Product Name: TDK-UV 140  
Product Use: Ink  
Not recommended for: Contact with food

Section 2 - Hazards Identification

GHS Ratings

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquid</td>
<td>2  Flash point &lt; 23°C and initial boiling point &gt; 35°C (95°F)</td>
</tr>
<tr>
<td>Eye corrosive</td>
<td>2A  Eye irritant: Subcategory 2A, Reversible in 21 days</td>
</tr>
</tbody>
</table>

GHS Hazards

- H225  Highly flammable liquid and vapor
- H319  Causes serious eye irritation.

GHS Precautions

- P210  Keep away from heat/sparks/open flames/hot surfaces. No smoking
- P233  Keep container tightly closed
- P240  Ground/bond container and receiving equipment
- P241  Use explosion-proof electrical/ventilating/light/manufacturer/equipment
- P242  Use only non-sparking tools
- P243  Take precautionary measures against static discharge
- P264  Wash contact area thoroughly after handling.
- P280  Wear protective gloves/protective clothing/eye protection/face protection
- P303+P361+P353  IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- P305+P351+P338  IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
- P337+P313  If eye irritation persists, get medical advice/attention
- P370+P378  In case of fire: Use … for extinction
- P403+P235  Store in a well ventilated place. Keep cool
- P501  Dispose of contents/container in accordance with local/regional/national/international regulations.

Signal Word: Danger

Acute Toxicity

N/A

Conditions Aggravated

N/A

Chronic Effects

N/A
### Section 3 - Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS number</th>
<th>Weight Concentration %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl methyl ketone</td>
<td>78-93-3</td>
<td>70.00% - 80.00%</td>
</tr>
</tbody>
</table>

### Section 4 - First Aid Measures

**INHALATION** - Move affected person to fresh air, rest in a half upright position, and loosen clothing. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Seek medical advice after significant exposure.

**EYE CONTACT** - Flush with large amounts of water for at least 15 minutes. Lift eyelids occasionally. Get prompt medical attention.

**SKIN** - Wash thoroughly with soap and water immediately. Remove all contaminated clothing immediately. Seek medical advice if irritation persists.

**INGESTION** - Seek medical advice. The decision to induce vomiting or not must be made by a physician after careful consideration of all materials ingested. Risk of aspiration into lungs.

### Section 5 - Fire Fighting Measures

**Suitable Extinguishing Media**
- Carbon Dioxide
- Dry Chemical
- Foam
- Water Fog

Use water for cooling material stored in vicinity of fire.

**Explosion Hazards**
Vapors are heavier than air and may travel along the ground to an ignition source some distance from material handling point. Ignition sources include pilot lights, smoking, heaters, electric motors, sparks from electrical switches and static discharges.

**CAUTION:** Never use cutting torch on empty containers! Residual solvent vapor in empty container may explode. Application to hot surfaces requires special precautions. During emergency conditions, overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain Medical Attention.

**Hazardous Combustion Products**
N/A

**Recommended Fire Equipment**
Use self-contained breathing apparatus with a full-face piece operated in a pressure-demand or other positive pressure mode. Wear protective clothing.

### Section 6 - Accidental Release Measures

**Non-emergency personnel:** Evacuate and isolate the area and prevent access. Remove ignition sources. No flares, smoking or flames in hazard area. Notify management. Avoid breathing vapor or mist and put on protective equipment. Control source of the leak. Ventilate.

**Emergency responders:** See section 8 for any specialized clothing recommendations. Also reference the information for non-emergency personnel.
**Environmental precautions:** Prevent further leakage or spillage if possible. Do not allow the material to spread to drains, sewers, water supplies, or soil.

**Small Spill:** Stop leak if possible and move containers from the spill area. Water soluble: dilute with water and mop up. Water Insoluble: Cover spill area with a suitable absorbent inert material (Kitty Litter, Oil-Dri, etc.) and dispose of in an appropriate metal waste container. Dispose of material through a licensed waste disposal contractor.

**Large Spill:** Stop leak if possible and move containers from the spill area. Approach release from upwind. Contain spillage and with non-combustible absorbent material and place in appropriate disposal container according to local regulations. Dispose of material through a licensed waste disposal contractor. Report spill to appropriate governing agencies if applicable.

---

**Section 7 - Handling and Storage**

**Precautions for Safe Handling**

Keep away from food, drink and heat. Keep away from sources of ignition. No smoking. Do not breathe vapor. Avoid contact with skin and eyes. Never use pressure to empty. Take precautionary measures against static discharges.

