

SAFETY DATA SHEET

Revision: 5 March 2019

Version number: 1

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

1.1 Product identifier	Blue UV Marking Fluid
1.2 Relevant identified uses of the substance or mixture and uses advised against	Marking fluid for consumer goods. Uses advised against: not available.
1.3 Details of the supplier of the safety data sheet	Retainagroup Ltd, Unit 5 St Johns Court, Foster Road, Ashford, Kent TN24 0SJ; Tel 01233-506400; Fax 01233-506401; E-mail factory@retainagroup.co.uk.
1.4 Emergency telephone number	Retainagroup Ltd: 01233-506400 (9 am to 5 pm, Mon to Fri).

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 Flam Liq 2, H225; Eye Irrit 2, H319; STOT SE 3, H336; EUH066.

See Section 16 'Other information' for full text of the R- and H-phrases.

2.2 Label elements



Signal word	Danger
Hazard statements	Highly flammable liquid and vapour. Causes serious eye irritation. May cause drowsiness or dizziness.
Precautionary statements	
prevention	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear protective gloves and eye protection. Avoid breathing vapours/spray.
response	IF ON SKIN (or hair): remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
storage	Store in a well-ventilated place. Keep cool.
disposal	None.
Supplemental information	Repeated exposure may cause skin dryness or cracking.
2.3 Other hazards	Not identified.

SAFETY DATA SHEET

Revision: 5 March 2019

Version number: 1

SECTION 3: Composition/information on ingredients

3.2 Mixtures ^a

Declarable components	Conc. (wt%)	EC No.	CAS No.	REACH Reg. No.	Classification
Acetone	>75	200-662-2	67-64-1	01-2119471330-49-XXXX	Flam Liq 2 H225; Eye Irrit 2, H319; STOT SE 3, H336; EUH066
Ethyl Acetate	10-25	205-500-4	141-78-6	Not available	Flam Liq 2, H225; Eye Irrit 2, H319; STOT SE 3, H336; EUH066
<i>Other components</i>					
Not disclosed					

^a See Section 16 'Other information' for full text of the H-statements.

SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation	Remove exposed person to fresh air and keep warm and at rest in a position comfortable for breathing. Call a doctor for symptoms of drowsiness or dizziness, or if you feel unwell.
Skin	Quickly remove contaminated clothing and wash affected area with plenty of water. Call a doctor if irritation, or other symptoms occur. Wash contaminated clothing before re-use.
Eye	In case of contact with eyes, irrigate with room-temperature water or eyewash solution for several minutes, occasionally lifting eyelids. Remove any contact lenses if easy to do. Continue rinsing. Call a doctor if irritation persists.
Ingestion	If swallowed, rinse mouth thoroughly and give water to drink. Get medical attention. Do not induce vomiting, unless instructed by medical personnel.

4.2 Most important symptoms and effects, both acute and delayed Causes serious eye irritation. May cause skin dryness or cracking, due to defatting properties. May cause drowsiness or dizziness by inhalation of vapour or spray. Inhalation may have latency period of several hours, and in severe cases cause pneumonia or a pulmonary edema.

4.3 Indication of any immediate medical attention and special treatment needed Treat symptoms as they occur.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable In case of fire, use extinguishing powder, alcohol-resistant foam, carbon

