

3. CHEMICAL AND PHYSICAL INFORMATION

3.1 CHEMICAL IDENTITY

Information regarding the chemical identity of titanium tetrachloride is located in Table 3- 1.

3.2 PHYSICAL AND CHEMICAL PROPERTIES

Information regarding the physical and chemical properties of titanium tetrachloride is located in Table 3-2.

3. CHEMICAL AND PHYSICAL INFORMATION

Table 3-1. Chemical Identity of Titanium Tetrachloride

Characteristic	Information	Reference
Chemical name	Titanium tetrachloride	HSDB 1995
Synonym(s)	Tetrachlorotitanium, titanichloride, titanium chloride, others	HSDB 1995
Registered trade name(s)	No data	
Chemical formula	TiCl ₄	HSDB 1995
Chemical structure	$ \begin{array}{c} \text{Cl} \\ \\ \text{Cl} - \text{Ti} - \text{Cl} \\ \\ \text{Cl} \end{array} $	OHM/TADS 1992
Identification numbers:		
CAS registry	7550-45-0	HSDB 1995
NIOSH RTECS	XR1925000	HSDB 1995
EPA hazardous waste	No data	HSDB 1995
OHM/TADS	7217310	HSDB 1995
DOT/UN/NA/IMCO shipping	IMCO/UN: #8.0/1838; DOT: #1838	CHRIS 1985
HSDB	870	HSDB 1995
NCI	No data	

CAS = Chemical Abstracts Service; CHRIS = Chemical Hazards Response Information System; DOT/UN/NA/IMCO = Department of Transportation/United Nations/North America/International Maritime Dangerous Goods Code; EPA = Environmental Protection Agency; HSDB = Hazardous Substance Data Bank; NCI = National Cancer Institute; NIOSH = National Institute for Occupational Safety and Health; OHM/TADS = Oil and Hazardous Materials/Technical Assistance Data System; RTECS = Registry of Toxic Effects of Chemical Substances

3. CHEMICAL AND PHYSICAL INFORMATION

Table 3-2. Physical and Chemical Properties of Titanium Tetrachloride

Property	Information	Reference
Molecular weight	189.70	Sax and Lewis 1989
Color	Colorless	Merck 1989
Physical state	Liquid	CHRIS 1985
Melting point	-24.1 °C	Merck 1989
	-24 °C	NFPA 1994
Boiling point	136.4 °C	Merck 1989
Density: at 20 °C	1.726 g/cm ³	Merck 1989
Odor	Penetrating acid odor	Merck 1989
Odor threshold:		
Water	No data	
Air	No data	
Solubility:		
Water at 20 °C	Soluble in cold water	Merck 1989
	Reacts	NFPA 1994
Organic solvent(s)	Soluble in alcohol	Merck 1989
Partition coefficients:		
Log K _{ow}	No data	
Log K _{oc}	No data	
Vapor pressure		
at 20 °C	10.0 mm Hg	Whitehead 1983
at 22 °C	9.6 mm Hg	NFPA 1994
Henry's law constant:		
at 20 °C	No data	
at 30 °C	No data	
Autoignition temperature	No data	
Flashpoint	No data	
Flammability limits	Nonflammable	OHM/TADS 1992
Conversion factors	1 mg/m ³ = 7.76 ppm ^a	Calculated
	1 ppm = 0.129 mg/m ³	Calculated
Explosive limits	Reactive only under extreme conditions	OHM/TADS 1992

^a1 mg/m³ = 1 ppm × 189.70/24.45

CHRIS = Chemical Hazards Response Information System; OHM/TADS = Oil and Hazardous Materials/Technical Assistance Data System; NFPA = National Fire Protection Association

