SAFETY DATA SHEET
LS-7011 Black Ink

1. Identification

Product identifier

Product name LS-7011 Black Ink

Product number 71085121

Container size Single Use Cartridge

Recommended use of the chemical and restrictions on use

Application Printing ink.

Uses advised against No specific uses advised against are identified.

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

Emergency telephone number

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

2. Hazard(s) identification

Classification of the substance or mixture

OSHA Regulatory Status This Product is Hazardous under the OSHA Hazard Communication Standard.

Physical hazards Flam. Liq. 3 - H226

Health hazards Acute Tox. 4 - H302 Acute Tox. 4 - H312 Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 STOT SE 3 - H336

Environmental hazards Not Classified

Label elements

Pictogram

Signal word Danger

Hazard statements

H226 Flammable liquid and vapor.
H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H336 May cause drowsiness or dizziness.

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Precautionary statements P210 Keep away from heat, sparks, open flames and hot surfaces. 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.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/ container in accordance with national regulations.

Contains Methyl Ethyl Ketone , Cyclohexanone, Xylene

Other hazards

3. Composition/information on ingredients

Mixtures

Methyl Ethyl Ketone **50-80%**
CAS number: 78-93-3

Classification
Flam. Liq. 2 - H225
Eye Irrit. 2A - H319
STOT SE 3 - H336

Ethanol **5-10%**
CAS number: 67-17-5

Classification
Flam. Liq. 2 - H225
Eye Irrit. 2A - H319

Cyclohexanone **5-10%**
CAS number: 108-94-1

Classification
Flam. Liq. 3 - H226
Acute Tox. 4 - H302
Acute Tox. 4 - H312
Acute Tox. 4 - H332
Skin Irrit. 2 - H315
Eye Dam. 1 - H318

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Xylene	**<1%**
CAS number: 1330-20-7	

Classification
Flam. Liq. 3 - H226
Acute Tox. 4 - H312
Acute Tox. 4 - H332
Skin Irrit. 2 - H315
Eye Irrit. 2A - H319
Carc. 2 - H351
STOT SE 3 - H335
STOT RE 1 - H372
Asp. Tox. 1 - H304
Aquatic Chronic 2 - H411

The full text for all hazard statements is displayed in Section 16.

4. First-aid measures

Description of first aid measures

General information Consult a physician for specific advice. If medical advice is needed, have product container or label at hand. If in doubt, get medical attention promptly. 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 Do not induce vomiting. Rinse nose and mouth with water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

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.

Most important symptoms and effects, both acute and delayed

General information The product is considered to be a low hazard under normal conditions of use. The severity of the symptoms described will vary dependent on the concentration and the length of exposure. See Section 11 for additional information on health hazards.

Inhalation Vapors may irritate throat/respiratory system. May cause coughing and difficulties in breathing. Overexposure to organic solvents may depress the central nervous system, causing dizziness and intoxication and, at very high concentrations, unconsciousness and death.

Ingestion Aspiration hazard if swallowed. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis. May cause irritation. May cause nausea, headache, dizziness and intoxication. May cause stomach pain or vomiting. May cause liver and/or renal damage.

Skin contact May be absorbed through the skin. Prolonged or repeated contact with skin may cause irritation, redness and dermatitis.

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Eye contact This product is strongly irritating. Symptoms following overexposure may include the following: Severe irritation, burning, tearing and blurred vision. Prolonged contact causes serious eye and tissue damage.

Indication of immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

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

Unsuitable extinguishing media Water spray.

Special hazards arising from the substance or mixture

Flammability Class 7.1 Flammable Liquid IB.

Specific hazards Flammable liquid and vapour. Vapors 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).

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 vapors. Use water spray to reduce vapors.

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

6. Accidental release measures

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 vapors. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place.

Environmental precautions

Environmental precautions Avoid release to the environment. Do not discharge into drains or watercourses or onto the ground. Use appropriate containment to avoid environmental contamination. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

Methods and material for containment and cleaning up

Methods for cleaning up Eliminate all sources of ignition. Stop leak if safe to do so. Do not touch or walk into spilled material. Take care as floors and other surfaces may become slippery. Contain and absorb spillage with sand, earth or other non-combustible material. Collect and place in suitable waste disposal containers and seal securely. When handling waste, the safety precautions applying to handling of the product should be considered. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

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.

