



SAFETY DATA SHEET SF600 Ink

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name SF600 Ink
 Product number 71002609
 Container size 6 x 1 Liter

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Printing ink.
 Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier Matthews Marking Systems
 6515 Penn Avenue
 Pittsburgh, PA 15206
 412.665.2500
 412.828.4545
 info@matw.com

Manufacturer Matthews Marking Systems
 101 Fairview Ave.
 Pittsburgh, PA 15238

1.4. Emergency telephone number

Emergency telephone Chemtrec US : 1-800-424-9300 Chemtrec World: 1-703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards Flam. Liq. 2 - H225
 Health hazards Acute Tox. 4 - H302 Eye Irrit. 2 - H319 STOT RE 2 - H373
 Environmental hazards Not Classified

Classification (67/548/EEC or 1999/45/EC) F; R11. Xn; R22, R48/20/21/22. Carc. Cat. 1 R45

2.2. Label elements

Pictogram



Signal word

Danger

SF600 Ink

Hazard statements	H225 Highly flammable liquid and vapour. H302 Harmful if swallowed. H319 Causes serious eye irritation. H373 May cause damage to organs through prolonged or repeated exposure.
Comments	Full list of Hazard Statements is found in Sec. 16
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280 Wear protective gloves/protective clothing/eye protection/face protection. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P314 Get medical advice/attention if you feel unwell. P403+P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/container in accordance with national regulations.
Contains	Diethylene Glycol, Methanol
Supplementary precautionary statements	P233 Keep container tightly closed. P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P260 Do not breathe vapour/spray. P264 Wash contaminated skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P330 Rinse mouth. P337+P313 If eye irritation persists: Get medical advice/attention. P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Diethylene Glycol	60-100%
CAS number: 111-46-6	EC number: 203-872-2
Classification	Classification (67/548/EEC or 1999/45/EC)
Acute Tox. 4 - H302 STOT RE 2 - H373	Xn; R22
Ethanol	10-30%
CAS number: 67-17-5	EC number: 200-578-6
Classification	
Flam. Liq. 2 - H225 Eye Irrit. 2 - H319	

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Glycerine - 99%	1-5%
CAS number: 56-81-5	EC number: 200-289-5
Classification	
Eye Irrit. 2 - H319	
Methanol	<1%
CAS number: 67-56-1	EC number: 200-659-6
Classification	
Flam. Liq. 2 - H225	
Acute Tox. 3 - H301	
Acute Tox. 3 - H311	
Acute Tox. 3 - H331	
STOT SE 1 - H370	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Consult a physician for specific advice. Show this Safety Data Sheet to the medical personnel.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention immediately.
Ingestion	Get medical attention immediately. Do not induce vomiting unless under the direction of medical personnel. Never give anything by mouth to an unconscious person.
Skin contact	Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Wash clothing and clean shoes thoroughly before reuse.
Eye contact	Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue.

4.2. Most important symptoms and effects, both acute and delayed

General information	See Section 11 for additional information on health hazards.
Inhalation	May be harmful if inhaled. Vapour may affect central nervous system. Vapours may cause drowsiness and dizziness. Vapours irritate the respiratory system.
Ingestion	Harmful if swallowed. May cause nausea, headache, dizziness and intoxication.
Skin contact	Causes skin irritation. Prolonged or repeated contact with skin may cause irritation, redness and dermatitis.
Eye contact	This product is moderately irritating. Symptoms following overexposure to vapour may include the following: Severe irritation, burning, tearing and blurred vision.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	Treat symptomatically.
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SECTION 5: Firefighting measures

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5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media Water spray.

5.2. Special hazards arising from the substance or mixture

Specific hazards Flammable liquid and vapour. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back.

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Carbon dioxide (CO₂). Carbon monoxide (CO).

5.3. Advice for firefighters

Protective actions during firefighting Evacuate area. Stop leak if safe to do so. Use water to keep fire exposed containers cool and disperse vapours. Use water spray to reduce vapours.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions No smoking, sparks, flames or other sources of ignition near spillage. Avoid contact with skin, eyes and clothing. Avoid inhalation of vapours. Wash thoroughly after dealing with a spillage.

6.2. Environmental precautions

Environmental precautions Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Eliminate all sources of ignition. Stop leak if safe to do so. Contain and absorb spillage with sand, earth or other non-combustible material. Dilute contained spill with water. Collect and place in suitable waste disposal containers and seal securely.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Wear protective clothing as described in Section 8 of this safety data sheet.

