Safety Data Sheet
Videojet®
Make-Up Fluid
16-8655F

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : 16-8655F

1.2 Relevant identified uses of the substance or mixture and uses advised against

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.

1.3 Details of the supplier of the safety data sheet

Website: www.videojet.com
Email: FluidsSupport@videojet.com

Videojet Technologies Inc., 1500 Mittel Boulevard, Wood Dale, IL, 60191-1073 U.S.A
Tel: 1-800-843-3610 Fax: 1-800-582-1343

Videojet Technologies Canada Ltd., 7075 Financial Drive, Mississauga, Ontario, L5N 6V8
Phone 1-877-318-0563 Fax: 1-905-673-8725

1.4 Emergency telephone number

Medical 3E: (US) +1 866 519 4752
3E Code: 334466

Transporters CHEMTREC: (US) +1 800 424 9300
CHEMTREC Code: CCN 23846

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification

Flam. Liq. 2, H225	Highly flammable liquid and vapor.
Acute Tox. 4, H332	Harmful if inhaled.
Eye Irrit. 2A, H319	Causes serious eye irritation.

Ingredients of unknown toxicity : Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 8.6%
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 91.7%

Ingredients of unknown ecotoxicity : Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 0%.

2.2 Label elements

GHS label elements

Danger. Highly flammable liquid and vapor. Harmful if inhaled. May be harmful if swallowed. Causes serious eye irritation. Harmful to aquatic life. Avoid breathing vapor. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid release to the environment. IF INHALED: Call a POISON CENTER or physician if you feel unwell. If eye irritation persists: Get medical attention. Keep container tightly closed.

Hazardous ingredients : 1) pentan-2-one
2) 4-methylpentan-2-one

2.3 Other hazards

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

Substance/mixture : Mixture

Product/ingredient name	CAS #	%	GHS Classification
1) pentan-2-one	107-87-9	55 - <65	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A AQUATIC HAZARD (ACUTE) - Category 3
2) ethanol	64-17-5	20 - <30	FLAMMABLE LIQUIDS - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B
3) 4-methylpentan-2-one	108-10-1	3 - <7	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 5 ACUTE TOXICITY (inhalation) - Category 4 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
4) propyl acetate	109-60-4	1 - <3	FLAMMABLE LIQUIDS - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 AQUATIC HAZARD (ACUTE) - Category 3
5) Isopropyl alcohol	67-63-0	1 - <3	FLAMMABLE LIQUIDS - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Harmful if inhaled.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

5.3 Advice for firefighters

Special protective actions for fire-fighters : 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.

Special protective equipment for 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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : 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.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 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).

6.3 Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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.

6.4 Reference to other sections

See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. 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. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
1,1,1-trifluoropentan-2-one	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 200 ppm 8 hours. 15 min OEL: 250 ppm 15 minutes. 8 hrs OEL: 705 mg/m³ 8 hours. 15 min OEL: 881 mg/m³ 15 minutes. **CA British Columbia Provincial (Canada, 6/2017).** TWA: 150 ppm 8 hours. STEL: 250 ppm 15 minutes. **CA Ontario Provincial (Canada, 7/2015).** STEL: 150 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 150 ppm 8 hours.

	TWAEV: 530 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 250 ppm 15 minutes. TWA: 200 ppm 8 hours.
2) ethanol	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1000 ppm 8 hours. 8 hrs OEL: 1880 mg/m³ 8 hours. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 1000 ppm 8 hours. TWAEV: 1880 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 6/2017).** STEL: 1000 ppm 15 minutes. **CA Ontario Provincial (Canada, 7/2015).** STEL: 1000 ppm 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.
3) 4-methylpentan-2-one	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 205 mg/m³ 8 hours. 8 hrs OEL: 50 ppm 8 hours. 15 min OEL: 75 ppm 15 minutes. 15 min OEL: 307 mg/m³ 15 minutes. **CA British Columbia Provincial (Canada, 6/2017).** TWA: 20 ppm 8 hours. STEL: 75 ppm 15 minutes. **CA Ontario Provincial (Canada, 7/2015).** TWA: 20 ppm 8 hours. STEL: 75 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 50 ppm 8 hours. TWAEV: 205 mg/m³ 8 hours. STEV: 75 ppm 15 minutes. STEV: 307 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 75 ppm 15 minutes. TWA: 50 ppm 8 hours.
4) propyl acetate	**CA Alberta Provincial (Canada, 4/2009). Skin sensitizer.** 8 hrs OEL: 835 mg/m³ 8 hours. 15 min OEL: 250 ppm 15 minutes. 15 min OEL: 1040 mg/m³ 15 minutes. 8 hrs OEL: 200 ppm 8 hours. **CA British Columbia Provincial (Canada, 6/2017).** TWA: 200 ppm 8 hours. STEL: 250 ppm 15 minutes. **CA Ontario Provincial (Canada, 7/2015).** TWA: 200 ppm 8 hours. STEL: 250 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 200 ppm 8 hours. TWAEV: 835 mg/m³ 8 hours. STEV: 250 ppm 15 minutes. STEV: 1040 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 250 ppm 15 minutes. TWA: 200 ppm 8 hours.
5) Isopropyl alcohol	**CA Alberta Provincial (Canada, 4/2009).** 15 min OEL: 984 mg/m³ 15 minutes. 8 hrs OEL: 200 ppm 8 hours. 15 min OEL: 400 ppm 15 minutes. 8 hrs OEL: 492 mg/m³ 8 hours. **CA British Columbia Provincial (Canada, 6/2017).** TWA: 200 ppm 8 hours. STEL: 400 ppm 15 minutes. **CA Ontario Provincial (Canada, 7/2015).** TWA: 200 ppm 8 hours. STEL: 400 ppm 15 minutes. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 400 ppm 8 hours. TWAEV: 983 mg/m³ 8 hours. STEV: 500 ppm 15 minutes. STEV: 1230 mg/m³ 15 minutes. **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 400 ppm 15 minutes. TWA: 200 ppm 8 hours.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

