

Siridion® STC

Silicon tetrachloride, Tetrachlorosilane, Siltet, STC

Technical data

Properties and test methods	Value	Unit	Method
molecular weight	169.89	-	-
density (20 °C)	1.48	g/cm ³	DIN 51757
refractive index (n _D 20° C)	1.413	-	DIN 51423
boiling point (1 bar)	56.7 (134)	°C (°F)	DIN 51751
melting point	-68 (-90)	°C (°F)	-
flash point	non-flammable	-	DIN 51755
purity	min. 99.8	%	GC (Evonik)
appearance	clear, colourless liquid	-	-

The values given in this product information are intended to describe the product. Decisive documents are agreed specifications and the Safety Data Sheets (SDS).

Registration

Siridion® STC

Europe (EINECS/ELINCS)	YES
Australia (AICS)	YES
Canada (DSL)	YES
Philippines (PICCS)	YES
USA (TSCA)	YES
P.R. China (IECSC)	YES
Japan (ENCS)	YES
South Korea (ECL)	YES

Description

Silicon tetrachloride (SiCl₄) is a chlorosilane which is formed by reaction of metallic silicon or ferrosilicon with hydrogen chloride or chlorine.

Chemical formula

SiCl₄

Reactivity

Silicon tetrachloride is sensitive to hydrolysis and must be stored and transported in closed containers excluding moisture and air. Protection from direct sunlight and heat is necessary.

The containers must be closed tightly after each time that material is taken out.

Chlorosilanes and their vapours decompose in presence of moisture to form silicon dioxide and hydrochloric acid. They react vigorously with water and with alcohols or other compounds containing active hydrogen atoms.

Chlorosilanes are classified as highly corrosive. Inhalation of the product must be avoided. When handling the products, skin and eyes must be protected by wearing impermeable gloves, eye protection and, if appropriate, a breathing mask. Should splashes nevertheless get onto the skin or into the eyes, the affected area must first be rinsed with plenty of water and, if contact with the eyes has occurred, an eye specialist should be consulted.

Applications

Silicon tetrachloride is used in large scale for the production of pyrogenic silica. In addition, it is used for crosslinking styrene-butadiene-rubber (SBR) and for production of silicic acid esters and ester hydrolysates. The corresponding Evonik products are marketed under the Siridion® trademark.

High-purity silicon tetrachloride is used in the manufacturing of optical fibres, fused silica tubes and other fused silica articles and as precursor in semiconductor manufacturing processes.

Safety and handling

Before considering the use of any chemical thoroughly read its Safety Data Sheet (SDS) for safety and toxicological data as well as for information on proper transportation, storage and use. The Safety Data Sheet is available after registration on our website www.siridion.com or upon request from your local representative.

Silicon tetrachloride:

Hazard symbol: toxic, corrosive

(Hazard statements: H301/H331/H314, EUH014/EUH071)

Keep container tightly closed and dry. Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Information on the classification of the products under dangerous goods regulations and the German regulation on dangerous substances, safety data, detailed precautionary statements and data on toxicology and storage may be found in our safety data sheets (SDS).

Packaging and storage

Stainless steel can, content:

- 25 kg
- Stainless steel drum, content: 275 kg
- Tank container, content: 1.050 kg
- Rail tank car/ ISO-container, contents: about 20 tons
- Customized package and filling weight can be provided upon consultation

This information and any recommendations, technical or otherwise, are presented in good faith and believed to be correct as of the date prepared. Recipients of this information and recommendations must make their own determination as to its suitability for their purposes. In no event shall Evonik assume liability for damages or losses of any kind or nature that result from the use of or reliance upon this information and recommendations. EVONIK EXPRESSLY DISCLAIMS ANY REPRESENTATIONS AND WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, AS TO THE ACCURACY, COMPLETENESS, NON-INFRINGEMENT, MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE (EVEN IF EVONIK IS AWARE OF SUCH PURPOSE) WITH RESPECT TO ANY INFORMATION AND RECOMMENDATIONS PROVIDED. Reference to any trade names used by other companies is neither a recommendation nor an endorsement of the corresponding product, and does not imply that similar products could not be used. Evonik reserves the right to make any changes to the information and/or recommendations at any time, without prior or subsequent notice.

Europe / Middle East / Africa / Latin America

Evonik Resource Efficiency GmbH

Business Line Silanes
Rodenbacher Chaussee 4
63457 Hanau-Wolfgang
Germany
PHONE +49 6181 59 13915
FAX +49 6181 59 713915
siridion@evonik.com
www.siridion.com

North America

Evonik Corporation

Business Line Silanes
299 Jefferson Road
Parsippany, NJ 07054
USA
PHONE +1 973 541 8513
FAX +1 973 541 8503
siridion@evonik.com
www.siridion.com

Asia-Pacific

Evonik Specialty Chemicals (Shanghai) Co., Ltd

Business Line Silanes
55, Chundong Road
Xinzhuang Industry Park
Shanghai 201108
P.R. China
PHONE +86 21 61191 3687
FAX +86 21 61191 1648
siridion@evonik.com
www.siridion.com