

CHEMICAL PENETRATION DATA

for GORE® Fabric for Chemical Splash Protection

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Chemical Splash Protection garments manufactured by Lac-Mac Limited should be used only for those situations where you do not need vapour protection or where vapour exposure is determined to be acceptable by an industrial safety or health professional. Because garments manufactured from GORE® Fabric for Chemical Splash Protection are vapour-permeable, they should not be used for protection against hazardous vapour exposures, or for exposures to carcinogens or other health threatening materials.

The following is an excerpt from the GORE® Fabric for Chemical Splash Protection Application Guide and details chemical penetration test data for a selection of chemical challenges. Testing is based upon [ASTM F 903-03 Standard Test Method for Resistance of Materials Used in Protective Clothing to Penetration by Liquids](#) and is conducted as specified in [NFPA 1992 - Standard on Liquid Splash-Protective Ensembles and Clothing for Hazardous Materials Emergencies](#).

The Chemical Penetration Data is colour coded, as described below, to assist in determining the proper application for protective clothing made with GORE® Chemical Splash Fabric.

The chemical penetration data is colour coded to assist in determining the proper application for protective clothing made from GORE® Fabric for Chemical Splash Protection.

Green - These chemicals represent liquid splash hazards as defined by NFPA 1992 Standards. GORE® Chemical Splash Fabric passes the penetration test for **chemicals printed in green**.

Yellow - These chemicals represent both potential vapor and liquid splash hazards. GORE® Chemical Splash Fabric passes the penetration test for **chemicals printed in yellow**. Significant amounts of chemical vapor permeate this material. Use GORE® Chemical Splash Fabric for these chemicals only in controlled situations if vapor exposure is acceptable. Consult a trained professional in industrial safety or hygiene when making this determination. Failure to comply with this warning may result in serious injury or death.

Red - Do Not Use. GORE® Fabric for Chemical Splash Protection **fails** the penetration test for **chemicals printed in red**.

Chemical	Synonym	Penetration Result
1% PCB / 99% Mineral Oil		PASS
4% PCB / 6% Trichlorobenzene / 90% Mineral Oil		PASS
50% PCB / 50% Mineral Oil		PASS
Acetic Acid, Glacial	Ethanoic Acid	PASS

Acetone*+	2-Propanone	PASS
Acetonitrile	Methyl Cyanide	PASS
Acrylic Acid (99%)	2-Propenoic Acid	PASS
Acrylonitrile	2-Propenenitrile	PASS
Adiponitrile (98%)		PASS
Aluminum Ammonium Sulphate (12.2%)	Alum	PASS
Ammonium Hydroxide (30%)	Aqua Ammonia	PASS
Ammonium Phosphate (Monobasic, Saturated Solution)	Ammonium Acid Phosphate	PASS
Butyl Acetate (>95% w/w), CAS No. 123-86-4		PASS
Calcium Hydroxide (Saturated Solution)	Caustic Lime	PASS
Calcium Hypochlorite (Saturated Solution)	Calcium Oxychloride	PASS
Chloroacetic Acid (Saturated Solution)	Monochloroacetic Acid, MCA	PASS
Chlorosulfonic Acid	Sulphuric Chlorohydrin	PASS
Chromic Acid (100%)	Chromium Trioxide	PASS
Citric Acid (50%)	B-Hydroxytricarballic Acid	PASS
Cyclohexanol	2-Ethylhexyl Alcohol	PASS
Cyclohexylamine	Hexahydroaniline	PASS
Dichloromethane*	Methane Dichloride	PASS
Diesel Fuel		PASS
Diethyl Sulfate (98%)		PASS
Diethylamine*		PASS
Dimethylacetamide		PASS
Dimethylformamide*+		PASS
Ethanol (reagent>99.5%)		PASS
Ethyl Acetate*+	Acetic Ether	PASS
Ethylene Glycol	Ethylene Alcohol	PASS
Ferric Nitrate (50%)		PASS
Ferric Sulfate (50%)		PASS
Fire-Resistant Hydraulic Fluid		PASS
Formaldehyde (50%)	Oxymethylene	PASS
Formic Acid (100%)	Methanoic Acid	PASS
Fuel H "Surrogate Gasoline" (42.5% toluene, 42.5% isooctane and 15% denatured ethanol v/v)		PASS
Furfural (60% concentration diluted with 40% nitromethane)		PASS