7. Handling and storage

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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. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Storage precautions Store at temperatures between 4.4°C/40°F and 32.2°C/90°F. Keep only in the original container in a cool, well-ventilated place. Protect from freezing and direct sunlight. Container must be kept tightly closed when not in use. Keep containers upright. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Store in accordance with national regulations.

Storage class Flammable liquid storage.

Specific end uses(s)

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

8. Exposure Controls/personal protection

Control parameters

Occupational exposure limits

Methyl Ethyl Ketone

Long-term exposure limit (8-hour TWA): ACGIH 200 ppm 590 mg/m³
Long-term exposure limit (8-hour TWA): OSHA 200 ppm 590 mg/m³
Short-term exposure limit (15-minute): ACGIH 300 ppm 885 mg/m³

Ethanol

Long-term exposure limit (8-hour TWA): OSHA 1000 ppm 1900 mg/m³
Short-term exposure limit (15-minute): ACGIH 1000 ppm 1880 mg/m³

Cyclohexanone

Long-term exposure limit (8-hour TWA): ACGIH 20 ppm
Long-term exposure limit (8-hour TWA): OSHA 50 ppm 200 mg/m³
Short-term exposure limit (15-minute): ACGIH 50 ppm
A3, Sk

Xylene

Long-term exposure limit (8-hour TWA): ACGIH 100 ppm 434 mg/m³
Long-term exposure limit (8-hour TWA): OSHA 100 ppm 435 mg/m³
Short-term exposure limit (15-minute): ACGIH 150 ppm 651 mg/m³
A4

ACGIH = American Conference of Governmental Industrial Hygienists.
OSHA = Occupational Safety and Health Administration.
A3 = Confirmed Animal Carcinogen with Unknown Relevance to Humans.
A4 = Not Classifiable as a Human Carcinogen.
Sk = Danger of cutaneous absorption.

Ingredient comments Data based on literature. Product not tested.

Methyl Ethyl Ketone (CAS: 78-93-3)

Immediate danger to life and health 3000 ppm

Cyclohexanone (CAS: 108-94-1)

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Immediate danger to life and health	700 ppm

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, vapor 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/manufacturer, 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	Avoid contact with skin. Wear appropriate clothing to prevent repeated or prolonged skin contact.
Hygiene measures	Wash contaminated skin thoroughly after handling. 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 vapor filter.
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.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Colored liquid.
Color	Black.
Odor	Ketonic.
Odor threshold	Not available.
pH	pH (concentrated solution): 6.0 - 8.5
Melting point	-47°C/-53°F
Initial boiling point and range	79°C/147°F @ 760 mm Hg
Flash point	-9°C/16°F CC (Closed cup).
Evaporation rate	3.7 (butyl acetate = 1)
Upper/lower flammability or explosive limits	Upper flammable/explosive limit: 11.5 % vol Lower flammable/explosive limit: 1.1 % vol
Vapor pressure	71.25 mm Hg @ 20°C/68°F

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Vapor density	3.39
Relative density	0.840 g/cc 840 g/l 7.01 lbs/gal
Solubility(ies)	Soluble in the following materials: Ketones. Slightly soluble in water.
Partition coefficient	log Pow: 0.81
Auto-ignition temperature	404°C/759°F
Decomposition Temperature	Not applicable.
Explosive properties	Not applicable.
Oxidizing 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.
Volatile organic compound	This product contains a maximum VOC content of 1100 g/l. This product contains a maximum VOC content of 9.17 lbs/gal.

10. Stability and reactivity

Reactivity	There are no known reactivity hazards associated with this product.
Stability	Stable at normal ambient temperatures and when used as recommended.
Possibility of hazardous reactions	The following materials may react with the product: Acids. Alkalis. Strong oxidizing agents.
Conditions to avoid	Avoid the following conditions: Heat, sparks, flames. Freezing.
Materials to avoid	Avoid contact with the following materials: Acids. Alkalis. Strong oxidizing agents.
Hazardous decomposition products	Heating may generate the following products: Carbon dioxide (CO2). Carbon monoxide (CO).

