

Safety Data Sheet

Product :

Silicon tetrafluoride

Page :1/5

MSDS Nr : 333-00-0007BOC(U)

Version : 1.02

Date : 06/10/2000

Replaces version dated : 29/07/1994

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

Product name	Silicon tetrafluoride
Chemical formula	SiF ₄
Company identification	see heading and/or footer
Emergency phone numbers	see heading and/or footer

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation	Substance.
Components/Impurities	Contains no other components or impurities which will influence the classification of the product.
CAS Nr	07783-61-1
EEC Nr (from EINECS)	232-015-5

3 HAZARDS IDENTIFICATION

Hazards identification	Toxic by inhalation. Very corrosive to eyes, respiratory system and skin. Compressed gas
------------------------	--

4 FIRST AID MEASURES

Inhalation	Toxic by inhalation. Prolonged exposure to small concentrations may result in pulmonary oedema. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped. Delayed adverse effects possible.
Skin/eye contact	May cause severe chemical burns to skin and cornea. Suitable first-aid treatment should be immediately available. Seek medical advice before using product. Obtain medical assistance Remove contaminated clothing. Drench affected area with water for at least 15 minutes Immediately flush eyes thoroughly with water for at least 15 minutes. In case of skin contact, wearing rubber gloves rub 2.5% calcium gluconate gel continuously into the affected area for 1.5 hours or until further medical care is available.
Ingestion	Ingestion is not considered a potential route of exposure.

5 FIRE FIGHTING MEASURES

Specific hazards	Non flammable Exposure to fire may cause containers to rupture/explode.
------------------	--

Safety Data Sheet

Product :

Silicon tetrafluoride

Page :2/5

MSDS Nr : 333-00-0007BOC(U)

Version : 1.02

Date : 06/10/2000

Replaces version dated : 29/07/1994

Hazardous combustion products	None that are more toxic than the product itself.
Suitable extinguishing media	All known extinguishants can be used.
Specific methods	If possible, stop flow of product. Move away from the container and cool with water from a protected position.
Special protective equipment for fire fighters	Use self-contained breathing apparatus and chemically protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions	Evacuate area. Use self-contained breathing apparatus and chemically protective clothing. Ensure adequate air ventilation.
Environmental precautions	Try to stop release. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Reduce vapour with fog or fine water spray.
Clean up methods	Ventilate area. Wash contaminated equipment or sites of leaks with copious quantities of water. Hose down area with water.

7 HANDLING AND STORAGE

Handling and storage	Suck back of water into the container must be prevented. Do not allow backfeed into the container. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Refer to supplier's container handling instructions. Keep container below 50°C in a well ventilated place.
----------------------	---

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection	Ensure adequate ventilation. Do not smoke while handling product. Keep self contained breathing apparatus readily available for emergency use. Keep suitable chemically resistant protective clothing readily available for emergency use.
---------------------	---

9 PHYSICAL AND CHEMICAL PROPERTIES

Molecular weight	104
------------------	-----

Safety Data Sheet

Product :

Silicon tetrafluoride

Page :3/5

MSDS Nr : 333-00-0007BOC(U)

Version : 1.02

Date : 06/10/2000

Replaces version dated : 29/07/1994

Melting point	-86.8 °C
Boiling point	-95,2(s) °C
Critical temperature	-14.1 °C
Relative density, gas	3.6 (air=1)
Relative density, liquid	Not applicable.
Vapour Pressure 20°C	Not applicable.
Solubility mg/l water	Hydrolyses.
Appearance/Colour	Colourless gas Gives off white fumes in moist air
Odour	Pungent
Other data	Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

10 STABILITY AND REACTIVITY

Stability and reactivity	With water causes rapid corrosion of some metals. Reacts with water to form corrosive acids. May react violently with alkalis.
--------------------------	--

11 TOXICOLOGICAL INFORMATION

General	Severe corrosion to skin, eyes and respiratory tract at high concentrations. Delayed fatal pulmonary oedema possible. May cause nausea and irritation of the respiratory tract. Hydrolysis of silanes in the body forms silicic acid or hydrated silica. Absorption of excessive F- can result in acute systemic fluorosis with hypocalcemia, interference with various metabolic functions and organ damage (heart, liver, kidneys).
LC50/1h (ppm)	450 ppm

12 ECOLOGICAL INFORMATION

General	May cause pH changes in aqueous ecological systems.
---------	---

13 DISPOSAL CONSIDERATIONS

General	Avoid discharge to atmosphere. Do not discharge into any place where its accumulation could be dangerous. Gas may be scrubbed in water.
---------	---

Safety Data Sheet

Product :

Silicon tetrafluoride

Page :4/5

MSDS Nr : 333-00-0007BOC(U)

Version : 1.02

Date : 06/10/2000

Replaces version dated : 29/07/1994

Gas may be scrubbed in alkaline solution under controlled conditions to avoid violent reaction.

Contact supplier if guidance is required.

14 TRANSPORT INFORMATION

UN Nr	1859
Class/Div	2.3
Subsidiary risk	8
ADR/RID Item Nr	2,1° TC
ADR/RID Hazard Nr	268
Labelling ADR	Label 6.1: toxic substance. Label 8: corrosive substance.
Other transport information	Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers ensure that they are firmly secured and: <ul style="list-style-type: none">- cylinder valve is closed and not leaking- valve outlet cap nut or plug (where provided) is correctly fitted- valve protection device (where provided) is correctly fitted- there is adequate ventilation.- compliance with applicable regulations.

15 REGULATORY INFORMATION

Number in Annex I of Dir 67/548	Not included in Annex I.
EC Classification	T;R23 C;R35
-Symbols	T: Toxic C: Very corrosive
Labelling of cylinders	
-Symbols	Label 6.1: toxic substance. Label 8: corrosive substance.
-Risk phrases	R23 Toxic by inhalation. R35 Cause severe burns (eyes, respiratory system and skin).
-Safety phrases	S9 Keep container in well ventilated place. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36 Wear suitable protective clothing.

Safety Data Sheet

Product :

Silicon tetrafluoride

Page :5/5

MSDS Nr : 333-00-0007BOC(U)

Version : 1.02

Date : 06/10/2000

Replaces version dated : 29/07/1994

S37/39 Wear suitable gloves and eye/face protection.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16 OTHER INFORMATION

Ensure all national/local regulations are observed.

Ensure operators understand the toxicity hazard.

Users of breathing apparatus must be trained.

Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

End of document.

Number of pages :5