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## SAFETY DATA SHEET

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### Section 1: CHEMICAL PRODUCT IDENTIFICATION

**Product Name:** ID-320 Graphic Ink Degradent

**Product Code:** 195-7732

**MSDS Date:** September 23, 2014

Lawson Screen & Digital Products, Inc.  
5110 Penrose St.  
St. Louis, MO 63115

**General Information:** 314-382-9300

CHEMTREC: 800-424-9300

### Section 2: HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW:

##### GHS Classification:

Flammable liquids (Category 4)

Serious eye damage (Category 1)

Skin irritation (Category 2)

Reproductive toxicity (Category 1B)

Specific target organ toxicity - single exposure (Category 3), Respiratory system

Skin sensitization (Category 1)

##### GHS Labeling



**Symbol:**

**Signal Word:** Danger

##### Hazard Statements:

Combustible liquid

Causes serious eye damage

Causes skin irritation.

May damage fertility or the unborn child

May cause respiratory irritation

May cause an allergic skin reaction

##### Precautionary Statements:

###### **Prevention:**

Avoid breathing mist/vapors/spray.

Contaminated work clothing must not be allowed out of the workplace.

Do not handle until all safety precautions have been read and understood.

Keep away from flames and hot surfaces-no smoking.

Obtain special instructions before use.

Use only outdoors or in a well-ventilated area.

Wash thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

###### **Response:**

Call a poison center/doctor if you feel unwell.

If exposed or concerned: Get medical advice/attention.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing. Immediately call a poison center/doctor.

If inhaled: Remove person to fresh air and keep comfortable for breathing.

If on skin: Wash with plenty of water.

If skin irritation or rash occurs: Get medical advice/attention.

In case of fire: Use water spray, CO<sub>2</sub>, dry chemical, water fog or regular foam to extinguish.

Take off contaminated clothing and wash it before reuse.

**Storage:**

Store in a well-ventilated place. Keep cool. Store locked up.

Keep container tightly closed.

**Disposal:**

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

This product does not contain carcinogens or potential carcinogens as listed by NTP, IARC, and OSHA.

This material contains components that are considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Potential Environmental Effects:** See Section 12 for more information.

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

No.	Component CAS REG. NO.	Amount %	OSHA		ACGIH	
			TWA	STEL	TWA	STEL
1	Dipropylene Glycol Monomethyl Ether CAS #34590-94-8	1-50	100 ppm	Not avail	100 ppm	150 ppm
2	N-Methyl-2-Pyrrolidone CAS #872-50-4	1-50	Not Avail	Not Avail	Not Avail	Not Avail
3	Limonene, D- CAS #5989-27-5	1-50	Not avail	Not avail	30 ppm	Not avail
4	Octylphenol Ethoxylate CAS #9036-19-5	1-50	Not avail	Not avail	Not avail	Not avail
5	Dimethyl Glutarate CAS #1119-40-0	1-50	Not avail	Not avail	Not avail	Not avail
6	Dimethyl Succinate CAS #106-65-0	1-50	Not avail	Not avail	Not avail	Not avail
7	Dimethyl Adipate CAS #627-93-0	1-50	Not avail	Not avail	Not avail	Not avail

### Section 4: FIRST AID MEASURES

**Emergency first aid procedures by route of exposure:**

**Inhalation:** If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain medical attention if breathing difficulty persists.

**Ingestion:** Do not induce vomiting. Risk of damage to the lungs exceeds poisoning risk. Obtain emergency medical attention.

**Skin:** Remove contaminated clothing as needed. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Seek medical attention if ill effect or irritation develops.

**Eyes:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

## Section 5: FIRE FIGHTING MEASURES

<b>Flash Point (Dipropylene Glycol Monomethyl Ether)</b>	166.73°F (74.85°C)
<b>Auto-ignition Temperature (Dipropylene Glycol Monomethyl Ether)</b>	404.33°F (206.85°C)
<b>Lower Explosion Limit:</b>	Not available
<b>Upper Explosion Limit:</b>	Not available

### Suitable Extinguishing Media:

SMALL FIRE: Use dry chemical, CO<sub>2</sub>, water spray or regular foam.

