SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers
   Product name : Titanium Trichloride Solution
   CAS NO : 7705-07-9

1.2 Relevant identified uses of the substance or mixture and uses advised against
   Identified uses : Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet
   Company : Central Drug House (P) Ltd
   7/28 Vardaan House
   New Delhi-10002
   INDIA
   Telephone : +91 11 49404040
   Email : care@cdhfinechemical.com

1.4 Emergency telephone number
   Emergency Phone # : +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
   Classification according to Regulation (EC) No 1272/2008
   Skin corrosion (Category 1B), H314
   Specific target organ toxicity - single exposure (Category 3), H335
   For the full text of the H-Statements mentioned in this Section, see Section 16.

   Classification according to EU Directives 67/548/EEC or 1999/45/EC
   C Corrosive R34
   Xi Irritant R37
   For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements
   Labelling according Regulation (EC) No 1272/2008
   Pictogram
   ![Pictogram]
   Signal word Danger
   Hazard statement(s)
   H314 Causes severe skin burns and eye damage.
   H335 May cause respiratory irritation.
Precautionary statement(s)
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/ physician.

Supplemental Hazard Statements


Hazard symbol(s) C Corrosive

R-phrase(s)
R34 Causes burns.
R37 Irritating to respiratory system.

S-phrase(s)
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

2.3 Other hazards - none

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Synonyms : Titanium trichloride

Formula : TiCl3

Molecular Weight : 154,23 g/mol

Hazardous ingredients according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium trichloride</td>
<td>Pyr. Sol. 1; Skin Corr. 1B; H250, H314, EUH014</td>
<td>25 - 50 %</td>
</tr>
<tr>
<td></td>
<td>EC-No. 231-728-9</td>
<td></td>
</tr>
<tr>
<td>Hydrochloric acid</td>
<td>Met. Corr. 1; Skin Corr. 1B; STOT SE 3; H290, H314, H335</td>
<td>25 - 50 %</td>
</tr>
<tr>
<td></td>
<td>CAS-No. 7647-01-0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC-No. 231-595-7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Index-No. 017-002-01-X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Registration number 01-2119484862-27-XXXX</td>
<td></td>
</tr>
</tbody>
</table>

Hazardous ingredients according to Directive 1999/45/EC

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium trichloride</td>
<td>F, C, R14 - R17 - R34</td>
<td>25 - 50 %</td>
</tr>
<tr>
<td></td>
<td>CAS-No. 7705-07-9</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
SECTION 4: First aid measures

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3 Indication of any immediate medical attention and special treatment needed
no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Dry powder

5.2 Special hazards arising from the substance or mixture
no data available

5.3 Advice for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information
no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Do not flush with water. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. For precautions see section 2.2.
7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Never allow product to get in contact with water during storage.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Components with workplace control parameters

8.2 Exposure controls
Appropriate engineering controls
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection
Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection
Complete suit protecting against chemicals. Flame retardant protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- a) Appearance: Form: liquid
- b) Odour: no data available
- c) Odour Threshold: no data available
- d) pH: no data available
- e) Melting point/freezing point: no data available
- f) Initial boiling point and boiling range: no data available
- g) Flash point: not applicable
- h) Evaporation rate: no data available
- i) Flammability (solid, gas): no data available
j) Upper/lower flammability or explosive limits
   no data available
k) Vapour pressure
   no data available
l) Vapour density
   no data available
m) Relative density
   no data available
n) Water solubility
   no data available
o) Partition coefficient: n-octanol/water
   no data available
p) Auto-ignition temperature
   The substance or mixture is not classified as pyrophoric.
q) Decomposition temperature
   no data available
r) Viscosity
   no data available
s) Explosive properties
   no data available
t) Oxidizing properties
   no data available

9.2 Other safety information
   no data available

SECTION 10: Stability and reactivity

10.1 Reactivity
   no data available

10.2 Chemical stability
   Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
   no data available

10.4 Conditions to avoid
   Exposure to moisture.

10.5 Incompatible materials
   Strong bases, Strong oxidizing agents

10.6 Hazardous decomposition products
   Other decomposition products - no data available
   In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects
   Acute toxicity
   no data available
   Skin corrosion/irritation
   no data available
   Serious eye damage/eye irritation
   no data available
   Respiratory or skin sensitisation
   no data available
   Germ cell mutagenicity
   no data available
   Carcinogenicity
   IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Hydrochloric acid)
Reproductive toxicity
no data available

**Specific target organ toxicity - single exposure**
no data available

**Specific target organ toxicity - repeated exposure**
no data available

**Aspiration hazard**
no data available

**Additional Information**
RTECS: Not available

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

**SECTION 12: Ecological information**

12.1 **Toxicity**
no data available

12.2 **Persistence and degradability**
no data available

12.3 **Bioaccumulative potential**
no data available

12.4 **Mobility in soil**
no data available

12.5 **Results of PBT and vPvB assessment**
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 **Other adverse effects**
no data available

**SECTION 13: Disposal considerations**

13.1 **Waste treatment methods**

*Product*
Offer surplus and non-recyclable solutions to a licensed disposal company.

*Contaminated packaging*
Dispose of as unused product.

**SECTION 14: Transport information**

14.1 **UN number**
ADR/RID: 3264
IMDG: 3264
IATA: 3264

14.2 **UN proper shipping name**
ADR/RID: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrochloric acid, Titanium trichloride)
IMDG: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Hydrochloric acid, Titanium trichloride)
IATA: Corrosive liquid, acidic, inorganic, n.o.s. (Hydrochloric acid, Titanium trichloride)

14.3 **Transport hazard class(es)**
ADR/RID: 8
IMDG: 8
IATA: 8

14.4 **Packaging group**
ADR/RID: II
IMDG: II
IATA: II

14.5 **Environmental hazards**
ADR/RID: no
IMDG Marine pollutant: no
IATA: no

14.6 **Special precautions for user**
no data available
SECTION 15: Regulatory information
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
no data available

15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.
EUH014 Reacts violently with water.
H250 Catches fire spontaneously if exposed to air.
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
Met. Corr. Corrosive to metals
Pyr. Sol. Pyrophoric solids
Skin Corr. Skin corrosion
STOT SE Specific target organ toxicity - single exposure

Full text of R-phrases referred to under sections 2 and 3
C Corrosive
R14 Reacts violently with water.
R17 Spontaneously flammable in air.
R34 Causes burns.
F Highly flammable
R37 Irritating to respiratory system.

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.