



# FORMEX™ GK/FORMEX PRODUCT DATA

## FLAME RETARDANT POLYPROPYLENE SHEET

	TEST METHOD	FORMEX GK-62	FORMEX 94-BK	FORMEX 125-BK
<b>COLOR</b>		NATURAL/BLACK/RED	BLACK	BLACK
<b>THICKNESS—INCH</b>		.062 ± .004	.094 ± .004	.125 ± .007
<b>THICKNESS—MILLIMETER</b>		1.57 ± .10	2.38 ± .10	3.18 ± .18
<b>MECHANICAL PROPERTIES</b>				
<b>TENSILE YIELD—PSI</b>	ASTM D-882			
<b>MACHINE DIRECTION</b>		4400	4800	4800
<b>TRANSVERSE DIRECTION</b>		3200	3600	3600
<b>PHYSICAL PROPERTIES</b>				
<b>DENSITY—GM/CC</b>	ASTM D-792	1.035	0.988	0.988
<b>FLAMMABILITY</b>	UL 94	V-0	V-0	V-0
<b>OXYGEN INDEX</b>	ASTM D-2863	29	28	28
<b>WATER ABSORPTION—% CHANGE IN WEIGHT</b>	ASTM D-570	0.06%	0.01%	0.01%
<b>HEAT DEFLECTION TEMPERATURE AT 66 PSI</b>	ASTM D-648	121°C/250°F	106°C/223°F	106°C/223°F
<b>RELATIVE THERMAL INDEX</b>	UL 746B			
<b>ELECTRICAL</b>		115°C/239°F	110°C/230°F	110°C/230°F
<b>MECHANICAL WITHOUT IMPACT</b>		115°C/239°F	110°C/230°F	120°C/248°F
<b>ELECTRICAL PROPERTIES</b>				
<b>DIELECTRIC BREAKDOWN—VOLTS</b>	ASTM D-149	45,260	56,400	62,500
<b>DIELECTRIC STRENGTH—VOLTS/MIL</b>	ASTM D-149	730	600	500
<b>VOLUME RESISTIVITY—OHM-CM</b>	ASTM D-257	3.97 X 10 <sup>15</sup>	146 X 10 <sup>15</sup>	146 X 10 <sup>15</sup>
<b>DIELECTRIC CONSTANT</b>	ASTM D-150	2.30	2.30	2.30
<b>DISSIPATION FACTOR</b>	ASTM D-150	0.0019	0.0009	0.0009
<b>HIGH CURRENT ARC IGNITION—ARCS TO IGNITE</b>	UL 746A	200+	200+	200+
<b>HIGH VOLTAGE ARC TRACKING—IN/MIN</b>	UL 746A	0.0	0.0	0.0
<b>HOT WIRE IGNITION—SECONDS</b>	UL 746A	12	30	36
<b>COMPARATIVE TRACKING INDEX—VOLTS</b>	ASTM D-3638	600+	600+	600+
<b>PACKAGING INFORMATION</b>				
<b>STANDARD CONFIGURATION</b>		SHEET	SHEET	SHEET
<b>CORE ID—INCHES</b>		—	—	—
<b>ROLL OD—INCHES</b>		—	—	—
<b>ROLL WIDTH—INCHES</b>		—	—	—
<b>ROLL WEIGHT—LBS (APPROXIMATE)</b>		—	—	—
<b>LENGTH/ROLL—FEET</b>		—	—	—
<b>AREA/ROLL—SQUARE FEET</b>		—	—	—
<b>SHEET SIZES—INCHES</b>		24 X 48, 48 X 96*	24 X 48	24 X 48

\*BLACK ONLY

NOTICE: THE ABOVE DATA IS BELIEVED TO BE ACCURATE AND RELIABLE. ITW ASSUMES NO RESPONSIBILITY FOR END USE APPLICATIONS AND NO PERFORMANCE WARRANTY IS EXPRESSED OR IMPLIED.

 FILE NUMBER E121855—YELLOW CARD  
 AVAILABLE ON REQUEST

FOR A COMPLETE LISTING OF FORMEX PRODUCTS,  
 CONTACT YOUR FORMEX/STATEX SALES REPRESENTATIVE.

