

**AIR OPTIC - UNIVERSAL DRY CLEANER****SAFETY DATA SHEET**

(REACH regulation (EC) n° 1907/2006 - n° 2015/830)

**SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1. Product identifier**

Product name : AIR OPTIC - UNIVERSAL DRY CLEANER

Product code : 311021002

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

Provides quick and effective computer and electronic maintenance. Only use the product as directed on the aerosol.

**1.3. Details of the supplier of the safety data sheet**

Registered company name : FOLAN

Address : 692 RUE DES MERCIERES, 69140 RILLIEUX-LA-PAPE, FRANCE

Telephone : +33 (0)4 78 800 810

contact@folan.net

https://www.folan.net

**1.4. Emergency telephone number : +33 (0)1 45 42 59 59**

Association/Organisation : INRS / ORFILA

http://www.centres-antipoison.net

**SECTION 2 : HAZARDS IDENTIFICATION****2.1. Classification of the substance or mixture****In compliance with EC regulation No. 1272/2008 and its amendments.**

Aerosol, Category 3 (Aerosol 3, H229).

This substance does not present a health hazard with the exception of possible occupational exposure thresholds (see paragraphs 3 and 8).

This substance does not present an environmental hazard. No known or foreseeable environmental damage under standard conditions of use.

**2.2. Label elements**

Mixture for aerosol application.

**In compliance with EC regulation No. 1272/2008 and its amendments.**

Signal Word :

WARNING

Product identifiers :

EC 471-480-0                  TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE

Hazard statements :

H229    Pressurised container: May burst if heated.

Precautionary statements - General :

P101    If medical advice is needed, have product container or label at hand.

P102    Keep out of reach of children.

Precautionary statements - Prevention :

P210    Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P251    Do not pierce or burn, even after use.

Precautionary statements - Storage :

P410 + P412    Protect from sunlight. Do not expose to temperatures exceeding 50 °C.

**2.3. Other hazards**

The substance does not fulfil the PBT or vPvP criteria in accordance with annexe XIII of the REACH regulations EC 1907/2006.

Rapid evaporation of the liquid may cause frostbite.

Inhalation may cause central nervous system effects.

**AIR OPTIC - UNIVERSAL DRY CLEANER****SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS****3.1. Substances****Composition :**

Identification	(EC) 1272/2008	Note	%
CAS: 29118-24-9 EC: 471-480-0 REACH: 01-0000019758-54 TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE	GHS04 Wng Press. Gas, H280	[7]	100%

**Information on ingredients :**

[7] Propellant gas

**SECTION 4 : FIRST AID MEASURES**

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing by an unconscious person.

**4.1. Description of first aid measures****In the event of exposure by inhalation :**

If inhaled, remove to fresh air. Get medical attention if irritation develops and persists.

**In the event of splashes or contact with eyes :**

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists : Get medical advice/attention.

**In the event of splashes or contact with skin :**

Rapid evaporation of the liquid may cause frostbite. If there is evidence of frostbite, take a bath (do not rub) with lukewarm (not hot) water. If water is not available, cover with a clean, soft cloth or similar covering. Get medical attention if irritation develops or persists.

**In the event of swallowing :**

As this product is a gas, refer to the inhalation section.

**4.2. Most important symptoms and effects, both acute and delayed**

See section 11.

**4.3. Indication of any immediate medical attention and special treatment needed**

If you feel unwell, seek medical advice (show the label if possible). If symptoms persist, always call a doctor.

**SECTION 5 : FIREFIGHTING MEASURES****5.1. Extinguishing media**

If the aerosols are exposed to a fire : keep containers cool by spraying with water from a protected position.

**Suitable methods of extinction**

In the event of a fire, use :

- sprayed water or water mist
- powder
- foam
- carbon dioxide (CO<sub>2</sub>)

**Unsuitable methods of extinction**

In the event of a fire, do not use :

- water jet

**5.2. Special hazards arising from the substance or mixture**

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed :

- carbon monoxide (CO)
- carbon dioxide (CO<sub>2</sub>)
- Hydrogen fluoride
- Carbonyl halides
- Halogenated compounds

In a fire or if heated, a pressure increase will occur and the container may burst. Bursting aerosol containers may be propelled from a fire at high speed. 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.

