SAFETY DATA SHEET

1. Identification

Product identifier: Marker, Ideal Mark & Jumbo Insta Mark
Other means of identification: None.
Recommended use: Printing Inks.
Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information

Company name: Diagraph MSP
Address: 5307 Meadowland Parkway Marion IL 62959
Telephone: 1-800-521-3047
E-mail: msds@diagraphmsp.com
Contact person: Customer Service
Emergency phone number: Emergency telephone 800-535-5053 (US only)
               +1-352-323-3500 international

2. Hazard(s) identification

Physical hazards: Flammable liquids
Health hazards:
- Serious eye damage/eye irritation
- Sensitization, skin
- Specific target organ toxicity, single exposure
- Specific target organ toxicity, single exposure
- Specific target organ toxicity, single exposure
- Narcotic effects

OSHA defined hazards: Not classified.

Label elements

Signal word: Danger
Hazard statement: Highly flammable liquid and vapor. May cause an allergic skin reaction. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.
Precautionary statement

Prevention: Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/eye protection/face protection.

Response: If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Wash contaminated clothing before reuse. In case of fire: Use appropriate media to extinguish.
Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

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

3. Composition/information on ingredients

Mixtures

Marker, Ideal Mark & Jumbo Insta Mark

928675 Version #: 01 Revision date: - Issue date: 31-July-2015 1 / 8
### Chemicals

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Co Solvent B</td>
<td>Trade Secret</td>
<td>40-50</td>
</tr>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>15-25</td>
</tr>
<tr>
<td>Ethyl lactate</td>
<td>97-64-3</td>
<td>15-25</td>
</tr>
<tr>
<td>Solvent Red 160</td>
<td>84962-27-6</td>
<td>0-5</td>
</tr>
<tr>
<td>Rosin, fumarated</td>
<td>65997-04-8</td>
<td>0-3</td>
</tr>
<tr>
<td>Proprietary Co Solvent A</td>
<td>Trade Secret</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

When all concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

### 4. First-aid measures

#### Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

#### Skin contact
Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.

#### Eye contact
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

#### Ingestion

### 5. Fire-fighting measures

#### Alcohol resistant foam. Water fog. Carbon dioxide (CO2).

#### Do not use water jet as an extinguisher, as this will spread the fire.

#### Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

#### Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

#### In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

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

### 6. Accidental release measures

#### Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. 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.

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

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

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

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) 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. Provide eyewash station. Eye wash fountain and emergency showers are recommended.

Chemical respirator with organic vapor cartridge and full facepiece.

Chemical respirator with organic vapor cartridge and full facepiece.

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. Wear protective gloves.

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. Wear protective gloves.

Chemical respirator with organic vapor cartridge and full facepiece.

Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations
When using do not smoke. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance
  Physical state: Liquid.
  Form: Liquid.
  Color: Various.
Odor: Not available.
Odor threshold: Not available.
pH: Not available.
Melting point/freezing point: Not available.
Initial boiling point and boiling range: Not available.
Flash point: 62.0 °F (16.7 °C) (Solvent Blend)
Evaporation rate: Not available.
Flammability (solid, gas): Not applicable.
Upper/lower flammability or explosive limits
  Flammability limit - lower (%): Not available.
  Flammability limit - upper (%): Not available.
  Explosive limit - lower (%): Not available.
  Explosive limit - upper (%): Not available.
Vapor pressure: Not available.
Vapor density: Not available.
Relative density: Not available.
Solubility(ies)
  Solubility (water): Not available.
Partition coefficient (n-octanol/water): Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available.
Other information
  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
No dangerous reaction known under conditions of normal use.
Conditions to avoid
Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials
Strong oxidizing agents. Nitrates.
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
  May cause drowsiness and dizziness. Headache. Nausea, vomiting. May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
  Skin contact
  May cause an allergic skin reaction.
Eye contact
Causes serious eye irritation.

Ingestion
May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Information on toxicological effects

Acute toxicity
Narcotic effects. May cause an allergic skin reaction. May cause respiratory irritation.

Components

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol (CAS 64-17-5)</td>
<td></td>
</tr>
<tr>
<td>Acute Inhalation LC50</td>
<td>Rat 30000 mg/m3</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Prolonged skin contact may cause temporary irritation.</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td></td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>Not a respiratory sensitizer.</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.</td>
</tr>
</tbody>
</table>

IARC Monographs. Overall Evaluation of Carcinogenicity
Not listed.

NTP Report on Carcinogens
Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.