 FILE NUMBER LS96638

REV 5/98

# STATEX™ PRODUCT DATA

## STATIC DISSIPATIVE FLAME RETARDANT POLYPROPYLENE SHEET

	TEST METHOD	STATEX-10	STATEX-18
<b>COLOR</b>		NATURAL*	NATURAL*
<b>THICKNESS-INCH</b>		.010 + .003/ -.0015	.018 + .004/ -.002
<b>THICKNESS-MILLIMETER</b>		.25 + .08/ -.04	.46 + .10/ -.05
<b>MECHANICAL PROPERTIES</b>			
<b>TENSILE YIELD-PSI</b>	ASTM D-882		
<b>MACHINE DIRECTION</b>		4800	4800
<b>TRANSVERSE DIRECTION</b>		3600	3600
<b>PHYSICAL PROPERTIES</b>			
<b>DENSITY-GM/CC</b>	ASTM D-792	0.988	0.988
<b>FLAMMABILITY</b>	UL 94	VTM-0	V-0
<b>OXYGEN INDEX</b>	ASTM D-2863	28	28
<b>WATER ABSORPTION -% CHANGE IN WEIGHT</b>	ASTM D-570	0.01%	0.01%
<b>HEAT DEFLECTION TEMPERATURE AT 66 PSI</b>	ASTM D-648	106°C/223°F	106°C/223°F
<b>RELATIVE THERMAL INDEX</b>	UL 746B		
<b>ELECTRICAL</b>		95°C/203°F	100°C/212°F
<b>MECHANICAL WITHOUT IMPACT</b>		95°C/203°F	100°C/212°F
<b>ELECTRICAL PROPERTIES</b>			
<b>STATIC DECAY-SECONDS (Federal Test Method 101C)</b>	ASTM D-257	< 2	< 2
<b>SURFACE RESISTIVITY-OHMS/SQUARE</b>	ASTM D-257	10 <sup>9</sup> TO 10 <sup>11</sup>	10 <sup>9</sup> TO 10 <sup>11</sup>
<b>DIELECTRIC BREAKDOWN -VOLTS</b>	ASTM D-149	17,500	27,540
<b>DIELECTRIC STRENGTH -VOLTS/MIL</b>	ASTM D-149	1750	1530
<b>VOLUME RESISTIVITY-OHM-CM</b>	ASTM D-257	146 X 10 <sup>15</sup>	146 X 10 <sup>15</sup>
<b>DIELECTRIC CONSTANT</b>	ASTM D-150	2.30	2.30
<b>DISSIPATION FACTOR</b>	ASTM D-150	0.0009	0.0009
<b>HIGH CURRENT ARC IGNITION-ARCS TO IGNITE</b>	UL 746A	113	23
<b>HIGH VOLTAGE ARC TRACKING-IN/MIN</b>	UL 746A	0.0	0.0
<b>HOT WIRE IGNITION-SECONDS</b>	UL 746A	6+	11
<b>COMPARATIVE TRACKING INDEX-VOLTS</b>	ASTM D-3638	600+	600+

\* Product is line-marked to indicate static dissipative material.

NOTICE: THE ABOVE DATA IS BELIEVED TO BE ACCURATE AND RELIABLE. ITW ASSUMES NO RESPONSIBILITY FOR END USE APPLICATIONS AND NO PERFORMANCE WARRANTY IS EXPRESSED OR IMPLIED.



FILE NUMBER E121855-YELLOW CARD AVAILABLE ON REQUEST



FILE NUMBER LS96638

FOR A COMPLETE LISTING OF STATEX PRODUCTS, CONTACT YOUR FORMEX/STATEX SALES REPRESENTATIVE.

February 28, 1996

QMFZ2  
Component-Plastics

FASTEX, DIV. OF ILLINOIS TOOL WORKS INC  
195 ALGONQUIN RD., DES PLAINES IL 60016

E121855 (N)  
(A1-cont. from A card)

Mtl Dsg	Col	Min Thk mm	UL94 Flame Class	RTI		H W I	H A I	H V R	D 4 9 5	C T I
				Elec	Mech with Imp					
Polypropylene (PP), furnished in the form of sheets.										
FORMEX GK-	All	0.20	94VTM-0	105	—	105	5	1	@	@
(a)(b)(f2) @	All	0.41	94V-0	115	—	115	4	0	@	@
	All	0.71	94V-0	115	—	115	4	0	@	@
	All	3.05	94V-0	115	—	115	1	0	0	6

Report: January 31, 1993.

(a)—One to three digit suffix indicating nominal thickness in mils.

(b)—May have an additional letter suffix indicating color.

(f2)—Subjected to one or more of the following test: Ultraviolet light, Water exposure or Immersion in accordance with UL 746C, where the acceptability for outdoor use is to be determined by ULI.

(@)—HVTR, D495 and CTI are thickness independent; see rating at thickness tested.

Replaces E121855A1 dated February 18, 1994.  
357863001 N7047 Underwriters Laboratories Inc.®

(Cont. on B card)  
D11/0230905  
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ITW Fastex  
195 Algonquin Road  
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Telephone 847.299.2222  
FAX 847.390.6183



Plastic and Metal Components

# FORMEX

## MATERIAL SAFETY DATA

### **IDENTIFICATION**

PRODUCT: FORMEX- XX (XX denotes nominal thickness in mils)  
CHEMICAL NAME: Proprietary Blend  
CHEMICAL FAMILY: Flame Retardant Polyolefin Compound

### **HEALTH INFORMATION**

EYE CONTACT: Mechanical irritation due to small pieces.  
SKIN CONTACT: Unlikely to cause irritation.  
INHALATION: Mechanical irritation due to small pieces.  
INGESTION: Not a probable route of exposure.

