

# Perfluorotributylamine (PFTBA)

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 01/09/2019

Revision date: 01/09/2019

Version: 1.0

### SECTION 1: Identification

#### 1.1. Identification

Product form : Substance  
 Substance name : Perfluorotributylamine (PFTBA)  
 CAS-No. : 311-89-7  
 Product code : AL0-101614  
 Formula : C12F27N  
 Synonyms : 1,1,2,2,3,3,4,4,4-nonafluoro-N,N-bis(nonafluorobutyl)-1-butanamine / 1-butanamine, 1,1,2,2,3,3,4,4,4-nonafluoro-N,N-bis(nonafluorobutyl)- / FC 43 / FC 47 / Fluorinert FC 43 / Fluorocarbon FC 43 / Fluosol 43 / heptacosafuorotributylamine / Mediflor FC 43 / perfluorotributylamine / tributylamine, heptacosafuoro- / tris(nonafluorobutyl)amine / tris(perfluorobutyl)amine  
 BIG no : 33488

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Phenova  
 6390 Joyce Dr. Suite 100  
 Golden, CO 80403 - United States  
 T 1-866-942-2978 - F 1-866-283-0269  
[info@phenova.com](mailto:info@phenova.com) - [www.phenova.com](http://www.phenova.com)

#### 1.4. Emergency telephone number

Emergency number : ChemTel Assistance (US/Canada) 1-800-255-3924  
 ChemTel Assistance (International) +1 813-248-0585

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Not classified

#### 2.2. GHS Label elements, including precautionary statements

##### GHS-US labeling

No labeling applicable

#### 2.3. Other hazards which do not result in classification

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Substance type : Mono-constituent  
 Name : Perfluorotributylamine (PFTBA)  
 CAS-No. : 311-89-7

Name	Product identifier	Conc.
Perfluorotributylamine, MS Grade	(CAS-No.) 311-89-7	100

Full text of hazard classes and H-statements : see section 16

#### 3.2. Mixtures

Not applicable

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### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.
- First-aid measures after inhalation : Remove the victim into fresh air.
- First-aid measures after skin contact : Wash immediately with lots of water (15 minutes)/shower. Soap may be used.
- First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Take victim to an ophthalmologist. Do not apply neutralizing agents.
- First-aid measures after ingestion : Rinse mouth with water. Ingestion of large quantities: immediately to hospital. Call Poison Information Centre ([www.big.be/antigif.htm](http://www.big.be/antigif.htm)).

#### 4.2. Most important symptoms and effects (acute and delayed)

- Potential Adverse human health effects and symptoms : Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Causes skin irritation. May cause respiratory irritation. Causes serious eye irritation.
- Symptoms/effects after inhalation : Irritation of the respiratory tract. Irritation of the nasal mucous membranes.
- Symptoms/effects after skin contact : Tingling/irritation of the skin.
- Symptoms/effects after eye contact : Irritation of the eye tissue.

#### 4.3. Immediate medical attention and special treatment, if necessary

No additional information available

### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Adapt extinguishing media to the environment for surrounding fires.
- Unsuitable extinguishing media : Do not use a heavy water stream.

#### 5.2. Specific hazards arising from the chemical

- Fire hazard : DIRECT FIRE HAZARD: Non combustible.

#### 5.3. Special protective equipment and precautions for fire-fighters

- Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows.
- Firefighting instructions : Dilute toxic gases with water spray.
- Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Face-shield. Protective clothing.
- Emergency procedures : Mark the danger area. No naked flames. Wash contaminated clothes.

##### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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

- For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply.
- Methods for cleaning up : Take up liquid spill into absorbent material, e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Keep away from naked flames/heat. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Keep container tightly closed.
- Hygiene measures : Observe normal hygiene standards.

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

- Storage conditions : Keep container tightly closed. Keep container tightly closed and in a well-ventilated place. Keep away from any flames or sparking source.
- Incompatible materials : Direct sunlight.
- Storage temperature : 2 - 8 °C
- Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources.
- Information on mixed storage : KEEP SUBSTANCE AWAY FROM: metals.
- Storage area : Store in a cool area. Store in a dry area. Provide for a cooling system. Meet the legal requirements.
- Special rules on packaging : SPECIAL REQUIREMENTS: closing. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Perfluorotributylamine, MS Grade (311-89-7)

Not applicable

#### 8.2. Appropriate engineering controls

- Appropriate engineering controls : Either local exhaust or general room ventilation is usually required.