Advice on general occupational hygiene Do not eat, drink or smoke when using this product. Provide eyewash station and safety shower. Good personal hygiene procedures should be implemented. Wash skin thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep only in the original container in a cool, well-ventilated place.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

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8.1. Control parameters

Occupational exposure limits

Diethylene Glycol

Long-term exposure limit (8-hour TWA): WEL 10 ppm 44 mg/m³ Austria, Germany (AGS), Germany (DFG), Sweden, Switzerland

Long-term exposure limit (8-hour TWA): WEL 2.5 ppm 11 mg/m³ Denmark

Long-term exposure limit (8-hour TWA): WEL 23 ppm 101 mg/m³ vapour, Ireland, United Kingdom

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ Latvia

Short-term exposure limit (15-minute): WEL 40 ppm 176 mg/m³ Austria, Germany (AGS), Germany (DFG), Switzerland

Short-term exposure limit (15-minute): WEL 5 ppm 22 mg/m³ Denmark

Short-term exposure limit (15-minute): WEL 20 ppm 90 mg/m³ Sweden

Ethanol

Long-term exposure limit (8-hour TWA): WEL 1000 ppm 1920 mg/m³

Glycerine - 99%

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ Austria, Belgium, France, Ireland, Poland, Spain, United Kingdom

Long-term exposure limit (8-hour TWA): WEL 20 mg/m³ Finland

Long-term exposure limit (8-hour TWA): WEL 200 mg/m³ Germany (DFG)

Long-term exposure limit (8-hour TWA): WEL 50 mg/m³ Switzerland

Short-term exposure limit (15-minute): WEL 400 mg/m³ Germany (DFG)

Short-term exposure limit (15-minute): WEL 100 mg/m³ Switzerland

Methanol

Long-term exposure limit (8-hour TWA): WEL 200 ppm 266 mg/m³

Short-term exposure limit (15-minute): WEL 250 ppm 333 mg/m³

Sk

WEL = Workplace Exposure Limit

Sk = Can be absorbed through the skin.

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist. Use explosion-proof ventilating equipment.

Eye/face protection

Wear tight-fitting, chemical splash goggles or face shield.

Hand protection

It is recommended that chemical-resistant, impervious gloves are worn. The most suitable glove should be chosen in consultation with the glove supplier/manufacture, who can provide information about the breakthrough time of the glove material. It is recommended that gloves are made of the following material: Butyl rubber. Nitrile rubber. Rubber (natural, latex). Frequent changes are recommended.

Other skin and body protection

Wear appropriate clothing to prevent repeated or prolonged skin contact.

Hygiene measures

Provide eyewash station and safety shower.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Organic vapour filter.

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Thermal hazards If there is a risk of contact with hot product, all protective equipment worn should be suitable for use with high temperatures.

Environmental exposure controls Keep container tightly sealed when not in use. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Coloured liquid.
Colour	Clear. Light blue.
Odour	Alcoholic.
Odour threshold	Not available.
pH	pH (concentrated solution): 6.0 - 8.5
Melting point	-24°C/-11°F
Initial boiling point and range	63°C/147°F @ 760 mm Hg
Flash point	4°C/40°F CC (Closed cup).
Evaporation rate	8.3 (diethyl ether = 1)
Upper/lower flammability or explosive limits	Upper flammable/explosive limit: 19 % vol Lower flammable/explosive limit: 1.4 % vol
Vapour pressure	42.9 mm Hg @ 20°C/68°F
Vapour density	3.42
Relative density	1.038 g/cm ³ 1038 g/l 8.65 lbs/gal
Solubility(ies)	Soluble in the following materials: Alcohols. Soluble in water.
Partition coefficient	log Pow: -0.3
Auto-ignition temperature	398°C/750°F
Decomposition Temperature	Not applicable.
Explosive properties	Not applicable.
Oxidising properties	Not applicable.
Comments	Data based on literature. Product not tested. Information given is applicable to the product as supplied. Information declared as "Not available" or "Not applicable" is not considered to be relevant to the implementation of the proper control measures.

9.2. Other information

Volatile organic compound This product contains a maximum VOC content of 1028 g/l. This product contains a maximum VOC content of 8.56 lbs/gal.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

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Possibility of hazardous reactions The following materials may react with the product: Strong oxidising agents. Strong reducing agents.

10.4. Conditions to avoid

Conditions to avoid Avoid the following conditions: Heat, sparks, flames.

10.5. Incompatible materials

Materials to avoid Avoid contact with the following materials: Strong oxidising agents. Strong reducing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Heating may generate the following products: Carbon dioxide (CO₂). Carbon monoxide (CO).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects Data based on literature. Product not tested.

Acute toxicity - oral

ATE oral (mg/kg) 629.8

Acute toxicity - dermal

ATE dermal (mg/kg) 150,000.0

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 1,500.0

Specific target organ toxicity - single exposure

Target organs Eyes Gastro-intestinal tract Respiratory system, lungs Skin

Specific target organ toxicity - repeated exposure

Target organs Blood Central nervous system Gastro-intestinal tract Kidneys Liver Skin

Aspiration hazard

Aspiration hazard Not relevant.

Toxicological information on ingredients.

Diethylene Glycol

Acute toxicity - oral

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 11,890.0

Species Rabbit

ATE dermal (mg/kg) 11,890.0

Carcinogenicity

Carcinogenicity Does not contain any substances known to be carcinogenic.