### **OCCUPATIONAL EXPOSURE LIMITS**

No OSHA PEL or ACGIH TLV has been established.

### **EMERGENCY FIRST AID PROCEDURES**

EYE CONTACT: Flush eyes with water; do not rub eyes.  
SKIN CONTACT: If contact with molten material occurs, cool rapidly with cold water. Do not attempt to peel polymer from skin. Obtain medical advice for thermal burn.  
INHALATION: Breathe clean air.  
INGESTION: Not a probable route of exposure.

If irritation of eyes or skin persists, obtain medical advice.

### **PHYSICAL DATA**

BOILING POINT (°F): NA  
SPECIFIC GRAVITY (H<sub>2</sub>O=1): 0.99  
SOLUBILITY IN H<sub>2</sub>O: Insoluble  
APPEARANCE AND ODOR: Solid sheet, essentially odorless.  
VAPOR PRESSURE (mm Hg): NA  
VAPOR DENSITY (air=1): NA

### **FIRE AND EXPLOSION HAZARDS**

FLASH IGNITION: >357°C  
EXTINGUISHING MEDIA: Water, foam, dry chemicals, or carbon dioxide.  
SPECIAL FIRE FIGHTING PROCEDURES: Material will not burn unless preheated.  
Do not enter confined fire space without a positive pressure NIOSH approved self-contained breathing apparatus with a full facepiece. Cool fire exposed containers with water.  
UNUSUAL FIRE AND EXPLOSION HAZARDS: Material is a UL recognized 94V-0 or VTM-0 product.

## **REACTIVITY**

STABILITY: Stable

CONDITIONS AND MATERIALS TO AVOID: Strong oxidizing agents.

## **EMPLOYEE PROTECTION**

RESPIRATORY PROTECTION: Not ordinarily required.

PROTECTIVE CLOTHING: Not ordinarily required.

ADDITIONAL PROTECTIVE MEASURES: Avoid prolonged exposure to vapors from molten or near molten product. Provide adequate ventilation when processing under these conditions.

## **ENVIRONMENTAL PROTECTION**

SPILL OR LEAK PROCEDURES: Shovel, sweep, or vacuum to prevent slipping hazards. Contain material for reclamation or disposal.

WASTE DISPOSAL: Incineration or landfill in compliance with Federal, State and Local regulations.

## **REGULATORY CONTROLS**

D.O.T. CLASSIFICATION: Not hazardous by D.O.T. regulations.

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40 CFR Part 372.

<b><u>CAS#</u></b>	<b><u>Chemical Name</u></b>	<b><u>Percent by Weight</u></b>
1309-64-4	Antimony Trioxide	4.4%

*The information contained herein is based on the data available to us and is believed to be correct. However, Fastex makes no warranty express or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Fastex assumes no responsibility for injury from the use of the product described herein.*

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Plastic and Metal Components

# FORMEX GK

## MATERIAL SAFETY DATA

### **IDENTIFICATION**

PRODUCT: FORMEX GK- XX (XX denotes nominal thickness in mils)  
CHEMICAL NAME: Proprietary Blend  
CHEMICAL FAMILY: Flame Retardant Polyolefin Compound

### **HEALTH INFORMATION**

EYE CONTACT: Mechanical irritation due to small pieces.  
SKIN CONTACT: Unlikely to cause irritation.  
INHALATION: Mechanical irritation due to small pieces.  
INGESTION: Not a probable route of exposure.

### **OCCUPATIONAL EXPOSURE LIMITS**

No OSHA PEL or ACGIH TLV has been established.

### **EMERGENCY FIRST AID PROCEDURES**

EYE CONTACT: Flush eyes with water; do not rub eyes.  
SKIN CONTACT: If contact with molten material occurs, cool rapidly with cold water. Do not attempt to peel polymer from skin. Obtain medical advice for thermal burn.  
INHALATION: Breathe clean air.  
INGESTION: Not a probable route of exposure.

If irritation of eyes or skin persists, obtain medical advice.

