Photographic Solutions

Safety Data Sheet

Aeroclipse™

SDS Revision Date: 01/01/2024

1. Identification

1.1 Product identifier

Product Identity: Aeroclipse®

Alternate Names: Digital Survival Kit® + Aeroclipse®
Sensor Cleaning Swab Kit + Aeroclipse®

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

Intended use: For cleaning of sensors in digital cameras.

Application Method: This product should only be used for the specific application for which it is intended. No other use is recommended or advised and is strictly not advised.

1.3 Details of the supplier of the data sheet

Company Name: Photosol, Inc. dba Photographic Solutions
6010 New Utrecht Ave Brooklyn, NY 11219 USA

Emergency:
CHEMTREC (CCN17280) **USA:** (800) 424-9300 **International:** +1 (703) 527-3887
Customer Service:
Photosol, Inc. dba Photographic Solutions Phone (929) 562-1730

2. Hazard(s) Identification

2.1 Classification of the substance or mixture

OSHA Regulatory Status:

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

STOT SE 3: H336 May cause drowsiness or dizziness

2.2 Label Elements

Using the Toxicity Data listed in sections 11 and 12 the product is labeled as follows.

H336 May cause drowsiness and dizziness.

2.3 Precautionary Statements

[Prevention]:

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Potential health hazards. Inhalation of vapor may cause coughing, dizziness, dullness, drowsiness, and headache. Inhalation of higher concentrations of vapor is harmful and may cause heart irregularities, central nervous system depression, narcosis, unconsciousness, respiratory failure, or death. Intentional misuse can be fatal. Vapor reduces oxygen available for breathing and is heavier than air.

[Response]:

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P271 Use only outdoors in a well-ventilated area.
P304+340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P403+P233 Store in a well-ventilated place. Keep the container tightly closed.
P405 Store locked up.

Eyes Immediately flush eyes with plenty of water for at least 15 minutes.
Skin Wash thoroughly after handling and before eating or drinking.
Inhalation Move to fresh air in case of accidental inhalation of vapors or decomposition products. Low hazard for usual industrial or commercial handling. Inhalation of dust may cause irritation of the respiratory system.
Ingestion If swallowed, seek medical advice immediately and show this container or label.
Fire Suitable Extinguishing Media.
Spill Sweep up to prevent slipping hazard.

[Storage]:
Store locked up.

[Disposal]:
Dispose of contents/container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC):
Not applicable

Other Information:
Toxic to aquatic life with long-lasting effects

Unknown acute toxicity:
90-100% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/Information on Ingredients

3.1 Substance
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Component Name	CAS No	Weight-%
1,1,2,2-Tetrafluoroethyl-2,2,2-trifluoroethyl ether	406-78-0	90-100%
ETHANOL	64-17-5	5 - 10%

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. First Aid Measures

4.1 Description of first aid measures

Skin Contact In case of skin contact, flush with water. Remove contaminated clothing and shoes. Get medical attention if irritation persists.

Inhalation If high concentrations are inhaled, immediately remove to fresh air. Keep the person calm. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Eye Contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses,if worn. Get medical attention if irritation persists.

Ingestion No specific intervention is indicated as the compound is not likely to be hazardous by ingestion. Do not induce vomiting because the hazard of aspirating the material into the lungs is considered greater than swallowing it. Get medical attention if symptoms develop.Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms Treat symptomatically.

4.3 Indication of any immediate medical attention and special treatment needed

PPE for first aid respondents Use personal protective equipment as required.

5. Fire-Fighting Measures

5.1 Suitable Extinguishing media

Dry chemical. Carbon dioxide (CO2). Water spray mist or foam.
Explosive Properties: Unknown

5.2 Special hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

5.3 Hazardous combustion products

Containers may rupture under fire conditions. Decomposition of this product at temperature above 300°C (572°F) can form hydrogen fluoride (HF), but HF will only accumulate with continuous exposure to excess heat in a sealed vessel.

5.4 Specific Method

Sensitivity to mechanical impact: None
Sensitivity to static discharge: None

5.3 Special Protective Equipment for Fire-Fighters

Self-contained breathing apparatus (SCBA) is required if drums rupture and contents are spilled under fire conditions.

