

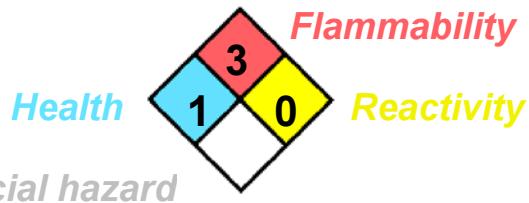
## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

<b>Product name</b>	:	16-8560
<b>Synonyms</b>	:	Product code: 16-8560Q
<b>Material uses</b>	:	Industrial applications: Ink for use in a continuous ink jet process.
<b>Emergency telephone number</b>	:	Medical: CALL RMPDC, USA (303) 623-5716 Transporters: CALL CHEMTREC, USA (800)-424-9300
<b>Manufacturer</b>	:	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. HAZARDS IDENTIFICATION

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

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**Emergency overview**

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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

#### Chemical name

- 1) 2-Butanone  
Irritating to eyes. May cause skin irritation. Defatting to the skin. Repeated exposure may cause skin dryness or cracking. Vapors may cause drowsiness and dizziness. Can cause central nervous system (CNS) depression.
- 2) Titanium dioxide  
No known significant effects or critical hazards. No significant irritation expected other than possible mechanical irritation.
- 3) Acetic acid, 2-methoxy-1-methylethyl ester  
Irritating to eyes. Slightly irritating to the skin and respiratory system. Absorbed through skin. Can cause central nervous system (CNS) depression. Vapors may cause drowsiness and dizziness.
- 4) silane ether  
Slightly irritating to the skin. Slightly irritating to the eyes. Inhalation and ingestion may cause drowsiness, dizziness, incoordination and other effects of intoxication. May cause abdominal cramps/pain, nausea/vomiting.
- 5) Quaternary ammonium compound.  
Harmful by inhalation, in contact with skin and if swallowed. Causes severe eye and skin irritation.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Hazardous ingredients

<u>CAS number</u>	<u>Percent (%)</u>	<u>Chemical name</u>
1) 78-93-3	50 - 65	2-Butanone
2) 13463-67-7	7 - 13	Titanium dioxide
3) 108-65-6	3 - 7	Acetic acid, 2-methoxy-1-methylethyl ester
4) --	1 - 3	silane ether
5) --	1 - 3	Quaternary ammonium compound.

Occupational exposure limits, if available, are listed in section 8.

### 4. FIRST AID MEASURES

<b>Inhalation</b>	: If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
<b>Ingestion</b>	: 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.
<b>Skin contact</b>	: In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if symptoms appear.
<b>Eye contact</b>	: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

### 5. FIRE-FIGHTING MEASURES

<b>Extinguishing media</b>	: Use dry chemical, CO <sub>2</sub> , water spray (fog) or foam.
<b>Special fire-fighting procedures</b>	: Highly flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
<b>Unusual fire/explosion hazards</b>	: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
<b>Hazardous thermal decomposition products</b>	: Decomposition products may include the following materials: carbon oxides nitrogen oxides phosphorus oxides halogenated compounds metal oxide/oxides
<b>Protection of fire-fighters</b>	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
<b>Environmental precautions</b>	: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

<b>Methods for cleaning up</b>	: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.
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## 7. HANDLING AND STORAGE

<b>Handling</b>	: Store and use away from heat, sparks, open flame or any other ignition source. Use only with adequate ventilation. Use non-sparking tools. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Do not reuse container. Use suitable protective equipment (section 8). Refer to and follow equipment manual for operation and maintenance procedures.
<b>Storage</b>	: Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Keep away from sources of ignition.
<b>Packaging materials</b>	: 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
2) Titanium dioxide	1) United States ACGIH TWA 8 hours 10 mg/m <sup>3</sup> (1996) 2) United States OSHA TWA 8 hours 5 mg/m <sup>3</sup> (1994) 3) United States OSHA TWA 8 hours 15 mg/m <sup>3</sup> (1994)
3) Acetic acid, 2-methoxy-1-methylethyl ester	No exposure limit value known.
4) silane ether	No exposure limit value known.
5) Quaternary ammonium compound.	No exposure limit value known.

<b>Engineering controls</b>	: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
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### Personal protective equipment

<b>Respiratory system</b>	: 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.
<b>Skin and body</b>	: 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.
<b>Hands</b>	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
<b>Eyes</b>	: 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, gases or dusts.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state</b>	: Liquid.
<b>Color</b>	: White.
<b>Odor threshold</b>	: Highest known value: 10 ppm. Weighted average: 10 ppm.
<b>Boiling point</b>	: Lowest known value: 80 °C. Weighted average: 364 °C.
<b>Melting point</b>	: May start to solidify at the following temperature: 0 °C. Weighted average: -83 °C.
<b>Specific gravity</b>	: 0.95 (Water = 1)
<b>Vapor density</b>	: Lowest known value: >1. (Air = 1)
<b>Vapor pressure</b>	: Highest known value: 71 mm Hg at 20°C. Weighted average: 56 mm Hg at 20°C.
<b>Evaporation rate (butyl acetate = 1)</b>	: Highest known value: 7.1. Weighted average: 6.0.
<b>Solubility</b>	: Easily soluble in the following materials: methanol, diethyl ether, n-octanol and acetone. Soluble in the following materials: cold water and hot water.
<b>Flash point</b>	: -3 °C.
<b>Auto-ignition temperature</b>	: Lowest known value: 515 °C. Weighted average: 515 °C.
<b>Flammable limits</b>	: Lowest known value: 1.5%. Highest known value: 10.1%.
<b>Volatility (w/w)</b>	: 65 %.
<b>VOC Volatility (w/w) - less exempt volatile.</b>	: 65 %.

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	: The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.
<b>Conditions to avoid</b>	: No specific data.
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11. TOXICOLOGICAL INFORMATION

<b>Chemical name</b>	<b>Toxicological information</b>
1) 2-Butanone	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) LD50 Oral Rat: 2737 mg/kg
2) Titanium dioxide	Not available.
3) Acetic acid, 2-methoxy-1-methylethyl ester	1) LD50 Oral Rat: 8532 mg/kg 2) LD50 Dermal Rabbit: >5000 mg/kg
4) silane ether	Not available.
5) Quaternary ammonium compound.	Not available.

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	: No known significant effects or critical hazards.
<b>Heavy Metals</b>	: Total concentration: Pb, Hg, Cd, Cr(VI) < 100 ppm
<b>California, VOC Content</b>	: 618 grams volatile organic / liter less water or exempt volatile.

## 13. DISPOSAL CONSIDERATIONS

**Waste disposal** : Waste must be disposed of according to applicable regulations. Small quantities of waste may best be handled using a 'lab pack' service offered by a licensed waste disposal firm.

## 14. TRANSPORT INFORMATION

**UN number** : UN1210  
**Proper shipping name** : Printing Ink  
**TDG Class** : 3  
**Packing group** : II

## 15. REGULATORY INFORMATION

**CERCLA: Hazardous substances.** : The following components are listed: 2-Butanone (50 - 65%)

**SARA 313** : The following components are listed: None.

**California Prop. 65** : This product contains a chemical or chemicals known to the state of California to cause birth defects or other reproductive harm. The following components are listed: Toluene (0.01 - 0.1%).

**Tariff Code - harmonized system** : 3215.19 Printing ink: Other.  
USA ...00.60  
EU ...00.00

## 16. OTHER INFORMATION

**Date of issue** : January 18, 2008  
**Prepared by** : Garth Studebaker, CSP  
**Version** : 7.02

**Notice to reader**

*To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.*

*Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.*

English (US)