: 1-888-346-4652 or [kimtech@kcc.com](mailto:kimtech@kcc.com)

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Revised January 2015