Reproductive toxicity
This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure
May cause respiratory irritation. May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure
Not classified.

Aspiration hazard
Not an aspiration hazard.

Chronic effects
Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity
The product is 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

<table>
<thead>
<tr>
<th>Partition coefficient n-octanol / water (log Kow)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol (CAS 64-17-5)</td>
</tr>
</tbody>
</table>

Mobility in soil
The product contains substances, which are water soluble and may spread in water systems.

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
D001: Waste Flammable material with a flash point <140 F
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

<table>
<thead>
<tr>
<th>UN number</th>
<th>UN1210</th>
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<tbody>
<tr>
<td>UN proper shipping name</td>
<td>Printing ink, flammable</td>
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<tr>
<td>Transport hazard class(es)</td>
<td>3</td>
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<tr>
<td>Class</td>
<td>3</td>
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<tr>
<td>Subsidiary risk</td>
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</tr>
<tr>
<td>Label(s)</td>
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<tr>
<td>Packing group</td>
<td>II</td>
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<tr>
<td>Special precautions for user</td>
<td>Read safety instructions, SDS and emergency procedures before handling.</td>
</tr>
<tr>
<td>Special provisions</td>
<td>149, IB2, T4, TP1, TP8</td>
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<tr>
<td>Packaging exceptions</td>
<td>150</td>
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<tr>
<td>Packaging non bulk</td>
<td>173</td>
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<tr>
<td>Packaging bulk</td>
<td>242</td>
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</table>

IATA

<table>
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<th>UN number</th>
<th>UN1210</th>
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<td>UN proper shipping name</td>
<td>Printing ink flammable</td>
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<tr>
<td>Transport hazard class(es)</td>
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<tr>
<td>Class</td>
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<tr>
<td>Subsidiary risk</td>
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<td>Packing group</td>
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<td>Environmental hazards</td>
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<tr>
<td>ERG Code</td>
<td>3L</td>
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<tr>
<td>Special precautions for user</td>
<td>Read safety instructions, SDS and emergency procedures before handling.</td>
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</table>

IMDG

<table>
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<th>UN number</th>
<th>UN1210</th>
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<tbody>
<tr>
<td>UN proper shipping name</td>
<td>PRINTING INK FLAMMABLE</td>
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<tr>
<td>Transport hazard class(es)</td>
<td>3</td>
</tr>
<tr>
<td>Class</td>
<td>3</td>
</tr>
<tr>
<td>Subsidiary risk</td>
<td>-</td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>No.</td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>No.</td>
</tr>
<tr>
<td>EmS</td>
<td>F-E, S-D</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Read safety instructions, SDS and emergency procedures before handling.</td>
</tr>
<tr>
<td>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</td>
<td>Not established.</td>
</tr>
</tbody>
</table>

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.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Listed Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol (CAS 64-17-5)</td>
<td>LISTED</td>
</tr>
<tr>
<td>Solvent Red 160 (CAS 84962-27-6)</td>
<td>LiSTED</td>
</tr>
</tbody>
</table>

Superfund Amendments and Reauthorization Act of 1986 (SARA)

<table>
<thead>
<tr>
<th>Hazard categories</th>
<th>Immediate Hazard - Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delayed Hazard</td>
<td>-</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>-</td>
</tr>
<tr>
<td>Pressure Hazard</td>
<td>-</td>
</tr>
<tr>
<td>Reactivity Hazard</td>
<td>-</td>
</tr>
</tbody>
</table>

Marker, Ideal Mark & Jumbo Insta Mark
928675     Version #: 01     Revision date: -     Issue date: 31-July-2015
SARA 302 Extremely hazardous substance
   Not listed.
SARA 311/312 Hazardous chemical
   Yes
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
   Ethanol (CAS 64-17-5)
   Ethyl lactate (CAS 97-64-3)
US. New Jersey Worker and Community Right-to-Know Act
   Ethanol (CAS 64-17-5)
   Ethyl lactate (CAS 97-64-3)
US. Pennsylvania Worker and Community Right-to-Know Law
   Ethanol (CAS 64-17-5)
   Ethyl lactate (CAS 97-64-3)
US. Rhode Island RTK
   Not regulated.
US. 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.

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>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>Yes</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>No</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>No</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>No</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>(PICCS)</td>
<td></td>
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<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: 31-July-2015
Revision date: -
Version #: 01
HMIS® ratings:
   Health: 2
   Flammability: 3
   Physical hazard: 0
NFPA ratings

Disclaimer

Diagraph MSP cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user’s responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.