

Material Safety Data Sheet

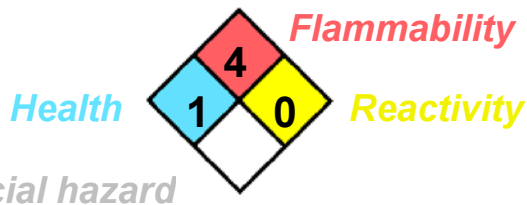
**Marsh
Aerosol Cleaning Spray
HR Sprayaway**

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

Product name : HR Sprayaway
Synonyms : Product code: 29906
Material uses : Industrial applications: Cleaning solution used to remove ink residue from drop-on-demand print heads.
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 : ATTENTION! FLAMMABLE AEROSOL. Keep away from flame, heat, and static discharge sources. Irritant and central nervous system depressant: Avoid inhalation of mist or vapor and contact with eyes and skin. If inhaled remove to fresh air. If contacts 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) Isopropyl alcohol	Slightly irritating to the skin and respiratory system. Absorbed through skin. Irritating to eyes. Can cause central nervous system (CNS) depression. Vapors may cause drowsiness and dizziness. Can cause gastrointestinal disturbances. Repeated or prolonged contact with irritants may cause dermatitis.
2) Butane	Acts as a simple asphyxiant. At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen.
3) Propane	Inhalation : Acts as a simple asphyxiant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous ingredients

<u>CAS number</u>	<u>Percent (%)</u>	<u>Chemical name</u>
1) 67-63-0	80 - 90	Isopropyl alcohol
2) 106-97-8	7 - 13	Butane
3) 74-98-6	7 - 13	Propane

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

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** : Flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard.
- 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon 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. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. 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).
- 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). 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.

7. HANDLING AND STORAGE

- Handling** : Store and use away from heat, sparks, open flame or any other ignition source. Use only with adequate ventilation. Use non-sparking tools. Do not puncture or incinerate container. Use suitable protective equipment (section 8). Refer to and follow equipment manual for operation and maintenance procedures.
- Storage** : Keep cool and protect from sunlight. Keep away from sources of ignition.
- Packaging materials** : Use original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

- | <u>Chemical name</u> | <u>Occupational exposure limits</u> |
|----------------------|--|
| 1) Isopropyl alcohol | 1) United States ACGIH TWA 8 hours 400 ppm (1999)
2) United States ACGIH STEL 15 minutes 500 ppm (1999)
3) United States OSHA TWA 8 hours 400 ppm (1994) |
| 2) Butane | 1) United States ACGIH TWA 8 hours 800 ppm (1996)
2) United States MSHA TWA 8 hours 500 ppm (1973) |
| 3) Propane | 1) United States OSHA TWA 8 hours 1000 ppm |

- 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. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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** : Gas.
- Odor threshold** : Highest known value: 22000 ppm. Weighted average: 22000 ppm.
- Boiling point** : Lowest known value: -42 °C. Weighted average: 62 °C.
- Melting point** : May start to solidify at the following temperature: -135 °C. Weighted average: -160 °C.
- Specific gravity** : 0.76 (Water = 1)
- Vapor density** : >1.6 (Air = 1)
- Vapor pressure** : Highest known value: 6398 mm Hg at 20°C. Weighted average: 694 mm Hg at 20°C.
- Evaporation rate (butyl acetate = 1)** : Highest known value: 1.7. Weighted average: 1.6.

Solubility	: Easily soluble in the following materials: hot water, methanol, diethyl ether and n-octanol. Soluble in the following materials: cold water and acetone.
Flash point	: -76 °C.
Auto-ignition temperature	: Lowest known value: 286 °C. Weighted average: 398 °C.
Flammable limits	: Lowest known value: 1.8%. Highest known value: 12.7%.
Volatility (w/w)	: 100 %.
VOC Volatility (w/w) - less exempt volatile.	: 100 %.

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

<u>Chemical name</u>	<u>Toxicological information</u>
1) Isopropyl alcohol	1) LD50 Oral Rat: 5045 mg/kg 2) LD50 Oral Rabbit: 6410 mg/kg 3) LD50 Oral Mouse: 3600 mg/kg 4) LD50 Dermal Rabbit: 12800 mg/kg 5) LDLo Oral Dog: 1537 mg/kg
2) Butane	1) LC50 Gas. Rat: 658000 mg/m ³ 4 hours 2) LC50 Gas. Mouse: 680000 mg/m ³ 2 hours
3) Propane	Not available.

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	: 760 grams volatile organic / liter less water or exempt volatile.

13. DISPOSAL CONSIDERATIONS

Waste disposal	: Do not puncture or incinerate container. 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.
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14. TRANSPORT INFORMATION

UN number	: UN1950
Proper shipping name	: AEROSOLS, flammable
TDG Class	: 2.1
Packing group	: -

15. REGULATORY INFORMATION

CERCLA: Hazardous substances.	: The following components are listed: None.
SARA 313	: The following components are listed: None.
California Prop. 65	: The following components are listed: None.

Tariff Code - harmonized system : 3402.90 surface-active preparations, washing preparations (including auxiliary washing preparations) and cleaning preparations, whether or not containing soap, other than those of heading 3401: Other.
USA ...50.30
EU ...90.90

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)