Photographic Solutions

Safety Data Sheet

Aeroclipse™

SDS Revision Date: 01/01/2026

1. Identification

1.1 Product identifier

Product Identity:	Aeroclipse® Cleaning Fluid
Alternate Names:	Aeroclipse® Cleaning Solution

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

Recommended use:	For cleaning of sensors and optic in digital cameras.
Restrictions on use:	Use with aerosol products is strictly prohibited.
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
Address:	6010 New Utrecht Avenue
City/State/zip code:	Brooklyn, NY 11219 USA
Website:	https://photosol.com

1.4 Emergency contact number

CHEMTREC (USA):	+1 (800) 424-9300
CHEMTREC (International):	+1 (703) 527-3887
Customer Service:	+1 (929) 562-1730

2. Hazard(s) Identification

2.1 GHS Hazard classification/statements according to 29 CFR 1910.1200 (OSHA):

STOT SE (narcotics effect), Category 3:	H336 – May cause drowsiness or dizziness

2.2 GHS Label Elements according to 29 CFR 1910.1200 (OSHA):

Pictogram:

Signal Word: Warning!

2.3 GHS Precautionary Statements according to 29 CFR 1910.1200 (OSHA):

[General]:
P102: Keep out of reach of children.
P103: Read label before use.

[Prevention]:
P201: Obtain special instructions before use.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P271: Use only outdoors or in a well-ventilated area.

[Response]:
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.

[Storage]:
P404+P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.

[Disposal]:
P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

3. Composition/Information on Ingredients

3.1 Mixtures

Component Name	CAS No	% by weight (w/w)
1,1,2,2-Tetrafluoroethyl 2,2,2-Trifluoroethyl Ether	406-78-0	94 – 95%
Solvent	Proprietary	5 – 6%

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 Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water. If symptoms persist, obtain medical attention. Contaminated clothing should be thoroughly cleaned before re- use.

Inhalation Remove from exposure, taking care to avoid inhaling vapors. Keep warm rest. Obtain medical attention if symptoms appear.

Eye Contact Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Remove contact lenses if possible. Obtain medical attention.

Ingestion Do not induce vomiting. Provided the patient is conscious, wash out mouth with water and give 200-300 ml (half a pint) of water to drink. Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms Inhalation of vapours may lead to various symptoms of central nervous system (CNS) depression, including nausea, unsteadiness, dizziness, fainting, convulsions and loss of consciousness. May cause eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Symptomatic treatment and supportive therapy as indicated.

5. Fire-Fighting Measures

5.1 Suitable Extinguishing media

The product is non-flammable. When a surrounding fire occurs, extinguish with an appropriate extinguishing agent according to the situation.
Suitable extinguishing media: Dry chemical. Carbon dioxide (CO2). Water spray mist or foam.
Unsuitable extinguishing media: Not available.

5.2 Special hazards arising from the chemical

Thermal decomposition will evolve very toxic and corrosive vapors. (hydrogen fluoride and possibly carbonyl fluoride)

5.3 Hazardous combustion products

No data available.

5.4 Special Protective Equipment for Fire-Fighters

A self-contained breathing apparatus and full protective clothing must be worn in fire conditions. Wear neoprene gloves when handling refuse from a fire involving this product, to protect against possible contamination with hydrofluoric acid.

5.5 Fire-fighting equipment/instructions

Cool the container and surrounding equipment with water. The substance is nonflammable and will not ignite, but if there is a fire around the container, move the container immediately to a safe place.

6. Accidental Release Measure

6.1 Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Remove all possible sources of ignition in the surrounding area. Do not breathe mist/vapors. Ensure adequate ventilation.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Use appropriate containment to avoid environmental contamination. Prevent spillage of spilled material into sewers, drains and lowlands. Do not discharge to rivers. Be careful not to cause environmental impact.

6.3 Methods and materials for containment and cleaning up

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. Wash the spillage area with water. Washings must be prevented from entering surface water drains.

Collect spilled material in a sealable container and move to a safe place. Dispose of deposits and waste based on relevant laws and regulations. Stop leaking containers, if possible, without risk. If the leak does not stop, refill it into a sealable container or move to an open and safe place. For waste disposal, see section 13 of the SDS.

7. Handling and Storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Not intended for spray application. Avoid generation of aerosol or mist. Atmospheric concentrations should be minimized and kept as low as reasonably practicable below the occupational exposure limit. Provide adequate ventilation, including appropriate local extraction, if fumes or vapors are likely to be evolved. Avoid contact with naked flames and hot surfaces as corrosive and very toxic decomposition products can be formed.

