



SAFETY DATA SHEET

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Revision nr : 9

Date : 9 / 11 / 2018

Supersedes : 28 / 4 / 2016

CryoRAL aerosol - 55°C**361405**

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

1.1. Product identifier

Trade name : CryoRAL aerosol - 55°C

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

Use : In vitro diagnostic medical device.
For professional use only.

1.3. Details of the supplier of the safety data sheet

Company identification : RAL DIAGNOSTICS
Site Montesquieu
33650 MARTILLAC FRANCE
Tel : +33 (0) 5 57 96 04 04 Fax : +33 (0) 5 57 96 04 05
www.ral-diagnostics.com
Email: commercial@ral-diagnostics.fr

1.4. Emergency telephone number

Emergency phone nr : ORFILA : +33 (0) 1 45 42 59 59

SECTION 2 Hazards identification

2.1. Classification of the substance or mixture

Hazard Class and Category Code(s), Regulation (EC) No 1272/2008 (CLP)

• Physical hazards : Aerosols - Category 3 - Warning - (CLP : Flam. Aerosol 3) - H229

2.2. Label elements

Labelling Regulation EC 1272/2008 (CLP)

- Hazard pictograms : None.
- Signal words : Warning
- Hazard statements : H229 - Pressurised container: May burst if heated
- Precautionary statements
 - General : P102 - Keep out of reach of children.
 - Prevention : P251 - Pressurized container: Do not pierce or burn, even after use
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P210 - Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P211 - Do not spray on an open flame or other ignition source
 - Storage : P410+412 - Protect from sunlight. Do not expose to temperatures exceeding 50°C/ 122°F
 - Additional sentences : Use this product only the applications for which it is intended.
For professional use only.

2.3. Other hazards

Other hazards : None under normal conditions.



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SECTION 3 Composition/information on ingredients

This product is not considered to be hazardous and does not contain hazardous components.

Substance name	Value(s)	CAS nr	EINECS nr	EC index	REACH	Classification
1,3,3,3-tetrafluoropropene	: 100 %	29118-24-9	471-480-0	-----	01-0000019758-54	Compressed gas:H280

SECTION 4. First aid measures

4.1. Description of first aid measures

First aid

- **Inhalation** : Take victim to fresh air. If you feel unwell, seek medical advice.
- **Skin contact** : Rinse immediately with plenty of water. In case of liquid contact, treat frostbite like burns. Seek medical attention if burns develop.
- **Eye contact** : In case of eye contact, immediately rinse with clean water for 10-15 minutes. Seek medical attention immediately.
- **Ingestion** : Rinse mouth. Seek medical attention if ill effect develops.

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

- **Inhalation** : Inhalation may affect the nervous system causing headache, possibly dizziness, nausea, weakness, loss of coordination and unconsciousness.
- **Skin contact** : Repeated or prolonged skin contact may cause irritation progressing to a burn.
- **Eye contact** : Direct contact with liquefied gas may cause severe and possibly permanent eye injury due to frostbite from rapid liquid evaporation.
- **Ingestion** : Must not come into contact with food or be consumed. Ingestion unlikely.

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

Advice to Physician: Treat symptomatically.

SECTION 5. Fire-fighting measures

5.1. Extinguishing media

Extinguishing media : Use extinguishing media appropriate for surrounding fire. All extinguishing media can be used.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards : Pressurised container: May burst if heated

5.3. Advice for fire-fighters

- Protection against fire** : Do not enter fire area without proper protective equipment, including respiratory protection.
- Special procedures** : Exercise caution when fighting any chemical fire.
- Surrounding fires** : Blazing aerosol projections may explode under high pressure induced by fire. Use water spray to cool exposed surfaces.

SECTION 6. Accidental release measures

General precautions : Aerosols must not be pierced or squashed in order to avoid leakage. Ventilate area. Remove ignition sources.

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions : Equip cleanup crew with proper protection. Do not breathe spray. Avoid contact with skin and eyes. Evacuate and limit access. No smoking.

6.2. Environmental precautions

Environmental precautions : Prevent entry to sewers and public waters.

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SECTION 6. Accidental release measures (continued)

6.3. Methods and material for containment and cleaning up

After spillage and/or leakage : Dike for recovery or absorb with appropriate material. Flush with plenty of water. Dispose in a safe manner in accordance with local/national regulations.

6.4. Reference to other sections

See Heading 8.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

General : Do not breathe gas/fumes/vapour/spray. Store and handle as though always a serious potential fire/explosion and health hazard exists. Container under pressure. Do not drill or burn even after use. Do not spray on naked flame or any incandescent material. No smoking.

Handling : Use this product only the applications for which it is intended. Handle in accordance with appropriate industrial hygiene and safety procedures. Good ventilation of the workplace required. Keep away from food, drink and animal feeding stuffs. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage : Store in dry, well-ventilated area. Keep at temperature not exceeding 50°C. To avoid blazing projections of aerosols in the rest of stock, they must be placed in a delimited and protected zone. No smoking.
To reduce the risk of falls should be positioned as close as possible to the ground pallets. If the packages are stacked, it should ensure that those lower layers do not crash (risk of leakage through compression).

Storage - away from : Open flame. Direct sunlight. Heat. Sparks. Strong oxidisers. Earthy-Alkalino metals. Hydroxide.

7.3. Specific end use(s)

Not applicable.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

On ingredients : 1,3,3,3-tetrafluoropropene
: TLV-TWA [ppm] : 800 IOELV (UE).