### **PHYSICAL DATA**

BOILING POINT (°F): NA  
SPECIFIC GRAVITY (H<sub>2</sub>O=1): 1.035  
SOLUBILITY IN H<sub>2</sub>O: Insoluble  
APPEARANCE AND ODOR: Solid sheet, essentially odorless.  
VAPOR PRESSURE (mm Hg): NA  
VAPOR DENSITY (air=1): NA

### **FIRE AND EXPLOSION HAZARDS**

EXTINGUISHING MEDIA: Water, foam, dry chemicals, or carbon dioxide.  
SPECIAL FIRE FIGHTING PROCEDURES: Material will not burn unless preheated.  
Do not enter confined fire space without a positive pressure NIOSH approved self-contained breathing apparatus with a full facepiece. Cool fire exposed containers with water.  
UNUSUAL FIRE AND EXPLOSION HAZARDS: Material is a UL recognized 94V-0 or VTM-0 product.

## **REACTIVITY**

STABILITY: Stable

CONDITIONS AND MATERIALS TO AVOID: Strong oxidizing agents.

## **EMPLOYEE PROTECTION**

RESPIRATORY PROTECTION: Not ordinarily required.

PROTECTIVE CLOTHING: Not ordinarily required.

ADDITIONAL PROTECTIVE MEASURES: Avoid prolonged exposure to vapors from molten or near molten product. Provide adequate ventilation when processing under these conditions.

## **ENVIRONMENTAL PROTECTION**

SPILL OR LEAK PROCEDURES: Shovel, sweep, or vacuum to prevent slipping hazards. Contain material for reclamation or disposal.

WASTE DISPOSAL: Incineration or landfill in compliance with Federal, State and Local regulations.

## **REGULATORY CONTROLS**

D.O.T. CLASSIFICATION: Not hazardous by D.O.T. regulations.

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40 CFR Part 372.

<b><u>CAS#</u></b>	<b><u>Chemical Name</u></b>	<b><u>Percent by Weight</u></b>
1309-64-4	Antimony Oxide	6.1%

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Plastic and Metal Components

# STATEX

## MATERIAL SAFETY DATA

### **IDENTIFICATION**

PRODUCT: STATEX- XX (XX denotes nominal thickness in mils)  
CHEMICAL NAME: Proprietary Blend  
CHEMICAL FAMILY: Flame Retardant Polyolefin Compound

### **HEALTH INFORMATION**

EYE CONTACT: Mechanical irritation due to small pieces.  
SKIN CONTACT: Unlikely to cause irritation.  
INHALATION: Mechanical irritation due to small pieces.  
INGESTION: Not a probable route of exposure.

### **OCCUPATIONAL EXPOSURE LIMITS**

No OSHA PEL or ACGIH TLV has been established.

### **EMERGENCY FIRST AID PROCEDURES**

EYE CONTACT: Flush eyes with water; do not rub eyes.  
SKIN CONTACT: If contact with molten material occurs, cool rapidly with cold water. Do not attempt to peel polymer from skin. Obtain medical advice for thermal burn.  
INHALATION: Breathe clean air.  
INGESTION: Not a probable route of exposure.

If irritation of eyes or skin persists, obtain medical advice.

### **PHYSICAL DATA**

BOILING POINT (°F): NA  
SPECIFIC GRAVITY (H<sub>2</sub>O=1): 0.99  
SOLUBILITY IN H<sub>2</sub>O: Insoluble  
APPEARANCE AND ODOR: Solid sheet, essentially odorless.  
VAPOR PRESSURE (mm Hg): NA  
VAPOR DENSITY (air=1): NA

### **FIRE AND EXPLOSION HAZARDS**

FLASH IGNITION: >357°C  
EXTINGUISHING MEDIA: Water, foam, dry chemicals, or carbon dioxide.  
SPECIAL FIRE FIGHTING PROCEDURES: Material will not burn unless preheated.  
Do not enter confined fire space without a positive pressure NIOSH approved self-contained breathing apparatus with a full facepiece. Cool fire exposed containers with water.  
UNUSUAL FIRE AND EXPLOSION HAZARDS: Material is a UL recognized 94V-0 or VTM-0 product.

## **REACTIVITY**

STABILITY: Stable

CONDITIONS AND MATERIALS TO AVOID: Strong oxidizing agents.

## **EMPLOYEE PROTECTION**

RESPIRATORY PROTECTION: Not ordinarily required.

PROTECTIVE CLOTHING: Not ordinarily required.

ADDITIONAL PROTECTIVE MEASURES: Avoid prolonged exposure to vapors from molten or near molten product. Provide adequate ventilation when processing under these conditions.

## **ENVIRONMENTAL PROTECTION**

SPILL OR LEAK PROCEDURES: Shovel, sweep, or vacuum to prevent slipping hazards. Contain material for reclamation or disposal.

WASTE DISPOSAL: Incineration or landfill in compliance with Federal, State and Local regulations.

## **REGULATORY CONTROLS**

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<b><u>CAS#</u></b>	<b><u>Chemical Name</u></b>	<b><u>Percent by Weight</u></b>
1309-64-4	Antimony Trioxide	4.4%

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