7.2 Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in original tightly closed container. Store away from incompatible materials.

Avoid direct sunlight, keep container tightly closed, and store in a cool, dry and well-ventilated place. Due to the low boiling point, the container may expand under the hot summer weather, and liquid may squirt out from the inside when opened. Store the container in a dry place to prevent corrosion due to moisture and water drops. It is necessary to take measures to prevent impact and damage due to invert.

8. Exposure Controls and Personal Protection

8.1 Control Parameters

Biological Limits: No biological exposure limits noted for the ingredient(s).
Exposure guidelines: (1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether) AEL*: 50ppm (8h-TWA) * AEL is the Acceptable Exposure Limit set by AGC Inc. EEL*:150 ppm (time limit 15 min.), 500ppm (Ceiling concentration.) * EEL is the Emergency Exposure Limit set by AGC Inc. (EPA recommended concentration) AEL: 75ppm (8h-TWA) Ceiling: 150ppm.

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 ACGIH TLV-TWA or TLV STEL values 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-trifluoroethyl ether is needed to avoid anaesthetic effects, which could prevent self-rescue. If an EEL is exceeded for specified duration, evacuation, sheltering in place or other mitigation steps should be taken.

8.2 Appropriate Engineering Controls

Attach emergency shower and eye washing equipment to work area and clearly display its position. When working indoors, use equipment that is not directly exposed to workers or equipment that can be protected from worker exposure using local exhaust ventilation.

8.3 Personal Protective Equipment

Personal hygiene: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Hand protection: Wear appropriate chemical resistant gloves. Suitable material: Polyethylene Be aware that the liquid may penetrate the gloves. Frequent change is advisable. In case of contamination replace immediately.
Eye/Face protection: Wear safety glasses with side shields (or goggles).
Skin and body protection: When necessary, wear appropriate chemical resistant clothing.
Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment.

9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical State:	Liquid
Form:	Not available
Color:	Colorless transparent
Odor:	Ether odor
Odor threshold:	Not available
pH:	Not available
Melting point / freezing point:	Not available
Boiling point:	132.8 °F (56 °C)
Boiling range:	128.66 °F (53.7 °C)
Flash Point:	Non flammable
Evaporation rate:	Not available
Flammability (solid, gas):	Not available
Upper/Lower Flammability limits:	Not available
Vapor Pressure:	23 kPa (25°C)
Vapor Density:	Not available
Relative Density:	Not available
Specific Gravity:	Not available
Solubility in Water:	Not available
Partition coefficient (n-octanol/water):	Not available
Auto-ignition temperature:	Not available

Decomposition temperature:	Not available
Viscosity:	0.6 mPa·s (25°C)
Density:	1400.00 g/l (25°C)

10. Stability and Reactivity

10.1 Reactivity
The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2 Chemical Stability
Stable at normal temperature and pressure.

10.3 Possibility of hazardous reactions
When thermally decomposed, toxic gases such as highly corrosive hydrogen fluoride and a small amount of carbonyl fluoride may be generated.

10.4 Conditions to avoid
Contact with incompatible materials.

10.5 Incompatible materials
Alkaline metals. Alkali earth metals. Strong bases. Strong oxidizing agents.

10.6 Hazardous decomposition products
Hydrogen fluoride (HF) and carbonyl fluoride (COF2).

11. Toxicological Information

11.1 Information on likely routes of exposure
Inhalation: May cause drowsiness or dizziness. Headache. Nausea, vomiting.
Skin Contact: No adverse effects due to skin contact are expected.
Eye Contact: Direct contact with eyes may cause temporary irritation.
Ingestion: Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics: May cause drowsiness or dizziness. Headache. Nausea, vomiting. Jaundice.

11.2 Information on toxicological effects
Acute toxicity

Component	Species	Test Results
1,1,2,2-Tetrafluoroethyl 2,2,2-Trifluoroethyl Ether		
LD50 Dermal	RAT	> 2000 mg/kg
LC50 Vapor	RAT	> 3010 ppm (>24.8mg/l)
LD50 Oral	RAT	> 2000 mg/kg

11.3 Delayed and immediate effects as well as chronic effects from short term and long-term exposure
Skin corrosion/irritation: Not irritating.
Serious eye damage/eye irritation: Causes eye irritation.
Respiratory or skin sensitization: This product is not expected to cause respiratory or skin sensitization.
Germ cell mutagenicity: Not available.
Carcinogenicity: Not classifiable as a human carcinogen.
Reproductive toxicity: No information available.
Specific target organ toxicity, single exposure: May cause drowsiness or dizziness.
Specific target organ toxicity, repeated exposure: May cause damage to organs (liver) through prolonged or repeated exposure.