Gasoline		PASS
Heptanoic Acid (99%)		PASS
Hexamethylenediamine 98%		PASS
Hexane*		PASS
Hydrochloric Acid (37%)	Muriatic Acid	PASS
Hydrofluoric Acid (10%)	Hydrogen Fluoride (HF)	PASS
Hydrofluoric Acid (49%)	Hydrogen Fluoride (HF)	FAIL
Hydrofluosilicic Acid (25%)	Hexafluoro Silicate (2-) Dihydrogen	PASS
Hydrogen Peroxide (30%)	Hydrogen Dioxide	PASS
Hyriodic Acid (47%)		PASS
Isooctane	2,2,4- Trimethylpentane	PASS
Isopar	Petroleum Distillates	PASS
Isopropanol	Isopropyl Alcohol	PASS
Isopropyl Alcohol (>91% w/w) CAS No. 67-63-0		PASS
JP4 Jet Fuel		PASS
Mercuric Sulphide	Vermillion	PASS
Mercury	Quicksilver	PASS
Mercury (II) Sulphide	Mercuric Sulphide	PASS
Methanol*	Methyl Alcohol	PASS
Methyl Ethyl Ketone	2-Butanone, MEK	PASS
Methyl Formate		PASS
Methyl Hydrazine	Monomethylhydrazine	FAIL
Methyl Isoamyl Ketone (98%)	5-Methyl-2-Hexanone	PASS
Methyl Isobutyl Ketone (>95% w/w), CAS No. 108-10-1		PASS
Methyl Methacrylate	Methyl-Alpha-Methacrylate	FAIL
Methyl Propyl Ketone (90%)	2-Pentanone	PASS
Methylamine	Monomethylamine	FAIL
Motor Oil, SAE 30 wt.		PASS
N-Butanol (>99% concentration)		PASS
N-Butylamine		FAIL
Nitric Acid (35%)	Aquafortis	PASS
Nitric Acid (50%)	Aquafortis	FAIL
Nitric Acid (70%)	Aquafortis	FAIL
Nitrobenzene*+		PASS

Nitromethane (40% concentration diluted with 60% methanol)		PASS
O-Cresol (98%)		PASS
Oleum (18-24% SO ₂)	Fuming Sulphuric Acid	FAIL
Oxalic Acid (8%)		PASS
Phenol (90%)	Carbolic Acid	PASS
Phosphoric Acid (80%)	Orthophosphoric Acid	PASS
Picric Acid	Trinitrophenol	PASS
Potassium Fluoride (40%)		PASS
Potassium Hydroxide (53%)	Caustic Potash	PASS
Silicon (IV) Chloride	Silicon Tetrachloride	PASS
Sodium Aluminate (30%)	Aluminum Sodium Oxide	PASS
Sodium Bisulfate (42% concentration, 58% water)		PASS
Sodium Chlorate (Saturated Solution)	Chlorate of Soda	PASS
Sodium Chlorite (Saturated Solution)		PASS
Sodium Hydroxide (50%)*+	Caustic Soda	PASS
Sodium Hypochlorite (10% w/w, made within 72 hours of use)		PASS
Sodium Hypochlorite (13%)	Chlorine Bleach	PASS
Sodium Methylate	Sodium Methoxide	PASS
Sodium Silicate (50%)	Sodium Metasilicate	PASS
Sulphur Chloride	Sulphur Monochloride	FAIL
Sulphuric Acid (10%)		PASS
Sulphuric Acid (93%)	Hydrogen Sulphate	PASS
Sulphuric Acid (96%)	Hydrogen Sulphate	PASS
Sulphuric Acid (98%)		PASS
Tetrachloroethylene*	Perchloroethylene	PASS
Tetrachloroethylene (>95% w/w), CAS No. 127-18-4		PASS
Tetrahydrofuran	THF	PASS
Toluene	Methylbenzene	PASS
Trichloroethylene	TCE	PASS
Trisodium Nitrilotriacetate (40%)		PASS
Urea (54%)	Carbamide	PASS
Xylene, Mixed Isomers	Dimethylbenzene	PASS

* Liquid chemical listed in ASTM F1001, Standard for Test Chemicals to Evaluate Protective Clothing Materials.

+ Chemical listed in NFPA 1992 battery of chemicals.