SAFETY DATA SHEET

Revision: 5 March 2019

Version number: 1

	dioxide, or water fog.
Unsuitable	Water jet.
5.2 Special hazards arising from the substance or mixture	The product is highly flammable, and will burn if involved in a fire, producing toxic fumes, gases and vapours. Vapours may form flammable or explosive mixtures with air. Product vapours are heavier than air and may accumulate in pits or low-lying areas.
5.3 Advice for firefighters	Remove containers from fire or cool them with water spray. For larger fires, firefighters should wear breathing apparatus and protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures	<p>The product is supplied in small glass vials, which can be collected manually if unbroken.</p> <p>If there are many broken vials, wear personal protection. Keep unauthorised personnel from the spillage area. Ventilate area, extinguish sources of ignition, and use non-sparking equipment. May cause slip hazard, and cut or puncture hazard from broken glass. Follow prescribed procedures for responding to spills.</p>
6.2 Environmental precautions	Prevent product from entering water courses or drainage system by absorption with inert material.
6.3 Methods and material for containment and cleaning up	<p>Clean up spill as soon as possible.</p> <p>For small quantities, dilute with water and wipe off with damp cloth or paper, and wash affected area with water and detergent.</p> <p>For large quantities, absorb with an inert material (eg sand, earth, vermiculite or diatomaceous earth). Wash contaminated surfaces with water and detergent.</p> <p>Collect spill, contaminated materials, and washings in a container for disposal.</p>
6.4 Reference to other sections	<p>For recommended personal protective equipment, see Section 8.</p> <p>For disposal considerations, see Section 13.</p>

SECTION 7: Handling and storage

7.1 Precautions for safe handling	<p>Avoid skin and eye contact with the product, and inhalation of vapours, using measures as described in Section 8. Use only in a well-ventilated area (3 to 5 air changes/hour).</p> <p>Keep away from sources of ignition.</p>
7.2 Conditions for safe storage, including any incompatibilities	Store in a cool place away from direct sunlight and sources of ignition.
7.3 Specific end use(s)	Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

SAFETY DATA SHEET

Revision: 5 March 2019

Version number: 1

EU limit values	Acetone: IOELV: 8 h TWA, 1210 mg/m ³ (500 ppm). Ethyl acetate: IOELV: 8 h TWA, 734 mg/m ³ (200 ppm); 15 min, 1468 mg/m ³ (400 ppm).
UK limit values	Acetone: WEL: 8 h TWA, 1210 mg/m ³ (500 ppm); 15 min, 3620 mg/m ³ (1500 ppm). Ethyl acetate: WEL: 8 h TWA, 734 mg/m ³ (200 ppm); 15 min, 1468 mg/m ³ (400 ppm).
Monitoring procedure	BS EN 14042:2003; Workplace Atmospheres; Guide for the Application and Use of Procedures for the Assessment of Exposure to Chemical and Biological Agents, or specific national equivalent.
Other: human health (DNELs, DMELs)	Acetone: DNELs: workers, short-term exposure, local effects, inhalation, 2420 mg/m ³ ; workers, long-term exposure, systemic effects, dermal, 186 mg/kg bw/day; workers, long-term exposure, systemic effects, inhalation, 1210 mg/m ³ . Ethyl acetate: DNELs: workers, short-term exposure, systemic effects, inhalation, 1468 mg/m ³ ; workers, short-term exposure, local effects, inhalation, 1468 mg/m ³ ; workers, long-term exposure, systemic effects, dermal, 63 mg/kg bw/day; workers, long-term exposure, systemic effects, inhalation, 734 mg/m ³ ; workers, long-term exposure, local effects, inhalation, 734 mg/m ³ .
Other: environmental (PNEC)	Acetone: PNECs: freshwater, 10.6 mg/L; sewage treatment plant, 100 mg/L; freshwater sediment, 30.4 mg/kg dry sediment; soil, 29.5 mg/kg dry soil. Ethyl acetate: PNECs: freshwater, 0.24 mg/L; sewage treatment plant, 650 mg/L; freshwater sediment, 1.15 mg/kg dry sediment; soil, 0.148 mg/kg dry soil; oral, 0.2 g/kg food.
8.2 Exposure controls	
Engineering controls	Use only in a well-ventilated area (3 to 5 air changes/hour). The product is supplied in small glass vials (content ≤ 5mL), and engineering controls are not required for typical professional use. For large-scale use, local exhaust ventilation would be recommended.
Personal protective equipment	The product is supplied in small glass vials (content ≤ 5mL), and for small-scale use, we recommend chemical-resistant gloves (eg butyl rubber) and eye protection. For professional use, the need for personal protective equipment should be based on a workplace risk assessment for the particular use. For larger scale use, avoid skin and eye contact by wearing chemical resistant gloves (eg nitrile rubber, Viton) and safety goggles. Where more extensive contact may occur, wear protective clothing (eg apron, overalls). Wear respiratory protective equipment if exposure to spray or vapour is foreseen. PPE should be to European (EN) standards. Consult manufacturers concerning breakthrough times.
Environmental exposure controls	Not available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