11. Toxicological information

Information on toxicological effects

Toxicological effects	Data based on literature. Product not tested.

Acute toxicity - oral

ATE oral (mg/kg)	500.0

Acute toxicity - dermal

ATE dermal (mg/kg)	1,100.0

Acute toxicity - inhalation

ATE inhalation (vapours mg/l)	11.0

Specific target organ toxicity - single exposure

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

Specific target organ toxicity - repeated exposure

Target organs	Gastro-intestinal tract Reproductive organs Skin

Aspiration hazard

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Aspiration hazard Aspiration hazard if swallowed. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

Toxicological information on ingredients.

Methyl Ethyl Ketone

Acute toxicity - oral	
Acute toxicity oral (LD_{50} mg/kg)	2,600.0
Species	Rat
ATE oral (mg/kg)	2,600.0
Acute toxicity - dermal	
Acute toxicity dermal (LD_{50} mg/kg)	6,400.0
Species	Rabbit
ATE dermal (mg/kg)	6,400.0
Acute toxicity - inhalation	
Acute toxicity inhalation (LC_{50} vapours mg/l)	32,000.0
Species	Mouse
ATE inhalation (vapours mg/l)	32,000.0

Ethanol

Acute toxicity - oral	
Acute toxicity oral (LD_{50} mg/kg)	10,470.0
Species	Rat
ATE oral (mg/kg)	10,470.0
Acute toxicity - dermal	
Acute toxicity dermal (LD_{50} mg/kg)	15,800.0
Species	Rabbit
ATE dermal (mg/kg)	15,800.0
Acute toxicity - inhalation	
Acute toxicity inhalation (LC_{50} vapours mg/l)	30,000.0
Species	Rat
ATE inhalation (vapours mg/l)	30,000.0

Cyclohexanone

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Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	1,534.0
Species	Rat
ATE oral (mg/kg)	1,534.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	1,500.0
Species	Rabbit
ATE dermal (mg/kg)	1,500.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} dust/mist mg/l)	4.9
Species	Rat
ATE inhalation (vapours mg/l)	11.0
ATE inhalation (dusts/mists mg/l)	4.9

Carcinogenicity

IARC carcinogenicity	IARC Group 3 Not classifiable as to its carcinogenicity to humans.

Xylene

Acute toxicity - dermal

ATE dermal (mg/kg)	1,100.0

Acute toxicity - inhalation

ATE inhalation (vapours mg/l)	11.0

Carcinogenicity

IARC carcinogenicity	IARC Group 3 Not classifiable as to its carcinogenicity to humans.

12. Ecological Information

Ecotoxicity Data based on literature. Product not tested.

Toxicity

Ecological information on ingredients.

Methyl Ethyl Ketone

Acute toxicity - fish	LC_{50}, : 1690 mg/l, Lepomis macrochirus (Bluegill) LC_{50}, : 3220 mg/l, Pimephales promelas (Fat-head Minnow)

Ethanol

Acute toxicity - fish	LC_{50}, 96 hours: 14,200 mg/l, Pimephales promelas (Fat-head Minnow)

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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

Cyclohexanone

Acute toxicity - aquatic invertebrates	EC_{50}, 24 hours: 820 mg/l, Daphnia magna

Persistence and degradability

Ecological information on ingredients.

Ethanol

Persistence and degradability	The product is readily biodegradable.

Cyclohexanone

Biodegradation	- 90 - 100:

Bioaccumulative potential

Partition coefficient log Pow: 0.81

Mobility in soil

Results of PBT and vPvB assessment

Other adverse effects

13. Disposal considerations

Waste treatment methods

General information The generation of waste should be minimized or avoided wherever possible. When handling waste, the safety precautions applying to handling of the product should be considered. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Dispose of waste product or used containers in accordance with local regulations 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.

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.

