

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name : 16-8565
Material uses : Industrial applications: Make-Up fluid for use in a continuous ink jet process. Replaces solvents lost through evaporation during normal ink drop recycling process.
Emergency phone : Medical: CALL RMPDC, USA (303) 623-5716
 Transporters: CALL CHEMTREC, USA (800)-424-9300
Manufacturer : Videojet Technologies Inc., 1500 Mittel Boulevard, Wood Dale, IL, 60191-1073 U.S.A
 Phone: 1-800-843-3610 Fax: 1-800-582-1343
 Videojet Technologies Europe BV., Strijkviertel 39, 3454 PJ De Meern, The Netherlands.
 Phone: 31-030-6693000 Fax: 31-030-6693060

2. COMPOSITION / INFORMATION ON INGREDIENTS

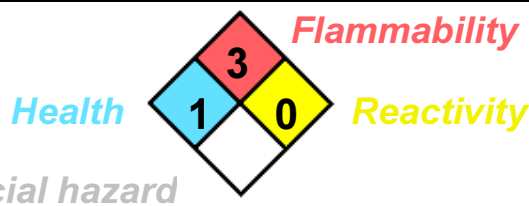
Information on hazardous ingredients

<u>CAS number</u>	<u>Percent (%)</u>	<u>Chemical name</u>
1) 78-93-3	90 - 100	2-Butanone

* Occupational Exposure Limit(s), if available, are listed in section 8

3. HAZARDS IDENTIFICATION

National Fire Protection Association (U.S.A.) :



Emergency Overview : WARNING! FLAMMABLE LIQUID AND VAPOR. HARMFUL. Keep away from flame, heat, and static discharge sources. Irritant and central nervous system depressant: Avoid inhalation of vapors and contact with eyes and skin. May be harmful or fatal if swallowed. If inhaled remove to fresh air. If splashed in eyes flush with water. If contacts skin flush with water and wash with mild soap. In medical emergency call Poison Control Center (USA 1-303-623-5716) and a physician. Read MSDS before using.

Effects and symptoms

<u>Chemical name</u>	<u>Effects and symptoms</u>
1) 2-Butanone	Irritating to eyes and respiratory system. Defatting to the skin. Harmful by inhalation, in contact with skin and if swallowed. Can cause dizziness, lightheadedness, headache, nausea, and blurred vision. Can cause CNS depression.

4. FIRST AID MEASURES

- Inhalation** : If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
- Ingestion** : Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.
- Skin contact** : Wash with soap and water. Get medical attention if irritation develops.
- Eye contact** : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

5. FIRE-FIGHTING MEASURES

- Extinguishing media** : In case of fire, use water spray (fog), foam, dry chemicals, or CO₂.
- Special fire-fighting procedures** : Highly flammable liquid and vapor. Vapor may cause flash fire. Vapors may accumulate in low or confined areas, travel considerable distance to source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
- Hazardous thermal decomposition products** : These products are carbon oxides (CO, CO₂).
- Protection of fire-fighters** : Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full facepiece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Do not touch or walk through spilled material.
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- Methods for cleaning up** : If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion proof means to transfer material to a sealed, appropriate container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

7. HANDLING AND STORAGE

- Handling** : Keep container closed. Use only with adequate ventilation. Keep away from heat, sparks and flame. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. The engineering controls also need to keep gas, vapor or dust concentrations below any explosive limits. Use suitable protective equipment (Section 8).
- Storage** : Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).
- Packaging materials** : Use original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

- | <u>Chemical name</u> | <u>Occupational exposure limits</u> |
|-----------------------------|---|
| 1) 2-Butanone | 1) United States ACGIH TLV STEL 15 minutes 300 ppm (2004)
2) United States ACGIH TLV TWA 8 hours 200 ppm (2004)
3) United States OSHA PEL TWA 8 hours 200 ppm |
| Engineering controls | : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location. |

Personal Protective Equipment

- Respiratory system** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Skin and body** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Hands** : Chemical-resistant, impervious gloves or gauntlets complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state and appearance** : Liquid.
- Color** : Clear.
- Odor threshold** : The highest known value is 10 ppm. Weighted average: 10 ppm.
- Boiling point** : The lowest known value is 80 °C. Weighted average: 80 °C.
- Melting point** : May start to solidify at -87 °C. Weighted average: -87 °C.
- Specific gravity** : 0.79 (Water = 1)
- Vapor density** : 2.5 (Air = 1)
- Vapor pressure** : The highest known value is 71 mm Hg at 20°C. Weighted average: 71 mm Hg at 20°C.
- Evaporation rate (butyl acetate = 1)** : The highest known value is 7.1. Weighted average: 7.1.
- Solubility** : Easily soluble in methanol, diethyl ether, n-octanol, acetone. Soluble in cold water, hot water.
- Octanol/water partition coefficient** : The product is more soluble in octanol.
- Flash point** : -9 °C.
- Autoignition temperature** : The lowest known value is 515 °C. Weighted average: 515 °C.
- Flammable limits** : The lowest known value is 2.0%. The highest known value is 10.0%.
- Volatility (w/w)** : 100 %.
- VOC Volatility (w/w) - less exempt volatile.** : 99 %.

10. STABILITY AND REACTIVITY

- Stability** : The product is stable.
- Conditions and materials to avoid** : Not available.
- Hazardous reactions** : Slightly reactive to reactive with oxidizing agents, reducing agents, acids, alkalis.
- Hazardous decomposition products** : These products are carbon oxides (CO, CO₂).

11. TOXICOLOGICAL INFORMATION**Chemical name**

1) 2-Butanone

Toxicological information

- 1) LD50 Oral Rat: 2737 mg/kg
- 2) LD50 Oral Mouse: 2190 mg/kg
- 3) LD50 Oral Mouse: 4050 mg/kg
- 4) LD50 Dermal Rabbit: 6480 mg/kg
- 5) LC50 Inhalation vapor Rat: 23500 mg/m³ 8 hours
- 6) LCLo Inhalation vapor Female. Rat Fetotoxicity and developmental abnormalities (homeostasis) in rats.: 1000 ppm 1 hours