LARGE FIRE: Use water spray, water fog or regular foam.

Do not use solid water streams.

**Products of Combustion:** Upon decomposition this product may emit carbon dioxide, carbon monoxide, and/or low molecular weight hydrocarbons.

### Fire Fighting Equipment/Instructions:

When heated above the flash point, releases flammable vapors. Fine sprays/mists may be combustible at temperatures below normal flash point. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Vapors may be heavier than air. May travel long distances along the ground before igniting and flashing back to vapor source. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Always stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

HAZARD	HMIS	NFPA
Toxicity	1	1
Fire	2	2
Reactivity	0	0

## Section 6: ACCIDENTAL RELEASE MEASURES

### Personal Protection:

Eliminate all sources of ignition. All equipment used when handling this product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors.

**Environmental Precautions:** Prevent entry into waterways, sewers, basements or confined areas.

**Method for Containment:** Absorb spilled liquid in suitable non-flammable inert material such as clay, vermiculite or diatomaceous earth.

**Methods for Clean-up:** Use clean non-sparking tools to collect absorbed material. Dike large spills and place materials in salvage containers. Water spray may reduce vapor; but may not prevent ignition in closed spaces.

## Section 7: HANDLING AND STORAGE

### Handling

Keep container tightly closed when not in use. The potential for peroxide formation is enhanced when this solvent is used in processes such as distillation. Use only non-sparking tools. Properly ground containers before beginning transfer. When transferring propylene glycol ethers with flash points at or below 60 °C (140 °F) into fixed site vessels, the vessel should be purged and inerted prior to transfer. Propylene glycol ethers may be transferred into air atmospheres if the temperature of the product and the ambient temperature within the shipping container are both at least 16.7 °C (30 °F) less than the product's flash point. After loading, nitrogen blanketing is required if the contents of

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the transportation container could exceed a temperature of 16.7 °C (30 °F) less than the product flash point during any subsequent transportation activities. If the product flash point is less than 16.7 °C (30 °F) above either the ambient temperature of the transportation container or the storage temperature of the product, the container should be purged and inerted with nitrogen prior to loading and nitrogen blanketed after loading. Handle empty containers with care. Flammable/combustible residue remains after emptying. The purging of all empty shipping containers, regardless of the flashpoint, is recommended when received with air atmospheres. Isolate, vent, drain, wash and purge systems or equipment before maintenance or repair. Use adequate personal protective equipment. Observe precautions pertaining to confined space entry.

#### **Storage**

Store only in tightly closed, properly vented containers away from heat, sparks, open flame and strong oxidizing agents. Storage under nitrogen atmosphere is recommended to minimize possible formation of highly reactive peroxides. Store in properly lined steel/stainless steel to avoid slight discoloration from mild steel/copper. Aluminum (5000 series alloys - U.S. Aluminum Association Standard) showed no corrosion after 30 days contact with ARCOLV® PM Acetate, ARCOLV® DPM, TPM, PTB, or PM at 71°C (160°F). Some plastics/rubbers are attacked by Glycol Ethers/Ether Esters. This product will absorb water if exposed to air.

## **Section 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION**

**Engineering Controls:** Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

#### **Personal Protective Equipment (PPE)**

**Respiratory Protection:** A respiratory protection program that meets OSHA's 29CFR 1910.134 or ANSI Z88.2 requirements must be followed whenever workplace conditions warrant respirator use.

**Eye/Face Protection:** Eye protection such as chemical splash goggles and/or face shield must be worn when possibility exists for eye contact due to splashing or spraying liquid or vapor.

**Hand Protection:** Wear chemical resistant gloves such as Butyl rubber or Viton.

**Body:** When skin contact is possible, protective clothing including apron, sleeves, boots, head and face protection should be worn.

#### **Other Protective Equipment:**

Facilities storing or utilizing this material should be equipped with eyewash and/or shower facilities.

See section 3 for exposure limits.

