

SAFETY DATA SHEET

Videojet®
Ink
V473-D



Page	: 1 / 13
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : V473-D
CAS number : Not applicable.

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

Material uses : Industrial applications: Ink for use in a continuous ink jet 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

Aldus Pty Ltd, 1 Rhodes St, West Ryde, NSW 2114, Australia
Tel: +61 1300 018 330 Email: sales@tronics.com.au

Aldus - Tronics (NZ) Ltd, Unit 3, 23-25 Highbrook Dr, East Tamaki, Auckland, New Zealand
Tel: +64 9 588 4072 Email: sales@tronics.co.nz

1.4 Emergency telephone number

Medical ☎ 3E (AU): +61 1800 686 951 / +61 02 8036 3166
3E Code: 334466
Transporters ☎ 3E (AU): +61 1800 686 951 / +61 02 8036 3166
3E Code: 334466

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

1)	Highly flammable liquid and vapour.
2)	Causes severe skin burns and eye damage.
3)	Causes serious eye damage.
4)	May cause an allergic skin reaction.
5)	Suspected of causing cancer.
6)	Very toxic to aquatic life.
7)	Toxic to aquatic life with long lasting effects.

Ingredients of unknown toxicity : Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 0%.

Ingredients of unknown ecotoxicity : Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 15.3%

2.2 Label elements



Danger. Highly flammable liquid and vapour. Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Suspected of causing cancer. Very toxic to aquatic life with long lasting effects. Use personal protective equipment as required. Do not breathe vapour. Wear eye or face protection. Wear protective gloves. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician. IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician.

Hazardous ingredients : pentan-2-one (CAS 107-87-9, EC 203-528-1); Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates (CAS 68308-64-5, EC 269-662-8); α,α -bis[4-(diethylamino)phenyl]-4-(ethylamino)naphthalene-1-methanol (CAS 1325-86-6, EC 215-409-1); 4-methylpentan-2-one (CAS 108-10-1, EC 203-550-1); butan-1-ol (CAS 71-36-3, EC 200-751-6); Rosin, fumarated (CAS 65997-04-8, EC 266-040-8); N,N-diethyl-p-(phenylazo)aniline (CAS 2481-94-9, EC 219-616-8); phenol (CAS 108-95-2, EC 203-632-7).

Supplemental label elements : Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

Additional guidance : Obtain special instructions before use. Avoid release to the environment. Rinse mouth. Do NOT induce vomiting. IF exposed or concerned: Get medical attention. Take off contaminated clothing and wash before reuse. Collect spillage. Keep container tightly closed.

SECTION 3: Composition/information on ingredients

Substance/mixture :

Product/ingredient name	Identifiers	%	Classification	Type
pentan-2-one	107-87-9	30 - <40	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 3	[1] [2]
ethanol	64-17-5	15 - <25	FLAMMABLE LIQUIDS - Category 2 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2B	[1] [2]
Quaternary ammonium compounds, coco alkylethyldimethyl, Et sulfates	68308-64-5	5 - <10	ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 3 SKIN CORROSION/IRRITATION - Category 1C SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1	[1]
4-methylpentan-2-one	108-10-1	1 - <3	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (inhalation) - Category 4 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 4	[1] [2]

propyl acetate	109-60-4	1 - <3	2A CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3 FLAMMABLE LIQUIDS - Category 2 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A	[1] [2]
butan-1-ol	71-36-3	1 - <3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 3 FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1	[1] [2]
Isopropyl alcohol	67-63-0	1 - <3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3 FLAMMABLE LIQUIDS - Category 2 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A	[1] [2]
Rosin, fumarated	65997-04-8	1 - <3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SKIN SENSITISATION - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 4	[1]
xylene	1330-20-7	1 - <3	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN CORROSION/IRRITATION - Category 2	[1] [2]
N,N-diethyl-p-(phenylazo)aniline	2481-94-9	1 - <3	ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A SKIN SENSITISATION - Category 1	[1]

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

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

See Section 16 for the full text of the H statements declared above.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

- : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.

Inhalation

- : Get medical attention immediately. Call a poison center or physician. 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. 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact

- : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. 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. Chemical burns must be treated promptly by a physician. 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.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes severe burns. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
- Ingestion** : Adverse symptoms may include the following:
stomach pains

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, 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 vapour. 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. This material is very toxic to aquatic life. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 nitrogen oxides
 sulfur oxides

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 flames, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material 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 the 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). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. 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. Store locked up. Eliminate all ignition sources. Separate from oxidising 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product.