8.2. Exposure controls

Personal protection



• **Respiratory protection** : In case of insufficient ventilation, wear suitable respiratory equipment.

• **Hand protection** : Gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
In full:
Material: nitrile rubber.
Minimum thickness: 0.10 mm. Break through time: Not tested.
Proposed equipment : Touch N Tuff® (Ansell 92-500 ou 92-670).
In the event of splashes:
Material: nitrile rubber.
Minimum thickness: 0.10 mm. Break through time: Not tested.
Proposed equipment : Touch N Tuff® (Ansell 92-500 ou 92-670).
Source of data: Ansell Healthcare Europe N.V., Riverside Business Park, Block J, Boulevard International 55, B-1070 Brussels, Belgium, Tel. +32 (0)2 528 74 00, e-mail : info@ansell.eu.

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SECTION 8. Exposure controls/personal protection (continued)

- **Skin protection** : Wear suitable protective clothing. Choose body protection in relation to the dangerousness of the product, its concentration and the amounts used depending on the workstation.
- **Eye protection** : Safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
- **Ingestion** : When using do not eat or drink.
- Industrial hygiene** : Provide local exhaust or general room ventilation.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

9.1.a. Appearance

- Physical state** : Liquefied gas.
Colour : Colourless.

9.1.b. Odour

- Odour** : Ethereal.

9.1.c. Odour threshold

No data available.

9.1.d. pH

No data available.

9.1.e. Melting point / Freezing point

No data available.

9.1.f. Initial boiling point - boiling range

No data available.

9.1.g. Flash point

- Flash point [°C]** : néant

9.1.h. Evaporation rate

No data available.

9.1.i. Flammability

No data available.

9.1.j. Explosion limits (lower - upper)

No data available.

9.1.k. Vapour pressure

No data available.

9.1.l. Vapour density

No data available.

9.1.m. Relative density

No data available.

9.1.n. Solubility

No data available.

9.1.o. Partition coefficient : n-octanol / water

No data available.

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SECTION 9. Physical and chemical properties (continued)

9.1.p. Auto-ignition temperature

No data available.

9.1.g. Thermal decomposition

No data available.

9.1.r. Viscosity

No data available.

9.1.s. Explosive Properties

No data available.

9.1.t. Oxidising properties

No data available.

9.2. Other information

COV : 100%.

SECTION 10. Stability and reactivity

10.1. Reactivity

Pressurised container: May burst if heated

10.2. Chemical stability

Physico-chemical stability : Stable under normal conditions of storage, handling and use.

10.3. Possibility of hazardous reactions

None under normal conditions.

10.4. Conditions to avoid

Conditions to avoid : Direct sunlight. Heat. Open flame. Sparks. Remove ignition sources. Prevent any contact with hot surfaces.

10.5. Incompatible materials

Materials to avoid : Alkali and caustic products. Reactive Metals (Al, K, Zn,...). Strong oxidizers. Earthy-Alkalino metals. Acids. Bases.

10.6. Hazardous decomposition products

Hazardous decomposition products : Peroxyde fluoride. Carbon oxides

SECTION 11. Toxicological information

11.1. Information on toxicological effects

• Acute toxicity

On ingredients

1,3,3,3-tetrafluoropropene : Rat inhalation LC50 [mg/l/4h] : > 965**• Skin corrosion/irritation** : No data available.**• Serious eye damage/irritation** : No data available.**• Respiratory or skin sensitisation** : No data available.**• Germ cell mutagenicity** : No data available.**• Carcinogenicity** : No data available.**• Reproductive toxicity** : No data available.



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SECTION 11. Toxicological information (continued)

- STOT-single exposure : No data available.
- STOT-repeated exposure : No data available.
- Aspiration hazard : No data available.
- Potential effects on health : No data available.
- Signs and symptoms of exposure : No data available.
- Other : Contact with liquefied gas may cause serious eye damage. Liquid gas can cause frost-type burns.

SECTION 12. Ecological information

12.1. Toxicity

Greenhouse effect : GWP (CO₂=1/100 years)= 6.
CE50 Daphnia > 160 mg/l.

12.2. Persistence - degradability

Persistence and degradability : Minimally biodegradable.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

Potential depletion of ozone layer : ODP (R-11.1)=0.

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Disposal : Avoid discarding in the environment.
Dispose in a safe manner in accordance with local/national regulations.
Dispose used or damaged aerosol cans at permitted disposal sites.

SECTION 14. Transport information

14.1. UN number

• UN No. : 1950

14.2. UN proper shipping name

• Proper shipping name : AEROSOLS

14.3. Transport hazard class(es)

• Hazard Label(s)



• Class : 2.2: Non-flammable, non-toxic gases

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SECTION 14. Transport information (continued)

- H.I. nr : : --
• Classification code : 5

14.4. Packing group

• ADR Packing group : A
• IMO Packing group : -
• IATA Packing group : -

14.5. Environmental hazards

• IMDG-Marine pollution : -

14.6. Special precautions for user

Emergency action in case of accident

• IMO-IMDG code : FS : F-D - S-U

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

Not applicable.

SECTION 15. Regulatory information

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

Directive 75/324/CEE.

Ensure all national/local regulations are observed.

15.2. Chemical Safety Assessment

Not applicable.

SECTION 16. Other information

H Substances ' sentences' text : H280 - Contains gas under pressure; may explode if heated
Revision : 9
Print date : 9 / 11 / 2018
Further information : Product intended for professional use only.

The contents and format of this SDS are in accordance with REGULATION (EC) No 453/2010 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL.

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