14. Transport information

UN Number

UN No. (TDG)	1210
UN No. (IMDG)	1210
UN No. (ICAO)	1210
UN No. (DOT)	1210

UN proper shipping name

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Proper shipping name (TDG) PRINTING INK

Proper shipping name (IMDG) PRINTING INK

Proper shipping name (ICAO) PRINTING INK

Proper shipping name (DOT) PRINTING INK

Transport hazard class(es)

TDG class 3

TDG label(s) 3

IMDG Class 3

ICAO class/division 3

Transport labels

Packing group

TDG Packing Group II

IMDG packing group II

ICAO packing group II

DOT packing group II

Environmental hazards

Environmentally Hazardous Substance
No.

Special precautions for user

EmS F-E, S-D

15. Regulatory information

Regulatory Status Hazardous Chemical

Regulatory References OSHA Hazard Communication Standard, 29 CFR 1910.1200

International Regulations

US Federal Regulations

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

Xylene

Methyl Ethyl Ketone

Cyclohexanone

SARA 313 Emission Reporting

Xylene

SARA (311/312) Hazard Categories

Methyl Ethyl Ketone

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Cyclohexanone

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

Xylene

California Air Toxics "Hot Spots" (A-I)

Xylene

Methyl Ethyl Ketone

California Directors List of Hazardous Substances

The following ingredients are listed or exempt:

Ethylbenzene

Xylene

Methyl Ethyl Ketone

Cyclohexanone

Massachusetts "Right To Know" List

The following ingredients are listed or exempt:

Ethanol

Xylene

Methyl Ethyl Ketone

Cyclohexanone

Rhode Island "Right To Know" List

The following ingredients are listed or exempt:

Ethanol

Xylene

Methyl Ethyl Ketone

Cyclohexanone

Minnesota "Right To Know" List

The following ingredients are listed or exempt:

Ethanol

Xylene

Methyl Ethyl Ketone

Cyclohexanone

New Jersey "Right To Know" List

The following ingredients are listed or exempt:

Ethanol

Xylene

Methyl Ethyl Ketone

Cyclohexanone

Pennsylvania "Right To Know" List

The following ingredients are listed or exempt:

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Ethanol

Xylene

Methyl Ethyl Ketone

Cyclohexanone

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:

Ethanol

Xylene

Methyl Ethyl Ketone

Cyclohexanone

Japan - MITI
The following ingredients are listed or exempt:

Ethanol

Xylene

Methyl Ethyl Ketone

Cyclohexanone

Korea - KECI
The following ingredients are listed or exempt:

Ethanol

Xylene

Methyl Ethyl Ketone

Cyclohexanone

China - IECSC
The following ingredients are listed or exempt:

Ethanol

Xylene

Methyl Ethyl Ketone

Cyclohexanone

Philippines - PICCS
The following ingredients are listed or exempt:

Ethanol

Xylene

Methyl Ethyl Ketone

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Cyclohexanone

16. Other information

Issued by	Matthews Marking Systems - Chemical Services Department
Revision date	1/27/2016
Revision	3
Supersedes date	12/31/2015
SDS No.	5229
SDS status	Approved.
Hazard statements in full	H225 Highly flammable liquid and vapor. H226 Flammable liquid and vapor. H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H312 Harmful in contact with skin. H315 Causes skin irritation. H318 Causes serious eye damage. H319 Causes serious eye irritation. H332 Harmful if inhaled. H336 May cause drowsiness or dizziness. H351 Suspected of causing cancer. H372 Causes damage to organs (Hearing organs) through prolonged or repeated exposure. H411 Toxic to aquatic life with long lasting effects.
NFPA - health hazard	Temporary incapacitation, injury. (2)
NFPA - flammability hazard	Ignites easily. (3)
NFPA - instability hazard	Normally stable. (0)
ACA HMIS Health rating.	Moderate hazard. (2) Chronic hazard. (*)
ACA HMIS Flammability rating.	Ignites easily. (3)
ACA HMIS Physical hazard rating.	Normally stable. (0)
ACA HMIS Personal protection rating.	C