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
pentan-2-one	Safe Work Australia (Australia, 10/2022). STEL: 881 mg/m ³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 705 mg/m ³ 8 hours. TWA: 200 ppm 8 hours.
ethanol	Safe Work Australia (Australia, 10/2022). TWA: 1880 mg/m ³ 8 hours. TWA: 1000 ppm 8 hours.
4-methylpentan-2-one	Safe Work Australia (Australia, 10/2022). STEL: 307 mg/m ³ 15 minutes. STEL: 75 ppm 15 minutes. TWA: 205 mg/m ³ 8 hours. TWA: 50 ppm 8 hours.
propyl acetate	Safe Work Australia (Australia, 10/2022). STEL: 1040 mg/m ³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 835 mg/m ³ 8 hours. TWA: 200 ppm 8 hours.
butan-1-ol	Safe Work Australia (Australia, 10/2022). Absorbed through skin. PEAK: 50 ppm PEAK: 152 mg/m ³
Isopropyl alcohol	Safe Work Australia (Australia, 10/2022).

xylene	<p>STEL: 1230 mg/m³ 15 minutes. STEL: 500 ppm 15 minutes. TWA: 983 mg/m³ 8 hours. TWA: 400 ppm 8 hours.</p> <p>Safe Work Australia (Australia, 10/2022). [Xylene (o-, m-, p- isomers)] STEL: 655 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 350 mg/m³ 8 hours. TWA: 80 ppm 8 hours.</p>
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Biological exposure indices

No exposure indices known.

Recommended monitoring procedures : 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, vapour 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. Contaminated work clothing should not be allowed out of the workplace. 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 vapour filter (Type A)
 Additional information: In situations where misting or flying may occur, use appropriate certified respirators. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.
- 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.
Colour	: Black.
Odour	: Not available.
Odour threshold	: Estimated.: ≥ 0.1 ppm (propyl acetate).
pH	: Not applicable.
Melting point/freezing point	: Estimated.: ≤ -78 °C (pentan-2-one).
Initial boiling point and boiling range	: >149 °C [OECD 103]
Flash point	: 8 °C [ASTM D 56]
Evaporation rate	: Estimated.: ≤ 2 [butyl acetate = 1] (pentan-2-one).
Flammability (solid, gas)	: Not applicable. (Liquid)
Upper/lower flammability or explosive limits	: Estimated.: ≥ 0.8 % (xylene). Estimated.: ≤ 19 % (ethanol).
Vapour pressure	: Estimated.: ≤ 6 kPa (43 mm Hg) at 20°C (ethanol).
Vapour density	: Estimated.: ≥ 1.6 [Air = 1] (ethanol).
Relative density	: 0.86 [OECD 109]
Solubility(ies)	: Not available.
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Estimated.: ≥ 355 °C [EU A.15] (butan-1-ol).
Decomposition temperature	: Thermally stable.
Viscosity	: Not available.
Explosive properties	: Not applicable. Not classified.
Oxidising properties	: Not applicable. Not classified.
Particle characteristics	
Median particle size	: Not applicable.

9.2 Other information

Volatility (w/w)	: 74 %.
VOC Volatility (w/w)	: 74 %.

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 pressurise, 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:
oxidising 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	LCLo Inhalation Vapour	Rat	>25.5 mg/l	4 hours	
	LD50 Dermal	Rabbit	6500 mg/kg	-	
	LD50 Oral	Rat	1600 to 3200 mg/kg	-	
ethanol	LC50 Inhalation Vapour	Rat	>117 mg/l	4 hours	
	LD50 Dermal	Rabbit	>15800 mg/kg	-	
	LD50 Oral	Rat	10470 mg/kg	-	
Quaternary ammonium compounds, coco alkylethylidimethyl, Et sulfates	LD50 Oral	Rat	641 mg/kg	-	
	4-methylpentan-2-one	LC50 Inhalation Vapour	Rat	8.2 to 16.4 mg/l	4 hours
		LD50 Dermal	Rabbit	>16 g/kg	-
LD50 Oral		Rat	2080 mg/kg	-	
propyl acetate	LC50 Inhalation Vapour	Rat	32 mg/l	4 hours	
	LD50 Dermal	Rabbit	>17800 mg/kg	-	
	LD50 Oral	Rat	8700 mg/kg	-	
butan-1-ol	LCLo Inhalation Vapour	Rat	>21.48 mg/l	7 hours	
	LD50 Dermal	Rabbit	3430 mg/kg	-	
	LD50 Oral	Rat	2292 mg/kg	-	
Isopropyl alcohol	LCLo Inhalation Vapour	Rat	>24.6 mg/l	6 hours	
	LD50 Dermal	Rabbit	12.9 g/kg	-	
	LD50 Oral	Rat	5.84 g/kg	-	
Rosin, fumarated	LDLo Dermal	Rat	>2000 mg/kg	-	
	LDLo Oral	Rat	>2000 mg/kg	-	
	xylene	LC50 Inhalation Vapour	Rat	29 mg/l	4 hours
LD50 Oral		Rat	>3523 mg/kg	-	
LDLo Dermal		Rabbit	4200 mg/kg	-	
N,N-diethyl-p-(phenylazo)aniline	LD50 Oral	Rat	800 mg/kg	-	

Conclusion/Summary : May be harmful in contact with skin. May be harmful if swallowed.

Acute toxicity estimates

Route	ATE value
Oral	2134.43 mg/kg
Dermal	3326.42 mg/kg
Inhalation (vapours)	237.49 mg/l

Irritation/Corrosion

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

Conclusion/Summary

Skin : Causes severe skin burns and eye damage.

Eyes : Causes severe skin burns and eye damage.

Respiratory : Causes burns.

Sensitisation

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

Conclusion/Summary

Skin : May cause an allergic skin reaction.

