




Sinorix™ 227

Harmless and proven extinguishing agent for electrical fire risks

Building Technologies

SIEMENS



Detection and prevention of fires: security for people, assets and buildings

Every company is responsible for the safety of its employees, and for the assets invested in buildings and plants. An international study highlights just how vital it is to protect against fire. According to its findings, nearly 80% of the companies hit by a major fire were forced to discontinue their business within three years. Effective fire protection would not only have reduced this damage substantially but in many cases would have prevented it from occurring in the first place.

Sinorix™ 227 – your benefits:

- Safe for occupants
- Long usability and long term storage
- No damage to equipment, data or other valuable items
- Environmentally friendly
- Quick and efficient extinguishant

Fire detection and extinguishing from a single supplier

When it comes to fire safety, seconds count. The earlier and more reliably sources of fire are detected, the sooner the fire extinguishing system can go into action. Effective protection of people, buildings, business resources and data depends on how perfectly this chain functions. Siemens offers solutions at the leading edge of technical development for every phase, from detection to intervention:

- Detectors from Siemens discover sources of fire immediately and in most cases pinpoint them before an open blaze can develop. At the same time the built-in intelligence in the system ensures that the dangers are evaluated correctly in order to avoid production losses due to false alarms.
- Sinorix™ extinguishing systems make the perfect enhancement for fast, foolproof fire detection. In the event of a fire an automatic extinguishing system intervenes instantly, with the result that the fire is extinguished rapidly or smothered in its very early stages.

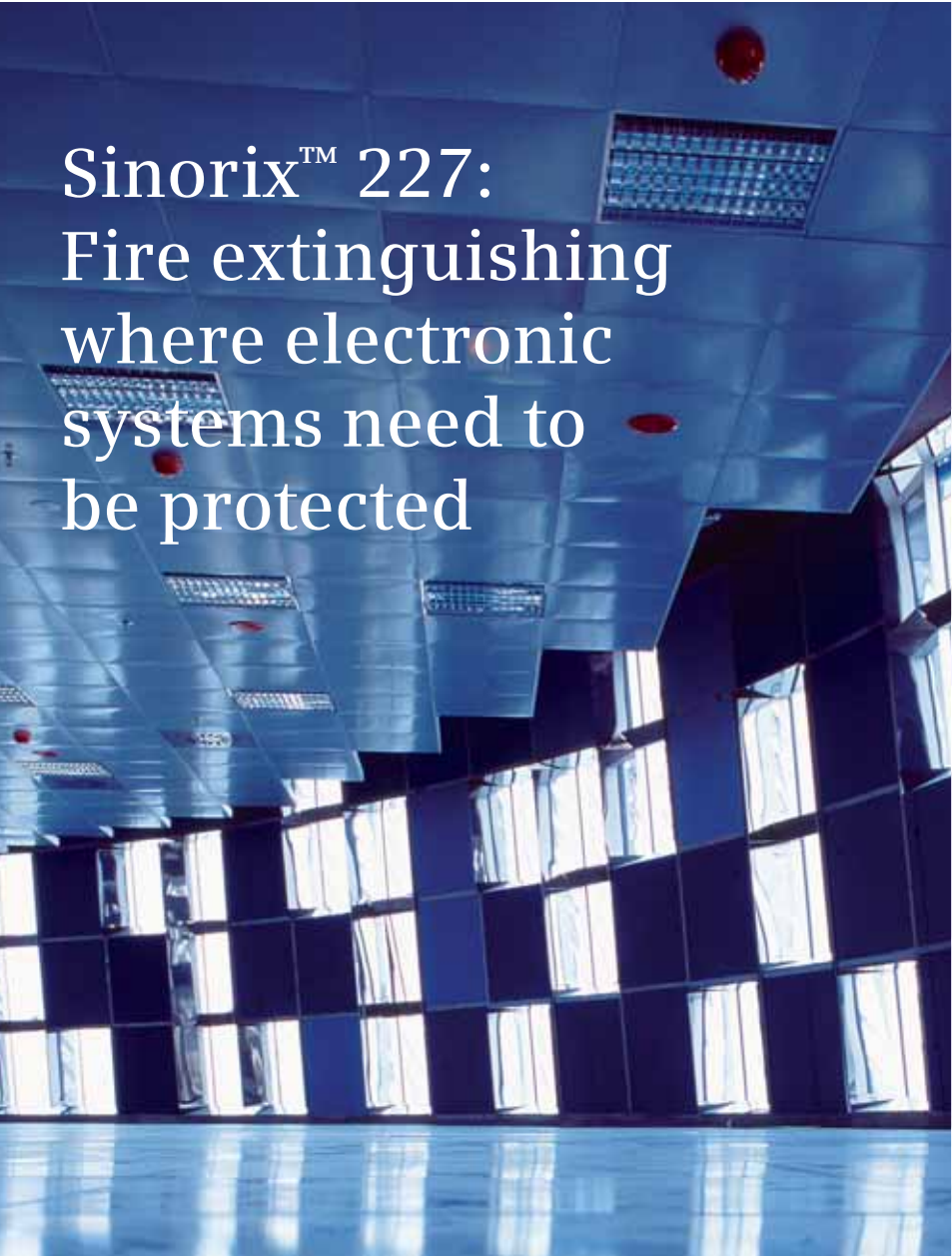
Sinorix™: complete product range – individual application

