



SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Art. Airduster non-flammable (new gas) ECS

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

Use of the substance/mixture:

Aerosol

Uses advised against:

none/none

1.3. Details of the supplier of the safety data sheet

Company name:	ECS AG
Street:	Roosstrasse 53
Place:	CH-8832 Wollerau
Responsible Department:	Gunnar Kleinmann
Tel.:	+41 (0)44 / 787 53 56
Email:	gunnar.kleinmann@ecsag.com

1.4. Emergency telephone number:

+41 (0)44 / 787 53 56

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

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

Pictograms : N/A

Signal word: Warning

GHS Classification:

Hazard categories: Aerosol: Aerosol 3

Hazards Statements: Non flammable aerosol.
Pressurised container: May burst if heated.

2.2.- Label elements

2.2.1 Labelling according to Regulation (EC) No 1272/2008 [CLP]

Signal word : Warning

Pictograms: N/A

Hazard statements:
H229 Pressurised container: May burst if heated.

Precautionary statements:

P102	Keep out of reach of children.
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.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

2.3. Other hazards

The aerosol may explode due to the internal pressure generated when exposed to temperatures exceeding 50°C/122°F.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

N/A

3.2 Mixtures

Identifier number	Identification name	Content (%)	Classification according to Regulation 1272/2008
CAS N° 29118-24-9	Trans-1,3,3,3-Tetrafluoroprop-1-ene	50-100	Pres. Gas

Full text or R and H phrases: see Section 16.

Further information

N/A

SECTION 4 : FIRST AID MEASURES

4.1. Description of first aid measures

General information:

In case of accident or if you feel unwell, seek medical advice immediately (show safety data sheet if possible).

After inhalation:

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In all cases of doubt, or when symptoms persist, seek medical advice.

After contact with skin:

After contact with skin, wash immediately with plenty of water and soap. In case of skin irritation, seek medical treatment.

After contact with eyes:

Rinse immediately carefully and thoroughly with eye-bath or water. In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion:

If swallowed, immediately drink: Water. Never give anything by mouth to an unconscious person or a person with cramps. Do not induce vomiting. Caution if victim vomits: Risk of aspiration!

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

No symptoms known up to now.

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

Treat symptomatically.

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

Foam. Carbon dioxide. Extinguishing powder.

Unsuitable extinguishing media:

High power water jet.

5.2. Special hazards arising from the substance or mixture

Can be released in case of fire: Carbon dioxide (CO₂). Carbon monoxide.
Contains gas under pressure; may explode if heated.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical resistant suit.

Additional information:

Use water spray/stream to protect personnel and to cool endangered containers. Use a water spray jet to knock down vapours/gases/mists. Contaminated fire-fighting water must be collected separately. Do not empty into drains or the aquatic environment. In case of fire and/or explosion do not breathe fumes.

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

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray.
Avoid contact with skin, eye and clothing. Wear personal protection equipment.

6.2. Environmental precautions

Do not empty into drains or the aquatic environment. Explosion hazard. Eliminate leaks immediately.
Prevent spreading over great surfaces (e.g. by damming or installing oil booms).

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).
Treat the assimilated material according to the section on waste disposal.
Ventilate affected area.

6.4. Reference to other sections

See protective measures under point 7 and 8.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling**Advice on safe handling:**

Use only in well-ventilated areas. Take precautionary measures against static discharges. Do not spray into flames or ignition sources. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.

Advice on protection against fire and explosion:

Keep away from sources of ignition - No smoking. Heating causes rise in pressure with risk of bursting.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels:**

Keep container tightly closed in a cool, well-ventilated place. Keep away from sources of ignition – No smoking. Please note: aerosol directive (75/324/EEC).

Advice on storage compatibility:

Do not store together with: Radioactive substances. Infectious substances. Organic peroxides. Oxidizing solids. Oxidizing liquids. Pyrophoric liquids and solids. flammable substances. Substances or mixtures which, in contact with water emit flammable gases.

Further information on storage conditions:

Recommended storage temperature: 10-30°C Do not store at temperatures over: 50°C
Conditions to avoid: UV-radiation/sunlight, heat, moisture.
Ensure adequate ventilation of the storage area.

7.3. Specific end use (s)

Observe technical data sheet.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters****Exposure limits (EH40):**

<u>CAS-No</u>	<u>Name</u>	<u>ppm</u>	<u>mg/m3</u>	<u>Origin</u>
29118-24-9	Trans-1,3,3,3-Tetrafluoroprop-1-ene	800	-	TWA

8.2. Exposure controls**Appropriate engineering controls:**

Use only outdoors or in a well-ventilated area.

Protective and hygiene measures:

Take off immediately all contaminated clothing. Wash hands before breaks and at the end of work. When using do not eat, drink or smoke.

