

## Chemical Resistance of LUBMER™

LUBMER™ developed by Mitsui Chemicals is a pellet type ultra-high molecular weight polyethylene (UHMW-PE). It is suitable for processing by injection molding, co-extrusion or insert mold. Lubmer has a good chemical resistance since it does not contain any chemical groups such as aromatic rings and amides that are subject to be attacked by aggressive agents.

### 1. Inorganic Chemicals

Chemicals	22°C (30 Days)		60°C (10 Days)	
	Weight Change (%)	Appearance	Weight Change (%)	Appearance
Caustic Soda 30%	-0.44	No Change	-	-
Chlorosulfuric acid	-	Decompose	-	Decompose
Chromic acid	+0.31	Slight Yellowing	-0.03	Slight Yellowing
Hydrochloric Acid 37%	+0.22	Slight Yellowing	+0.34	Slight Yellowing
Hydrogen Peroxide 30%	-0.01	No Change	+0.02	No Change
Iodine Solution (alcohol)	+1.06	Dark Red	-	-
Nitric Acid 50%	+0.69	Degradate	+3.96	Degradate
Oleum	Decompose in a Day		-	
Phosphoric Acid 85%	+0.05	No Change	+0.02	No Change
Sodium hypochlorite	+0.02	No Change	+0.18	No Change
Sulfuric acid 98%	+0.23	Slight Browning	+0.84	Browning
Sulfuric acid 50%	+0.04	No Change	-0.92	Slight Browning
Water	+0.01	No Change	+0.03	No Change

## 2. Organic Chemicals

Chemicals	22°C (30 Days)		60°C		
	Weight Change (%)	Appearance	Days	Weight Change (%)	Appearance
Acetic acid	+0.74	Slight Browning	8	+0.70	Slight Browning
Acetone	+0.20	No Change	4	+0.38	No Change
Benzene	+4.81	Slight Change	4	+5.71	Slight Change
Carbon disulfide	+13.0	Swelling	-	-	-
Carbon tetrachloride	+15.3	Swelling	4	+18.6	Swelling
Cyclohexanol	-0.32	No Change	8	+1.60	Slight Change
Dibutyl phthalate	-0.29	Slight Change	8	+0.81	Slight Change
Dichlorethylene	+9.60	Swelling	-	-	-
Ethanol	+0.02	No Change	4	-0.01	Slight Change
Ethyl acetate	+1.11	Slight Change	4	+1.46	Slight Change
Ethyl ether	+3.31	Slight Change	-	-	-
Gasoline	+3.78	Slight Change	4	+4.14	Slight Change
Lard oil	-	-	7	+0.18	No Change
Linseed oil	-0.61	No Change	8	-0.14	No Change
Olive oil	-0.39	No Change	8	-0.10	No Change
Petroleum ether	+3.90	No Change	-	-	-
Pine oil	+6.30	Slight Swelling	8	+6.12	Slight Swelling
Spindle oil	+2.90	No Change	8	+4.92	Slight Swelling
Transformer oil	+2.10	Slight Change	8	+5.10	Slight Swelling
Toluene	+6.10	Slight Swelling	8	+9.10	Slight Swelling
Trichloroethylene	+12.4	Swelling, Browning	8	+20.8	Swelling
Xylene	+6.22	Slight Swelling	8	+11.7	Swelling

\* The data above is a test measurement value, not a guaranteed value. We recommend that you test it in actual condition before using.