Material Safety Data Sheet

Marsh
Ink
20-S1000

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

Product name : 20-S1000

Synonyms : Product code: 20-S1000-L, 20-S1000-N

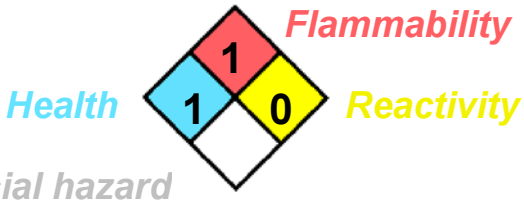
Material uses : Industrial applications: Ink for use in a drop-on-demand printing process.

Emergency telephone number : 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. HAZARDS IDENTIFICATION

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



Emergency overview : CAUTION! EYE AND SKIN IRRITANT: Avoid contact with eyes and skin. May be harmful or fatal if swallowed. 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	Effects and symptoms
1)	Triethylene glycol	Irritating to eyes, respiratory system and skin. Can cause gastrointestinal disturbances.
2)	2-(2-(2-Butoxyethoxy)ethoxy)ethanol	Severely irritating to eyes. Risk of serious damage to eyes. Slightly irritating to the skin. Absorbed through skin. May cause damage to the following organs: kidneys, liver.
3)	Colorant, Organometallic Compound, Chromium III, (5.8% Cr)	No known significant effects or critical hazards.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous ingredients

	CAS number	Percent (%)	Chemical name
1)	112-27-6	50 - 65	Triethylene glycol
2)	143-22-6	20 - 35	2-(2-(2-Butoxyethoxy)ethoxy)ethanol
3)	--	3 - 7	Colorant, Organometallic Compound, Chromium III, (5.8% Cr)

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

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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 : 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.

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 : Use an extinguishing agent suitable for the surrounding fire.

Special fire-fighting procedures : In a fire or if heated, a pressure increase will occur and the container may burst.

Unusual fire/explosion hazards : 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.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon oxides
metal oxide/oxides

Protection of fire-fighters : 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

Personal precautions : 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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions : 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).

Methods for cleaning up : 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). 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

Handling : Use only with adequate ventilation. Do not reuse container. Use suitable protective equipment (section 8). Refer to and follow equipment manual for operation and maintenance procedures.

Storage : 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.

Packaging materials : Use original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

	Chemical name	Occupational exposure limits
1)	Triethylene glycol	No exposure limit value known.
2)	2-(2-(2-Butoxyethoxy)ethoxy)ethanol	No exposure limit value known.
3)	Colorant, Organometallic Compound, Chromium III, (5.8% Cr)	1) United States ACGIH TLV TWA 8 hours 0.5 mg/m³ (2004) 2) United States OSHA PEL TWA 8 hours 0.5 mg/m³

Engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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 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, gases or dusts.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Liquid.

Color : Black.

Boiling point : Lowest known value: 132 °C. Weighted average: 234 °C. (Decomposes on heating.)

Melting point : May start to solidify at the following temperature: -5 °C. Weighted average: -14 °C.

Specific gravity : 1.09 (Water = 1)

Vapor density : >4.1 (Air = 1)

Vapor pressure : Highest known value: 0 mm Hg at 20°C. Weighted average: 0 mm Hg at 20°C.

Evaporation rate (butyl acetate = 1) : Highest known value: <1.0. Weighted average: 0.3.

Solubility : Easily soluble in the following materials: methanol, diethyl ether, n-octanol and acetone.
Soluble in the following materials: cold water and hot water.

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Flash point : 110 °C.

Auto-ignition temperature : Lowest known value: 371 °C. Weighted average: 371 °C.

Flammable limits : Lowest known value: .9%. Highest known value: 9.2%.

Volatility (w/w) : 88 %.

VOC Volatility (w/w) - less exempt volatile. : 88 %.

10. STABILITY AND REACTIVITY

Stability : The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Chemical name	Toxicological information
1) Triethylene glycol	1) LD50 Oral Rat: 17000 mg/kg 2) LD50 Oral Rabbit: 8400 mg/kg 3) LD50 Oral Guinea pig: 7900 mg/kg 4) LD50 Dermal Rabbit: >20000 mg/kg 5) LDLo Oral Human: 5000 mg/kg
2) 2-(2-(2-Butoxyethoxy)ethoxy)ethanol	1) LD50 Oral Rat: 5300 mg/kg 2) LD50 Dermal Rabbit: 3450 mg/kg
3) Colorant, Organometallic Compound, Chromium III, (5.8% Cr)	1) LD50 Oral Rat: >5000 mg/kg 2) LD50 Dermal Rabbit: >2000 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity : No known significant effects or critical hazards.

Heavy Metals : Total concentration: Pb, Hg, Cd, Cr(VI) < 100 ppm

California, VOC Content : 959 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

Proper shipping name : Not regulated.

15. REGULATORY INFORMATION

CERCLA: Hazardous substances. : The following components are listed: 2-(2-(2-Butoxyethoxy)ethoxy)ethanol (20 - 35%); Colorant, Organometallic Compound, Chromium III, (5.8% Cr) (3 - 7%)

SARA 313 : The following components are listed: 2-(2-(2-Butoxyethoxy)ethoxy)ethanol (20 - 35%); Colorant, Organometallic Compound, Chromium III, (5.8% Cr) (3 - 7%)

California Prop. 65 : The following components are listed: None.

Tariff Code - harmonized system : 3215.11 Printing ink: Black.
USA ...00.60
EU ...00.00

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16. OTHER INFORMATION

Date of issue : January 11, 2008
Prepared by : Garth Studebaker, CSP
Version : 7.01

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)