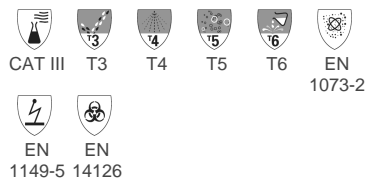


# DuPont™ Tyvek® 800 J , Model TJ 198 Ta



## Product Description

DuPont™ Tyvek® 800 J, model TJ 198 Ta. Hooded coverall. Stitched and over-taped seams. Thumb loops. Elastication at wrists, ankles and face. Elasticated waist (glued-in). Tyvek® zipper. Self-adhesive zipper and chin flap. White.

## Certifications

- Chemical protective clothing, Category III, Type 3-B, 4-B, 5-B and 6-B
- EN 14126 (barrier to infective agents), EN 1073-2 (protection against radioactive contamination)
- Antistatic treatment (EN 1149-5) - on inside

## Packaging(Quantity/Box)

25 per box, individually packed.



Size	Article Number	Chest Girth(cm)	Body Height(cm)	Chest Girth(in)	Body Height(ft/in)
SM	D15441654	84-92	162-170	33-36	5'4"-5'7"
MD	D15441661	92-100	168-176	36-39	5'6"-5'9"
LG	D15441676	100-108	174-182	39-43	5'8"-6'0"
XL	D15441684	108-116	180-188	43-46	5'11"-5'2"
2X	D15441698	116-124	186-194	46-49	6'1"-6'4"
3X	D15441708	124-132	192-200	49-52	6'3"-6'7"
4X	D15441717	132-140	200-208	52-55	6'7"-6'10"
5X	D15441728	140-148	208-216	55-58	6'10"-7'1"
6X	D15441735	148-156	208-216	58-61	6'10"-7'1"
7X	D15441740	156-162	208-216	61-64	6'10"-7'1"

Reference Number: TJ 198 T WH PI

## Physical Properties

Property	Test Method	Result	EN Class
Colour	N/A	White	N/A
Basis Weight	DIN EN ISO 536	59 g/m <sup>2</sup>	N/A
Thickness	DIN EN ISO 534	160 µm	N/A
Abrasion Resistance <sup>7</sup>	EN 530 Method 2	>100 cycles	2 of 6 <sup>1</sup>
Flex Cracking Resistance <sup>7</sup>	EN ISO 7854 Method B	>15000 cycles	4 of 6 <sup>1</sup>
Trapezoidal Tear Resistance (MD)	EN ISO 9073-4	31 N	1 of 6 <sup>1</sup>
Trapezoidal Tear Resistance (XD)	EN ISO 9073-4	32 N	1 of 6 <sup>1</sup>
Tensile Strength (XD)	DIN EN ISO 13934-1	93 N	2 of 6 <sup>1</sup>
Tensile Strength (XD)	DIN EN ISO 13934-1	72 N	2 of 6 <sup>1</sup>
Puncture Resistance	EN 863	15 N	2 of 6 <sup>1</sup>
Resistance to Water Penetration	DIN EN 20811	>25 kPa	N/A
Surface Resistance at RH 25%, inside <sup>7</sup>	EN 1149-1	2,510 Ohm	N/A
Surface Resistance at RH 25%, outside <sup>7</sup>	EN 1149-1	No antistatic treatment	N/A

1 According to EN 14325 2 According to EN 14126 3 According to EN 1073-2 4 According to EN 14116 12 According to EN 11612 5 Front Tyvek ® / Back 6 Based on test according to ASTM D-572 7 See Instructions for Use for further information, limitations and warnings > Larger than < Smaller than N/A Not Applicable STD DEV Standard Deviation

## Garment Performance

Property	Test Method	Result	EN Class
Type 3: Resistance to Penetration by Liquids (Jet Test)	EN 17491-3	Passed <sup>7</sup>	N/A
Type 4: Resistance to Penetration by Liquids (High Level Spray Test)	EN ISO 17491-4, Method B	Pass	N/A
Type 5: Inward Leakage of Airborne Solid Particulates	EN ISO 13982-2	Passed with taped cuffs, ankles and hood	N/A
Type 5: Inward Leakage <sup>11</sup>	EN ISO 13982-2	0.6 %	N/A
Type 6: Resistance to Penetration by Liquids (Low Level Spray Test)	EN ISO 17491-4, Method A	Passed	N/A
Nominal protection factor <sup>7</sup>	EN 1073-2	>50: Passed with taped cuffs, ankles and hood	2 of 3 3
Seam Strength	EN ISO 13935-2	>75 N	3 of 6 1
Shelf Life <sup>7</sup>	N/A	5 years <sup>6</sup>	N/A