8.2 Exposure controls

Appropriate engineering controls : 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.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : 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. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Hand protection : Recommended: EN374 B, EN374 A
May be used (Short term exposure): Latex gloves. Nitrile gloves. Use gloves only once. Gloves should be replaced regularly and if there is any sign of damage to the glove material. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
Recommended: organic vapor filter (Type A)

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Color : Blue. [Light]

Odor : Not available.

Odor threshold : Highest known value: 100 ppm. Weighted average: 36 ppm.

pH : Not applicable.

Melting point/freezing point : May start to solidify at the following temperature: -78 °C. Weighted average: -89 °C.

Initial boiling point and boiling range : Lowest known value: 78 °C. Weighted average: 96 °C.

Flash point : 7 °C.

Evaporation rate (butyl acetate = 1) : Highest known value: 2.4. Weighted average: 2.1.

Flammability (solid, gas) : Not applicable. (Liquid)

Upper/lower flammability or explosive limits : Lowest known value: 1.4%. Highest known value: 19.0%.

Vapor pressure : Highest known value: 42 mm Hg at 20°C. Weighted average: 29 mm Hg at 20°C.

Vapor density : >1.6 (Air = 1)

Relative density (Water = 1) : 0.8

Solubility(ies) : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Lowest known value: 380 °C. Weighted average: 451 °C.

Decomposition temperature : Thermally stable.

Viscosity : Not available.

Explosive properties : Not applicable. Not classified.

Oxidizing properties : Not applicable. Not classified.

9.2 Other information

Volatility (w/w) : 99 %.

VOC Volatility (w/w) : 99 %.

SECTION 10: Stability and reactivity

10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability

The product is stable.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

10.5 Incompatible materials

Reactive or incompatible with the following materials:
oxidizing materials

10.6 Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
pentan-2-one	LC50 Inhalation Vapor	Mouse	22000 mg/m³	2 hours
	LD50 Dermal	Rabbit	6500 mg/kg	-
	LD50 Oral	Rat	1600 mg/kg	-
ethanol	LC50 Inhalation Vapor	Rat	52770.55 mg/m³	6 hours
	LD50 Dermal	Rabbit	>15800 mg/kg	-
	LD50 Oral	Rabbit	6300 mg/kg	-
	LD50 Oral	Rat	10470 mg/kg	-
4-methylpentan-2-one	LD Dermal	Rabbit	>3 g/kg	-
	LD50 Oral	Rat	2080 mg/kg	-
propyl acetate	LCLo Inhalation Vapor	Rat	>33416.77 mg/m³	4 hours
	LD50 Oral	Rat	9370 mg/kg	-
Isopropyl alcohol	LC50 Inhalation Vapor	Rat	16000 ppm	8 hours
	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-

Conclusion/Summary : Harmful if inhaled. May be harmful if swallowed.

Acute toxicity estimates

Route	ATE value
Oral Inhalation (vapors)	2367.8 mg/kg 13.25 mg/l

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
ethanol	Skin - Primary dermal irritation index (PDII) Eyes - Irritant	Rabbit Rabbit	0 -	4 hours -	14 days 21 days

Conclusion/Summary

Skin : Not classified. No known significant effects or critical hazards.

Eyes : Causes serious eye irritation.

Respiratory : Not classified. No known significant effects or critical hazards.

Sensitization

Product/ingredient name	Route of exposure	Species	Result
ethanol	skin Respiratory	Mouse Rat	Not sensitizing Not sensitizing

Conclusion/Summary

Skin : Not classified. No known significant effects or critical hazards.

