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 : DURABLE POWERCLEAN 150
Product code : 571519 Specification n° 005452-A.

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

Company name : Durable Hunke & Jochheim GmbH & Co. KG (Head Office)
Address : Westfalenstr. 77-79 D-58636 Iserlohn
Telephone : +49 (0) 2371 / 662-0 Fax : +49 (0) 2371 /662-221
E-mail: durable-clean@durable.de
Internet: http://www.durable.de

1.4. Emergency telephone number : +49 (0) 2371 / 662-0

Association/Organisation : http://www.durable.de

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

This mixture 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
Additional labeling :
13.9% by mass of the contents are flammable.
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 mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC) >= 0.1% published by the European CHemicals Agency (ECHA) under article 57 of REACH: http://echa.europa.eu/fr/candidate-list-table

The mixture satisfies neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.

Rapid evaporation of the liquid may cause frostbite.

Intentional misuse of the preparation by concentrating and inhaling the vapours can be harmful or fatal.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Composition :

Identification	(EC) 1272/2008	Note	%
CAS: 811-97-2 EC: 212-377-0 REACH: 01-2119459374-33 1,1,1,2-TETRAFLUOROETHANE	GHS04 Wng Press. Gas, H280	[1] [7]	50 <= x % < 100

Information on ingredients :

[7] Propellant gas

[1] Substance for which maximum workplace exposure limits are available.

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.

If breathing is irregular or stopped, administer artificial respiration.

4.1. Description of first aid measures

In the event of exposure by inhalation :

Move to fresh air. Keep patient warm and at rest. Artificial respiration and/or oxygen may be necessary.

In the event of splashes or contact with eyes :

Rinse thoroughly with plenty of water, also under the eyelids. Consult a physician.

In the event of splashes or contact with skin :

Wash off with warm water. Take off all contaminated clothing immediately.

Rapid evaporation of the liquid may cause frostbite.

In the event of swallowing :

Seek medical attention, showing the label.

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

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

Misuse or intentional inhalation abuse may cause death without warning symptoms, due to cardiac effects. Other symptoms potentially related to misuse or inhalation abuse are : anaesthetic effects, light-headedness, confusion, incoordination, drowsiness, or unconsciousness, irregular heartbeat with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting/dizziness/weakness.

Skin contact may provoke the following symptoms : contact with liquid or refrigerated gas can cause cold burns and frostbite, irritation, discomfort, itching, redness or swelling.

Eye contact may provoke the following symptoms : contact with liquid or refrigerated gas can cause cold burns and frostbite, irritation, tearing, redness or discomfort.

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.

Information for the doctor :

Do not give adrenaline or similar drugs.

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
- foam
- powder
- carbon dioxide (CO_2)

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 (CO2)

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.

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 on a distance.

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

Evaporates.

6.4. Reference to other sections

No data available.

SECTION 7 : HANDLING AND STORAGE

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

7.1. Precautions for safe handling

Always wash hands after handling.

Use only in well-ventilated areas.

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 mixture 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.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits :

- UK / WEL (Workplace exposure limits, EH40/2005, 2007) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
811-97-2	1000 ppm	-	-	-	-

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

1,1,1,2-TETRAFLUOROETHANE (CAS: 811-97-2)

Final use:	**Workers.**
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	13936 mg of substance/m3

Final use:	**Consumers.**
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	2476 mg of substance/m3

Predicted no effect concentration (PNEC):

1,1,1,2-TETRAFLUOROETHANE (CAS: 811-97-2)

Environmental compartment:	Fresh water.
PNEC :	0.1 mg/l
Environmental compartment:	Sea water.
PNEC :	0.01 mg/l
Environmental compartment:	Intermittent waste water.
PNEC :	1 mg/l
Environmental compartment:	Fresh water sediment.
PNEC :	0.75 mg/kg
Environmental compartment:	Waste water treatment plant.
PNEC :	73 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.

Type of gloves recommended :

- Nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR))
- Viton® (Hexafluoropropylene copolymer and vinylidene fluoride)

Recommended properties :

- Impervious gloves in accordance with standard EN374

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

Anti-gas and vapour filter(s) (Combined filters) in accordance with standard EN14387 :

- AX (Brown)

Independent breathing apparatus for respiratory protection :

- Self-contained open-circuit compressed air independent breathing apparatus, with half mask designed to be used with positive pressure only in accordance with standard EN137.

