



**EXTINGUISHING SOLUTION
CLASS F FIRES**

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

1.1. Product identifier.

Aerosol minibombero

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

Aerosol to fight against Class F fires.

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

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1.4. Emergency telephone number.

Tlf: +34 985307145 (Office hours).

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture.

Not classified as dangerous.

2.1.1. Eye contact:

May cause irritation.

2.1.2. Skin contact:

Not irritant.

2.1.3. Inhalation:

Vapours may cause irritation to the nose, throat and respiratory tract. Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

2.1.4. Ingestion:

Not a hazard in normal industrial use. Small amounts swallowed during normal handling operations are not likely to cause injury; swallowing large amounts may cause injury or irritation.

2.2. Label elements.

Pressurized container: Do not pierce or burn, even after use. Protect from sunlight. Store at temperatures not exceeding 50 °C.

2.3. Other hazards.

Components of the mixture are not considered to be persistent, bioaccumulating nor toxic (PBT).

Components of the mixture are not considered to be very persistent nor very bioaccumulating (vPvB).

3. COMPOSITIONS/INFORMATION ON INGREDIENTS

Mixture:

Components	CAS Number	Danger class	Concentration range
1,1,1,2- tetrafluoroethane	811-97-2	H820	1 – 30%
Diethyleneglycol Monobutylether	112-34-5	H319	0,1 - 1%
Hydrocarbon surfactants		H318	1 - 2%
Organic salts		-	1 – 40%

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4. FIRST AID MEASURES

4.1. Description of first aid measures.

4.1.1. Eye contact:

Wash immediately with water. If irritation persists, seek medical help.

4.1.2. Skin contact:

Take off the contaminated clothes and wash the stained skin of product with plenty of water.

4.1.3. Inhalation:

Take to the casualty to fresh air.

4.1.4. Ingestion:

Wash the mouth with plenty of water. Do not induce vomiting. Seek medical help.

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

Irritation and reddening of the affected part. Irritation of the respiratory tract.

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

In the case of doubt or when malaise symptoms persist, seek for medical attention.

5. FIREFIGHTING MEASURES

5.1. Extinguishing media.

Use Water, foam, carbon dioxide or dry chemical.

5.2. Special hazards arising from the substance or mixture.

Aerosol can explode because of internal pressure at temperatures exceeding 50°C. In this case, aerosols may be projected strongly during a fire. Keep containers cold spraying with water.

The combustion or the thermal decomposition of the product can generate carbon dioxide or carbon monoxide, hydrogen fluoride, fluorocarbons, carbonyl fluoride. The exposure to combustion products can be dangerous for the health.

5.3. Advice for fire fighters.

According the magnitude of the fire, it can be necessary the use of protection clothes for heat, independent respiratory equipment, gloves, protective goggles or facial mask and boots.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures.

Wear individual safety protection.

6.2. Environmental precautions.

Avoid the contamination of the soil, drainage systems and superficial or underground water. In the case of a great spill, inform to the competent authorities according the local legislation.

6.3. Methods and material for containment and cleaning up.

Ventilate area. Contain spill. Cover with absorbent material. Collect spilled material and place in a closed and identified container.

6.4. Reference to other sections.

Additional information on section 13.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling.

Avoid contact with eyes, skin or clothing. Avoid ingestion or inhalation. Avoid spill of the product and maintain remote of water drainage systems. Wash the hands after each use. Eliminate all sources of ignition. Keep out of the reach of children. Do not pierce or burn, even after use.

7.2. Conditions for safe storage, including any incompatibilities.

Store in original container or tanks designed for product storage, avoiding its evaporation and contamination with strange material. Store at temperatures between -40° C and 50° C.

7.3. Specific end use(s).

Do not exist particular recommendations different from already indicated for the use of this product.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters.

Exposure limit values

Component	VLA-ED	VLA-EC	Year
1,1,1,2- tetrafluoroethane	1000 ppm		2007
Diethyleneglycol Monobutylether	10 ppm; 67 mg/m ³	15 ppm; 101 mg/m ³	2007

VLA=Value environmental limit, ED-daily exposure, EC-short duration exposure

8.2. Exposure controls.

8.2.1. Respiratory protection:

With insufficient ventilation, use suitable breathing equipment.

8.2.2. Hand protection:

Protective gloves adapted.

8.2.3. Eye protection:

Security goggles.

8.2.4. Skin protection:

Suitable work clothes to avoid the contact with the product.

8.2.5. Environmental exposure control:

Avoid spills to the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties.

Appearance: Aerosol

Explosive properties: Contains gas under pressure; may explode if heated.

10. STABILITY AND REACTIVITY

10.1. Reactivity.

Pressurized container: Do not pierce or burn, even after use. Protect from sunlight. Store at temperatures not exceeding 50 °C.