#### 8.3. Individual protection measures/Personal protective equipment

##### Personal protective equipment:

Avoid all unnecessary exposure. Gloves. Protective clothing. Protective goggles. Safety glasses.

##### Hand protection:

Gloves

##### Eye protection:

Face shield

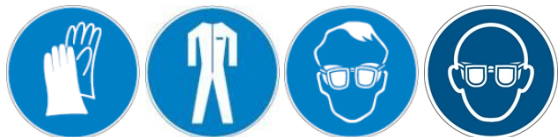
##### Skin and body protection:

Protective clothing

##### Respiratory protection:

High gas/vapour concentration: full face mask

##### Personal protective equipment symbol(s):



##### Other information:

Do not eat, drink or smoke during use.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Appearance : Liquid.

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Color	: Colourless
Odor	: characteristic
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 178 °C
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: 1.3 hPa (25 °C)
Relative vapor density at 20 °C	: 23
Relative density	: 1.9
Specific gravity / density	: 1890 kg/m <sup>3</sup>
Molecular mass	: 671.1 g/mol
Solubility	: Soluble in acetone.
Log Pow	: 2.69
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

Minimum ignition energy	: Not applicable
VOC content	: 100 %
Other properties	: Gas/vapour heavier than air at 20°C. Hygroscopic. Slightly volatile.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Unstable on exposure to moisture.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

#### Perfluorotributylamine (PFTBA) (311-89-7)

LD50 oral rat	> 10000 mg/kg (Rat, Oral)
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#### Perfluorotributylamine, MS Grade (311-89-7)

LD50 oral rat	> 10000 mg/kg (Rat, Oral)
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Skin corrosion/irritation : Not classified

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Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
	Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
	Based on available data, the classification criteria are not met
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Causes skin irritation. May cause respiratory irritation. Causes serious eye irritation.
Symptoms/effects after inhalation	: Irritation of the respiratory tract. Irritation of the nasal mucous membranes.
Symptoms/effects after skin contact	: Tingling/irritation of the skin.
Symptoms/effects after eye contact	: Irritation of the eye tissue.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general	: Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.
Ecology - water	: Slightly harmful to fishes. Insufficient data available on ecotoxicity.

#### Perfluorotributylamine (PFTBA) (311-89-7)

LC50 fish 1	> 500 mg/l (48 h, Oryzias latipes)
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#### Perfluorotributylamine, MS Grade (311-89-7)

LC50 fish 1	> 500 mg/l (48 h, Oryzias latipes)
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#### 12.2. Persistence and degradability

#### Perfluorotributylamine (PFTBA) (311-89-7)

Persistence and degradability	Not readily biodegradable in water.
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#### Perfluorotributylamine, MS Grade (311-89-7)

Persistence and degradability	Not readily biodegradable in water.
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#### 12.3. Bioaccumulative potential

#### Perfluorotributylamine (PFTBA) (311-89-7)

BCF fish 1	< 34 (Cyprinus carpio, Test duration: 6 weeks)
Log Pow	2.69
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

#### Perfluorotributylamine, MS Grade (311-89-7)

BCF fish 1	< 34 (Cyprinus carpio, Test duration: 6 weeks)
Log Pow	2.69
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

Other information : Avoid release to the environment.

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### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

- Product/Packaging disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Dissolve or mix with a combustible solvent.
- Additional information : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.
- Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Not applicable

#### Transportation of Dangerous Goods

Not applicable

#### Transport by sea

Not applicable

#### Air transport

Not applicable

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### Perfluorotributylamine, MS Grade (311-89-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### 15.2. International regulations

##### CANADA

##### Perfluorotributylamine, MS Grade (311-89-7)

Listed on the Canadian NDSL (Non-Domestic Substances List)

#### EU-Regulations

No additional information available

#### National regulations

No additional information available

#### 15.3. US State regulations

No additional information available

### SECTION 16: Other information

- Revision date : 01/09/2019
- Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
- Other information : None.

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