1. Identification

Product identifier: DL/XLM (all colors)

Other means of identification: None.

Recommended use: Printing ink.

Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information

Company name: Diagraph Marking & Coding
Address: 5307 Meadowland Parkway, Marion IL, 62959
USA
Telephone: 800-521-3047
E-mail: msds@diagraphmsp.com
Contact person: Customer Service

2. Hazard(s) identification

Physical hazards: Not classified.

Health hazards:
- Acute toxicity, oral: Category 4
- Specific target organ toxicity, repeated exposure (oral): Category 2 (kidney)

OSHA defined hazards: Not classified.

Label elements

Signal word: Warning

Hazard statement: Harmful if swallowed. May cause damage to organs (kidney) through prolonged or repeated exposure by ingestion.

Precautionary statement

Prevention: Do not breathe mist/vapors. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

Response: If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. Get medical advice/attention if you feel unwell.

Storage: Store away from incompatible materials.

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC): None known.

Supplemental information: None.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethylene glycol</td>
<td>111-46-6</td>
<td>94-97</td>
</tr>
</tbody>
</table>

Composition comments: All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Components not listed are either non-hazardous or are below reportable limits.
4. First-aid measures

Inhalation
Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact
Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact
Rinse with water. Get medical attention if irritation develops and persists.

Ingestion
Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn’t get into the lungs.
Get medical advice/attention if you feel unwell.

Most important symptoms/effects, acute and delayed
Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information
If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media
Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical
During fire, gases hazardous to health may be formed. Carbon oxides.

Special protective equipment and precautions for firefighters
Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions
Move containers from fire area if you can do so without risk.

Specific methods
Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards
Will burn if involved in a fire. Heat may cause the containers to explode.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up
This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions
Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling
Avoid forming spray/aerosol mists. Do not breathe mist or vapor. Avoid contact with skin and eyes. Provide adequate ventilation. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities
Store in a closed container away from incompatible materials. Store between 35°F (2°C) and 120°F (49°C). Store away from incompatible materials (see Section 10 of the SDS).
8. Exposure controls/personal protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethylene glycol (CAS 111-46-6)</td>
<td>10 mg/m3</td>
</tr>
</tbody>
</table>

Biological limit values
No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls
Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection
Wear approved safety goggles. Wear face shield if there is risk of splashes.

Skin protection

Hand protection
Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

Skin protection

Other
Wear suitable protective clothing. Use of an impervious apron is recommended.

Respiratory protection
Minimise inhalation of aerosols/mists: In case of inadequate ventilation use suitable respirator. Chemical respirator with organic vapor cartridge and full facepiece. Seek advice from local supervisor.

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

General hygienic considerations
Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state
Liquid.

Form
Liquid.

Color
Various.

Odor
Characteristic.

Odor threshold
Not available.

pH
7 (20°C/68°F)

Melting point/freezing point
Not available.

Initial boiling point and boiling range
473 °F (245 °C)

Flash point
294.8 °F (146.0 °C)

Evaporation rate
Not available.

Flammability (solid, gas)
Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)
0.7 % v/v

Flammability limit - upper (%)
22 % v/v

Vapor pressure
0 hPa (20°C/68°F)

Vapor density
Not available.

Relative density
Not available.

Solubility(ies)

Solubility (water)
Completely miscible with water.

Partition coefficient (n-octanol/water)
Not available.

Auto-ignition temperature
Not available.
Decomposition temperature  Not available.
Viscosity  Not available.

Other information
Density  1.13 g/cm³ (20°C/68°F)
Explosive properties  Not explosive.
Oxidizing properties  Not oxidizing.

10. Stability and reactivity
Reactivity  The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability  Material is stable under normal conditions.
Possibility of hazardous reactions  Hazardous polymerization does not occur.
Conditions to avoid  Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
Hazardous decomposition products  Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information
Information on likely routes of exposure
- Inhalation  Prolonged inhalation may be harmful.
- Skin contact  Prolonged skin contact may cause temporary irritation.
- Eye contact  Direct contact with eyes may cause temporary irritation.
- Ingestion  Harmful if swallowed. May cause damage to organs through prolonged or repeated exposure by ingestion.

Symptoms related to the physical, chemical and toxicological characteristics  Direct contact with eyes may cause temporary irritation.

Information on toxicological effects
Acute toxicity  Harmful if swallowed.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethylene glycol (CAS 111-46-6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td>11890 mg/kg</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Respiratory or skin sensitization
- Respiratory sensitization  Not a respiratory sensitizer.
- Skin sensitization  This product is not expected to cause skin sensitization.
- Germ cell mutagenicity  No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
- Carcinogenicity  Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity  Not listed.
NTP Report on Carcinogens  Not listed.
Reproductive toxicity  This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure  Not classified.
Specific target organ toxicity - repeated exposure
May cause damage to organs (kidney) through prolonged or repeated exposure by ingestion.

Aspiration hazard
Not an aspiration hazard.

Chronic effects
Prolonged inhalation may be harmful. May cause damage to organs through prolonged or repeated exposure.

12. Ecological information

Ecotoxicity
The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability
No data is available on the degradability of this product.

Bioaccumulative potential
No data available on bioaccumulation.

Mobility in soil
This product is water soluble and may disperse in soil.

Other adverse effects
None known.

13. Disposal considerations

Disposal instructions
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations
Dispose in accordance with all applicable regulations.

Hazardous waste code
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging
Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not established.

15. Regulatory information

US federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.

SARA 304 Emergency release notification
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
Not regulated.

Toxic Substances Control Act (TSCA)
All components of the mixture on the TSCA 8(b) inventory are designated "active".

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312 Hazardous chemical
Yes
Acute toxicity (any route of exposure)
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.
Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations
US. Massachusetts RTK - Substance List
Not regulated.
US. New Jersey Worker and Community Right-to-Know Act
Not listed.
US. Pennsylvania Worker and Community Right-to-Know Law
Diethylene glycol (CAS 111-46-6)
US. Rhode Island RTK
Diethylene glycol (CAS 111-46-6)

California Proposition 65
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>No</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Taiwan Chemical Substance Inventory (TCSI)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 05-December-2018
Revision date -
Version # 01
HMIS® ratings
Health: 2*
Flammability: 1
Physical hazard: 0

NFPA ratings

DL/XLM (all colors) SDS US
908081 Version #: 01 Revision date: - Issue date: 05-December-2018
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