1 According to EN 14325 3 According to EN 1073-2 12 According to EN 11612 13 According to EN 11611 5 Front Tyvek ® / Back 6 Based on test according to ASTM D-572 7 See Instructions for Use for further information, limitations and warnings 11 Based on the average of 10 suits, 3 activities, 3 probes > Larger than < Smaller than N/A Not Applicable \* Based on lowest single value

## Comfort

Property	Test Method	Result	EN Class
Air Permeability (Gurley method)	ISO 5636-5	Yes	N/A
Air Permeability (Gurley method)	ISO 5636-5	>500 s	N/A
Water Vapour Resistance, Ret	EN 31092/ISO 11092	29 m <sup>2</sup> *Pa/W	N/A
Thermal Resistance, Rct	EN 31092/ISO 11092	26*10 <sup>-3</sup> m <sup>2</sup> *K/W	N/A
Thermal Resistance, clo value	EN 31092/ISO 11092	0.168 clo	N/A

2 According to EN 14126 5 Front Tyvek ® / Back > Larger than < Smaller than **N/A** Not Applicable

## Penetration and Repellency

Property	Test Method	Result	EN Class
Resistance to Penetration by Liquids, Sulphuric Acid (30%)	EN ISO 6530	<1 %	3 of 3 <sup>1</sup>
Resistance to Penetration by Liquids, Sodium Hydroxide (10%)	EN ISO 6530	<1 %	3 of 3 <sup>1</sup>
Resistance to Penetration by Liquids, o-Xylene	EN ISO 6530	<1 %	3 of 3 <sup>1</sup>
Resistance to Penetration by Liquids, Butan-1-ol	EN ISO 6530	<1 %	3 of 3 <sup>1</sup>
Repellency to Liquids, Sulphuric Acid (30%)	EN ISO 6530	>95 %	3 of 3 <sup>1</sup>
Repellency to Liquids, Sodium Hydroxide (10%)	EN ISO 6530	>95 %	3 of 3 <sup>1</sup>
Repellency to Liquids, o-Xylene	EN ISO 6530	>80 %	1 of 3 <sup>1</sup>
Repellency to Liquids, Butan-1-ol	EN ISO 6530	>90 %	2 of 3 <sup>1</sup>

1 According to EN 14325 > Larger than < Smaller than

## Biological Barrier

Property	Test Method	Result	EN Class
Resistance to Penetration by Blood and Body Fluids using Synthetic Blood	ISO 16603	Pass	6 of 6 <sup>2</sup>
Resistance to Penetration by Blood-borne Pathogens using Bacteriophage Phi-X174	ISO 16604 Procedure D	7 kPa	4 of 6 <sup>2</sup>
Resistance to Penetration by Contaminated Liquids	EN ISO 22610	>75 min	6 of 6 <sup>2</sup>
Resistance to Penetration by Biologically Contaminated Aerosols	ISO/DIS 22611	log ratio >5	3 of 3 <sup>2</sup>
Resistance to Penetration by Contaminated Solid Particles	ISO 22612	log cfu <1	3 of 3 <sup>2</sup>