SAFETY DATA SHEET

Revision: 5 March 2019

Version number: 1

Appearance	Pale yellow liquid
Odour	Acetone/ethyl acetate
Odour threshold	Not available
pH	Not available
Melting/freezing point	Acetone: -94.7 °C; ethyl acetate: -84 °C
Initial boiling point/range	Acetone: 56.1 °C; ethyl acetate: 77 °C
Flash point	Acetone: -17 °C (closed cup); ethyl acetate: -4 °C (closed cup)
Evaporation rate	Not available
Flammability (solid, gas)	Not applicable
Flamm. or expl. limits	Acetone: lower, 2.13; upper 13 wt%; ethyl acetate: lower, 2; upper 12.8 wt%
Vapour pressure	Acetone: 240 hPa at 20 °C; ethyl acetate: 103 hPa at 20 °C
Vapour density	Not available
Relative density	Acetone: 0.79 at 20 °C; ethyl acetate: 0.9 at 20 °C
Solubilities	In water: acetone: miscible with water in all proportions; ethyl acetate: 80 000 mg/L at 20 °C. Acetone is also miscible in all proportions with polar organic solvents, such as the lower molecular mass alcohols, carboxylic acids, and ethers
Partition coeff. (log K_{ow})	Acetone: -0.24; ethyl acetate: 0.68 at 25 °C
Auto-ignition temp.	Acetone: 465 °C; ethyl acetate: 427 °C
Decomposition temp.	Not available
Viscosity	Acetone: 0.32 mPa s at 20 °C (dynamic); ethyl acetate: 0.45 mPa s at 20 °C (dynamic)
Explosive properties	Not classified as explosive
Oxidising properties	Not classified as oxidising
9.2 Other information	Not available

SECTION 10: Stability and reactivity

10.1 Reactivity	Not available.
10.2 Chemical stability	Stable.
10.3 Possibility of hazardous reactions	Risk of explosion in contact with hydrogen peroxide, bromine trifluoride, chloroform (plus traces of alkali), difluorine dioxide, isoprene, nitrating acid.
10.4 Conditions to avoid	Fire, spark, and high temperature.
10.5 Incompatible materials	Strong oxidizing agents (eg hydrogen peroxide), strong acids and alkalis, ethanolamine.