10.2. Chemical stability.

Stable in common environmental conditions and in the abovementioned range of temperatures during its storage and manipulation.

10.3. Possibility of hazardous reactions.

Dangerous reactions don't take place when it is stored and manipulated correctly.

10.4. Conditions to avoid.

Avoid temperatures outside the range of storage (subsection 7.2.).

10.5. Incompatible materials.

No one in normal process conditions.

10.6. Hazardous decomposition products.

The combustion or the thermal decomposition of the product can generate carbon dioxide or carbon monoxide, hydrogen fluoride, fluorocarbons, carbonyl fluoride.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects.

- a) Acute toxicity:
1,1,1,2- tetrafluoroethane: LC₅₀ (inhalation , Rata) > 50%
LC₅₀ (oral) No applicable
LC₅₀ (oral) No applicable
- b) Irritation:
1,1,1,2- tetrafluoroethane: Not skin irritant
- c) Corrosivity:
1,1,1,2- tetrafluoroethane: No corrosive
- d) Sensitisation:
1,1,1,2- tetrafluoroethane: Not skin sensitizer
- e) Repeated dose toxicity:
1,1,1,2- tetrafluoroethane: No effects.
- f) Carcinogenicity:
1,1,1,2- tetrafluoroethane: Not classifiable as a human carcinogen.
- g) Mutagenicity:
1,1,1,2- tetrafluoroethane: Not show any mutagenic effects.
- h) Toxicity for reproduction:
1,1,1,2- tetrafluoroethane: No toxicity to reproduction

12. ECOLOGICAL INFORMATION

12.1. Toxicity.

Component	CL50, mg/L. 96 h	CE50, mg/L. 48 h	CE50, mg/L. 72 h
1,1,1,2- tetrafluoroethane	450 Fish	980 Daphnia	-

12.2. Persistencia y degradabilidad.

Component	COD	BOD ₅ /COD %5days	Primary Biodegradation % 28 days
1,1,1,2- tetrafluoroethane	-	-	3%

12.3. Bioaccumulative potential.

Data no available.

12.4. Mobility in soil.

Data no available. Avoid the contamination of the soil and water.

12.5. Results of PBT and vPvB assessment.

Components of the mixture are not considered to be persistent, bioaccumulating nor toxic (PBT).

Components of the mixture are not considered to be very persistent not very bioaccumulating (vPvB).

12.6. Other adverse effects.

The spill of the product will create copious quantities of foam. In the event of large spillage, let appropriate authorities know.

Ozone depletion potential (1,1,1,2- tetrafluoroethane) = 0

Global warming potential (1,1,1,2- tetrafluoroethane) = 1300

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods.

Dispose in accordance with local, state and federal regulation (Directive 75/442/CEE~91/156/CE (Law 10/1998) and elimination of empty packages, Directive 94/62/CE (Law 11/1997 and RD.782/1998)). Discharge to waste treatment plants only with permission. Antifoam agents can be used to reduce foaming

in waste streams.

14. TRANSPORT INFORMATION

UN Number	1950
Road (RID)	
RID class	2
Danger code (Kemler)	20
Packaging group	---
Hazard label	2.2
Description of goods	1950 Aerosol
Air (ICAO-TI)	
ICAO class	2.2
Label	2.2
Packaging group	---
Packaging instructions	203 / Y203
Proper shipping name	Aerosol
Sea (IMDG)	
IMDG class	2.2
Label	2.2
Packaging group	---
EMS number	F-C, S-V
Marine pollutant	No
Proper shipping name	Aerosol

15. REGULATORY INFORMATION

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

Directive 67/548/EEC (classification, packaging and labelling of dangerous substances). Directive 1999/45/EC (classification, packaging and labelling of dangerous preparations). Directive 98/24/EC (risks related to chemical agents at work). Directive 2000/39/CE (indicative occupational exposure limit values). Regulation (EC) n. 1907/2006 (REACH), Regulation (EC) n. 1272/2008 (CLP).

15.2. Chemical safety assessment.

Pressurized container: Do not pierce or burn, even after use. Protect from sunlight. Store at temperatures not exceeding 50 °C.

16. OTHER INFORMATION

16.1. Full text of R phrases in Section 2 and 3.

- H280: Contains gas under pressure; may explode if heated
- H318: Causes serious eye damage
- H319: Causes serious eye irritation

16.2. Legislation on Safety material sheets.

Safety data sheet according RD 255/2003, Classification, packaging and labelling of dangerous preparations (see section 15.1).

16.3. Revisions.

Version: 1 Revision date: 01/08/2012 Edition safety data sheet

The information in this safety data sheet is based on the present state of knowledge and current national legislation. It provides guidance on safety health and environmental aspects of the product and should not be construed as any guarantee of performance. The product should not be used for purposes other than fire-fighting without first referring to the supplier. The user is responsible for ensuring that requirements of relevant legislation are complied with.