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Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**5.3. Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus.

If possible, stop the product stream. Spray from a protected position till the containers are cool. If possible, take the aerosols outside. Keep public at a distance.

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**SECTION 6 : ACCIDENTAL RELEASE MEASURES****6.1. Personal precautions, protective equipment and emergency procedures**

Consult the safety measures listed under headings 7 and 8.

**For first aid worker**

First aid workers will be equipped with suitable personal protective equipment (See section 8).

**6.2. Environmental precautions**

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.

Prevent any material from entering drains or waterways.

**6.3. Methods and material for containment and cleaning up**

Do not direct water spray at the point of leakage. Allow to evaporate.

**6.4. Reference to other sections**

No data available.

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**SECTION 7 : HANDLING AND STORAGE**

Requirements relating to storage premises apply to all facilities where the substance is handled.

**7.1. Precautions for safe handling**

Always wash hands after handling.

**Fire prevention :**

Do not pierce or burn, even after use.

Prevent access by unauthorised personnel.

**Recommended equipment and procedures :**

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

Do not breathe in aerosols.

**Prohibited equipment and procedures :**

No smoking, eating or drinking in areas where the substance is used.

**7.2. Conditions for safe storage, including any incompatibilities**

No data available.

**Storage**

Keep out of reach of children.

Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C.

Keep away from heat and sources of ignition. Storage in a dry, frost-free and well ventilated place.

**Packaging**

Always keep in packaging made of an identical material to the original.

**7.3. Specific end use(s)**

No data available.

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**SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1. Control parameters****Occupational exposure limits :**

Trans-1,3,3,3-Tetrafluoroprop-1-ene : RCP-TWA-ppm : 800

**Derived no effect level (DNEL) or derived minimum effect level (DMEL):**

TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE (CAS: 29118-24-9)

**Final use:**

Exposure method:

Potential health effects:

DNEL :

**Workers.**

Inhalation.

Long term systemic effects.

3902 mg of substance/m3

**AIR OPTIC - UNIVERSAL DRY CLEANER****Final use:**

Exposure method:  
Potential health effects:  
DNEL :

**Consumers.**

Inhalation.  
Long term systemic effects.  
830 mg of substance/m<sup>3</sup>

**Predicted no effect concentration (PNEC):**

TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE (CAS: 29118-24-9)  
Environmental compartment: Fresh water.  
PNEC : 0.1 mg/l

**8.2. Exposure controls****Personal protection measures, such as personal protective equipment**

Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

**- Eye / face protection**

Avoid contact with eyes.

Use eye protectors designed to protect against liquid splashes

Before handling, wear safety goggles in accordance with standard EN166.

Do not spray in the direction of the eyes.

**- Hand protection**

Wear suitable protective gloves in the event of prolonged or repeated skin contact.

Recommended properties :

- Impervious gloves in accordance with standard EN374

- Protective gloves against cold (EN511)

Not necessary at efficient use. Wash your hands after contact with skin.

**- Body protection**

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled must be washed.

Not necessary at efficient use. Product in contact with skin may cause frostbite. Wash skin that has been in contact with the product, with water and soap.

**- Respiratory protection**

Type of FFP mask :

Wear a disposable half-mask aerosol filter in accordance with standard EN149.

Do not breathe spray. Use only in well-ventilated areas.

**Exposure controls linked to environmental protection**

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****General information :**

Physical state :	Fluid liquid. Spray.
Color :	Colourless, clear
Odour :	Ether-like

**Important health, safety and environmental information**

pH :	Not relevant.
Flash point interval :	Not relevant.
Vapour pressure (50°C) :	Not relevant.
Density :	1.17
Water solubility :	Insoluble. 0.373 g/l
Partition coefficient: n-octanol/water :	log Pow 1.6
Self-ignition temperature :	368 °C.
Flash point :	Not applicable

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Flammability : Not applicable

**9.2. Other information**

Pressure at 20°C : ± 5.0 bar  
Pressure at 50°C : < 12 bar  
Water content : < 0.3 % w/w

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**SECTION 10 : STABILITY AND REACTIVITY****10.1. Reactivity**

No data available.