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 :	1.13
Water solubility :	Insoluble.
Flash point :	Not applicable
Flammability :	Not applicable

9.2. Other information

VOC (g/l) :	0.00
Pressure at 20°C :	± 6.0 bar
Pressure at 50°C :	± 12.8 bar
Water content :	< 15 ppm

SECTION 10 : STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

This mixture 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

Alkali metals, alkaline earth metals, powdered metals, powdered metal salts.

10.6. Hazardous decomposition products

The thermal decomposition may release/form :

- carbon monoxide (CO)

- carbon dioxide (CO2)

Hydrogen halides, carbon dioxide (CO2), carbon monoxide, fluorocarbons, carbonyl halides. The product is stable. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11 : TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Narcosis, severe shortness of breath, Irregular cardiac activity by inhaling great concentrations.

Rapid evaporation of the liquid may cause frostbite.

Contact with liquefied gas may cause severe ocular lesions.

11.1.1. Substances

Acute toxicity :

1,1,1,2-TETRAFLUOROETHANE (CAS: 811-97-2)

Inhalation route :	LC50 = 567000 ppm Species : Rat

Skin corrosion/skin irritation :

1,1,1,2-Tetrafluoroethane : Not irritant.

Serious damage to eyes/eye irritation :

1,1,1,2-Tetrafluoroethane : Not irritating.

Respiratory or skin sensitisation :

1,1,1,2-Tetrafluoroethane : Not sensitizing.

Germ cell mutagenicity :

1,1,1,2-TETRAFLUOROETHANE (CAS: 811-97-2)

No mutagenic effect.

Carcinogenicity :

1,1,1,2-TETRAFLUOROETHANE (CAS: 811-97-2)

Carcinogenicity Test :	Negative.
	No carcinogenic effect.

Reproductive toxicant :

1,1,1,2-TETRAFLUOROETHANE (CAS: 811-97-2)

No toxic effect for reproduction

Specific target organ systemic toxicity - repeated exposure :

1,1,1,2-Tetrafluoroethane : Inhalation rat. No toxicologically significant effects were found.

11.1.2. Mixture

No toxicological data available for the mixture.

Other information

Animal testing did not show any carcinogenic, mutagenic or teratogenic effects.

SECTION 12 : ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1. Substances

1,1,1,2-TETRAFLUOROETHANE (CAS: 811-97-2)

Fish toxicity :	LC50 = 450 mg/l Species : Oncorhynchus mykiss Duration of exposure : 96 h
Crustacean toxicity :	EC50 = 930 mg/l Species : Daphnia magna

Duration of exposure : 48 h

Algae toxicity : ECr50 > 118 mg/l
Duration of exposure : 72 h

12.1.2. Mixtures

No aquatic toxicity data available for the mixture.

12.2. Persistence and degradability

1,1,1,2-Tetrafluoroethane : Half-life in air : 8.6 - 16.7 y. Product persists.

12.2.1. Substances

1,1,1,2-TETRAFLUOROETHANE (CAS: 811-97-2)
Biodegradability : Non-rapidly degradable.

12.3. Bioaccumulative potential

1,1,1,2-Tetrafluoroethane : Bioaccumulation is unlikely.

12.3.1. Substances

1,1,1,2-TETRAFLUOROETHANE (CAS: 811-97-2)
Octanol/water partition coefficient : log Koe = 1.06

12.4. Mobility in soil

1,1,1,2-Tetrafluoroethane : No data available.

12.5. Results of PBT and vPvB assessment

1,1,1,2-Tetrafluoroethane : PBT/vPvB : No.

12.6. Other adverse effects

1,1,1,2-Tetrafluoroethane : Global warming potential : 1430. Not dangerous for the ozone layer.

SECTION 13 : DISPOSAL CONSIDERATIONS

Proper waste management of the mixture 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.

Soiled packaging :

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

Give to a certified disposal contractor.

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 2015 - IMDG 2014 - ICAO/IATA 2015).