Aspiration hazard: No information available.
Chronic effects: May cause damage to organs through prolonged or repeated exposure.

12. Ecological Information

12.1 Ecotoxicity

＜1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether＞
Fish Toxicity: Since half of them were not lethal within the solubility (76 mg / L), the acute / chronic harmful effects of the aquatic environment were judged to be "not classified"

Component	Species	Test Result
1,1,2,2-tetrafluoroethyl-2,2,2-trifluoroethyl ether (CAS 406-78-0)		
EC50 Algae	Algae	> 213 mg/l, 96 hours (Algal growth inhibition test)
EC50 Crustacea	Daphnia	> 94 mg/l, 96 hours (Immobilization Test)
LC50 Fish	Carp (Cyprinus carpio)	> 76 mg/l, 96 hours

12.2 Persistence and degradability

Not biodegraded. Biodegradability BOD=2%. Not easily decomposed by activated

12.3 Bioaccumulation

Not available.

12.4 Mobility in soil

Component Name	Partition Coefficient (Log Kow)
1,1,2,2-Tetrafluoroethyl-2,2,2-trifluoroethyl ether 406-78-0	2.18

12.5 Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal Considerations

13.1 Waste treatment methods

Disposal instructions: Dispose in accordance with all applicable regulations. The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products: The remaining products (residual waste) should be discarded according to the law concerning waste disposal and cleaning and the prefectural / municipal regulations. Do not flush wastewater cleaned in containers, equipment, etc. to the ground or drain. Waste generated by wastewater treatment, incineration, etc. shall be processed or consigned according to Waste Management and Public Cleansing Act. and the related laws. When performing consignment processing, contract with a specialized industrial waste disposer authorized by the prefectural governor. In the case of incineration, hydrogen fluoride, hydrogen chloride, carbon monoxide and the like are generated at the time of combustion, so a facility for removing combustion gas is required.

Contaminated packaging: When disposing of empty containers, completely remove the contents. Dispose of the waste under a contract with a licensed industrial waste disposal contractor.

14. Transport Information

14.1 Transport information

UN Number: Not applicable.

UN Proper Shipping Name: Not applicable.

Transport Hazard Class(es): Not applicable.

Packing Group: Not applicable.

Department of Transportation (DOT): Not regulated as a dangerous good.

International Air Transport Association (IATA): Not regulated as a dangerous good.

International Maritime Dangerous Good (IMDG): Not regulated as a dangerous good.

15. Regulatory Information

15.1 Safety, health, and environment regulations/legislation specific for substance or mixtures

US federal regulations: This product does not contain any hazardous substance as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA: All components are active on the U.S. EPA TSCA Inventory List.

CERCLA Hazardous Substance List (40 CFR 302.4):
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).

SARA 304 Emergency release notification: Not regulated.
SARA 302 Components: Not listed.
SARA 311/312 Hazards: Causes eye irritation. May cause drowsiness or dizziness.

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

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).

Clean Air Act: Not regulated.

US State Right to Know Regulations: This product does not contain any substances regulated under applicable state right-to-know regulations.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65):
This product does not contain any chemicals known to the State of California (Proposition 65 List of Chemicals) to cause cancer, birth, or any other reproductive defects.

International Inventories: All components of this product are either listed or exempt from listing on the following inventories: Canada DSL, Europe EINECS, Japan ENCS, Korea ECL, Australia AICS, China IECS, and Philippines PICCS.

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

16.1 General Information

Revision Date: May 1, 2025
Version number: 03
National Fire Protection Association (NFPA) Rating:
Health hazard: 2
Flammability: 0
Reactivity: 0

16.2 Full text of abbreviation

CAS – Chemical Abstract Service
GHS – Globally Harmonized System
CLP – Classification, Labelling, and Packaging
OSHA – Occupational Safety and Health Administration
UN – United Nations
TSCA – Toxic Substances Control Act
EPA – Environmental Protection Agency
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
SARA – Superfund Amendments and Reauthorization Act
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
KECL – Korean Existing and Evaluated Chemical Substances
PICSS – Philippines Inventory of Chemicals and Chemical Substances
AICS – Australian Inventory of Chemical Substances

16.3 Disclaimer

The information provided in this 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 to the 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****