

1SDL000282R1508

Bergamo, July 01, 2025

Subject: Per- and polyfluoroalkyl substances (PFAS)

Per- and polyfluoroalkyl substances (PFAS), sometimes called "forever chemicals," is a group of thousands of substances widely used in many industries. For example, commonly known PFAS include:

- PFOA (perfluorooctanoic acid) and PFOS (perfluorooctane sulfonic acid)
- PFHxA (perfluorohexanoic acid) and PFH[x]S (perfluorohexane sulfonate/perfluorohexane sulfonic acid)
- PTFE (polytetrafluoroethylene) and other fluoropolymers
- Thousands of other chemicals

Due to growing awareness of health and environmental concerns, PFAS are facing increasing scrutiny worldwide.

According to the current best knowledge and according to the information provided by suppliers, ABB states that manufactured Moulded Case, Air and Solid State Circuit Breakers and related accessories comply contains Per- and polyfluoroalkyl substances (PFAS) as illustrated in ABB document 1SDL000627R0001. No chemical analysis nor other similar testing has been conducted.

ABB S.p.A.
Electrification Smart Power
ITABB - R&D Local Duties Owner



ABB S.p.A.
Electrification Smart Power
Quality and Continuous Improvement Manager
Hub Europe & Manufacturing Unit Frosinone

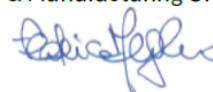


ABB SpA
Sede Legale / Registered Office
Via Vittor Pisani, 16
20124 Milano - Italy
www.abb.it

Direzione e Uffici Amministrativi
Headquarters and
Accounting Offices
20099 Sesto San Giovanni (MI) - Italy
Via Luciano Lama, 33
Tel. +39 02 2414.1

Capitale Sociale / Share Capital:
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Partita IVA / VAT: IT 11988960156
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**Electrification Products Division /
ABB SACE Division**
Bergamo
Dalmine (BG)
Frosinone
Garbagnate Monastero (LC)
Marostica (VI)
San Martino in Strada (LO)
Santa Palomba (Roma)
Vittuone (MI)

PFAS in MCCBs, ACBs and SSCBs

MOULDED CASE CIRCUIT BREAKERS (MCCBs)

1,1,1,3,3-Pentafluorobutane (CAS 406-58-6)

- Dip Switch mounted on Tmax XT XT2-XT4 circuit breakers

Bis[2,2,3,3,4,4,4-heptafluoro-1,1-bis(trifluoromethyl)butyl]mercury (CAS 120674-92-2)

- Coin type Lithium Manganese battery mounted inside trip units of Tmax XT circuit breakers
- Some components mounted inside Ekip Touch trip units of Tmax XT XT7 circuit breakers

Cadmium, bis(nonafluorobutyl) (CAS 93367-04-5)

- Coin type Lithium Manganese battery mounted inside trip units of Tmax XT circuit breakers
- Some components mounted inside Ekip Touch trip units of Tmax XT XT7 circuit breakers

Lead, bis(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato) (CAS 21600-78-2)

- Coin type Lithium Manganese battery mounted inside trip units of Tmax XT circuit breakers
- Some components mounted inside Ekip Touch trip units of Tmax XT XT7 circuit breakers

Polytetrafluoroethylene - PTFE (CAS 9002-84-0)

- Some components mounted inside electronic trip units of Tmax XT XT2-XT4 circuit breakers
- Some components mounted inside Ekip DIP trip units of Tmax XT XT5 circuit breakers
- Sensor groups mounted inside electronic trip unit of Tmax XT XT5 circuit breakers
- Dip Switches mounted on Tmax XT XT7 circuit breakers
- High terminal covers for Tmax XT XT5 circuit breakers
- Aesthetic frame assembly for Tmax XT XT5 circuit breakers
- Some components mounted inside PR232 trip units of Tmax T7 circuit breakers

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PFAS in MCCBs, ACBs and SSCBs

AIR CIRCUIT BREAKERS (ACBs)

Bis[2,2,3,3,4,4,4-heptafluoro-1,1-bis(trifluoromethyl)butyl]mercury (CAS 120674-92-2)

- Coin type Lithium Manganese battery mounted inside trip units of Emax 2 circuit breakers
- Some parts mounted inside Emax 2 circuit breakers

Cadmium, bis(nonafluorobutyl) (CAS 93367-04-5)

- Coin type Lithium Manganese battery mounted inside trip units of Emax 2 circuit breakers
- Some parts mounted inside Emax 2 circuit breakers

Ethene, 1,1-difluoro-, homopolymer (CAS 24937-79-9)

- Some parts mounted inside Emax 2 E2.2 - E4.2 - E6.2 circuit breakers
- Some parts mounted inside Emax 2 E2.2 - E4.2 - E6.2 open/close auxiliary contacts

Lead, bis(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato) (CAS 21600-78-2)

- Coin type Lithium Manganese battery mounted inside trip units of Emax 2 circuit breakers
- Some parts mounted inside Emax 2 circuit breakers

Polytetrafluoroethylene - PTFE (CAS 9002-84-0)

- Cover flange mounted on Emax 2 E2.2 circuit breakers
- Insulation protections mounted on Emax 2 E2.2 circuit breakers
- Accessories cover mounted inside Emax 2 E2.2 - E4.2 - E6.2 circuit breakers
- Dip Switches mounted on Emax 2 circuit breakers
- Some parts mounted inside Emax 2 motor operators

Polyvinylidene fluoride (CAS 24937-79-9)

- Some parts mounted inside Emax 2 circuit breakers

Potassium 1,1,2,2,3,3,4,4,4-nonafluorobutane-1-sulfonate (CAS 29420-49-3)

- Cover flange mounted on Emax 2 E2.2 circuit breakers
- Insulation protections mounted on Emax 2 E2.2 circuit breakers

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PFAS in MCCBs, ACBs and SSCBs

SOLID STATE CIRCUIT BREAKERS (SSCBs)

Bis[2,2,3,3,4,4,4-heptafluoro-1,1-bis(trifluoromethyl)butyl]mercury (CAS 120674-92-2)

- Coin type Lithium Manganese battery mounted inside trip units of Emax 2 circuit breakers
- Some parts mounted inside Infinitus circuit breakers

Cadmium, bis(nonafluorobutyl) (CAS 93367-04-5)

- Coin type Lithium Manganese battery mounted inside trip units of Emax 2 circuit breakers

Ethene, 1,1-difluoro-, homopolymer (CAS 24937-79-9)

- Some parts mounted inside Infinitus open/close auxiliary contacts

Lead, bis(6,6,7,7,8,8,8-heptafluoro-2,2-dimethyl-3,5-octanedionato) (CAS 21600-78-2)

- Coin type Lithium Manganese battery mounted inside trip units of Emax 2 circuit breakers
- Some parts mounted inside Infinitus circuit breakers

Polytetrafluoroethylene - PTFE (CAS 9002-84-0)

- Key lock cover mounted inside Infinitus circuit breakers
- Connector case mounted inside Infinitus circuit breakers
- Cover mounted inside Infinitus fixed parts
- Some parts mounted inside Infinitus motor operators

Polyvinylidene fluoride (CAS 24937-79-9)

- Some parts mounted inside Infinitus circuit breakers

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