Extinguishing systems are by no means all alike. Features that are ideal for use with fire class A can have a negative effect if used for a class B fire. Use of the right system ensures maximum security. To achieve this, Siemens offers you both its expertise based on decades of accumulated experience and Sinorix – a complete range of products for every application and every risk: from chemical gases and natural inert gases to a combination of gas and water. Sinorix 227 therefore belongs to the category of fire-fighting systems utilizing chemical gas.

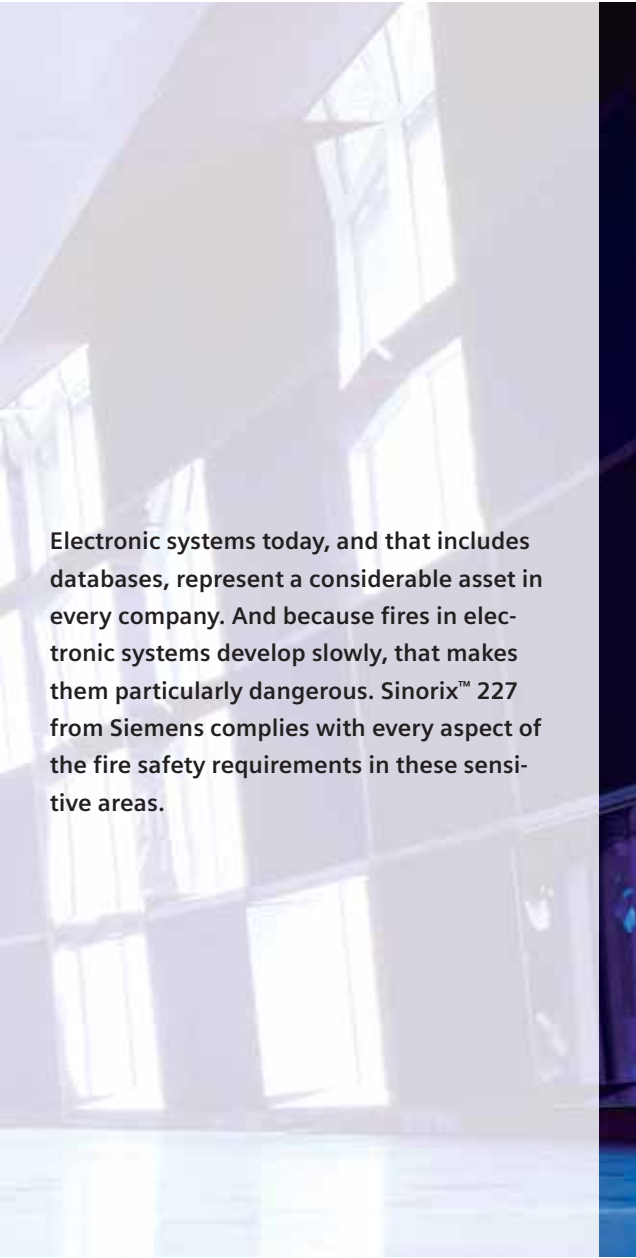


Siemens – for all your building technology needs

Sinorix™ is a development of Siemens Building Technologies, one of the major global suppliers of technology for more safety, efficiency and comfort in buildings. With our presence in over 50 countries we're always close at hand, wherever you have people and assets to protect.



Sinorix™ 227: Fire extinguishing where electronic systems need to be protected



Electronic systems today, and that includes databases, represent a considerable asset in every company. And because fires in electronic systems develop slowly, that makes them particularly dangerous. Sinorix™ 227 from Siemens complies with every aspect of the fire safety requirements in these sensitive areas.

Sinorix™ 227 – applications:

■ IT rooms

Your business can't afford the down time caused by fire or sprinkler damage to critical computing facilities and equipment. Sinorix™ 227 will not harm even the most sensitive electronics.

■ Telecommunication systems and electrical switching rooms

Fire in a central office or network operation is simply not an option. The ability to detect and extinguish a fire within seconds is essential.

■ Healthcare facilities

In critical care situations where patients depend on complex medical equipment, Sinorix 227 ensures that the valuable equipment will be spared from damage in the event of a fire.