**10.2. Chemical stability**

This substance is stable under the recommended handling and storage conditions in section 7.

**10.3. Possibility of hazardous reactions**

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

**10.4. Conditions to avoid**

Avoid :

- heat
- flames and hot surfaces
- frost

Protect from sunlight and do not expose to temperatures exceeding 50°C. Keep away from heat and sources of ignition. Storage in a dry, frost-free and well ventilated place.

**10.5. Incompatible materials**

Keep away from :

- alkali metals

**10.6. Hazardous decomposition products**

The thermal decomposition may release/form :

- carbon monoxide (CO)
- carbon dioxide (CO<sub>2</sub>)
- Hydrogen fluoride
- Carbonyl halides
- Halogenated compounds

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

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**SECTION 11 : TOXICOLOGICAL INFORMATION****11.1. Information on toxicological effects****11.1.1. Substances****Acute toxicity :**

TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE (CAS: 29118-24-9)  
Inhalation route (Vapours) : LC50 = 207000 ppm  
Species : Rat  
OECD Guideline 403 (Acute Inhalation Toxicity)

**Skin corrosion/skin irritation :**

Trans-1,3,3,3-Tetrafluoroprop-1-ene : No skin irritation (rabbit).

TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE (CAS: 29118-24-9)  
Species : Rabbit  
OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

**Serious damage to eyes/eye irritation :**

Trans-1,3,3,3-Tetrafluoroprop-1-ene : No data available.

**Respiratory or skin sensitisation :**

Trans-1,3,3,3-Tetrafluoroprop-1-ene : Not sensitizing.

**Germ cell mutagenicity :**

TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE (CAS: 29118-24-9)  
No mutagenic effect.

Mutagenesis (in vivo) : Negative.

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Species : Mouse  
OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Mutagenesis (in vitro) : Negative.  
Species : Others  
OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)

Ames test (in vitro) : Negative.

**Reproductive toxicant :**

TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE (CAS: 29118-24-9)  
No toxic effect for reproduction

Study on fertility : Species : Rat  
OECD Guideline 414 (Prenatal Developmental Toxicity Study)

Study on development : Species : Rat  
OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)

**Specific target organ systemic toxicity - repeated exposure :**

TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE (CAS: 29118-24-9)  
Inhalation route : C > 5000 ppmV/6h/day  
Species : Rat  
Duration of exposure : 90 days  
OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)

**Aspiration hazard :**

Trans-1,3,3,3-Tetrafluoroprop-1-ene : No data available.

**SECTION 12 : ECOLOGICAL INFORMATION****12.1. Toxicity****12.1.1. Substances**

TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE (CAS: 29118-24-9)  
Fish toxicity : LC50 > 117 mg/l  
Species : Cyprinus carpio  
Duration of exposure : 96 h  
OECD Guideline 203 (Fish, Acute Toxicity Test)

NOEC > 117 mg/l  
Species : Cyprinus carpio  
Duration of exposure : 96 h  
OECD Guideline 203 (Fish, Acute Toxicity Test)

Crustacean toxicity : EC50 > 160 mg/l  
Species : Daphnia magna  
Duration of exposure : 48 h  
OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Algae toxicity : ECr50 > 170 mg/l  
Duration of exposure : 72 h  
OECD Guideline 201 (Alga, Growth Inhibition Test)

NOEC > 170 mg/l  
Duration of exposure : 72 h  
OECD Guideline 201 (Alga, Growth Inhibition Test)

**12.2. Persistence and degradability****12.2.1. Substances**

TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE (CAS: 29118-24-9)

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Biodegradability : Non-rapidly degradable.

**12.3. Bioaccumulative potential**

Trans-1,3,3,3-Tetrafluoroprop-1-ene : No bioaccumulation is to be expected (log Pow <= 4).