Respiratory : Not classified. No known significant effects or critical hazards.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
ethanol	OECD 474 OECD 474	Experiment: In vivo Subject: Mammalian-Animal Experiment: In vivo Subject: Mammalian-Animal	Negative Negative

Conclusion/Summary : Not classified. No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : Not classified. No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : Not classified. No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
4-methylpentan-2-one propyl acetate Isopropyl alcohol	Category 3 Category 3 Category 3	Not applicable. Not applicable. Not applicable.	Respiratory tract irritation Narcotic effects Narcotic effects

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Not classified. No known significant effects or	critical hazards.		

Aspiration hazard

Conclusion/Summary : Not classified. No known significant effects or critical hazards.

Potential chronic health effects, Other

Product/ingredient name	Result	Species	Dose	Exposure
ethanol	Sub-chronic NOAEL Oral	Rat	1730 mg/kg	90 days

Conclusion/Summary : No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
pentan-2-one	Acute EC50 >150 mg/l Fresh water	Algae - Pseudokirchnerella subcapitata	72 hours
	Acute EC50 >1000 mg/l Fresh water	Daphnia - Daphnia magna	96 hours
	Acute LC50 1240000 µg/l Fresh water	Fish - Pimephales promelas - 32 days - 18.4 mm - 0.095 g	96 hours
	Chronic EC50 73.77 mg/l Fresh water	Algae - Pseudokirchnerella subcapitata	72 hours
ethanol	Acute EC50 275 mg/l Fresh water	Algae - Chlorella vulgaris	72 hours
	Acute LC50 5012 mg/l Fresh water	Daphnia - Ceriodaphnia dubia	48 hours
	Acute LC50 11200 mg/l Fresh water	Fish - oncorhynchus mykiss	24 hours
	Chronic EC10 11.5 mg/l Fresh water	Algae - Chlorella vulgaris	72 hours
	Chronic NOEC 79 mg/l Marine water	Crustaceans - Palaemonetes pugio	12 days
	Chronic NOEC 9.6 mg/l	Daphnia - daphnia magna	10 days
	Chronic NOEC 250 mg/l Fresh water	Fish - Danio rerio - Embryo	120 hours
4-methylpentan-2-one	Acute LC50 537 mg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 28 to 34 days	96 hours
	Acute LC50 505000 µg/l Fresh water	Fish - Pimephales promelas - 29 days - 21 mm - 0.141 g	96 hours
	Chronic NOEC 78 mg/l Fresh water	Daphnia - Daphnia magna	21 days
propyl acetate	Acute EC50 672 mg/l Fresh water	Algae - Pseudokirchnerella subcapitata	72 hours
	Acute EC50 91.5 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 60000 µg/l Fresh water	Fish - Pimephales promelas - 30 days - 20.4 mm - 0.148 g	96 hours
Isopropyl alcohol	Acute EC50 >1800 mg/l Fresh water	Algae - Scenedesmus quadricauda	7 days
	Acute LC50 9640000 µg/l Fresh water	Fish - Pimephales promelas - 31 days - 20.6 mm - 0.117 g	96 hours
	Chronic LOAEL 1800 mg/l Fresh water	Algae - Scenedesmus quadricauda	7 days

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Not available.				

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
pentan-2-one	-	-	Readily
ethanol	-	-	Readily
4-methylpentan-2-one	-	-	Readily
propyl acetate	-	-	Readily
Isopropyl alcohol	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
pentan-2-one	0.91	-	low
ethanol	-0.35	-	low
4-methylpentan-2-one	1.9	-	low
propyl acetate	1.4	-	low
Isopropyl alcohol	0.05	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Packaging

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : None.

SECTION 14: Transport information

	UN	IMDG	IATA	Transport Canada
14.1 UN number	UN1210	UN1210	UN1210	UN1210
14.2 UN proper shipping name	Printing Ink Related Material	Printing Ink Related Material	Printing Ink Related Material	Printing Ink Related Material
14.3 Transport hazard class(es)	3 	3 	3 	3 
14.4 Packing group	II	II	II	II
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).

14.6 Special precautions for user

No special measures required.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

Not available.

SECTION 15: Regulatory information

Tariff Code - harmonized system : 3814.00 Organic composite solvents and thinners, not elsewhere specified or included.
USA ...50.90
EU ...90.99

Chemical Weapons Convention List Schedule I Chemicals	Chemical Weapons Convention List Schedule II Chemicals	Chemical Weapons Convention List Schedule III Chemicals
Not listed	Not listed	Not listed

SECTION 16: Other information

Revision comments : Indicates information that has changed from previously issued version.

Abbreviations and acronyms :
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 2	On basis of test data
ACUTE TOXICITY (inhalation) - Category 4	Calculation method
EYE IRRITATION - Category 2A	Calculation method

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.