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

Mutagenicity

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

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

Carcinogenicity

Conclusion/Summary : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

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	Category 3	-	Respiratory tract irritation
propyl acetate	Category 3	-	Narcotic effects
butan-1-ol	Category 3	-	Respiratory tract irritation
Isopropyl alcohol	Category 3	-	Narcotic effects
	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Not available.

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 : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

SECTION 12: Ecological information**12.1 Toxicity**

Product/ingredient name	Result	Species	Exposure
pentan-2-one	Acute EC50 >150 mg/l Fresh water	Algae - <i>Pseudokirchnerella subcapitata</i>	72 hours
	Acute EC50 >1000 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	96 hours
	Acute LC50 1240000 µg/l Fresh water	Fish - Fathead minnow - <i>Pimephales promelas</i>	96 hours
	Chronic EC50 73.77 mg/l Fresh water	Algae - <i>Pseudokirchnerella subcapitata</i>	72 hours
ethanol	Acute EC50 275 mg/l Fresh water	Algae - <i>Chlorella vulgaris</i>	72 hours
	Acute LC50 5012 mg/l Fresh water	Daphnia - <i>Ceriodaphnia dubia</i>	48 hours
	Acute LC50 11200 mg/l Fresh water	Fish - <i>oncorhynchus mykiss</i>	24 hours
	Chronic EC10 11.5 mg/l Fresh water	Algae - <i>Chlorella vulgaris</i>	72 hours
	Chronic NOEC 79 mg/l Marine water	Crustaceans - <i>Palaemonetes pugio</i>	12 days
	Chronic NOEC 9.6 mg/l	Daphnia - <i>daphnia magna</i>	10 days
4-methylpentan-2-one	Chronic NOEC 250 mg/l Fresh water	Fish - <i>Danio rerio</i> - Embryo	120 hours
	Acute LC50 505000 µg/l Fresh water	Fish - Fathead minnow - <i>Pimephales promelas</i>	96 hours
	Chronic NOEC 78 mg/l Fresh water	Daphnia - Water flea - <i>Daphnia magna</i>	21 days
propyl acetate	Acute EC50 672 mg/l Fresh water	Algae - <i>Pseudokirchnerella subcapitata</i>	72 hours
	Acute EC50 91.5 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 60000 µg/l Fresh water	Fish - Fathead minnow - <i>Pimephales promelas</i>	96 hours

butan-1-ol	Acute EC50 225 mg/l Fresh water	Algae - <i>Pseudokirchnerella subcapitata</i>	96 hours
	Acute LC50 1730000 µg/l Fresh water	Fish - Fathead minnow - <i>Pimephales promelas</i>	96 hours
	Chronic NOEC 129 mg/l Fresh water	Algae - <i>Pseudokirchnerella subcapitata</i>	96 hours
Isopropyl alcohol	Chronic NOEC 4.1 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	21 days
	Acute EC50 >1800 mg/l Fresh water	Algae - <i>Scenedesmus quadricauda</i>	7 days
	Acute LC50 9640000 µg/l Fresh water	Fish - Fathead minnow - <i>Pimephales promelas</i>	96 hours
xylene	Chronic LOAEL 1800 mg/l Fresh water	Algae - <i>Scenedesmus quadricauda</i>	7 days
	Acute LC50 8500 µg/l Marine water	Crustaceans - Daggerblade grass shrimp - <i>Palaemonetes pugio</i>	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Fathead minnow - <i>Pimephales promelas</i>	96 hours
	Chronic NOEC >1.3 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	56 days

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
pentan-2-one	-	-	Readily
ethanol	-	-	Readily
4-methylpentan-2-one	-	-	Readily
propyl acetate	-	-	Readily
butan-1-ol	-	-	Readily
Isopropyl alcohol	-	-	Readily
Rosin, fumarated	-	-	Not readily
xylene	-	-	Readily

Conclusion/Summary : Not available.

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
butan-1-ol	1	-	Low
Isopropyl alcohol	0.05	-	Low
Rosin, fumarated	2.7	-	Low
xylene	3.12	8.1 to 25.9	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

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product





Methods of disposal : The generation of waste should be avoided or minimised 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised 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

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN1210	UN1210	UN1210	UN1210
14.2 UN proper shipping name	Printing Ink	Printing Ink	Printing Ink	Printing Ink
14.3 Transport hazard class(es)	3 	3 	3 	3 
14.4 Packing group	II	II	II	II
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes.
Additional information	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. Special provisions 640 (C) Tunnel code (D/E)	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. Special provisions 640 (C)	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.	The environmentally hazardous substance mark may appear if required by other transportation regulations.

14.6 Special precautions for user

No special measures required.

14.7 Transport in bulk according to IMO instruments

Not available.


SECTION 15: Regulatory information

Tariff Code - harmonized system : 3215.11 Printing ink: Black.
USA ...90.60
EU ...10

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

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 13: Other information

- Revision comments** :  Indicates information that has changed from previously issued version.
- Abbreviations and acronyms** : ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DMEL = Derived Minimal Effect Level
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number
 vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

Classification	Justification
	On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method 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.