SAFETY DATA SHEET

Section 1: IDENTIFICATION

Product Name: HR-2001 Haze Image Remover
Product Code: 195-7151
MSDS Date: April 24, 2018

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)
Skin corrosion (Category 1A)
Serious eye damage (Category 1)
Germ cell mutagenicity (Category 2)

GHS Labeling
Symbol:

Signal Word: Danger

Hazard Statements:
Combustible liquid
Causes severe skin burns and eye damage
Causes serious eye damage
Suspected of causing genetic defects

Precautionary Statements:
Prevention:
Do not breathe mists.
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.
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
Response:
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.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If swallowed: Rinse mouth. Do NOT induce vomiting.

Immediately call a poison center/doctor.
In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.
Wash contaminated clothing before reuse.
Storage:
Store in a well-ventilated place. Keep cool.
Store locked up.
Disposal:
Dispose of contents/container in accordance with local/regional/national/international regulations.

Potential Health Effects: See Section 11 for more information

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

This material does not contain 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: COMPOSTION/INFORMATION ON INGREDIENTS

No.	Component CAS REG. NO.	Amount %	OSHA		ACGIH	
			TWA	STEL	TWA	STEL
1	**Diethylene Glycol Monobutyl Ether CAS#112-34-5**	**50-100**	Not avail	Not avail	Not avail	Not avail
2	**Sodium Hydroxide CAS #1310-73-2**	**1-50**	**2 mg/M^3**	Not avail	**2 mg/M^3**	Not avail
3	**Cyclohexanone CAS #108-94-1**	**1-20**	**25 ppm**	Not avail	**25 ppm**	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. Obtain medical attention.
Skin: Remove contaminated clothing as needed. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. Seek medical attention.
Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention.

Section 5: FIRE FIGHTING MEASURES

Flash Point (Diethylene Glycol Monobutyl Ether): 78°C (172°F) CC
LEL (Diethylene Glycol Monobutyl Ether): 0.85%
UEL (Diethylene Glycol Monobutyl Ether): 24.6%
Auto Ignition Temperature (Diethylene Glycol Monobutyl Ether): 204°C

Suitable Extinguishing Media:
Dry chemical, alcohol foam, or carbon dioxide. Do not use a solid stream of water, since the stream will scatter and spread the fire. Water spray may be used to keep fire exposed containers cool, dilute spills to nonflammable mixtures, protect personnel attempting to stop leak and disperse vapors.

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

Fire Fighting Equipment/Instructions:
Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Use water to cool containers exposed to fire. Contact with reactive metals, e.g. aluminum may result in the generation of flammable hydrogen gas. Sodium hydroxide may react with water. On small fires, use dry chemical, carbon dioxide, water spray, or foam. On large fires, use water-flooding quantities as a fog.

Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Do not approach containers suspected to be hot.

HAZARD	HMIS	NFPA
Toxicity	3	3
Fire	1	1
Reactivity	0	0

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Protection: Use personal protective equipment. Ensure adequate ventilation. Eliminate all sources of ignition.

Environmental Precautions: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

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. Dike or divert flow of material to a diked area as soon as possible. If necessary create an excavation large enough to contain the spill and associated neutralization materials. To reduce environmental damage, line the excavated surface with a material to which it is compatible and begin neutralization process or remove by vacuum, or pumping.

Section 7: HANDLING AND STORAGE

Handling:
Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in well-ventilated area. Prevent concentration in hollows and sumps. DO NOT enter confined spaces until atmosphere has been checked. Avoid smoking, bare lights, heat or ignition sources. When handling, DO NOT eat, drink, or smoke. Vapor may ignite on pumping or pouring due to static electricity. Ground and secure metal containers when dispensing or pouring product. Use spark-free tools when handling. Avoid contact with incompatible materials. Keep containers securely sealed. Avoid physical damage to containers. Always wash hands with soap and water after handling. Work clothes should be laundered separately. Use good occupational work practices. Observe manufacturer's storing and handling recommendations. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.

Storage:
Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Protect storage area from exposure to

external fires. After this container has been emptied, it may contain explosive vapors; observe all warnings and precautions listed for the produce. Do not cute, or weld on or near this container. Protect storage area and processing vessels from high energy projectiles by a suitable barricade. Separate from flammables and sensitizers. Do not reuse or dispose of empty containers until they have been rinsed with water. DO NOT enter confined spaces until atmosphere has been checked.

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.
Hand Protection: Wear chemical resistant gloves such as Butyl rubber or Viton.
Body: Wear 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: Not Available
pH: Not Available
Vapor Density (Diethylene Glycol Monobutyl Ether): 5.6 (Air = 1)
Boiling Point (Diethylene Glycol Monobutyl Ether): 231°C (448°F) @ 760 mm Hg
Vapor Pressure (Diethylene Glycol Monobutyl Ether): 0.02 @ 20C (68°F) @ 72°F
Melting Point/freezing point (Diethylene Glycol Monobutyl Ether): -68°C (-90°F)
Flash Point (See Section 5)
Flammability Properties (See section 5)
Solubility (in water) Not available
Specific Gravity (Diethylene Glycol Monobutyl Ether): 0.95 at 20°C (Water = 1)
Evaporation Rate (Diethylene Glycol Monobutyl Ether): <0.01
Octanol/Water partition coefficient (Kow) Not Available
Auto-ignition temperature(Diethylene Glycol Monobutyl Ether): 204°C (399°F)
Decomposition temperature: Not Available
Viscosity: Not available

Section 10: STABILITY AND REACTIVITY

Stability: This material is considered stable at ambient temperatures 70ºC (21ºC).