## **Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance, State:** Clear Liquid

**Color:** Not available

**Odor:** Typical solvent

**pH:** Not available

**Vapor Density:** Not available

**Boiling Point (Dipropylene Glycol Monomethyl Ether):** 189.6°C (373.28F) @ 760 mm Hg

**Vapor Pressure (Dipropylene Glycol Monomethyl Ether):** 0.4 mm Hg @ 25°C (77°F)

**Freezing point (Dipropylene Glycol Monomethyl Ether):** -83°C (-117.4°F)

**Flash Point** (See Section 5)

**Flammability Properties** (See section 5)

**Solubility (in water):** Not available

**Relative Density (Dipropylene Glycol Monomethyl Ether):** 0.95 @ 25°C (77°F)

**Evaporation Rate:** Not available

**Octanol/Water partition coefficient (Kow) (Dipropylene Glycol Monomethyl Ether):** @ 25°C (77°F)

**Auto-ignition temperature:** Not Available

**Decomposition temperature:** Not Available

**Viscosity:** Not Available

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## Section 10: STABILITY AND REACTIVITY

**Stability:** This material is considered stable at ambient temperatures 70°C (21°C).

**Condition to Avoid:** Extended contact with air or oxygen. The potential for peroxide formation is enhanced when this solvent is used in processes such as distillation. Flames, sparks, electrostatic discharge, heat and other ignition sources, moisture.

**Incompatible Materials:** Strong oxidizing agents. Strong acids. Strong bases. May react with oxygen to form peroxides.

**Hazardous Decomposition:** Upon decomposition, this product evolves carbon monoxide, carbon dioxide, and/or low weight hydrocarbons.

**Hazardous Reactions:** This product will not undergo polymerization. May react with oxygen to form peroxides.

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## Section 11: TOXICOLOGICAL INFORMATION

### ACUTE EFFECTS:

#### Component Analysis LD50

Limonene-D (5989-27-5)

Oral LD50 Rat 4400 mg/kg;

Dermal LD50 Rabbit >2000 mg/kg

Dipropylene Glycol Monomethyl Ether (34590-94-8)

Inhalation LC50 Rat 552PPM

Oral LD50 Rat >5,000 MG/KG BWT

Skin LD50 Rabbit 9,510 MG/KG

N-Methyl-2-pyrrolidone (872-50-4)

Acute Oral LD50 (mg/kg): 4200 [Rat]

Acute Dermal LD50 (mg/kg): 8000 [Rat]

Acute inhalation LC50 (mg/l): >400 ppm [Rat]

Dimethyl Succinate (106-65-0)

Oral LD50 Rat:>5g/kg

Dermal LD50 Rat: 1920 mg/kg

Dimethyl Adipate (627-93-0)

Oral LD50 Rat: 1920 mg/kg

Dimethyl Glutarate (1119-40-0)

Inhalation LC50 Rat: 6.1 mg/L/4H

Oral LD50 Rat: 8191 mg/kg

### CHRONIC EFFECTS:

#### Component

Limonene-D (5989-27-5)

**Carcinogenic Effects:** This material is not listed as a carcinogen by IARC, NTP, or OSHA. Male rat-clear evidence; female rat-no evidence; male mice-no evidence; female mice-no evidence

**Mutagenic Effects:** Not Available.

**Teratogenic Effects:** Not Available

**Reproductive Effects:** This material has been shown to cause harm to the fetus in laboratory animal studies. Harm to the fetus occurs only at exposure levels that harm the pregnant animal. The relevance of these findings to humans is uncertain.

**Developmental Toxicity:** Not available

**Target Organs:** Exposure to this material (or a component) has been found to cause kidney damage in male

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rats. The mechanism by which this toxicity occurs is specific to the male rat and the kidney effects are not expected to occur in humans. Overexposure to this material has been suggested as a cause of the following effects in laboratory animals; mild, reversible liver effects, mild, reversible kidney effects.

**Dipropylene Glycol Monomethyl Ether (34590-94-8)**

**Carcinogenic Effects** No Data Available. Information collected on a structurally similar chemical suggest that this glycol ether is not carcinogenic. This substance is not classified for carcinogenicity by IARC, OSHA, NTP, or the EPA.

**Mutagenic Effects:** Not available

**Teratogenic Effects:** Not Available

**Developmental Toxicity:** This substance did not cause maternal toxicity, fetal toxicity, or developmental abnormalities in rats or rabbits during inhalation exposures up to the highest attainable concentration of 300 ppm (1848 mg/m<sup>3</sup>).