6. Accidental Release Measure

6.1 Personal precautions, protective equipment and emergency procedures
Method and Material for Containment and Clean up:

Methods for containment	Notes: Review chapter 5, chapter 7, and chapter 8 before proceeding with clean up. Use appropriate Personal Protective Equipment during clean up. Extinguish flames in area to avoid forming dangerous decomposition products (See chapter 5). Dike spill. Prevent liquid from entering sewers, waterways or low areas. Ventilate area. Collect on absorbentmaterial and transfer to steel drums for recovery/disposal. Comply with Federal, State, and local regulations on reporting releases.
Methods for clean up	Absorb or contain liquid with inert material and dispose of in accordance with applicable Regulations.
Other Information	Ensure adequate ventilation. Use personal respiratory protection, impermeable gloves, chemical splash goggles and protective clothing. Additional information: Information for safe handling is found in chapter 7 Information for disposal is found in chapter 13. In case of leakage, there is a risk of asphyxiation, evacuate area immediately. Do not try to wipe [mop]up recklessly. Evacuate non-essential personnel to prevent secondary disaster. Cleaning work in the room, there is a risk of asphyxiation and high concentration gas inhalation. Perform the work with mask under adequate ventilation such as open window and local ventilation running. Wear air respirator whenever you cannot have adequate ventilation.

6.2 Environmental precautions

Environmental precautions	Collect contaminated water/firefighting water separately. Do not wash away into drain or waterway. Avoid subsoil penetration.

7. Handling and Storage

7.1 Precautions for safe handling

Handling	Use with sufficient ventilation to keep employee exposure below recommended limits. Provide adequate ventilation for storage, handling, and use, especially for enclosed or lowspaces. Avoid contact of liquid with eyes and prolonged skin exposure. Do not allow product to contact open flame or electrical heating elements because dangerous decomposition products may form.

7.2 Conditions for safe storage, including any incompatibilities

Precautions for safe handling Store in clean, dry, well ventilated area. Do not store product in direct sunlight. Not allowed to use for spray application. DO NOT spray aerosolize or atomize.

Incompatible Materials Incompatible with alkali or alkaline earth metals-powdered Al, Zn, Be, etc. Avoid contamination with caustic soda, caustic potash, or oxidizing materials. Shock sensitive compounds may be formed.

8. Exposure Controls and Personal Protection

8.1 Control Parameters

Exposure Guidelines:

Component Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
1,1,2,2-Tetraflouroethyl-2,2,2-Triflouroethyl ether 406-78-0	-	-	-
ETHANOL 64-17-5	1000 ppm STEL	1000 ppm TWA 1900 mg/m^3 TWA	1000 ppm (TWA) 1900 mg/m^3 (TWA)

Other information AEL*: 50ppm (8h-TWA). *AEL is the Acceptable Exposure Limit. 75ppm (8h-TWA). 150ppm (Ceiling). Exposure Limit recommended by US EPA. EEL*: 150ppm (time limit 15min). *EEL is the Emergency Exposure Limit. Emergency Exposure Limits (EELs) are to be used for short-term emergency exposure control. They are concentrations of short periods which should not result in permanent adverse health effects or interfere with escape. They should not be confused with daily exposure limits (such as AEL's and EPA recommended exposure limits) that are designed for repeated exposure guidelines. For the use of 1,1,2,2-Tetrafluoroethyl-2,2,2-trifluoroethyl ether, daily exposure limits such as AEL as well as EEL are to be followed. The EEL for 1,1,2,2-Tetrafluoroethyl-2,2,2- trifluoro ethyl ether is needed to avoid anesthetic effects, which could prevent self-rescue. Ifan EEL is exceeded for specified duration, evacuation, sheltering in place or other mitigating steps should be taken.

8.2 Appropriate Engineering Controls

Engineering Controls Normal ventilation for standard manufacturing procedures is generally adequate. Local exhaust should be used when large amounts are released. Vapors are heavier than air. Use with adequate ventilation to prevent vapor build up in low lying areas.

8.3 Individual protection measures, such as personal protective equipment

Respiratory Protection Use respiratory protection approved by NIOSH in USA or other equivalent in each country ifexposure limits may be exceeded. Self-contained breathing apparatus (SCBA) is required if alarge spill occurs.

Odor Ether-like.

