

## SAFETY DATA SHEET Solvent Screen Flasher Ink

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MSDS157 Revision 1  
Revision Date : 02/10/2016

### 1. PRODUCT AND COMPANY IDENTIFICATION

|                                   |                                                                 |                        |                        |
|-----------------------------------|-----------------------------------------------------------------|------------------------|------------------------|
| <b>Product name</b>               | Solvent Screen Flasher Ink                                      |                        |                        |
| <b>Additional Names</b>           | None                                                            |                        |                        |
| <b>Description</b>                | Flasher Ink                                                     |                        |                        |
| <b>Intended Use</b>               | Printing                                                        |                        |                        |
| <b>Company</b>                    | LCR Hallcrest<br>1911 Pickwick Lane<br>Glenview<br>IL 60026 USA |                        |                        |
| <b>Web</b>                        | <a href="http://www.hallcrest.com">www.hallcrest.com</a>        |                        |                        |
| <b>Telephone</b>                  | +1 847 998 8580                                                 |                        |                        |
| <b>Fax</b>                        | +1 847 998 6866                                                 |                        |                        |
| <b>Email</b>                      | <a href="mailto:sales@hallcrest.com">sales@hallcrest.com</a>    |                        |                        |
| <b>Emergency telephone number</b> | Chemtel                                                         | Domestic: 800-255-3924 | Intl: +01-813-248-0585 |

### 2. HAZARDS IDENTIFICATION.

|                           |                                                                                                                                                                                                                                                                                                                                 |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GHS Classification</b> | Acute toxicity - Oral Category 4 - (H302)<br>Acute toxicity - Dermal Category 4 - (H312)<br>Acute toxicity - Inhalation (Vapors) Category 4 - (H332)<br>Acute toxicity - Inhalation (Dusts/Mists) Category 4 - (H332)<br>Skin Corrosion/irritation Category 2 - (H315)<br>Serious eye damage/eye irritation Category 2 - (H319) |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### Pictograms



|                          |                                                                                                                                                                          |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Signal Word</b>       | WARNING                                                                                                                                                                  |
| <b>Hazard Statements</b> | H302 - Harmful if swallowed<br>H312 - Harmful in contact with skin<br>H315 - Causes skin irritation<br>H319 - Causes serious eye irritation<br>H332 - Harmful if inhaled |

**Precautionary Statement**

P261 - Avoid breathing dust/fumes/gas/mist/vapours/spray.  
 P264 – Wash exposed skin thoroughly after handling.  
 P270 - Do not eat, drink or smoke when using this product.  
 P271 - Use only outdoors or in a well-ventilated area.  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
 P301+P312 - IF SWALLOWED: Call a POISON CENTER/ doctor/.../if you feel unwell.  
 P302+P352 - IF ON SKIN: Wash with plenty of water/...  
 P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.  
 P312 - Call a POISON CENTER if you feel unwell.  
 P321 - Specific treatment (see on this label).  
 P330 - Rinse mouth.  
 P332+P313 - If skin irritation occurs: Get medical advice/attention.  
 P337+P313 - If eye irritation persists get medical advice/attention.  
 P362 - Take off contaminated clothing.  
 P363 - Wash contaminated clothing before reuse.  
 P501 – Dispose of Container/contents in accordance with local/regional/national/international regulations.

| 3. COMPOSITION / INFORMATION ON INGREDIENTS. |                                                                         |               |          |
|----------------------------------------------|-------------------------------------------------------------------------|---------------|----------|
| Hazardous ingredients                        | Trade Secret?                                                           | Conc.         | CAS      |
| 2-Butoxyethanol                              | The exact percentage of composition has been withheld as a trade secret | 30 – 50wt%    | 111-76-2 |
| Citric acid                                  | The exact percentage of composition has been withheld as a trade secret | 0.5 – 2.5 wt% | 77-92-9  |

**4. FIRST AID MEASURES**

**Description of first aid measures**

**Skin contact** Remove contaminated clothing. If irritation develops, get medical attention. Wash off with soap and water. Wash off immediately with soap and plenty of water. Consult a physician if necessary.

**Eye contact** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if irritation develops and persists.

**Inhalation** Remove person to fresh air and keep comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.

**Ingestion** DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

**Most important symptoms and effect, both acute or delayed.**

None under normal use conditions.