**Reproductive Effects:** No reproductive studies are available. However, no effects were seen on the testes and ovaries of rats and rabbits in a 90-day repeat dose inhalation toxicity study with exposures up to 200ppm.

**Target Organs:** Prolonged or high exposures may cause CNS effects and liver and kidney damage.

**N-Methyl-2-pyrrolidone (872-50-4)**

**Carcinogenic Effects:** A4 - Not classifiable for human or animal by ACGIH, IARC, NTP, or OSHA..

**Mutagenic Effects:** Non mutagenic

**Teratogenic Effects:** Not Available

**Developmental Toxicity:** Not Available

**Reproductive Toxicity:** Damage to fetus possible

**Target Organs:** Eye irritation, Inhalation - May cause respiratory irritation. prolonged or repeated exposure can cause:, Vomiting, Diarrhoea, Abdominal pain, Rats exposed to 1-methyl-2-pyrrolidinone at a concentration of 1 mg/L as an aerosol for 10 days showed depletion of hematopoietic cells in the bone marrow and atrophy of the lymphoid tissues of the thymus, spleen, and lymph nodes. Bone marrow - Irregularities - Based on Human Evidence

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity:** Limonene-D (5989-27-5)

96 Hr LC50 Pimephales promelas: 0.619-0.796 mg/L [flow-through];

96 Hr LC50 Oncorhynchus mykiss: 35 mg/L

**Ecotoxicity:** Dipropylene Glycol Monomethyl Ether (34590-94-8)

LC50/96 Hours fathead minnow > 10,000 mg/l (nominal)

LC50/48 Hours Daphnia magna 1,919 mg/l (nominal)

LC50/96 Hours Brine shrimp > 1,000 mg/l (nominal)

NOEC (plant growth or foliar damage) for direct, single spray application to higher plants >= 250 g/l.

**Ecotoxicity:** n-Methyl-2-pyrrolidone (872-50-4)

Bluegill (Lepomis Marochirus) LC50 @22°C: 832 mg/l

Fathead Minnow (Pimephales Promelas) LC50 @22°C: 1,072 mg/l

Trout (Salmo Gairdneri) LC50 @12°C: 3,048 mg/l.

**Ecotoxicity:** Dimethyl Glutarate, Dimethyl Succinate, and Dimethyl Adipate

EC50/48-hour/Daphnia=17 mg/l

EC50/72-hour/Algae=46.9 mg/l

LC50/96-hour/bluegill sunfish = 7.5 mg/l

## Section 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state, and federal regulations.

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## Section 14: TRANSPORTATION INFORMATION

**Proper Shipping Name:** Combustible Liquid, n.o.s. (contains d-Limonene)

**Hazard Class:** Combustible Liquid

**Identification No.:** NA1993

**Packing Group:** III

**Label:** Combustible Liquid

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## Section 15: REGULATORY INFORMATION

**TSCA Inventory** This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.

**SARA 302/304** The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to Subparts 302 and 304 to submit emergency planning and notification information based on Threshold Planning Quantities (TPQs) and Reportable Quantities (RQs) for "Extremely Hazardous Substances" listed in 40 CFR 302.4 and 40 CFR 355. None

**SARA 313:** N-Methyl-2-Pyrrolidone

**CERCLA** The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center concerning release of quantities of "hazardous substances" equal to or greater than the reportable quantities (RQ's) listed in 40 CFR 302.4. As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically designated in 40 CFR 302.4. Chemical substances present in this product or refinery stream that may be subject to this statute are: None

**SARA 311/312 Hazard** The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to this subpart to submit aggregate information on chemicals by "Hazard Category" as defined in 40 CFR 370.2. This material would be classified under the following hazard categories: Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard, Fire Hazard

**California Prop 65:** N-Methylpyrrolidone developmental hazard

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## Section 16: OTHER SUPPLEMENTAL INFORMATION

Prepared for Lawson Screen Products on 9/23/14

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### Disclaimer:

The information and recommendations contained in the Safety Data Sheet (SDS) are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. The information and recommendations set forth herein are presented in good faith and believed to be correct as of this date hereof.

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