**12.3.1. Substances**

TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE (CAS: 29118-24-9)

Octanol/water partition coefficient : log K<sub>ow</sub> <= 4

**12.4. Mobility in soil**

Trans-1,3,3,3-Tetrafluoroprop-1-ene : No data available.

**12.5. Results of PBT and vPvB assessment**

Trans-1,3,3,3-Tetrafluoroprop-1-ene : No data available.

**12.6. Other adverse effects**

No data available.

**SECTION 13 : DISPOSAL CONSIDERATIONS**

Proper waste management of the substance and/or its container must be determined in accordance with Directive 2008/98/EC.

**13.1. Waste treatment methods**

Do not pour into drains or waterways.

**Waste :**

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Recycle or dispose of waste in compliance with current legislation, namely the Ordinance on the Avoidance and Disposal of Waste (Waste Ordinance, VVEA, SR 814.600), the Ordinance on Waste from June 22, 2005 (VeVA, SR 814, 610) and DETEC Ordinance on Waste Lists.

Disposal of the product (the unused product, residual quantities, the cured product, emptied but uncleaned packaging) : preferably by an approved waste collector or a specialist disposal company. Suitable containers and methods of waste treatment should be used.

**Soiled packaging :**

Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

**Codes of wastes (Decision 2014/955/EC, Directive 2008/98/EEC on hazardous waste) :**

15 01 10 \* packaging containing residues of or contaminated by dangerous substances

**SECTION 14 : TRANSPORT INFORMATION**

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2017 - IMDG 2016 - ICAO/IATA 2017).

**14.1. UN number**

1950

**14.2. UN proper shipping name**

UN1950=AEROSOLS, asphyxiant

**14.3. Transport hazard class(es)**

- Classification :

2.2

ADR/RID Label : Limited Quantity : 2.2 is not applicable.

**14.4. Packing group**

-

**14.5. Environmental hazards**

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**14.6. Special precautions for user**

ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel
	2	5A	-	2.2	-	1 L	190 327 344 625	E0	3	E
IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ			
	2	See SP63	-	See SP277	F-D,S-U	63 190 277 327 344 381 959	E0			
IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ	

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	2.2	-	-	203	75 kg	203	150 kg	A98 A145 A167 A802	E0
	2.2	-	-	Y203	30 kg G	-	-	A98 A145 A167 A802	E0

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

No data available.

**SECTION 15 : REGULATORY INFORMATION****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****- Classification and labelling information included in section 2:**

The following regulations have been used:

- Directive 75/324/CEE modified by directive 2013/10/UE
- EU Regulation No. 1272/2008 amended by EU Regulation No. 2018/669 (ATP 11)

**- Container information:**

No data available.

**- Particular provisions :**

No data available.

**15.2. Chemical safety assessment**

A chemical safety assessment has been carried out for the following products or for the substances in these products :

Trans-1,3,3,3-Tetrafluoroprop-1-ene

**SECTION 16 : OTHER INFORMATION**

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the substance and not as a guarantee of the properties thereof.

**Wording of the phrases mentioned in section 3 :**

H280 Contains gas under pressure; may explode if heated.

**Abbreviations :**

DNEL : Derived No-Effect Level

PNEC : Predicted No-Effect Concentration

ADR : European agreement concerning the international carriage of dangerous goods by Road.

IMDG : International Maritime Dangerous Goods.

IATA : International Air Transport Association.

ICAO : International Civil Aviation Organisation

RID : Regulations concerning the International carriage of Dangerous goods by rail.

WGK : Wassergefährdungsklasse (Water Hazard Class).

PBT: Persistent, bioaccumulable and toxic.

vPvB : Very persistent, very bioaccumulable.

SVHC : Substances of very high concern.

**Difference Report**

Revision: N°6 (05/11/2018) / GHS n°2 / GHS US n°) / Version: N°1 (05/11/2018)

Revision: N°5 (05/11/2018) / GHS n°1 / GHS US n°) / Version: N°1 (05/11/2018)

**SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES****Important health, safety and environmental information**

Self-ignition temperature : 368 °C.