2 According to EN 14126 > Larger than < Smaller than

Permeation Data for Tyvek® 800

Hazard Name	Physical State	CAS	BT Act mins	BT 0.1 mins	BT 1.0 mins	EN	SSPR g/cm <sup>2</sup> /min	MDPR g/cm <sup>2</sup> /min	Cum 480 g/cm <sup>2</sup>	Time 150 mins	ISO
Acetic acid (10%)	Liquid	64-19-7	imm	imm	imm		<16	0.02	302/32min	21	1
Acetic acid (2%)	Liquid	64-19-7	imm	imm	44	2	<3	0.02	209/160min	126	4
Acetic acid (30%)	Liquid	64-19-7	imm	imm	imm		<120	0.02	647/16min	8	
Acetic acid (5%)	Liquid	64-19-7	imm	imm	8		<20	0.02	426/80min	49	2
Ammonium aqueous (16%)	Liquid	1336-21-6	imm	imm	imm		<1800	0.04	2870/4min	imm	
Ammonium hydroxide (16%)	Liquid	1336-21-6	imm	imm	imm		<1800	0.04	2870/4min	imm	
Carboplatin (10mg/ml)	Liquid	441575-94-4	>240	>240	>240	5	<0.001	0.001			
Carmustine (3.3 mg/ml, 10 % Ethanol)	Liquid	154-93-8	13	>240	>240	5	0.002	0.001			
Caustic ammonia (16%)	Liquid	1336-21-6	imm	imm	imm		<1800	0.04	2870/4min	imm	
Caustic soda (10%)	Liquid	1310-73-2	>480	>480	>480	6	<0.05	0.05	<24	>480	6
Caustic soda (50%)	Liquid	1310-73-2	17*	32*	51*	2	na	0.05	>240/120min	67	3
Cisplatin (1 mg/ml)	Liquid	15663-27-1	>240	>240	>240	5	<0.002	0.002			
Cyclophosphamide (20 mg/ml)	Liquid	50-18-0	>240	>240	>240	5	<0.002	0.002			
Doxorubicin HCl (2 mg/ml)	Liquid	25136-40-9	>240	>240	>240	5	<0.007	0.007			
Ethane 1,2-diol	Liquid	107-21-1	3	4	15	1	3.1	0.05			
Ethanol	Liquid	64-17-5	imm	imm	imm		<300	0.03	779/4min	imm	
Ethyl alcohol	Liquid	64-17-5	imm	imm	imm		<300	0.03	779/4min	imm	
Ethylene glycol	Liquid	107-21-1	3	4	15	1	3.1	0.05			
Etoposide (Toposar®, Teva) (20 mg/ml, 33.2 % (v/v) Ethanol)	Liquid	33419-42-0	>240	>240	>240	5	<0.01	<0.01			
Fluorouracil, 5- (50 mg/ml)	Liquid	51-21-8	180*	>240	>240	5	<0.001	0.001			
Formaldehyde (10%)	Liquid	50-00-0	imm	imm	imm		na	0.03			
Formalin (10%)	Liquid	50-00-0	imm	imm	imm		na	0.03			
Gemcitabine (38 mg/ml)	Liquid	95058-81-4	<10	>240	>240	5	<0.01	0.001			
Glycol alcohol	Liquid	107-21-1	3	4	15	1	3.1	0.05			
Hydrochloric acid (16%)	Liquid	7647-01-0	imm	imm	34	2	na	0.02	16.7/34min	54	2
Hydrochloric acid (32%)	Liquid	7647-01-0	imm	imm	imm		<140	0.02	26.4/4min	6	0
Hydrofluoric acid (10%)	Liquid	7664-39-3	imm	imm	6*		<12	0.03	444/100min	59	2
Ifosfamide (50 mg/ml)	Liquid	3778-73-2	>240	>240	>240	5	<0.009	0.009			
Isopropanol	Liquid	67-63-0	imm	imm	imm		<1200	0.02	2270/4min	imm	
Isopropanol (70%)	Liquid	67-63-0	imm	imm	imm		<600	0.02	1410	imm	
Isopropyl alcohol	Liquid	67-63-0	imm	imm	imm		<1200	0.02	2270/4min	imm	
Isopropyl alcohol (70%)	Liquid	67-63-0	imm	imm	imm		<600	0.02	1410	imm	
Methotrexate (25 mg/ml, 0.1 N NaOH)	Liquid	59-05-2	>240	>240	>240	5	<0.001	0.001			
Mitomycin (0.5 mg/ml)	Liquid	50-07-7	>240	>240	>240	5	<0.002	0.002			
Nitric acid (30%)	Liquid	7697-37-2	10*	75*	95*	3	nm	0.005			
Oxaliplatin (5 mg/ml)	Liquid	63121-00-6	<10	>240	>240	5	<0.1	0.008			
Paclitaxel (Hospira) (6 mg/ml, 49.7 % (v/v) Ethanol)	Liquid	33069-62-4	>240	>240	>240	5	<0.01	<0.01			
Propan-2-ol	Liquid	67-63-0	imm	imm	imm		<1200	0.02	2270/4min	imm	
Propan-2-ol (70%)	Liquid	67-63-0	imm	imm	imm		<600	0.02	1410	imm	

BT Act (Actual) Breakthrough time at MDPR BT 0.1 Normalized breakthrough time at 0.1 µg/cm<sup>2</sup>/min BT 1.0 Normalized breakthrough time at 1.0 µg/cm<sup>2</sup>/min EN Classification according to EN 14325 SSPR Steady state permeation rate MDPR Minimum detectable permeation rate CUM 480 Cumulative permeation mass after 480 mins Time 150 Time to reach cumulative permeation mass of 150 µg/cm<sup>2</sup> ISO Classification according to ISO 16602 CAS Chemical abstracts service registry number mins Minutes > Larger than < Smaller than imm Immediate (< 4 min) nm Not tested sat Saturated solution N/A Not Applicable \* Based on lowest single value na Not attained 8 Actual breakthrough time; normalized breakthrough time is not available