Eye Protection Safety glasses and/or chemical tight goggles if splashing is likely to occur.

9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical State	Liquid
Appearance	Clear, colorless liquid with slight ethereal odor
Color	Colorless
Odor	Ether
pH	N/A
Melting point / freezing point	-90°C / -130°F
Boiling point / Boiling range	53.7°C / 128.7°F
Flash Point	Non-Flammable (T.C.C.)
Evaporation rate (Ether = 100)	66
Flammability (solid, gas)	N/A
Flammability Limit in Air	**Lower Explosive Limit:** N/A **Upper Explosive Limit:** N/A
Vapor Pressure @20°C (kPa)	28
Specific Gravity	1.40g/cm^3 @25°C
Solubility in Water	5300 ppm
Solubility in other solvents	No information available
Auto-ignition temperature	Not Detected
Kinematic viscosity	0.60 mPa
Explosive properties	Not an explosive
Oxidizing properties	Not applicable
Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk Density	No information available

9.2 Other information
No other relevant information.

10. Stability and Reactivity

10.1 Reactivity
Material is stable however, avoid open flames and high temperature.

10.2 Chemical Stability
Stable.

10.3 Possibility of hazardous reactions
None under normal processing.

10.4 Conditions to avoid
Material is stable however, avoid open flames and high temperature. Alkaline or acid may cause slight decomposition.

10.5 Incompatible materials
Incompatible with alkali or alkaline earth metals-powdered Al, Zn, Be, etc. Avoid contamination with caustic soda, caustic potash, or oxidizing materials. Shock sensitive compounds may be formed.

10.6 Hazardous decomposition products

Decomposition products are hazardous. This compound can be decomposed by high temperatures (open flames, glowing metalsurfaces, etc.) forming hydrochloric and hydrofluoric acids-possibly carbonyl halides.

11. Toxicological Information

11.1 Information on likely routes of exposure

Product information	1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether
Inhalation	LC50: >24.8mg/L (3010ppm) in rat
Eye contact	Minimal irritant (Class3 on a 1 to 8 scale). Method: OECD 405/ Commission Directive92/69/EEC Method B5 (Rabbit).
Skin contact	LD50: >2,000mg/kg in rats.
Ingestion	LD50: >2,000mg/kg in rats.

Component Name	Oral LD50	Dermal LD50	Inhalation LC50
1,1,2,2-Tetrafluoroethyl-2,2,2-trifluoroethyl ether 406-78-0	>2000 mg/kg in rat	>2000 mg/kg in rat	>24.8 mg/L (3010ppm) in rat
ETHANOL 64-17-5	7060 ppm in rat 6300 ppm in rabbit 3450 ppm in mouse	24hrs 20 mg moderate rabbit	10 hrs. 20,000 ppm in rat 4hrs 39 g/m^3 in mouse

11.2 Information on toxicological effects

Symptoms

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.3 Delayed and immediate effects as well as chronic effects from short term and long term exposure

Skin corrosion/irritation	Irritating to skin.
Serious eye damage/ eye irritation	Irritating to eyes.
Sensitization	Skin (rat): none.
Germ cell mutagenicity	Animal testing did not show any mutagenic effects. Test on bacterial or mammalian cell cultures did not show mutagenic effects.
Carcinogenicity	Not classifiable as a human carcinogen. Overall weight of evidence indicates that the substance is not carcinogenic.

Component Name	ACGIH	IARC	NTP	OSHA
1,1,2,2-Tetrafluoroethyl-2,2,2-trifluoroethyl ether 406-78-0	-	Not Listed	-	-
ETHANOL 64-17-5	A3	1	X	X

Reproductive toxicity	No information available.
STOT - single exposure	H336: May cause drowsiness or dizziness. Has anesthetic effect.
STOT - repeated exposure	No information available.

Aspiration hazard	No information available.

11.4 Numeric measures of toxicity – Product information

Genetic Studies:	-
Ames Assay:	Negative (OECD 471 & 472)
Chromosomal Aberration Test:	Negative (CHL Cell) (OECD 473)
Repeated Dose Oral Toxicity (28 Day):	NOEL 1000mg/kg/d
Repeated Dose Inhalation Toxicity (5 day):	NOEL 1800ppm Rats exposed to 2500 or 5000 ppm for 6 hours per day for 5 days showed convulsions.
Repeated Dose Inhalation Toxicity (90 day):	NOEL 1000ppmRats exposed to 1000ppm for 6 hours per day, 5 days per week for 90 days showed no adverse effects.