Ethanol

Acute toxicity - oral

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Acute toxicity oral (LD₅₀
mg/kg) 10,470.0

Species Rat

ATE oral (mg/kg) 10,470.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀
mg/kg) 30,000.0

Species Rat

ATE dermal (mg/kg) 30,000.0

Acute toxicity - inhalation

Acute toxicity inhalation
(LC₅₀ vapours mg/l) 30,000.0

Species Rat

ATE inhalation (vapours
mg/l) 30,000.0

Glycerine - 99%

Acute toxicity - oral

Acute toxicity oral (LD₅₀
mg/kg) 12,600.0

Species Rat

ATE oral (mg/kg) 12,600.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀
mg/kg) 21,900.0

Species Rat

ATE dermal (mg/kg) 21,900.0

Methanol

Acute toxicity - oral

ATE oral (mg/kg) 100.0

Acute toxicity - dermal

ATE dermal (mg/kg) 300.0

Acute toxicity - inhalation

Acute toxicity inhalation
(LC₅₀ vapours mg/l) 50.0

Species Rat

ATE inhalation (vapours
mg/l) 3.0

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SECTION 12: Ecological Information

Ecotoxicity Data based on literature. Product not tested.

12.1. Toxicity

Ecological information on ingredients.

Diethylene Glycol

Acute toxicity - fish	LC ₅₀ , 24 hours: 5000 mg/l, Carassius auratus (Goldfish) LC ₅₀ , 96 hours: 75200 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 24 hours: >10,000 mg/l, Daphnia magna

Ethanol

Acute toxicity - fish	LC ₅₀ , 96 hours: 14,200 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	NOEC, 9 days: 9.6 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 275 mg/l, Freshwater algae

Glycerine - 99%

Acute toxicity - fish	EC ₅₀ , 24 hours: > 10000 mg/l, Fish
Acute toxicity - aquatic invertebrates	LC ₁₀₀ , 96 hours: 51,000 - 57,000 mg/l, Daphnia magna

12.2. Persistence and degradability

Ecological information on ingredients.

Ethanol

Persistence and degradability	The product is readily biodegradable.
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12.3. Bioaccumulative potential

Partition coefficient log Pow: -0.3

12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.

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Disposal methods

Dispose of contents/container in accordance with national regulations. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions. When handling waste, the safety precautions applying to handling of the product should be considered.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	1210
UN No. (IMDG)	1210
UN No. (ICAO)	1210
UN No. (ADN)	1210

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	PRINTING INK
Proper shipping name (IMDG)	PRINTING INK
Proper shipping name (ICAO)	PRINTING INK
Proper shipping name (ADN)	PRINTING INK

14.3. Transport hazard class(es)

ADR/RID class	3
ADR/RID classification code	F1
ADR/RID label	3
IMDG class	3
ICAO class/division	3
ADN class	3

Transport labels



14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ICAO packing group	II
ADN packing group	II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

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EmS	F-E, S-D
ADR transport category	2
Emergency Action Code	•3YE
Hazard Identification Number (ADR/RID)	33
Tunnel restriction code	(D/E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
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15.2. Chemical safety assessment

Inventories

EU - EINECS/ELINCS

All the ingredients are listed or exempt.

Canada - DSL/NDSL

All the ingredients are listed or exempt.

US - TSCA

All the ingredients are listed or exempt.

Australia - AICS

The following ingredients are listed or exempt:

Glycerine - 99%

Methanol

Ethanol

Japan - MITI

The following ingredients are listed or exempt:

Glycerine - 99%

Methanol

Ethanol

Korea - KECI

The following ingredients are listed or exempt:

Glycerine - 99%

Methanol

Ethanol

China - IECSC

The following ingredients are listed or exempt:

Glycerine - 99%

Methanol

SF600 Ink

Ethanol

Philippines – PICCS

The following ingredients are listed or exempt:

Glycerine - 99%

Methanol

Ethanol

SECTION 16: Other information

General information	Containers of this material may be hazardous when emptied, all hazard precautions given in the data sheet must be observed.
Issued by	Matthews Marking Systems - Chemical Services Department
Revision date	31/12/2015
Revision	2
Supersedes date	01/06/2015
SDS number	5519
SDS status	Approved.
Risk phrases in full	R11 Highly flammable. R20 Harmful by inhalation. R22 Harmful if swallowed. R23/24/25 Toxic by inhalation, in contact with skin and if swallowed. R36 Irritating to eyes. R36/37 Irritating to eyes and respiratory system. R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. R41 Risk of serious damage to eyes. R45 May cause cancer. R48/20/21/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. R66 Repeated exposure may cause skin dryness or cracking. R67 Vapours may cause drowsiness and dizziness.
Hazard statements in full	H225 Highly flammable liquid and vapour. H301 Toxic if swallowed. H302 Harmful if swallowed. H311 Toxic in contact with skin. H319 Causes serious eye irritation. H331 Toxic if inhaled. H370 Causes damage to organs . H373 May cause damage to organs through prolonged or repeated exposure. H373 May cause damage to organs (Kidneys) through prolonged or repeated exposure.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.