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

-

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
	2.2	See SP63	-	See SP277	F-D,S-U	63 190 277 327 344 959	E0

IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ
	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 75/734/CEE modified by directive 2013/10/UE
- Regulation EC 1272/2008 modified by regulation EC 618/2012
- EU Regulation No. 1272/2008 amended by EU Regulation No. 758/2013.

- Container information:

No data available.

- Particular provisions :

Labelling following EU Regulation No. 517/2014 : Contains fluorinated greenhouse gases covered by the Kyoto Protocol : HFC-134a/152a.

15.2. Chemical safety assessment

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

1,1,1,2-Tetrafluoroethane

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.

The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.

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 mixture 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 : Wassergefahrdungsklasse (Water Hazard Class).

Difference Report

Revision: N°2 (16/12/2013) / Version: N°4 (03/08/2015)

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

~~Revision: N°1 (12/01/2012) / Version: N°2 (16/12/2013)~~

SAFETY DATA SHEET

~~(REACH regulation (EC) n° 1907/2006 - n° 453/2010)~~

SECTION 2 : HAZARDS IDENTIFICATION

In compliance with directives 67/548/EEC, 1999/45/EC and their amendments.

~~This mixture does not present a physical hazard. Refer to the recommendations regarding the other products present on the site.~~

In compliance with directives 67/548/EEC, 1999/45/EC and their amendments.

~~Contains :~~

~~Safety phrase :~~

~~-~~	~~Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C.~~
~~-~~	~~Do not pierce or burn, even after use.~~
~~S 2~~	~~Keep out of the reach of children.~~
~~S 23~~	~~Do not breathe spray.~~
~~S 51~~	~~Use only in well-ventilated areas.~~

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

Aerosol, Category 3 (Aerosol 3, H229).

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

Signal Word :

WARNING

Additional labeling :

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 mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC) >= 0.1% published by the European CHemicals Agency (ECHA) under article 57 of REACH: http://echa.europa.eu/fr/candidate-list-table

The mixture satisfies neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.

Intentional misuse of the preparation by concentrating and inhaling the vapours can be harmful or fatal.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Composition :

~~Identification~~	~~(EC) 1272/2008~~	~~67/548/EEC~~	~~Note~~	~~%~~
~~CAS: 811-97-2~~ ~~EC: 212-377-0~~ ~~REACH: 01-2119459374-33~~ ~~1,1,1,2-TETRAFLUOROETHANE~~			~~[1]~~ ~~[7]~~	~~50 <= x % < 100~~

Identification	(EC) 1272/2008	Note	%
CAS: 811-97-2 EC: 212-377-0 REACH: 01-2119459374-33 1,1,1,2-TETRAFLUOROETHANE	GHS04 Wng Press. Gas, H280	[1] [7]	50 <= x % < 100

SECTION 4 : FIRST AID MEASURES

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

~~See section 11.~~

Misuse or intentional inhalation abuse may cause death without warning symptoms, due to cardiac effects. Other symptoms potentially related to misuse or inhalation abuse are : anaesthetic effects, light-headedness, confusion, incoordination, drowsiness, or unconsciousness, irregular heartbeat with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting/dizziness/weakness.

Skin contact may provoke the following symptoms : contact with liquid or refrigerated gas can cause cold burns and frostbite, irritation, discomfort, itching, redness or swelling.

Eye contact may provoke the following symptoms : contact with liquid or refrigerated gas can cause cold burns and frostbite, irritation, tearing, redness or discomfort.

In the event of swallowing :

Seek medical attention, showing the label.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

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

1,1,1,2-TETRAFLUOROETHANE (CAS: 811-97-2)

Final use: Workers.

Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	13936 mg of substance/m3

Final use: Consumers.

Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	2476 mg of substance/m3

Predicted no effect concentration (PNEC):

1,1,1,2-TETRAFLUOROETHANE (CAS: 811-97-2)

Environmental compartment:	Fresh water.
PNEC :	0.1 mg/l
Environmental compartment:	Sea water.
PNEC :	0.01 mg/l
Environmental compartment:	Intermittent waste water.
PNEC :	1 mg/l
Environmental compartment:	Fresh water sediment.
PNEC :	0.75 mg/kg
Environmental compartment:	Waste water treatment plant.
PNEC :	73 mg/l

- Hand protection

- Nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR))
- Impervious gloves in accordance with standard EN374

- Respiratory protection

- Self-contained open-circuit compressed air independent breathing apparatus, with half mask designed to be used with positive pressure only in accordance with standard EN137.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

Method for determining the heat of combustion :

SECTION 11 : TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

~~Repeated or prolonged contact with the mixture may cause removal of natural oil from the skin resulting in non allergic contact dermatitis and absorption through the skin.~~

Acute toxicity :

~~Inhalation route :~~ ~~LC50 > 500000 ppm~~
~~Species : Rat (recommended by the CLP)~~

Inhalation route : LC50 = 567000 ppm
Species : Rat

Skin corrosion/skin irritation :

1,1,1,2-Tetrafluoroethane : Not irritant.

Serious damage to eyes/eye irritation :

1,1,1,2-Tetrafluoroethane : Not irritating.

Respiratory or skin sensitisation :

1,1,1,2-Tetrafluoroethane : Not sensitizing.

Germ cell mutagenicity :

No mutagenic effect.

Carcinogenicity :

Carcinogenicity Test : Negative.

No carcinogenic effect.

Reproductive toxicant :

No toxic effect for reproduction

Specific target organ systemic toxicity - repeated exposure :

1,1,1,2-Tetrafluoroethane : Inhalation rat. No toxicologically significant effects were found.

SECTION 12 : ECOLOGICAL INFORMATION

12.1.1. Substances

~~Fish toxicity :~~ ~~Duration of exposure : 96 h~~
~~LC50 = 450 mg/l~~
~~Species : Oncorhynchus mykiss~~

~~Crustacean toxicity :~~ ~~Duration of exposure : 48 h~~
~~EC50 = 930 mg/l~~
~~Species : Daphnia magna~~

Fish toxicity : LC50 = 450 mg/l
Species : Oncorhynchus mykiss
Duration of exposure : 96 h

Crustacean toxicity : EC50 = 930 mg/l
Species : Daphnia magna
Duration of exposure : 48 h

Algae toxicity : ECr50 > 118 mg/l
Duration of exposure : 72 h

12.5. Results of PBT and vPvB assessment

~~No data available.~~

1,1,1,2-Tetrafluoroethane : PBT/vPvB : No.

12.6. Other adverse effects

~~No data available.~~

1,1,1,2-Tetrafluoroethane : Global warming potential : 1430. Not dangerous for the ozone layer.

12.2.1. Substances

Biodegradability : Non-rapidly degradable.

12.3.1. Substances

Octanol/water partition coefficient : log Koe = 1.06

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 2011 - IMDG 2010 - ICAO/IATA 2011).~~

IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ		
	~~2.2~~	~~SP63~~	~~-~~	~~See SP277~~	~~F-D,S-U~~	~~63 190 277 327 959~~	~~E0~~		
	~~2.2~~	~~-~~	~~-~~	~~203~~	~~75 kg~~	~~203~~	~~150 kg~~	~~A98 A145 A167~~	~~E0~~
	~~2.2~~	~~-~~	~~-~~	~~Y203~~	~~30 kg G~~	~~-~~	~~-~~	~~A98 A145 A167~~	~~E0~~

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2015 - IMDG 2014 - ICAO/IATA 2015).

	2.2	See SP63	-	See SP277	F-D,S-U	63 190 277 327 344 959	E0		
	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.

SECTION 15 : REGULATORY INFORMATION

- Classification and labelling information included in section 2:

The following regulations have been used:

- Directive 75/734/CEE modified by directive 2013/10/UE
- Regulation EC 1272/2008 modified by regulation EC 618/2012
- EU Regulation No. 1272/2008 amended by EU Regulation No. 758/2013.

- Particular provisions :

Labelling following EU Regulation No. 517/2014 : Contains fluorinated greenhouse gases covered by the Kyoto Protocol : HFC-134a/152a.

15.2. Chemical safety assessment

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

1,1,1,2-Tetrafluoroethane

SECTION 16 : OTHER INFORMATION

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