12. Ecological Information

12.1 Ecotoxicity
LC50 (96hr) (Carp): >76mg/L
95% of the mixture consists of components(s) of unknown hazards to the aquatic environment

12.2 Persistence and degradability
Not biodegraded (OECD 301C).

12.3 Bioaccumulation
None known.

12.4 Mobility
Mobility inhibition (Daphnia magna): 48hr-EC50>94mg/L.

Component Name	Partition Coefficient
1,1,2,2-Tetrafluoroethyl-2,2,2-trifluoroethyl ether 406-78-0	2.18
ETHANOL 64-17-5	-0.32

12.5 Mobility in water
Insoluble and sinks in water

13. Disposal Considerations

13.1 Waste treatment methods

Disposal of wastes	Comply with all federal, state and local regulations. Do not dump this product into sewers, onthe ground or into any body of water. Reuse the residual product when possible. Send wasteproduct for thermal destruction, using high-temperature incinerators designed to burn fluorine compounds.
Contaminated packaging	Dispose of waste containers in accordance with local laws and regulations. Comply with all federal, state, and local regulations. Do not dump this product into sewers, on the ground,or into any body of water.

Component Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes

1,1,2,2-Tetrafluoroethyl-2,2, 2-trifluoroethyl ether 406-78-0	-	-	-	-
ETHANOL 64-17-5	-	-	-	-

Component Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
1,1,2,2-Tetrafluoroethyl-2,2, 2-trifluoroethyl ether 406-78-0	-	-	State and local disposal regulations may differ from federal disposal regulations	-
ETHANOL 64-17-5	-	-	State and local disposal regulations may differ fromfederal disposal regulations	-

Component Name	California Hazardous Waste Status
1,1,2,2-Tetrafluoroethyl-2,2,2-trifluoroethyl ether 406-78-0	-
ETHANOL 64-17-5	-

14. Transport Information

DOT : Not Regulated

IMDG : -

15. Regulatory Information

15.1 International Inventories

TSCA	Complies
DSL/NDSL	Does not comply
EINECS/ELINCS	Complies
ENCS	Complies
China inventory of existing chemical substance list	Complies
Inventory - Korea - existing and evaluated chemical substances	Does not comply
ROHS	Complies
REACH	Complies
PICCS	Does not comply
NICNAS (Australia)	Does not comply

Users of this substance must comply with the applicable general SNUR requirements set forth in 40 CFR 721 subpart A. including export notification requirements if applicable (40 CFR 721.20), and the applicable record keeping requirements set forth at 40 CFR 721.125, and 40 CFR 721.10549.

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances Complies

ROHS - ROHS List of Substances
REACH - REACH SVHC substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2 US Federal Regulations

SARA 313:
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain anychemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories:

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act:
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40CFR 122.42).

Component Name	CWA-Reportable Quantities	CWA - Toxic Pollutants	Clean Water Act - PriorityPollutants	Clean Water Act - Hazardous Substances
1,1,2,2-Tetrafluoroethyl-2,2,2-trifluoroethyl ether 406-78-0	-	-	-	-
ETHANOL 64-17-5	-	-	-	-

CERCLA:
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state levelpertaining to releases of this material.

Component Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
1,1,2,2-Tetrafluoroethyl-2,2,2-trifluoroethyl ether 406-78-0	-	-	-
ETHANOL 64-17-5	-	-	-

15.3 US State Regulations

California Proposition 65:
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations:
Ethyl alcohol CAS#64-17-5 is a substance that can be found in the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota.

U.S. EPA Label Information:
EPA Pesticide Registration Number Not Applicable.

16. Other Information, Including Date of Preparation or the Last Revision

NFPA Rating	**Health Hazards** 2	**Flammability** 0	**Instability** 0	**Physical and chemical properties** -
HMIS Rating	**Health hazards** 2	**Flammability** 0	**Physical hazards** -	**Personal Protection** EX

Revision Date: 19/June/2015

Revision Note:

Disclaimer:

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only tothe specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

****End of Safety Data Sheet****