**Indication of any immediate medical attention and special treatment needed**

**Notes to physician** Treat symptomatically.

**5. FIRE FIGHTING MEASURES**

**Extinguishing Media** Foam. Carbon dioxide (CO2). Dry chemical. Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** No information available.

**Specific hazards arising from the chemical** Thermal decomposition can lead to release of irritating gases and vapors. May emit toxic fumes under fire conditions.

**Special protective actions for fire-fighters** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers / tanks with water spray. Sealed containers may rupture when heated.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal Precautions, protective equipment and emergency procedures** Ensure adequate ventilation of the working area. Wear suitable protective equipment. Remove all sources of ignition. Ventilate the area. Avoid contact with eyes, skin and clothing. Avoid breathing dust or vapor. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Environmental Precautions** Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. Local authorities should be advised if significant spillages cannot be contained.

**Methods and material for containment and cleaning up** Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Use clean non-sparking tools to collect absorbed material.

**7. HANDLING AND STORAGE**

**Precautions for safe handling** Keep away from open flames, hot surfaces and sources of ignition. Wear personal protective equipment. Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including incompatibilities:** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep container closed when not in use. Keep out of the reach of children.

**Incompatible materials:** Strong acids. Strong bases. Strong oxidizing agents. Reducing agent.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Limits**

| Component                   | ACGIH TLV   | OSHA PEL                                                                                       | Ontario TWAEV | Mexico OEL (TWA)                                                                                                           |
|-----------------------------|-------------|------------------------------------------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------|
| 2-Butoxyethanol<br>111-76-2 | TWA: 20 ppm | TWA: 25 ppm<br>TWA: 120 mg/m <sup>3</sup><br>TWA: 50 ppm<br>TWA: 240 mg/m <sup>3</sup><br>Skin | TWA: 20 ppm   | TWA/LMPE-PPT: 26 ppm<br>TWA/LMPE-PPT: 120 mg/m <sup>3</sup><br>STEL/LMPE-CT: 75 ppm<br>STEL/LMPE-CT: 360 mg/m <sup>3</sup> |

**Control Parameters**

**Engineering Measures** Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Users are advised to consider national Occupational Exposure Limits or other equivalent values. In case of insufficient ventilation, wear suitable respiratory equipment.

**Individual Protection Measures**

**Eye/face protection** Wear safety glasses with side shields (or goggles). If splashes are likely to occur. Wear suitable face shield. Ensure that eyewash stations and safety showers are close to the workstation location.

**Skin protection – Hand protection** Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

**Environmental Exposure Controls** Ensure adequate ventilation, especially in confined areas.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

|                                     |                                                     |
|-------------------------------------|-----------------------------------------------------|
| <b>Physical state</b>               | Paste                                               |
| <b>Appearance</b>                   | White                                               |
| <b>Odor</b>                         | No information available                            |
| <b>Color</b>                        | No information available                            |
| <b>Odor Threshold</b>               | No information available                            |
| <b>PH</b>                           | Not applicable                                      |
| <b>Melting point/freezing point</b> | Not available                                       |
| <b>Boiling Point/Range</b>          | >149°C / 300°F                                      |
| <b>Flash point</b>                  | > 62 °C / 143 °F – Pensky Martens Closed Cup (PMCC) |
| <b>Method</b>                       | Calculated                                          |
| <b>Evaporation rate</b>             | No information available                            |

|                                     |                          |
|-------------------------------------|--------------------------|
| <b>Flammability Limit in Air</b>    |                          |
| <b>Upper flammability limit:</b>    | Not applicable           |
| <b>Lower flammability limit:</b>    | Not applicable           |
| <b>Vapor pressure</b>               | No information available |
| <b>Vapor density</b>                | Not available            |
| <b>Specific Gravity</b>             | 0.98                     |
| <b>Water solubility</b>             | Insoluble                |
| <b>Solubility in other solvents</b> | No information available |
| <b>Partition coefficient</b>        | Not available            |
| <b>Autoignition temperature</b>     | Not available            |
| <b>Decomposition temperature</b>    | No data available        |
| <b>Kinematic viscosity</b>          | No information available |
| <b>Dynamic viscosity</b>            | Not available            |
| <b>Explosive properties</b>         | No information available |
| <b>Oxidizing Properties</b>         | No information available |
| <b>Other information</b>            |                          |
| <b>Weight % VOC</b>                 | 31.5                     |
| <b>Weight % Solids</b>              | 99.124                   |
| <b>Density (lbs/gal) U.S.</b>       | 8.14                     |