**Storage temperature-**

- **Minimum:** do not freeze
- **Maximum:** 40°C (104°F)

**Storage Period-** See technical datasheet.

---

**Section 8 - Exposure Controls / Personal Protection**

<table>
<thead>
<tr>
<th>Chemical Name / CAS No.</th>
<th>OSHA Exposure Limits</th>
<th>ACGIH Exposure Limits</th>
<th>Other Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl methyl ketone 78-93-3</td>
<td>200 ppm TWA; 590 mg/m3 TWA</td>
<td>300 ppm STEL 200 ppm TWA</td>
<td>NIOSH: 200 ppm TWA; 590 mg/m3 TWA 300 ppm STEL; 885 mg/m3 STEL</td>
</tr>
</tbody>
</table>

**Engineering Controls:** Use only with adequate ventilation. Use process enclosures, local exhaust ventilation, or other controls to keep air containment concentration below current applicable OSHA permissible exposure limit or ACGIH TLV limit, and volatiles below lower explosive limit. Heavy solvent vapors should be removed from the lower levels of area, and all ignition sources (non-explosion proof equipment) should be eliminated if flammable mixtures will be encountered. Remove decomposition products formed during welding or flame cutting of surfaces coated with this product. For baking finishes - vent vapors emitted on heating.

**Environmental Controls:** Emissions should comply with environmental protection legislation.

**Individual Protection Measures:**

Hygiene measures- Wash hands, forearms, etc. after handling chemical products, before eating, smoking, and using the lavatory, and the end of the work period. Use appropriate techniques when removing potentially contaminated clothing and wash before reusing. Know the locations of eyewash and safety showers.
**Respiratory Protection** - Provide adequate ventilation to keep exposure below permissible limits. If a risk assessment deems necessary, operator is to use a properly fitted, air purifying or supplied air respirator. Respirator selection must be based on known/ anticipated exposure levels, the hazards of the product, and the safe working limits of the respirator.

**Skin and Body Protection** - Wear chemical resistant gloves (nitrile) and paint suits when necessary, based on risk assessment. The most suitable glove must be chosen in consultation with the gloves supplier who can inform about the breakthrough time of the glove material. PPE for the body should be selected based on the risks of the task being performed and approved by a specialist. Appropriate footwear should also be approved.

**Eye/face Protection** - Wear approved chemical safety goggles where exposure to vapor or contact with eyes is possible. Eye wash stations should also be made available. If inhalation hazard exists, a risk assessment will determine if a full face respirator may be required.

### Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Viscosity</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td>% Weight Solids</td>
<td>25.00</td>
</tr>
<tr>
<td>VOC Wt/Gal (wet)</td>
<td>5.61</td>
</tr>
<tr>
<td>Specific Gravity (SG)</td>
<td>0.898</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not determined</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>80°C</td>
</tr>
<tr>
<td>LEL/UEL</td>
<td>2% - 12%</td>
</tr>
<tr>
<td>Evaporation Rate (nBuAc=1)</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>N/A</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>N/A</td>
</tr>
<tr>
<td>% Volume Solids</td>
<td>16.51</td>
</tr>
<tr>
<td>U.S. VOC Wt/Gal (wet)</td>
<td>5.61</td>
</tr>
<tr>
<td>Odor</td>
<td>N/A</td>
</tr>
<tr>
<td>Color</td>
<td>Yellow</td>
</tr>
<tr>
<td>Flash Point</td>
<td>16°F, -9°C</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>404°C</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

### Section 10 - Stability and Reactivity

**Stability and reactivity profile**

This material is considered stable.

Hazardous polymerization will not occur.

**The following materials should be avoided in contact with the mixture**

- Reducing agents
- Oxidizing agents

**Hazardous decomposition products**

- Carbon oxides

### Section 11 - Toxicological Information

**Mixture Toxicity**

Oral Toxicity LD50: 4,475mg/kg

**Component Toxicity**

- 78-93-3 Ethyl methyl ketone
  Oral LD50: 2,483 mg/kg (Rat)
LC50 and LD50 toxicity for this product are merely estimates and have yet to be determined. For individual component ecotoxicity, please refer to Section 11.

**Possible Routes of Entry**

<table>
<thead>
<tr>
<th>Route</th>
<th>Inhalation</th>
<th>Skin Contact</th>
<th>Eye Contact</th>
<th>Ingestion</th>
</tr>
</thead>
</table>

**Potential Target Organs**

<table>
<thead>
<tr>
<th>Target Organs</th>
<th>Eyes</th>
<th>Lungs</th>
<th>Central Nervous System</th>
<th>Skin</th>
<th>Respiratory System</th>
</tr>
</thead>
</table>

**Effects of Overexposure**

Not Available

The following components are possible carcinogens

*Materials labeled a carcinogen in dust form are supplied in solution, thus eliminating the hazard.*

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Description</th>
<th>% Weight</th>
<th>Carcinogen Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Section 12 - Ecological Information**

**Mixture Ecotoxicity**

Toxicity- Do not release into environment. May cause long term adverse effects.