■ Art and historical collection

When antiquities, documents and art objects are irreplaceable, it must be protected from damage in the event of fire by Sinorix 227.

No damage to electronic equipment

For extinguishing electronic fires the extinguishing medium itself must not be electrically conductive. Sinorix 227 meets this requirement and thus rules out any risk for equipment and systems due to electrical conductance.

Maximum efficiency and guaranteed purity

Sinorix 227 is produced in compliance with standard ISO 9000 and as such is clean, which means it contains no foreign bodies or oily residues. Thanks to special measures taken during production and filling, you get an agent with which your electronic systems are safely protected against damage in the same way as all other sensitive equipment.

All-round safety, including for people

Tests carried out at the laboratories of the US EPA and various expert reports have confirmed that the use of Sinorix 227 does not pose a danger for humans. Heptafluoropropane (Sinorix 227) is also used as a propellant for aerosols in the pharmaceutical industry.

Quick action

The extinguishing agent used in Sinorix 227 is HFC227ea heptafluoropropane. This was recognized in 1993 as the most effective alternative to Halon 1301 in the list drawn up by the US EPA (United States Environmental Protection Agency) and does not deplete the ozone layer (Ozone Depletion Potential = 0).

It is thermally and chemically stable when stored and is therefore suitable for use over a long period.



Sinorix™ 227 – range of application

Sinorix 227 is ideally suited for slow growing electronic fires, e.g. in computer and server rooms as well as telecommunication plants; also in control rooms, switching rooms and sunken cable ducts.

Tested and approved



Before it is used as an extinguishing agent a gas must undergo defined tests and be approved by independent institutions. Naturally you can rest assured that Sinorix™ 227 is fully tested and approved.

Sinorix™ 227 in numbers

► Physical properties	
Chemical formula	CF ₃ CHFCF ₃ - heptafluoropropane
Molecular weight	170.03 kg/kmol
Boiling point	-16.36 °C
Freezing point	-131 °C
Critical temperature	101.66 °C
Critical pressure	29.10 bar
Critical volume	0.0015 m ³ /kg
Critical density	621.10 kg/m ³
Evaporation heat	31.6 Kcal/kg

Temperature °C	Density in liquid state in kg/m ³	Density in vaporous state in kg/m ³	Pressure in vaporous state in bar
-17.8	1532	7.96	0.95
-1.1	1479	15.23	1.87
21.1	1402	32.26	4.05
54.4	1269	84.81	10.32

ODP (CFC - 11 = 1)	0.
Atmospheric half-life	31–42 years
Toxicity LC ₅₀ (4 h, rat)	< 800,000 ppm

Certified dependability

In the US, Sinorix™ 227 has successfully completed all test programs of the Underwriters Laboratories, Factory Mutual, VdS and CNNP and has been approved by the NFPA (National Fire Protection Association), an organization that assesses extinguishing agents and their conditions of application according to objectively defined criteria. Large-scale testing in our own laboratories has also confirmed the reliable function of Sinorix 227 in the majority of typical cases of fire.

The single-source solution for fire extinguishing

Everything provided for your support

Siemens provides you with the complete expertise for engineering, for operation, for installation and also for the maintenance of specific systems. Modular fields of application are also possible entirely in line with customers' requirements. Special software computes the layout of the piping networks and all components, thereby facilitating easy planning and configuration. Naturally, everything is compliant with the applicable guidelines and has the appropriate certification.

The right partner for everything, including insurance questions

The systems and components that we build into our fire extinguishing systems are certified by the relevant agencies (VdS, UL-FM). This makes us the right partner when it comes to making certain all fire risks comply with the requirements of insurance companies or obtaining more favorable insurance premiums.



Siemens – from one source

Everything you need for extinguishing fires with Sinorix™ 227 is available from Siemens as a single source, from consulting to the extinguishing system, extinguishing control and piping network, and all as part of an integral protection concept.

Tested and certified

- Successfully tested by the Underwriters Laboratories, Factory Mutual, VDS and CNPP
- Recognized by the NFPA
- Successfully tested in internal trials
- Equipment has the necessary approval (VdS, UL-FM)

Our offer

- Complete know-how regarding engineering, operation, installation and maintenance
- Modular applications possible at customer's request
- Calculation of the piping network layout and all components through special software
- Adherence to necessary guidelines
- Insurance compliant configuration of all fire risks
- Makes more favourable insurance premiums possible

Protect people and assets with Sinorix™ – and with our help. Regardless of whether your project is a new installation or a conversion, we offer assistance with every aspect of Sinorix extinguishing systems, and help with selection or planning.

Just give us a call. We've listed the contact addresses where you can get in touch with our experts.

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The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

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