**10. STABILITY AND REACTIVITY**

|                                           |                                                                                                                               |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Reactivity</b>                         | No information available                                                                                                      |
| <b>Chemical Stability</b>                 | Stable under normal conditions                                                                                                |
| <b>Possibility of hazardous reactions</b> | Keep away from open flames, hot surfaces and sources of ignition.                                                             |
| <b>Conditions to avoid</b>                | Keep away from open flames, hot surfaces and sources of ignition.                                                             |
| <b>Incompatible materials</b>             | Strong acids. Strong bases. Strong oxidizing agents. Reducing agents.                                                         |
| <b>Hazardous Decomposition Products</b>   | Thermal decomposition can lead to release of irritating gases and vapors. Carbon dioxide (CO <sub>2</sub> ). Carbon monoxide. |

**11. TOXICOLOGICAL INFORMATION**

**Information on likely routes of exposure**

|                               |                                         |
|-------------------------------|-----------------------------------------|
| <b>Production Information</b> | The product itself has not been tested. |
| <b>Inhalation</b>             | No data available.                      |
| <b>Eye Contact</b>            | No data available.                      |
| <b>Skin contact</b>           | No data available.                      |
| <b>Ingestion</b>              | No data available.                      |

| Component                   | Oral LD50          | LD50 Dermal                                | Inhalation LC50                              |
|-----------------------------|--------------------|--------------------------------------------|----------------------------------------------|
| 2-Butoxyethanol<br>111-76-2 | 470 mg/kg ( Rat )  | 2270 mg/kg ( Rat )<br>220 mg/kg ( Rabbit ) | 2.21 mg/L ( Rat ) 4 h<br>450 ppm ( Rat ) 4 h |
| Citric acid<br>77-92-9      | 3000 mg/kg ( Rat ) | No data available                          | No data available                            |

**Information on toxicological effects**

|                                                                                                   |                                                                                          |
|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| <b>Symptoms</b>                                                                                   | No information available.                                                                |
| <b>Delayed and immediate effects as well as chronic effects from short and long-term exposure</b> |                                                                                          |
| <b>Respiratory or skin sensitization</b>                                                          | No information available.                                                                |
| <b>Germ cell mutagenicity</b>                                                                     | No information available.                                                                |
| <b>Carcinogenicity</b>                                                                            | The table below indicates whether each agency has listed any ingredient as a carcinogen. |
| <b>Reproductive toxicity</b>                                                                      | Not available.                                                                           |
| <b>STOT - single exposure</b>                                                                     | No information available.                                                                |
| <b>STOT - repeated exposure</b>                                                                   | No information available.                                                                |
| <b>Chronic toxicity</b>                                                                           | No information available.                                                                |
| <b>Aspiration hazard</b>                                                                          | No information available.                                                                |

| Component ACGIH | ACGIH |
|-----------------|-------|
| 2-Butoxyethanol | A3    |

The following values are calculated based on chapter 3.1 of the GHS document

**ATEmix (oral)** 743.00 mg/kg  
**ATEmix (dermal)** 1,749.00 mg/kg mg/l  
**ATEmix (inhalation-dust/mist)** 3.51 mg/l  
**ATEmix (inhalation-vapor)** 17.00 mg/l