SAFETY DATA SHEET

Revision: 5 March 2019

Version number: 1

10.6 Hazardous decomposition products Not available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity	<p>The product is not expected to meet the criteria for classification by the oral, dermal or inhalation routes.</p> <p>Acetone: LD₅₀ (oral; rat), 5800 mg/kg; LC₅₀ (inhalation, rat, 4 h), 76 000 mg/m³; LD₅₀ (skin; guinea pig, rabbit), ≥7400 mg/kg.</p> <p>Ethyl acetate: LD₅₀ (oral; rat), ≥5620 mg/kg; LC₅₀ (inhalation, rat, 6 h), >22.5 mg/L; LD₅₀ (skin; rabbit), >20 000 mg/kg.</p>
Skin corrosion/irritation	<p>The product is not expected to meet the criteria for classification.</p> <p>Acetone: not irritant, but a skin defatting agent leading to reversible disturbance of the epidermal permeability and transepidermal water loss.</p> <p>Ethyl acetate: not irritant.</p>
Serious eye damage/irritation	<p>The product is expected to meet the criteria for classification (Category 2).</p> <p>Acetone: reversible irritant effects of the mucous membranes and the cornea (rabbit tests). At 30% and lower concentrations, eye effects were minimal.</p> <p>Ethyl acetate: not irritating. Note: Annex VI to the CLP Regulation states ethyl acetate meets the criteria for eye irritation, but this conclusion is not supported by the data in the REACH registration dossier.</p>
Respiratory or skin sensitisation	<p>Respiratory sensitisation: no data available, but no expectation of respiratory sensitisation potential.</p> <p>Skin sensitisation: Based on available data, the classification criteria are not met.</p> <p>Acetone: not a skin sensitizer (Guinea pig maximisation test).</p> <p>Ethyl acetate: not a skin sensitizer (Guinea pig maximisation test).</p>
Germ cell mutagenicity	<p>Based on available data, the classification criteria are not met.</p> <p>Acetone: There is no classification for genetic toxicity based on negative test results in <i>in vitro</i> and <i>in vivo</i> test systems.</p> <p>Ethyl acetate: Genetic toxicity <i>in vitro</i>: bacterial mutagenicity, negative with and without metabolic activation; cytogenicity, negative with and without metabolic activation; mammalian cell gene mutation, negative with and without metabolic activation. Genetic toxicity <i>in vivo</i>: mouse micronucleus, negative.</p>
Carcinogenicity	<p>Based on available data, the classification criteria are not met.</p> <p>Acetone: no indications for a carcinogenic potential after dermal application of acetone.</p> <p>Ethyl acetate: no potential to induce lung tumours in a mouse pulmonary tumour model.</p>
Reproductive toxicity	<p>Based on available data, the classification criteria are not met.</p> <p>Acetone: Male and female fertility: no indication of adverse effects in the absence of generalized toxicity. Indications of developmental toxicity in</p>

SAFETY DATA SHEET

Revision: 5 March 2019

Version number: 1

	<p>mice and rats (reduction of fetal weights, increase of late resorptions) were only observed at exposure concentrations that induced significant maternal toxicity.</p> <p>Ethyl acetate: the data does not show sufficient specific effects on fertility or developmental toxicity to warrant classification.</p>
STOT-single exposure	<p>The product is expected to meet the criteria for classification (Category 3).</p> <p>Acetone: May cause drowsiness or dizziness.</p> <p>Ethyl acetate: May cause drowsiness or dizziness.</p>
STOT-repeated exposure	<p>Based on available data, the classification criteria are not met.</p> <p>Acetone: LOAEL (oral, rat, 90 d), 1700 mg/kg bw/d; NOAEL 900 mg/kg bw/day. NOAEC (inhalation, 8 weeks), 22 500 mg/m³.</p> <p>Ethyl acetate: Based on a high-quality study in rats, the subchronic inhalation NOAEC is 350 ppm (1.28 mg/L), based on sedation during exposure, reduced food consumption and reduced body weight gain. Nasal irritation was observed in this study at all exposure concentrations, therefore, the LOAEC for respiratory irritant effects in rats is 350 ppm (1.28 mg/L).</p> <p>A subchronic oral NOAEL of 900 mg/kg bw/day was reported in a 90-day oral study in rats, based on depressed food consumption, suppressed bodyweight gain and clinical signs observed at 3600 mg/kg/day.</p>
Aspiration hazard	<p>Based on available data, the classification criteria are not met.</p>