Persistence and degradability- N/A

Bioaccumulative potential- N/A

Mobility in Soil- N/A

**Component Ecotoxicity**

<table>
<thead>
<tr>
<th>Chemical</th>
<th>96 Hr LC50 Pimephales promelas: 3130 - 3320 mg/L [flow-through]</th>
<th>48 Hr EC50 Daphnia magna: &gt;520 mg/L</th>
<th>48 Hr EC50 Daphnia magna: 5091 mg/L</th>
<th>48 Hr EC50 Daphnia magna: 4025 - 6440 mg/L [Static]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl methyl ketone</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Section 13 - Disposal Considerations**

Dispose of in accordance with federal, state and local regulations. Controlled incineration is recommended for disposal of unused product. Prevent contamination of soil, drains and surface waters. Dispose of large containers to a licensed reconditioner. Dispose of small containers in compliance with local regulations.

**Section 14 - Transport Information**

<table>
<thead>
<tr>
<th>Agency</th>
<th>Proper Shipping Name</th>
<th>UN Number</th>
<th>Packing Group</th>
<th>Hazard Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Section 15 - Regulatory Information**

The following chemicals are listed in California Title 8 CCR Sections as Hazardous Substances 78-93-3 Ethyl methyl ketone

The following chemicals are listed in California Title 8 CCR Sections 5200-5220 as Carcinogens.

- None

The following chemicals are listed in California Title 8 CCR Section 5203 as Carcinogens.

- None

The following chemicals are listed in California Title 8 CCR Section 5209 as Carcinogens.

- None

The following chemicals are listed in the EU-Substances of Very High Concern (2008/67/ED) (SVHC):
The following chemicals are listed in the EU-Restriction of the use of certain Hazardous Substances (2011/65/EU) (RoHS):
- None

The following chemicals are included in the Global Automotive Declarable Substance List (GADSL)
- None

The following substances are required for notification by the Japanese Enforcement Order of the Industrial Safety and Health Law (ISHL):
   78-93-3 Ethyl methyl ketone

The following chemicals are listed on the Massachusetts Right-to-Know Hazardous Substances List.
   78-93-3 Ethyl methyl ketone

The following chemicals are listed on the New Jersey Right-to-Know Hazardous Substances List.
   78-93-3 Ethyl methyl ketone

The following chemicals are listed on the Pennsylvania Right-to-Know Hazardous Substances List.
   78-93-3 Ethyl methyl ketone

The following chemicals are listed by the State of California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):
- None

Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) requires certain facilities manufacturing, processing, or otherwise using listed toxic chemicals to report their environmental releases of such chemicals annually. The following chemicals are listed:
- None

The following chemicals are listed in EPCRA (SARA) Section 313: Persistent, Bioaccumulative, and Toxic Chemicals (PBT)
- None

The following chemicals are listed under EPCRA (SARA) Section 313: Toxic Release Inventory (TRI)
- None

Under Section 12(b) of the Toxic Substances Control Act (TSCA), exporters may need to notify the U.S. Environmental Protection Agency if they export or intend to export a product containing a chemical substance that is present on this list. The following substances are contained within this material:
- None

The following chemicals are listed as a Hazardous Air Pollutant under listed under the U.S. CAA (Clean Air Act)
- None

<table>
<thead>
<tr>
<th>Country</th>
<th>Regulation</th>
<th>All Components Listed</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>Canadian Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Canadian Non-Domestic Substances List (NSDL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)</td>
<td>No</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Europe</td>
<td>REACH Registered or Pre-Registered Substances and Intermediates</td>
<td>Yes</td>
</tr>
<tr>
<td>Japan</td>
<td>Japanese Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Japan</td>
<td>Japan Inventory of Industrial Safety and Health Law Substances (ISHL)</td>
<td>No</td>
</tr>
<tr>
<td>Korea</td>
<td>Korean Existing Chemical Inventory (KECI)</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Section 16 - Other Information

NFPA and HMIS use a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates extreme danger. Although similar, the two rating systems are intended for different purposes, and use different criteria. The NFPA system was developed to provide an on-the-spot alert to the hazards of a material, and their severity, to emergency responders. The HMIS system was designed to communicate workplace hazard information to employees who handle hazardous chemicals.

<table>
<thead>
<tr>
<th>Hazardous Material Information System (HMIS)</th>
<th>National Fire Protection Association (NFPA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEALTH</td>
<td>Flammability</td>
</tr>
<tr>
<td>FLAMMABILITY</td>
<td>4</td>
</tr>
<tr>
<td>PHYSICAL HAZARD</td>
<td>0</td>
</tr>
<tr>
<td>PERSONAL PROTECTION</td>
<td>G</td>
</tr>
</tbody>
</table>

HMIS & NFPA Hazard Rating
Legend
* = Chronic Health Hazard
0 = INSIGNIFICANT
1 = SLIGHT
2 = MODERATE
3 = HIGH
4 = HIGH

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Date revised: 2018-02-12
Date Prepared: 2/12/2018

Revision No:
Reviewer ID: apalmer