| 12. ECOLOGICAL INFORMATION                                                                                           |                                                                                             |  |
|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|--|
| Ecotoxicity: None known<br>0% of the mixture consists of components(s) of unknown hazards to the aquatic environment |                                                                                             |  |
| <b>Component</b>                                                                                                     | <b>Fish</b>                                                                                 |  |
| 2-Butoxyethanol<br>111-76-2                                                                                          | 96h LC50 Lepomis macrochirus: 1490 mg/L [static]<br>96h LC50 Lepomis macrochirus: 2950 mg/L |  |
| Citric acid 77-92-9                                                                                                  | 96h LC50 Lepomis macrochirus: 1516 mg/L [static]                                            |  |
| <b>Component</b>                                                                                                     | <b>Crustacea</b>                                                                            |  |
| 2-Butoxyethanol<br>111-76-2                                                                                          | 24h EC50 Daphnia magna: 1698 - 1940 mg/L<br>48h EC50 Daphnia magna: >1000 mg/L              |  |
| Citric acid 77-92-9                                                                                                  | 72h EC50 Daphnia magna: 120 mg/L                                                            |  |
| <b>Persistence and Degradability</b> No information available.                                                       |                                                                                             |  |
| Bioaccumulation<br>No information available.                                                                         |                                                                                             |  |
| <b>Component</b>                                                                                                     | <b>Partition coefficient</b>                                                                |  |
| 2-Butoxyethanol<br>111-76-2                                                                                          | 0.81                                                                                        |  |
| Citric acid 77-92-9                                                                                                  | -1.72                                                                                       |  |
| Other adverse effects<br>No information available                                                                    |                                                                                             |  |

| 13. DISPOSAL CONSIDERATIONS    |                                                                                                |
|--------------------------------|------------------------------------------------------------------------------------------------|
| <b>Waste Treatment Methods</b> | Contain and dispose of waste according to local regulations.                                   |
| <b>Contaminated Packaging</b>  | Empty containers should be taken to an approved waste handling site for recycling or disposal. |

| 14. TRANSPORT INFORMATION                     |                                                           |
|-----------------------------------------------|-----------------------------------------------------------|
| <b>UN Number</b>                              | This product is not classified as dangerous for carriage. |
| <b>UN Proper Shipping Name</b>                | This product is not classified as dangerous for carriage. |
| <b>Transport Hazard class(es)</b>             | This product is not classified as dangerous for carriage. |
| <b>Packing Group (if applicable)</b>          | This product is not classified as dangerous for carriage. |
| <b>Environmental Hazards</b>                  | This product is not classified as dangerous for carriage. |
| <b>Special Precautions for the User</b>       | This product is not classified as dangerous for carriage. |
| <b>DOT</b>                                    | This product is not classified as dangerous for carriage. |
| <b>DOT/ICAO/IMDG/IMO Proper Shipping Name</b> | Printing Ink                                              |
| <b>IMDG</b>                                   | This product is not classified as dangerous for carriage. |
| <b>IATA</b>                                   | This product is not classified as dangerous for carriage. |
| <b>Further Information</b>                    |                                                           |

**Further information** The product is not classified as dangerous for carriage.

| 15. REGULATORY INFORMATION |
|----------------------------|
|----------------------------|

**International Inventories**

All components are listed on the TSCA Inventory. For further information, please contact: Supplier (manufacturer/importer/downstream user/distributor).

*U.S. Federal Regulations*

## SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

| Component       | CAS-No   | Weight % | SARA 313 - Threshold Values |
|-----------------|----------|----------|-----------------------------|
| 2-Butoxyethanol | 111-76-2 | 60 - 100 | 1.0                         |

### Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

### U.S. State Regulations

| Component                   | Massachusetts Right To Know |
|-----------------------------|-----------------------------|
| 2-Butoxyethanol<br>111-76-2 | X                           |

| Component                   | Minnesota Right To Know |
|-----------------------------|-------------------------|
| 2-Butoxyethanol<br>111-76-2 | X                       |

| Component                   | New Jersey Right To Know |
|-----------------------------|--------------------------|
| 2-Butoxyethanol<br>111-76-2 | X                        |

| Component                   | Pennsylvania Right To Know |
|-----------------------------|----------------------------|
| 2-Butoxyethanol<br>111-76-2 | X                          |

### California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects

### Canada

| Component                   | NPRI - National Pollutant Release Inventory                                                                                                                                                           |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2-Butoxyethanol<br>111-76-2 | Part 1, Group A Substance<br>Part 5, Individual Substances Part 4 Substance as set out in Section 65 of the List of Toxic Substances in Schedule 1 of the Canadian Environmental Protection Act, 1999 |

## 16. OTHER INFORMATION

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Revision</b>            | Revision 1 02/10/2016: Initial Revision.                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Further information</b> | The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process. |
| <b>HMIS LABELLING</b>      | HEALTH 2, FLAMMABILITY 2, Personal Protection X, PHYSICAL HAZARD 2,                                                                                                                                                                                                                                                                                                                                                                                                |