Eye/face protection:

Wear safety glasses; chemical goggles (if splashing is possible).

Hand protection:

Hand protection: not required.

In case of prolonged or frequently repeated skin contact:

Pull-over gloves of rubber. DIN EN 374

Suitable material:

(penetration time (maximum wearing period): >=8h):

Butyl rubber. (0,5mm)

FKM (fluororubber). (0,4 mm)

In case of reutilization, clean gloves before taking off and store in well-aired place.

Skin protection:

No special measures are necessary

Respiratory protection:

With correct and proper use, and under normal conditions, breathing protection is not required.

Respiratory protection required in case of:

exceeding critical value

insufficient ventilation.

Suitable respiratory protective equipment: Combination filter device (DIN EN 141).. Type A/P3

Only use breathing apparatus with CE-label including the four-digit identification number.

Environmental exposure controls:

Do not allow uncontrolled leakage of product into the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

Physical state:	Aerosol
Colour:	characteristic
Odour:	characteristic
pH-value:	not determined

Changes in the physical state:

Initial boiling point and boiling range: not determined

Flash point: not determined

Explosive properties:

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

Lower explosion limits: not determined

Upper explosion limits: not determined

Ignition temperature: not determined

Oxidizing properties: none/none

Vapour pressure: not determined

Density: not determined

Water solubility: not miscible

Viscosity / dynamic: not determined

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

No information available.

10.2. Chemical stability

Stable under normal storage and handling conditions.

10.3. Possibility of hazardous reactions

Heating causes rise in pressure with risk of bursting.

10.4. Conditions to avoid

Protect from moisture. Keep away from heat. Protect from direct sunlight. Ignition hazard.

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

In use, may form flammable/explosive vapour-air mixture. Can be released in case of fire: Carbon dioxide (CO₂). Carbon monoxide.

SECTION 11: TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects****Toxicokinetics, metabolism and distribution:**

No information available

Acute toxicity:

Based on available data, the classification criteria are not met.

Irritation and corrosivity:

Based on available data, the classification criteria are not met.
Irritant effect on the eye: May cause irritation and sight disturbances.
Irritant effect on the skin: May cause irritation if it is many time in contact with skin.

Sensitising effects:

Based on available data, the classification criteria are not met.
Product is: no danger of sensitization. The statement is derived form the properties of the components.

STOT-single exposure:

Based on available data, the classification criteria are not met.

Severe effects after repeated or prolonged exposure:

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction:

Based on available data, the classification criteria are not met.

Aspiration hazard:

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal:

No information available

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

No data available.

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential**Partition coefficient n-octanol/water:**

N/A

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

No information available.

SECTION 13. DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods****Advice on disposal:**

Waste disposal according to official state regulations. Cleaned containers may be recycled.

Waste disposal number of waste from residues/unused products:

160504 Wastes not otherwise specified in the list: gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing dangerous substances.
Classified as hazardous waste.




Waste disposal number of used product:

160504 Wastes not otherwise specified in the list: gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing dangerous substances.
Classified as hazardous waste.

Waste disposal number of contaminated packaging:

150110 Waste packaging: absorbents, wiping cloths, filter materials and protective clothing not otherwise specified: packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by dangerous substances.
Classified as hazardous waste.

SECTION 14. TRANSPORT INFORMATION

UN NUMBER: 1950	<u>Land – Road / Railway</u>	ADR / RID Class: 2 Packing group: - UN 1950 AEROSOLS Classification code: 5A	
	<u>Sea</u>	IMDG CODE: 2.2 Packing group: - EmS: F-D, S-U Marine pollutant: - AEROSOLS	
	<u>Air</u>	IATA 2.2 Secondary danger: - Packing group: - Aerosols non flammable	

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: not determined

14.6. Special precautions for user

Refer to chapter 6-8

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Irrelevant

SECTION 15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulatory information

VOC: 0%

Additional information

COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

National regulatory information

Employment restrictions: Observe employment restrictions for young people.

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16. OTHER INFORMATION**Changes**

Version	Revision date	Changes
1.0	05/06/2017	Initial
1.1	15/11/2018	Section 15
1.2	11/02/2019	Section 15

Acronym

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NOAEL: No observed adverse effect level

Full test of H phrases referred to under Sections 2 and 3

H280 Contains gas under pressure; may explode if heated.

The information contained in this sheet is to the best of our knowledge true and accurate but all data, instructions, recommendations and suggestions are made without guarantee. The information contained in this sheet is offered in good faith, according to our knowledge of the product involved. Some data is currently being reviewed. We would warn users about the possible appearance of other risks if this product is applied for uses other than those herein specified. This data sheet should be applied and reproduced only for prevention and safety reasons. The list of legal, regulatory and administrative texts contained herein is not exhaustive.