Permeation Data for Tyvek® 800

Hazard Name	Physical State	CAS	BT Act mins	BT 0.1 mins	BT 1.0 mins	EN	SSPR g/cm <sup>2</sup> /min	MDPR g/cm <sup>2</sup> /min	Cum 480 g/cm <sup>2</sup>	Time 150 mins	ISO
Sodium hydroxide (50%)	Liquid	1310-73-2	17*	32*	51*	2	na	0.05	>240/120min	67	3
Sodium hypochlorite (10-15 % active chlorine)	Liquid	7681-52-9	>480	>480	>480	6	<0.05	0.05	<24	>480	6
Sodium hypochlorite (6%)	Liquid	7681-52-9	>480	>480	>480	6	<0.03	0.03	<14.4	>480	6
Spiritus	Liquid	64-17-5	imm	imm	imm		<300	0.03	779/4min	imm	
Sulfuric acid (30%)	Liquid	7664-93-9	>480	>480	>480	6	<0.005	0.005	<2.4	>480	6

**BT Act** (Actual) Breakthrough time at MDPR   
**BT 0.1** Normalized breakthrough time at 0.1 µg/cm<sup>2</sup>/min   
**BT 1.0** Normalized breakthrough time at 1.0 µg/cm<sup>2</sup>/min   
**EN** Classification according to EN 14325   
**SSPR** Steady state permeation rate   
**MDPR** Minimum detectable permeation rate   
**CUM 480** Cumulative permeation mass after 480 mins   
**Time 150** Time to reach cumulative permeation mass of 150 µg/cm<sup>2</sup>   
**ISO** Classification according to ISO 16602   
**CAS** Chemical abstracts service registry number   
**mins** Minutes   
 > Larger than   
 < Smaller than   
**imm** Immediate (< 4 min)   
**nm** Not tested   
**sat** Saturated solution   
**N/A** Not Applicable   
 \* Based on lowest single value   
**na** Not attained   
**8** Actual breakthrough time; normalized breakthrough time is not available

## Important Note

The permeation data published have been generated for DuPont by independent accredited testing laboratories according to the test method applicable at that time (EN369, ASTM F739, EN 374-3, EN ISO 6529 (method A and B) or ASTM D6978)

The data is typically the average of three fabrics samples tested.

All chemicals have been tested at an assay of greater than 95 (w/w) % unless otherwise stated.

The tests were performed at room temperature and environmental pressure unless otherwise stated.

A different temperature may have significant influence on the breakthrough time.

Permeation typically increases with temperature.

Cumulative permeation data have been measured or have been calculated based on steady state permeation rate.

Cytostatic drugs testing has been performed at a test temperature of 27°C according to ASTM D6978 or ISO 6529 with the additional requirement of reporting a normalized breakthrough time at 0.01 µg/cm<sup>2</sup>/min.

Chemical warfare agents (Lewisite, Sarin, Soman, Mustard, Tabun and VX Nerve Agent) have been tested according to MIL-STD-282 at 22°C or according to FINABEL 0.7 at 37°C.

Permeation data for Tyvek® is applicable to white Tyvek® L1431N only and is not applicable for other Tyvek® styles or colours.

Permeation data are usually measured for single chemicals. The permeation characteristics of mixtures can often deviate considerably from the behaviour of the individual chemicals.

Please use the permeation data provided as a part of the risk assessment to assist with the selection of a protective fabric, garment or accessory suitable for your application. Breakthrough time is not the same as safe wear time. Breakthrough times are indicative of the barrier performance, but results can vary between the test methods and laboratories. Breakthrough time alone is insufficient to determine how long a garment may be worn once the garment has been contaminated. Safe user wear time may be longer or shorter than the breakthrough time depending on the permeation behaviour of the substance, the toxicity of the substance, working conditions and the exposure conditions (e.g. temperature, pressure, concentration, physical state).

Latest Update Permeation Data: 19/07/2017

- MTO: Made to order terms & conditions apply.
- The garment does not protect against ionizing radiation.

The information provided herein corresponds to our knowledge on the subject at the date of its publication. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such material used in combination with any other materials or additives or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specification limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since DuPont cannot anticipate all variations in actual end-use conditions DuPont makes no warranties and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent rights.

Technical\_Description\_1550\_EN.pdf Printed on : November 23, 2017page 6 of 6

For further product information, literature and as well as assistance in locating a local supplier, please visit:

[www.safespec.dupont.co.uk](http://www.safespec.dupont.co.uk)

The footnotes can be found on the SafeSPEC™ website.

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