SECTION 12: Ecological information

12.1 Toxicity	<p>The product is not expected to meet the criteria for classification.</p> <p>Acetone: LC₅₀ (freshwater fish, 96 h), 5540 mg/L; EC₅₀ (Daphnia pulex, 48 h), 8800 mg/L; NOEC (biomass) (freshwater algae, 8 d), 530 mg/L.</p> <p>Ethyl acetate: LC₅₀ (freshwater fish, 96 h), 230 mg/L; EC₅₀ (Daphnia cucullata, 48 h), 165 mg/L; EC₅₀ (freshwater algae, 48 h), 5600 mg/L, NOEC, 1000 mg/L.</p>
12.2 Persistence and degradability	<p>Acetone: readily biodegradable.</p> <p>Ethyl acetate: readily biodegradable.</p>
12.3 Bioaccumulative potential	<p>Acetone: Bioaccumulation factor, 3 (calculated from Log Kow) (low bioaccumulation potential).</p> <p>Ethyl acetate: low bioaccumulation potential.</p>
12.4 Mobility in soil	<p>Acetone: soil sorption (K_d) was 1.5 L/kg, at 20 °C, indicating that acetone is mobile in soil and may be transported by soil water.</p>
12.5 Results of PBT and vPvB assessment	<p>Acetone: the substance is not PBT or vPvB.</p> <p>Ethyl acetate: the substance is not PBT or vPvB.</p>
12.6 Other adverse effects	<p>Not available.</p>

SECTION 13: Disposal considerations

13.1 Waste treatment methods	<p>The product is supplied in small glass vials (content ≤ 5mL). Such quantities may be diluted and disposed of via the drains.</p> <p>Incineration is recommended for bulk disposal of this product. Landfill or</p>
-------------------------------------	---

SAFETY DATA SHEET

Revision: 5 March 2019

Version number: 1

disposal via the drains is not recommended. Disposal must be in accordance with current national and local regulations. Chemical residues generally count as special waste. General EU requirements are given in Directive 2008/98/EC.

SECTION 14: Transport information

14.1 UN Number	1993.
14.2 UN proper shipping name	FLAMMABLE LIQUID N. O. S. (contains acetone and ethyl acetate).
14.3 Transport hazard class(es)	3.
14.4 Packing group	II.
14.5 Environmental hazards	Not classified as marine pollutant/environmentally hazardous.
14.6 Special precautions for user	Not available.
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable. This product is not intended to be transported by sea in bulk containers.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	<p><i>UK:</i> Control of Substances Hazardous to Health Regulations 2002 (COSHH), as amended (also implementing 90/394/EEC on carcinogens at work). COSHH Essentials: Easy Steps to Control Chemicals; HSE Books 2003 (also available on the HSE web site).</p> <p>Workplace Exposure Limits EH40/2005 (Third edition, 2018); Health and Safety Executive.</p> <p>Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR) (SI 2002 No. 2776); Control of Major Accident Hazards Regulations, 1999 (COMAH), as amended.</p>
15.2 Chemical safety assessment	Not available.

SECTION 16: Other information

Revisions	This SDS is the first version in EU CLP format.
Abbreviations	DNEL, derived no-effect level; DMEL, derived minimum effect level; IOELV, EU indicative occupational exposure limit value; EC, effect concentration; LC, lethal concentration; LD, lethal dose; LOAEL, lowest-observed-adverse-effect level; NOAEC, no-observed-adverse-effect concentration; NOAEL, no-observed-adverse-effect level; NOEC, no-observed-effect-concentration; NOEL, no-observed-effect level; PBT, persistent, bioaccumulative, and toxic; PNEC, predicted no-effect concentration; STOT RE, specific target organ toxicity repeated exposure; STOT SE, specific target organ toxicity single exposure; TWA, time-weighted average; WEL, UK workplace exposure limit; vPvB,

SAFETY DATA SHEET

Revision: 5 March 2019

Version number: 1

	very persistent, very bioaccumulative.
References	Search for chemicals; available at the European Chemicals Agency website: http://echa.europa.eu/ . GESTIS Substance Database; Institut für Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung (IFA); http://www.dguv.de/ifa/GESTIS/index-2.jsp .
Basis of classification	The mixture is self-classified from available information on the ingredients.
List of hazard statements	H225: Highly flammable liquid and vapour; H319: Causes serious eye irritation; H336: May cause drowsiness or dizziness; EUH066: Repeated exposure may cause skin dryness or cracking.

Disclaimer. The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. The information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for each material used in combination with any other materials or in any other process.