Condition to Avoid: Strong oxidizing agents, heat, flames, and sparks. Contact with reactive metals. May react with water.

Incompatible Materials for packaging: Aluminum, zinc, tin, wood, paper.

Incompatible Materials for storage or transport: Acids, nitrogen containing organics, phosphorous, explosives, organic peroxides, aluminum, zinc, tin, halogenated hydrocarbons.

Incompatible Materials: High temperature in the presence of strong bases. Acids. Do not distill to dryness. Incompatible to heat, flame, strong oxidizers and alkalis.

Hazardous Decomposition: Carbon dioxide and carbon monoxide may form when heated to decomposition. Contact with carbohydrates can produce carbon monoxide. Contact with aluminum, zinc, or tin can produce hydrogen gas.

Hazardous Reactions: This product will not undergo polymerization.

Section 11: TOXICOLOGICAL INFORMATION

ACUTE EFFECTS:
Component Analysis LD50

Diethylene Glycol Monobutyl Ether (112-34-5)
Oral LD50 Rat = 5660 mg/kg
Dermal LD50 Rabbit = 2700 mg/kg
Irritation Eye Rabbit = 20 mg Severe

Sodium Hydroxide (1310-73-2)
Oral LD 50: Believed to be 300 – 500 mg/kg. (rat); harmful if swallowed
Dermal LD 50: Believed to be > 2 g/kg (rabbit)
Irritation: Causes burns to eyes and skin.

Cyclohexanone (108-94-1)
LD50 (oral-rat): 1535 mg/kg
LD50 (oral-mouse): 1400 mg/kg
LD50 (skin-rabbit): 948 mg/kg

CHRONIC EFFECTS:
Component

Diethylene Glycol Monobutyl Ether (112-34-5)
Carcinogenic Effects: Not listed as a carcinogen according to IARC, NTP, ACGIH, or OSHA.
Mutagenic Effects: Ames test S. typhimurium. Result: negative
Teratogenic Effects: Not Available
Developmental Toxicity: No adverse effect has been observed in chronic toxicity tests.
Target Organs: Not Available

Sodium Hydroxide (1310-73-2)
Carcinogenic Effects: This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP, or EPA.
Mutagenic Effects: Found to be non-mutagenic in the Ames assay, a bacterial DNA-repair test and in the Syrian hamster embryo (SA7/SHE) cell transformation assay.
Teratogenic Effects: Not Available
Developmental Toxicity: There are no known or reported effects on reproductive function or fetal development from exposure to this product.
Target Organs: This product is corrosive to all tissues contacted and upon inhalation, may cause irritation to mucous membranes and respiratory tract.

Cyclohexanone (108-94-1)
Carcinogenic Effects: Not listed as a carcinogen according to IARC, NTP, or OSHA.
Mutagenic Effects: Not Available
Teratogenic Effects: Not Available
Developmental Toxicity: Not Available
Reproductive Toxicity: Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.
Target Organs: Kidney and Liver damage reported in monkeys and rabbits (190 ppm) and rate (105.2

mg/m3). Blood and bone marrow effects reported in rats, dogs and monkeys injected with 142-284 mg/kg. Risk of serious damage to eyes. - 24 h. Acute inhalation toxicity - Breathing difficulties. Prolonged or repeated exposure to skin causes defatting and dermatitis., Cough, Shortness of breath, Headache, Nausea, Vomiting, Incoordination., Inhalation of high concentrations may cause:, Central nervous system depression

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Diethylene Glycol Monobutyl Ether (CAS#112-34-5)
96 hour LC50 Fish > 100mg/l

Ecotoxicity: Sodium Hydroxide (1310-73-2)
Caustic soda is not lethal to fully developed fish in natural fresh waters until the pH becomes greater than 9.0: Lethal pH for Goldfish: 10.9, and Lethal pH for Bluegill sunfish: 10.5
Gambusia affinis (mosquito fish), 96 hr. LC50: 125 mg/l
Bluegill, 48 hr. LC50: 99 mg/l

Ecotoxicity: Cyclohexanone (108-94-1)
Breakdown via chemical, photochemical and microbial degradation in natural environment. Generally not degraded by hydrolysis. 300 ppm is safe for aquatic life. Halogenation may occur in aqueous environment. Octanol/water partition coefficient - 0.01

Section 13: DISPOSAL CONSIDERATIONS

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

Section 14: TRANSPORT INFORMATION

Proper Shipping Name: Corrosive, liquid, basic, inorganic, n.o.s. (Contains Sodium Hydroxide)
Hazard Class: 8
Identification No.: UN3266
Packing Group: II
Label: Corrosive

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. No components were identified.

SARA 313: Glycol Ether

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: Sodium Hydroxide 1,000 lbs, Cyclohexanone 5,000 lbs

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: Acute, Chronic, Fire

California Prop 65: No components were identified.

Section 16: OTHER SUPPLEMENTAL INFORMATION

Prepared by Manufacturer

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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